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June 2004

Paper No. 5-2004

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CLUMSY SOLUTIONS FOR A COMPLEX WORLD

Michael Thompson and Marco Verweij

Most climatologists agree that by burning fossil fuels and engaging in other forms of consumption and production we are increasing the amount of greenhouse gases that float around in the atmosphere. These gases, in trapping some of the sun's heat, warm the earth and enable life. The trouble is, some predict, that if we continue to accumulate those gases, over the course of the new century the average temperature on earth will rise and local climates will change, with possibly catastrophic consequences. Will this indeed happen? If so, should we do something about it? And if yes, what and when? Does climate change put the future of the world at risk? Can only a radical reallocation of global wealth and power rescue us from this threat? Or should people not be overly worried, as the steady march of technological progress will see us through in the end?

In our view, people do not offer a great many different answers to such questions. In fact, we argue that the various ways in which people understand a phenomenon like global warming are derived from a strictly limited number of alternative perceptions of reality. These alternative ways of perceiving the world justify, represent, and emerge from alternative ways of organizing social relations. In this introduction we claim that successful solutions to pressing social ills consist of creative and flexible combinations of these different ways of organizing, perceiving and social relations. This claim is at the heart of what we have come to call 'clumsiness', and is illustrated in the rest of the issue.

The current landscape of the social sciences can for our present purposes be divided roughly into two camps. One camp is built on the assumption that human beings are fundamentally the same. Rational choice theory –or the economic approach to social analysis– is a major contender from this camp. Via its ‘homogeneity assumption,’ this approach posits that all individuals are similarly rational, or self-interested. The second camp harbors a contrary position: the only goal to which social scientists can truly aspire is to document how every person, community, and epoch is incomparably different from other people, communities, and epochs. Post-structuralism, for instance, explicitly rejects making generalizations about social life on the grounds that such an exercise would always do injustice to the uniqueness of people and cultures. But also many of those who have not embraced post-structuralist tenets have ended up arguing that social scientists can only uncover causal relationships that are entirely local and temporary.¹

We feel that both of these edifices sit on shaky foundations. In view of the cultural and social variety across time and space, it seems implausible to insist that all individuals merely follow a single rationality. It is not possible to explain social differences –for instance, why war or poverty reigns here and now but not there and then– merely on the basis of human universals. If everybody were similarly rational or self-interested, then this factor could not explain any differences between cases; ironically, by assuming that everyone is similarly rational or self-interested, rationality and self-interest are ruled out as explanatory factors in any comparative analysis. Yet if it were true that individuals were wholly different from each other, how could we ever manage to communicate across cultures, understand history, cooperate, and interpret new events?² In the words of Isaiah Berlin:

As for the issue of relativity and the subjective nature of values, I wonder whether this has not, for the sake of argument, been exaggerated by philosophers: whether men and their outlooks have differed, over wide stretches of space and time, as greatly as has at times been represented. ... If values had varied very widely between cultures and periods, communication would have been harder to achieve, and our historical knowledge, which depends on some degree of ability to understand the goals and motives and ways of life at work in cultures different from our own, would turn out to be an illusion.³

Fortunately, we don't have to choose between these two extreme positions. It is possible –at least in principle– to distinguish simultaneously between a limited number of social and cultural forms, and still recognize wide social and cultural variety. Physics has maintained that all the material objects that we can observe on earth and beyond consist of endlessly varying combinations of only six basic particles (or, in more recent formulations, a small number of strings). Analogously, it might be possible to discern a limited number of fundamental forms of social organization from which a large variety of ultimate forms of social and cultural life can be derived. This is the starting point of what we have come to call cultural theory.⁴

The original aim of this theory was to devise a typology of social forms that fit – to the extent possible– the classificatory schemes developed by the grand old social theorists (Durkheim, Tönnies, Maine, Weber, etc.), as well as the evidence collected in subsequent ethnographic studies.⁵ According to our cultural theory, there are four primary ways of organizing, perceiving, and justifying social relations (usually called 'ways of life,' or 'social solidarities'): *egalitarianism*, *hierarchy*, *individualism* and *fatalism*.

We postulate that these four ways of life are in conflict in every conceivable domain of social life. Most such domains (say the way in which a school operates, or the way in which an international regime functions) will consist of some dynamic

combination of these pure forms. As many social domains can be distinguished within and between societies (and as many societies can be distinguished around the world), the theory allows one to perceive a wide and ever-changing cultural and social variety – while still enabling one to formulate general propositions about social and political life. These propositions include possible ways in which people perceive and attempt to stave off a threat such as climate change. In order to explain and illustrate this, we will have to set out our cultural theory in some detail.

Each of the four ways of life consists of a specific way of structuring social relations *and* a supporting cast of particular beliefs, values, emotions, perceptions, and interests.⁶ Our fourfold typology is strictly derived from two dimensions of sociality: what we will call ‘grid’ and ‘group’.⁷ Grid measures the extent to which role differentiation constrains the behavior of individuals: where roles are primarily ascribed, grid constraints are high; where roles are primarily a matter of choice, grid constraints are low. Group, by contrast, measures the extent to which an overriding commitment to a social unit constrains the thought and action of individuals.

High-group strength results when people devote a lot of their available time to interacting with other members of their unit. In general, the more things they do together, and the longer they spend doing them, the higher the group strength. Where admission to the social unit is hard to obtain, making the unit more exclusive and conscious of its boundary, the group strength also tends to be high. An extreme case of high group strength is the monastic community whose members renounce their private property upon entering and depend on the corporate body for all their material and social needs. High-group strength of this sort requires a long-term commitment and a tight identification of

members with one another as a corporate identity. Individuals are expected to act on behalf of the collective whole, and the corporate body is expected to act in the normative interests of its members.

Group strength is low when people negotiate their way through life on their own behalves as individuals, neither constrained by, nor reliant upon, a single group of others. Instead, low-group people interact as individuals with other individuals, picking and choosing with whom they will associate, as their present preoccupations and perceived interests demand. The low-group experience is a competitive, entrepreneurial way of life where the individual is not strongly constrained by duty to other persons. Attractive though this freedom from constraint might first appear to some, there is a serious disadvantage: in a low group context, you cannot count on the support of your fellows should your personal fortune wane. In the high-group context, the safety net of social support compensates for the loss of personal autonomy.

Grid stands for the complementary bundle of constraints on social interaction. Grid is high whenever roles are distributed on the basis of explicit public social classifications, such as gender, color, position in a hierarchy, holding a bureaucratic office, descent in a senior clan or lineage, or point of progression through an age-grade system. It is low when classificatory distinctions only weakly limit the range of social choices and activities open to people. A low-grid social environment is one in which access to roles depends on personal abilities to compete or negotiate for them, or even on formal regulations that ensure equal access and opportunity to compete. In either case, access to roles is not dependent on any ascribed characteristics of rank or birth.

Assigning two values (high and low)⁸ to the grid and group dimensions gives the

four ways of organizing, perceiving and justifying social relations. *Egalitarianism* is associated with a low-grid score and a high-group score. The combination of a high score on the grid dimension (many rules prescribing people's roles) with a high score on the group dimension (strong group boundaries) gives the *hierarchical* way. The third way of organizing and justifying social relations, *individualism*, is associated with low scores on both the grid and group scales. Last, *fatalism* is characterized by a high-grid and a low-group score.

We are now in a position to describe how these four different forms of association tend to produce different ways of perceiving nature (including human nature), and the policy prescriptions that follow from that. In an egalitarian social setting, actors see nature as fragile, intricately interconnected and ephemeral, and man as essentially caring (until corrupted by coercive institutions such as markets and hierarchies). We must all tread lightly on the earth, and it is not enough that people start off equal; they must end up equal as well – equality of result. Trust and leveling go hand-in-hand, and institutions that distribute unequally are distrusted. Voluntary simplicity is the only solution to our environmental problems, with the Precautionary Principle being strictly enforced on those who are tempted not to share the simple life.

In a hierarchical social setting, actors see the world as controllable. Nature is stable until pushed beyond discoverable limits, and man is malleable: deeply flawed but redeemable by firm, long-lasting, and trustworthy institutions. Fair distribution is by rank and station or, in the modern context, by need (with the level of need being determined by expert and dispassionate authority). Environmental management requires certified experts to determine the precise locations of nature's limits, and statutory regulation to

ensure that all economic activity is kept within those limits.

In an individualistic social setting, actors view nature as benign and resilient –able to recover from any exploitation– and man as inherently self-seeking and atomistic. Trial and error, in self-organizing ego-focused networks (unfettered markets), is the way to go, with Adam Smith’s invisible hand ensuring that people only do well when others also benefit. The upholders of individualistic solidarity, in consequence, trust others until they give them reason not to and then retaliate in kind (the winning ‘tit for tat’ strategy in the iterated prisoner’s dilemma game), and see it as only fair that (as in the joint stock company) those who put the most in get the most out. They think institutions that work with the grain of the market (that get rid of environmentally harmful subsidies, for instance) are what are needed.

In a fatalistic social setting, finally, actors find neither rhyme nor reason in nature, and suppose that man is fickle and untrustworthy. Fairness is not to be found in this life, and there is no possibility of effecting change for the better. ‘Defect first’ –the winning strategy in the one-off prisoner’s dilemma– makes sense here, given the unreliability of communication and the permanent absence of prior acts of good faith. Without the possibility of ever getting in sync with nature, or of building trust with others, the fatalistic world unlike the three others is one in which learning is impossible. ‘Why bother?’ therefore is the rational management response.

Since it was first formulated, this classification of four different ways of organizing and perceiving social relations has helped illuminate the paradoxical and sometimes contradictory ways in which people approach contemporary public policy issues. Indeed, these solidarities, in varying strengths and patterns of pairwise alliance,

are discernible almost anywhere you care to look: in debates over the wisdom of prescribing safety seat belts, in the international fora where delegates struggle to do something about climate change, in the different ways international regimes cope with transboundary risks such as water pollution, municipalities go about the business of transport planning and hospitals treat nuclear waste, in the various ways households set about making ends meet and public authorities treat the mentally ill, in the different diagnoses of the pensions crisis in countries with ageing populations, and in the different panaceas that are variously championed and rejected by theorists of public administration, to mention but a few.⁹

What is remarkable about all these divergent examples is that they cannot be pinned down to a single level of social organization, or ‘level of analysis’ – indeed they range all the way from individual households to global institutions. Cultural theory assumes social life to be of a fractal nature.¹⁰ That is to say, the same four forms of organizing and perceiving are supposed to be interacting –forever merging, splitting and recombining– in unpredictable ways at each conceivable level of social organization (*e.g.*, families, firms, ministries or football clubs), with the patterns that result within the domains at one level of society combining to form the same four ways of organizing and perceiving within the domains at a higher level of society (*e.g.*, the system of interest representation within a country, or an international regime). Thus, four straightforward organizational principles can create an endlessly changing, infinitely varied and complex social world.¹¹

Some will argue that this typology represents nothing new. Derived from classifications proposed by the founding fathers of the social sciences, it also overlaps

with a host of more recent categorizations. These would include the typical reactions to decline that Hirschman has described (exit, loyalty and voice), the patterns of economic action that Polyani has pointed out (market, redistribution and reciprocity), the sorts of ‘goods’ distinguished by Snidal (private goods, public goods, common pool resources and club goods), the systems of interest representation set out by Schmitter (pluralism, corporatism, syndicalism and monism), McKinlay and Little’s liberal, realist and socialist international systems, Lichbach’s solutions to collective problems (market & contract, hierarchy and community) – not to mention the many times that social scientists have proposed to add a third type to Weber’s classical distinction between market and bureaucracy: collegiums (Majone), community (Schmitter and Streeck; Perrow; Miller; Etzioni), trust (Granovetter; Bradach and Eccles), society (Wiesenthal), clans (Ouchi), forum (Elster) or civil society (*e.g.*, Seligman).¹²

We agree with this assertion, but do not see the overlap as a drawback of cultural theory. On the contrary, we feel that these similarities fortify our assumption that human relations tend to be organized in a restricted number of ways. Moreover, in comparison to other taxonomies, the grid-group classification comes with several advantages. Not only does it add a fourth way of organizing to many classifications (usually fatalism), it also spells out the basic perceptions that typically underpin alternative ways of organizing. In addition, cultural theory’s typology is usually more fine-grained than other classifications (being of a fractal nature, it can also be used to distinguish among different types of bureaucracies, markets or civil societies), and can be applied to any possible domain of human life (from sexual relations to the nuclear arms race). On the basis of these characteristics, Harry Eckstein argued that the four ways of life constitute ‘especially

promising constructions for cultural typology' that encapsulate 'a great many meanings into a limited set of supermeanings'.¹³

Cultural theory has several normative implications.¹⁴ First, there is the realization that people are arguing from different premises and that, since these premises are anchored in different forms of solidarity, they will never agree. Second, in line with the 'argumentative turn' in policy analysis, this contention, as well as being unavoidable, is all to the good: something to be harnessed through constructive communication.¹⁵ Each way of organizing and perceiving distils certain elements of experience and wisdom that are missed by the others. Each way of organizing and perceiving provides a clear expression of the way in which a significant portion of the populace feels we should live with one another and with nature. And each one needs all the others in order to be sustainable.¹⁶

It is useful to set out this latter point in some detail. Under pure egalitarianism there are no peaceful mechanisms, other than an endless search for consensus, for deciding between alternative opinions. There is no official leadership that can settle issues, nor a voting mechanism that can be invoked. This lack of procedures for settling conflicts can easily paralyze egalitarian social settings. It can also give rise to the violent expulsion of dissenters. In addition, pure egalitarianism creates social ills by ruling out any activities that would give rise to inequality of condition. This limits economic production to a bare minimum, as many forms of economic life contain a competitive element. Hence, undiluted egalitarianism will have to be mixed with at least minimal doses of the other ways of organizing and perceiving, if it is not to evaporate. Hierarchy has a whole 'armory of different solutions to internal conflicts, upgrading, shifting

sideways, downgrading, re-segregating and re-defining' (Douglas 1978: 20). Individualism preaches the right of each individual to live according to his or her own needs and wants, without group interference. Such enthusiasm for individuality serves to dampen the disrespect in which dissenters are held. Together, hierarchy and individualism provide many ways in which to increase the resource base of a group of people, thus preventing impoverishment. Fatalism is useful for egalitarian organizations, as it continuously replenishes the moral outrage that keeps such organizations together.

Hierarchy, too, needs the others. Without the distrust of central control and insistence on transparency that are prevalent within both individualism and egalitarianism, hierarchy would be apt to be prey to the classical problems of bureaucracy: corruption, arbitrary use of power, tunnel vision, lack of innovativeness, and moral fragmentation. And without the unquestioning acceptance and resignation that fatalism implies hierarchical control would become impossible.

Unfettered individualism undermines itself, as it does not include the means to enforce contracts and check accumulating inequalities. To keep its playing fields level, an individualistic social system needs egalitarian-minded organizations to notice, and protest, mounting inequalities. It needs the regulatory capacities of hierarchy in order to enforce contracts, as well as to organize the continuous redistribution of resources that will keep playing fields level. And what would become of individualistic competition, if not a (fatalistic) sucker were born every minute?

Barry Schwartz has nicely summed up these inter-dependencies:

Each way of life undermines itself. Individualism would mean chaos without hierarchical authority to enforce contracts and repel enemies. To get work done and settle disputes the egalitarian order needs hierarchy, too. Hierarchies, in turn, would be stagnant without the creative energy of individualism, uncohesive without the binding force of equality,

unstable without the passivity and acquiescence of fatalism. Dominant and subordinate ways of life thus exist in alliance yet this relationship is fragile, constantly shifting, constantly generating a societal environment conducive to change.¹⁷

It is therefore important that all the ways of life be taken some sort of account of in the policy process. And that, for all its simplicity, is the essence of clumsiness: all the ‘voices’ heard, and responded to by the others. We can now return to the issue of climate change, and show how our theory sorts out, and clarifies, the ongoing disputes regarding this topic – and what this implies for governance.

The Contested Terrain of Climate Change

Cultural Theory is emphatically a dynamic theory, with its typology identifying the timeless components in the ever-changing positions that are the destinations and points of departure for all that endless movement. In other words, the precise policies and arguments taken up will continuously change, yet whatever policies are fought over, they will continue to represent a small number of competing ways of organizing and perceiving social relations. We can therefore use the theory to take a snapshot of the present state of the climate change-debate.

The current positions in the debate on climate change can be read as three *policy stories* (three, because the fatalist solidarity has no voice; if it had it would not be fatalistic). Each policy story provides a setting (the basic assumptions), a villain (the policy problem), heroes (policy protagonists), and, of course, a moral (the policy solution). Each story emphasizes different aspects of the climate change issue. What is more, each story defines itself in contradistinction to the other policy stories.

Profligacy: an egalitarian story

This story begins by pointing to the profligate consumption and production patterns of the North as the fundamental cause of global climate change. Rich industrialized countries, so the argument goes, are recklessly pillaging the world's resources with little regard to the wellbeing of either the planet or the peoples of its poorer regions. Global climate change is more than an issue that is amenable to quick technical fixes; it is a fundamentally moral and ethical issue.

The setting for this story is a world in which everything is intricately connected to everything else, and nature is fragile. Whether this concerns human society or the natural world, this story urges us to think of Planet Earth as a single living entity. Environmental degradation, then, is also an attack on human wellbeing. Humans, so the argument goes, have, until now, successfully deluded themselves that they can live apart from the natural environment. In reality, however, there is no place for humans outside nature and thus no particular reason for considering humans as superior to nature. In short, this story is set in an ecocentric world.

The villain, in the profligacy story, is the fundamentally inequitable structure of advanced industrial society. In particular, the profit motive and the obsession with economic growth –the driving forces of global capitalism– have not only brought us to the brink of ecological disaster; they have also distorted our understanding of both the natural and the social world. Global commerce and the advertising industry lead us to desire environmentally unsustainable products (bottled water, fast cars, or high protein foods, for example) while our real human needs (living in harmony with nature and with each other: the egalitarian social construction of human nature) go unfulfilled. What is

more, advanced capitalism distributes the spoils of global commerce highly inequitably. This is true within countries (the increasing gap between the rich classes and the poor classes) and among countries (the increasing gap between the affluent countries of the North and the destitute countries of the South). In short, prevailing structural inequalities have led to increasingly unsustainable patterns of consumption and production.

Since everything is connected to everything else, this story continues, we cannot properly understand environmental degradation unless we see it as a symptom of this wider social malaise. The way humans pollute, degrade and destroy the natural world is merely a very visible indicator for the way they treat each other and particularly the weaker members of society. The logic that allows us to fell thousands of square kilometers of rainforests, to dump toxins in waterways, or pollute the air is precisely the same logic that produces racism, misogyny and xenophobia. Tackling one problem inevitably implies tackling all the others.

The heroes of the profligacy story are those organizations and individuals who have managed to see through the chimera of progress in advanced industrial society. They are those groups and persons that understand that the fate of humans is inextricably linked to the fate of Planet Earth. The heroes understand that, in order to halt environmental degradation, we have to address the fundamental global inequities. In short, the heroes of the profligacy policy argument are those organizations of protest, such as Earth First!

What, then, is the moral of the profligacy story? Its proponents point to a number of solutions. In terms of immediate policy, the profligacy tale urges us to adopt a strict version of the precautionary principle in all cases: unless policy actors can prove that a particular activity is innocuous to the environment, they should refrain from it. The

underlying idea here is that the environment is precariously balanced on the brink of a precipice. The story further calls for drastic cuts in carbon dioxide emissions; since the industrialized North produces most of these emissions, the onus is on advanced capitalist states to take action.

Yet none of these measures, the story continues, is likely to be fruitful on its own. In order to really tackle the problem of global climate change those in the affluent North will have to fundamentally reform their political institutions and their unsustainable lifestyles. Rather than professionalized bureaucracies and huge centralized administrations, the advocates of the profligacy story suggest we decentralize decision-making down to the grassroots level. Rather than continuing to produce ever-increasing amounts of waste, we should aim at conserving the fragile natural resources we have: we should, in a word, move from the idea of a waste society to the concept of a *conserve* society. Only then can we meet real human needs. What are real human needs? Simple, they are the needs of Planet Earth.

Earth First! provides a telling example. Here is how this group of ‘deep ecologists’ sees itself:

To avoid co-option, we feel it is necessary to avoid the corporate organizational structure so readily embraced by many environmental groups. Earth First! is a movement, not an organization. Our structure is non-hierarchical. We have no highly-paid ‘professional staff’ or formal leadership. ... Earth First! has survived attacks by moderates, would-be leaders and the agents of the system, remaining the most diverse, passionate, committed, and uncompromising group of environmental activists.

Earth First! is a priority, not an organization. It is the name of our journal, and the slogan of our emerging tribe, but it is a tribe without chiefs. The only ‘leaders’ are those temporarily working the hardest and taking the most risks. New ideas, strategies and crucial initiative come from individuals, and all decisions are made within affinity groups based on preferred tactics.

And this is how Earth First! sees the problem:

Over the last several hundred years, human civilization has declared war on large mammals, leading some respected ecologists to assert that the only large mammals to survive the near future will be those we humans choose to allow to live. Other prominent biologists, aghast at the wholesale devastation of tropical rainforests and temperate old-growth forests, rapidly accelerating desertification, and destruction of ‘charismatic megafauna’ due to habitat destruction and poaching, say that Earth could lose one quarter to one third of all species within a very few years.

Not only is the blitzkrieg against the natural world destroying ecosystems and their associated species, but our activities are now beginning to have fundamental, systemic effects upon the entire life-support system of the planet – upsetting the world's climate, poisoning the oceans, destroying the ozone layer which protects us from excessive ultraviolet radiation, changing the CO₂ ratio in the atmosphere, and spreading acid rain, radioactive fallout, pesticides and industrial contamination throughout the biosphere.

Clearly, the conservation battle is not one of merely protecting outdoor recreation opportunities; neither is it a matter of elitist aesthetics, nor ‘wise management and use’ of natural resources. It is a battle for life itself, for the continuous flow of evolution. We – this generation of humans – are at our most important juncture since we came out of the trees six million years ago. It is our decision, ours today, whether Earth continues to be a marvelously living, diverse oasis in the blackness of space, or whether the charismatic megafauna of the future will consist of Norway rats and cockroaches. To put it simply, the earth must come first.

From this perspective, the solution seems clear:

While many environmental groups are members of the American political establishment and essentially adopt the anthropocentric (human-centered) world view of industrial civilization, we say the ideas and manifestations of industrial civilization are anti-Earth, anti-woman, and anti-liberty. We are developing a new biocentric paradigm based on the intrinsic value of all natural things: Deep Ecology. Earth First! believes in wilderness for its own sake. Lobbying, lawsuits, letter writing and research papers are important and necessary. But they are not enough. Earth First!ers also use confrontation, guerrilla theater, direct action and civil disobedience to fight for wild places and life processes. And while we do not condone or condemn monkeywrenching, ecotage, or other forms of property destruction, we do present a forum for the exchange of ideas on creative opposition to the juggernaut of ‘progress’, including ideas about monkeywrenching.¹⁸

Similar opinions propel citizens’ groups such as Ecodefense, EcoEquity, Corpwatch, Adbusters, International Forum on Globalization, and the Voluntary Human Extinction Movement. They once used to drive Greenpeace, Friends of the Earth and the Natural

Resources Defense Council as well, but the internal organization and policy perspectives of these organizations have tended to become more hierarchical and technocratic over time – a road that Weber once dubbed the *routinization of charisma*.¹⁹ It has earned Friends of the Earth a spot on the ‘sell-out list’ of Ecodefense.

Lack of global planning: a hierarchical story

Our second story opens with a view on the limits to economic and population growth. In an older rendering of this story, a tale told some thirty years ago, these limits were supposed to lie in the dwindling resources of oil, gas and coal, which –scientific studies had conclusively shown– would not be sufficient to sustain the world’s economic growth forever more. Nowadays, after a thirty-year period in which ‘proven reserves’ of fossil fuels have continuously risen, different limits to economic and population growth are being highlighted. Rather than be afraid of natural resources running out, we should be concerned about the continued use of oil, gas and coal across the globe. Such irresponsible behavior, due to its long-term effects on the world’s climates, would eventually wreak havoc on the ecosystems on which human beings depend.

The operative term in this policy story is ‘long term’. Although human-made greenhouse gas-emissions have already started to affect ecosystems, there is still time to remedy matters. Unlike the profligacy-story, the hierarchical tale does not include the line that the world is about to come to an end unless we radically change our wicked capitalist ways right now. Enough time is left to plan a gradual, incremental change towards technologies and energy resources that do not emit greenhouse gases. Unfortunately, the ‘long term’ also plays a less benign role in this tale. The consequences of climate change

lie far into the future, and are spread across the entire globe: way beyond the temporal and spatial ken of most citizens and enterprises. What is more, each single contribution that households, companies, and even whole countries could make to the prevention of climate change is so small as to be insignificant. It therefore makes no sense for any household or firm or country to unilaterally reduce its emissions. What we are faced with, therefore, is a ‘tragedy of the global commons’. This tragedy –in which undiscerning actors all over the world are slowly but surely crashing through the ecological limits established by experts– is the setting of the hierarchical story.

The underlying problem is the lack of global governance and planning that would rein in and steer global markets and protect global commons. Singled out for contempt as policy villains are those individuals, governments and enterprises skeptical of the view that the solution to global issues (such as climate change, biodiversity or international terrorism) must consist of global intergovernmental treaties, based on scientific planning and expert advice, and sanctified by the United Nations. In the case of global warming these would include: American President Bush, the U.S. Senate, the Australian government under Prime Minister John Howard, the government of Alberta. Scientists who argue against the climate change-thesis are put down as ‘politically motivated’, rather than objective and dispassionate. For instance, two economists recently argued that the scientific models predicting climate change that have been developed by the IPCC (Intergovernmental Panel on Climate Change – the body of scientists advising the governments on global warming) greatly overestimate the economic growth rates that poor countries could possibly hope to attain during the course of the century. (Any such exaggeration would have the effect of overestimating future emissions of greenhouse

gases). Even the IPCC model that predicts the smallest degree of global warming assumes that in nearly a hundred years' time the per capita income of the United States will be overtaken by South Africa, Libya, Algeria, North Korea and other currently near-destitute countries. In reaction, scientists involved with the IPCC claimed that the two economists had read the false documents, had not understood the models and, anyway, were politically motivated. They did not, however, deny the basic criticism.²⁰

The moral of this tale is clear: the only conceivable remedy to climate change is for all the governments and parliaments of the world to formally agree on the extent to which future emissions should be cut, which countries should do so, how, and when. States should then impose these formal, intergovernmental agreements on the multitude of undiscerning consumers and producers within their borders. This is the logic behind the 1997 Kyoto Protocol to the United Nations Framework Convention on Climate Change. It is espoused by almost all the governments of the world, by U.N. agencies and the World Bank, as well as by the large mainstream environmental organizations (the ones of which Earth First! is so disparaging).

The heroes of this story are those dispassionate scientists, experts, civil servants, NGO representatives and enlightened politicians who have not put their talents and energy in the service of Mammon, but are quietly building the global bureaucratic structures that will rectify the short-termism and greed of global markets, and usher in the non-carbon age in a carefully planned and gradual manner.

Consider, for instance, the 1999 Human Development Report of the United Nations Development Programme (one of three international organizations administering the Global Environmental Facility, the main international source of funds for climate

change-projects). This report focuses on how to organize global governance. In its Overview, after having acknowledged (p. vii) the ‘intellectual advice and guidance by the external Advisory Panel of eminent experts’, the report states (p. 2):

The challenge of globalization in the new century is not to stop the expansion of global markets. The challenge is to find the rules and institutions for stronger governance –local, national, regional and global– to preserve the advantages of global markets and competition, but also to provide enough space for human, community and environmental resources to ensure that globalization works for people – not just for profits.

In the report’s final chapter, under the section heading ‘Start Now to Build the Global Architecture Required for the 21st Century’, the following conclusion is reached (pp. 110-11):

With the new challenges of globalization, and the need to ensure stronger action on old problems and new, the time has come to rethink the global architecture. Some of the key elements of an improved international architecture:

- A stronger and more coherent UN system, with more commitment from all countries.
- A global central bank.
- A world investment trust with redistributive functions and transfer mechanism.
- A world environment agency.
- A revised World Trade Organization, fairer and with an expanded mandate.
- An international criminal court, with a broader mandate for human rights.
- A broadened United Nations, with a two-chamber General Assembly to allow for civil society representation.

The 2003 Human Development Report has a chapter devoted to ‘Public Policies to Ensure Environmental Sustainability’. In this chapter, it is concluded that (p. 130):

Intergovernmental processes tend to be difficult to organize and slow to execute, but they are the only realistic way to address cross-border pollution and ecosystem degradation.

And (p. 131):

A Life Observatory should be established to systematically monitor major ecosystems such as coastal habitats, major watersheds and wetlands. Such an observatory would complement current efforts, including the Global Terrestrial Observing System, the

Global Climate Change Observing System and the Global Oceans Observing System. The Life Observatory should build on the Millennium Ecosystem Assessment, a four-year effort involving 1,500 scientists compiling the best available knowledge on the world's ecosystems and the services they provide. The Life Observatory would ensure that these analyses are continuously updated to map the long-term effects of human activities on specific ecosystems. ... Environmental indicators that accurately track the environment should be developed and integrated with national policy-making. Long-term planning should factor in projected changes in climate and changes to specific ecosystems to assess how these trends will affect development progress and needs.

Much ado about nothing: an individualistic story

Those who belong to organizations of a more individualistic bent –the United States' Cato Institute, for instance, or Britain's Institute of Economic Affairs, or the editorial teams of *The Wall Street Journal* and *The Washington Times*– tell a very different tale. To them, the whole current ballyhoo over climate change and global warming is much ado about nothing – at most just another attempt at scare-mongering by naïve idealists who erroneously believe that the world can be made a better place, and by international bureaucrats looking to expand their own budgets and influence.

Such individualistically organized outfits are skeptical of the diagnosis of climate change itself and they are convinced that, even if it is correct, the consequences will be neither catastrophic nor uniformly negative. Far from being at a six-million-year juncture, we are, they assert, where we have always been: faced with uncertainties and challenges that, if tackled boldly by a diversity of competing agents, can be transformed into opportunities from which all can benefit. They focus on the *lacunae* in current climate-change science:

- Clouds, whose formation is poorly understood but which are expected to be more prevalent in a warmer world, would likely reflect more sunlight back into space before it reached the earth's surface.

- Human sources of greenhouse gases are dwarfed by natural sources (volcanoes, for instance, and termites and other wood-digesting creatures) – which means that it is impossible in the short-run to say whether any warming (if it is happening) is man-made.
- The climate models that are being used to predict future changes cannot even accurately chart changes that have already occurred.

Looking beyond the short-term, they point out that a carbon-rich climate would increase agricultural productivity, and that, even if the negative impacts did outweigh the positive ones, we would still need to compare the costs of preventing global warming now to the costs of adapting to higher temperatures a few decades hence. Money not spent on preventing climate change, they point out, could be used to tackle other, more pressing environmental and social ills. On top of all that, individualistic organizations are open to the view that technological progress and the unpredictable forces of ‘creative destruction’ may soon render today’s fuss over climate change irrelevant. The production costs of renewable energy, they point out, have fallen dramatically over the last few decades, and these new technologies –wind, hydro, geothermal, and solar– are rapidly becoming (indeed, in some instances, have already become) competitive with the old technologies of fossil fuels.

The setting of this individualistic story is therefore a wonderfully robust and bountiful natural world, while the villains are those individuals and organizations too woolly-headed to grasp this simple fact, as well as those bureaucratic outfits that misrepresent matters in an attempt to increase their own clout. The heroes are those

decision-makers who brave public opposition and do not allow themselves to be intimidated by all this scare-mongering, the whistleblowers and skeptics in the community of atmospheric scientists, as well as those risk-taking individuals and enterprises that will soon make people forget all about climate change by inventing cleaner and cheaper technologies. The moral of this story is: business as usual – *innovative* business as usual!

As Roger Bate, director of the Environment Unit of the Institute of Economic Affairs, concludes:

On the whole, society's problems and challenges are best dealt with by people and companies interacting with each other freely without interference from politicians and the state. We do not know whether the world is definitively warming, given recent satellite data. If the world is warming, we do not know what is causing the change – man or nature. We do not know whether a warmer world would be a good thing or a bad thing. [The scientific evidence] does not suggest that immediate action for significant limitation on energy consumption is urgently required. ... Until the science of climate change is better understood, no government action should be undertaken beyond the elimination of subsidies and other distortions of the market.²¹

The Case for Clumsiness

It is only by teasing out these sorts of policy arguments, and their diverse adherents, that we can understand the social constructions of needs and resources: how they are generated, how they are reproduced and transformed, and how they shape the policy process. This understanding has some important implications.

- The three stories tell plausible but conflicting tales of climate change. All three tales use reason, logic and science to argue their points. None of the tales is 'wrong', in the sense of being implausible or incredible. Yet, at the same time, none of the stories is completely 'right'; each argument focuses on those aspects of climate change for

which there is a suitable solution cast within the terms of a particular form of organization.

- These three policy discourses are not reducible to one another. No one of the policy arguments is a close substitute for the others. Nor are any of the stories' proponents ever likely to agree on the fundamental causes of and solutions to the global climate change issue. And, since these stories implicitly convey a normative argument, namely that of the good life (either in egalitarian enclaves, in hierarchies, or in markets), they are curiously immune to enlightenment by 'scientific' facts; we cannot, in any scientific sense, prove or falsify policy stories.²²
- These stories also define what sort of evidence counts as a legitimate fact and what type of knowledge is credible. The profligacy story discounts economic theory as the obfuscation of social inequalities and dismisses rational management as the reification of social relations. The tale of individual entrepreneurship views holistic eco-centrism as amateur pop-science and pours scorn on the naïve belief in benign control. Last, the global governance-story rejects laissez-faire economic theory as dangerously unrealistic, and questions the scientific foundations of more holistic approaches.

This leaves us with a dynamic, plural and argumentative system of policy-definition and policy-framing that policy-makers ignore only at their cost, for three reasons. First, each policy story, as we have seen, thematises a pertinent aspect of the climate change debate. Any global climate change policy, then, based on only one or two of these stories, will merely provide a response to a specific aspect of the global climate change problem. It

will, in short, provide a partially effective response. Second, and more significantly, each of the stories represents a political voice in the policy process. Ignoring any of these voices means excluding them from policy-making. Within democratic polities, this inevitably leads to a loss of legitimacy. What is more, in democracies, dissenting voices will eventually force their way into the policy process (as we have seen for instance with the World Trade Organization in Seattle and Prague and the G8 riots in Genoa). Neither the cost of acrimonious and vicious political conflict, nor the loss of public trust experienced by those who (perhaps inadvertently, perhaps not) suppress dissenting voices, are particularly attractive. The former often leads to policy deadlock; the latter may well result in a legitimacy crisis in the polity as a whole. Last, even though these are contradictory and irreducible perspectives on policy, none of them can be effectively implemented on its own. Only innovative combinations of bureaucratic measures, risky entrepreneurship and technological progress, as well as frugality and international solidarity could be successful.

The recent implosion of the Kyoto Protocol illustrates this latter point. In December 2003, the decade-long efforts to ratify and implement this treaty finally collapsed when it became clear that the Russian government would continue to oppose the Protocol. This meant, after the previous withdrawals by the governments of the United States and Australia, that the Kyoto Protocol would not receive the minimum amount of signatures necessary to enter into force. At the same time, it also became clear that very few of the countries that had ratified the treaty had actually been fulfilling their requirements under it. The Kyoto Protocol was doomed from the beginning, as it was based on the assumption that the prevention of climate change is an expensive, and global

‘public good’ that can only be provided through a formal, binding treaty between all the governments and parliaments of the world. However, very few, if indeed any, costly, global intergovernmental treaties have ever been ratified and implemented. Attempts to agree on such treaties usually get quickly bogged down, due the vast ideological differences between governments and the financial interests that are perceived to be at stake. The international attempts to stem climate change broke down, as they did not identify and promote competitive processes through which curbing climate change can become much less costly, or perhaps even turned into a profitable undertaking.²³

So these three policy stories have important implications, not just for global climate change policy-making, but for policy, and for risk management, generally.

- *Endemic Conflict*: In a policy process where politics matters (that is, in any policy process) there will be at least three divergent but plausible stories that frame the issue, define the problem, and suggest solutions. Thus conflict in policy-making processes is endemic, inevitable, and desirable, rather than pathological, curable or deviant. Any policy process that does not take this into account does so at the risk of losing political legitimacy.
- *Plural Policy Responses*: We have seen that each story tells a plausible, but selective, story. Any policy response modeled solely in terms of just one or two of these tales will be, at best, partial and, at worst, irrelevant.
- *Quality of Communication*: Since policy-making is inherently conflictual, and since effective policy responses depend on the participation of all three voices, policy outcomes crucially depend on the quality of the communication within the debate. A policy debate that can harness the argumentative conflict between different story-

tellers will profit most from the potentially constructive interaction between different proponents. Conversely, a policy debate in which all three positions are sharply polarized will probably lead to policy deadlock. This is a structural argument that concerns the implicit and explicit ‘rules’ that govern policy deliberation in a polity. If the ‘rules of the game’ permit or even force policy actors to take seriously different types of stories, then what Sabatier and Jenkins-Smith call ‘policy-oriented learning’ can take place.²⁴ If this is not the case, then the policy debate will be an unconstructive dialogue of the deaf.

Summarizing all of the above, we have at one extreme an unresponsive monologue and at the other a shouting match amongst the totally deaf. Between these extremes we occasionally find a vibrant multivocality in which each voice formulates its view as persuasively as possible, sensitive to the knowledge that others are likely to disagree, and acknowledging a responsibility to listen to what the others are saying. This is the condition –clumsiness– we must strive for if we value democracy or, as is the case with many regulatory agencies, we are mandated to develop and implement policy on behalf of a democracy. Getting there and staying there is, of course, not easy.

At the monologue end of the spectrum the policy process is seductively elegant and reassuringly free (it would seem) from the defiling intrusion of politics. Here we find the mind-set characterized by single-metric rationality. At the other extreme we wallow in the incoherence of complete relativism. The cultural theory typology presented here suggests that between these extremes there is the possibility of constructive dialogue. It will often be a noisy, discordant, contradictory dialogue, but this is the clumsy beast that

democratic policy makers and regulators must seek to harness and ride – in each and every specific situation. On this we agree again with Isaiah Berlin:

The way out must therefore lie in some logically untidy, flexible and even ambiguous compromise. Every situation calls for its own specific policy, since ‘out of the crooked timber of humanity’, as Kant once remarked, ‘no straight thing was ever made’. What the age calls for is not (as we are so often told) more faith, or stronger leadership, or more scientific organization. Rather it is the opposite – less Messianic ardour, more enlightened skepticism, more toleration of idiosyncracies, more frequent ad hoc measures to achieve aims in a foreseeable future... What is required is a less mechanical, less fanatical application of general principles, however rational or righteous, a more cautious and less arrogantly self-confident application of accepted, scientifically tested, general solutions to unexamined individual cases.²⁵

Making Ourselves Clumsy

The term ‘clumsy institution’ was coined by law professor Michael Shapiro as a way of escaping from the idea that, when we are faced with contradictory definitions of problem and solution, we must choose one and reject the rest.²⁶ Clumsy institutions, we can say, now that we have the cultural theory-typology, are those institutional arrangements in which none of the voices –the hierarchical call for ‘wise guidance and careful stewardship’, the individualistic emphasis on ‘entrepreneurship and technological progress’, the egalitarian insistence that we need ‘a whole new relationship with nature’, and the fatalist’s asking ‘why bother?’– is excluded, and in which the contestation is harnessed to constructive, if noisy, argumentation.

Clumsiness emerges as preferable to elegance (optimizing around just one of the definitions of the problem and, in the process, silencing the other voices) once we realize that what looks like irreconcilable contradiction is, in fact, *essential contestation*.²⁷ From the reflexive vantage point that is afforded us by our fourfold typology, and with the

benefit of hindsight, it can be seen that many of our public institutions –Britain's former Ministry of Agriculture, Fisheries and Food, the World Trade Organization, the Intergovernmental Panel on Climate Change, and most national overseas aid agencies, to mention but a few– are insufficiently clumsy and, in consequence, erosive of democracy. Most policy tools (all single metrics such as cost-benefit analysis, probabilistic risk assessment, quality-adjusted life years, general equilibrium modelling) and policy precepts (the insistence on a single agreed definition of the problem, the clear separation of facts and values, and the focus on optimisation) are similarly flawed.

The challenge is therefore how clumsy solutions can best be generated within specific circumstances. We can only give a clumsy answer to this. Each of the active ways of organizing lends itself to a particular preference for how clumsy solutions can be arrived at. In each particular situation, an appropriate and flexible combination of these alternative perspectives needs to be forged. The egalitarian ideal for making ourselves clumsy would be through participatory, deliberative practices. Everybody involved should deliberate freely –from their own perspectives on the good life– until solutions are found on which all can agree. No participant in this deliberative debate should have more power resources (for instance in the form of superior rhetorical skills, more information or better training) than the others, and nobody should be aiming to promote their private interests in the public debate.²⁸ The hierarchical take on how to generate clumsiness would start from the assumption that ordinary citizens and organizations are simply not well-informed or well-meaning enough to be able to grasp, and balance, all these rather sophisticated, alternative rationales. Instead clumsiness can only be reached, when policy-makers and scientific experts carefully listen to ordinary folk arguing from their

partial perspectives, weigh the evidence, weed out the good arguments from the bad, and then construct clumsy solutions in a top-down way.²⁹ The individualistic view would stress that clumsiness can only be reached in an unplanned and antagonistic way. This view would call for checks and balances between people and organizations adhering to different rationalities. As long as the latter would be forced to respond –through the rules of the game– to each other’s criticisms, and show that the accusations hurled at them are unfounded, clumsy solutions could arise in spontaneous, unintended ways, which would not require any form of consensus on any aspect of the issue.³⁰ Therefore, different ideals for how to make ourselves clumsy can be derived from the various ways of organizing and perceiving, none of which will be successful on its own.³¹

Acknowledgements

We received generous and helpful feedback from Miriam Abu Sharkh, Mary Douglas, Richard Ellis, Christoph Engel, Frank Hendriks, Frauke van Hoorn, Ian Gough, Chrysostomos Mantzavinos, Steven Ney and Endre Sík.

Notes

¹ For example, Donald P. Green and Ian Shapiro, *Pathologies of Rational Choice Theory: A Critique of Applications in Political Science* (New Haven, Conn.: Yale University Press, 1994), p. 188; Bent Flyvbjerg, *Making Social Science Matter* (Cambridge: Cambridge University Press, 2001), p. 167.

² Aaron B. Wildavsky, ‘Choosing Preferences by Constructing Institutions’. *American Political Science Review* (Vol. 81, No. 1, 1987), pp. 3–21.

³ Isaiah Berlin, *Liberty* (Oxford: Oxford University Press, 2002), pp. 44-45.

⁴ Mary Douglas, ed., *Essays in the Sociology of Perception* (London: Routledge, 1982); Mary Douglas, *How Institutions Think* (London: Routledge, 1987); Michael Thompson, Richard Ellis, and Aaron Wildavsky, *Cultural Theory* (Boulder, Col.: Westview Press, 1990); Michael Thompson, Gunnar Grendstad and Per Selle (eds), *Cultural Theory as Political Science* (London: Routledge, 1999). This approach has also sailed under the flags of ‘theory of sociocultural viability,’ ‘grid-group analysis,’ and ‘theory of plural rationality.’

⁵ Mary Douglas, “Cultural Bias,” in *Occasional Paper No. 35* (London: Royal Anthropological Institute, 1978); Thompson, Ellis and Wildavsky, *op. cit.*, part 2.

Manfred E.A. Schmutzer, *Ingenium und Individuum* (Berlin: Springer, 1994). Cf., Alan Page Fiske, *Structures of Social Life: The Four Elementary Forms of Human Relations* (New York: The Free Press, 1991).

⁶ In his classic *The Elementary Forms of Religious Life* (New York: Basic Books, 1917/1985), Émile Durkheim argued that differences in the ways in which groups of people organize interpersonal relations form the basis for the manners in which these groups differently perceive such fundamental notions, as time, space, causality and morality. In present-day biology and linguistics, a similar idea has emerged, namely that the growth of cognitive skills among primates, as well as the emergence of human language, is explained by the evolution of more elaborate and flexible forms of social organization. See: Frans de Waal and Peter L. Tack (eds), *Animal Social Complexity: Intelligence, Culture, and Individualized Societies* (Cambridge, MA: Harvard University Press, 2003). In any case, we buy into the view that diversity in social organization is at least one basis for the variety of human perception.

⁷ Jonathan L. Gross and Steve Rayner, *Measuring Culture: A Paradigm for the Analysis of Social Organization* (New York: Columbia University Press, 1985).

⁸ We have been following a time-honored way of explaining cultural theory. However, this opens us up to a familiar, and quite reasonable, charge. Dimensions, properly speaking, do not serve to distinguish differences of kind – merely differences of degree. One cannot, for instance, get from a reef knot to a grannie knot by moving along some dimensions. Hence, the critique goes, how is it possible to distinguish four alternative ways of organizing on the basis of two dimensions? Put slightly differently, what justifies using the indicators ‘high’ and ‘low’ to generate four ways of organizing from the two dimensions? How high is ‘high’, how low ‘low’? Why not select a ‘middle’ as well? The best (though unfortunately least easily understood) solution is set out in Manfred E.A. Schmutzer and Wyllis Bandler, “High and Low, In and Out: Approaches to Social Status”, *Journal of Cybernetics* (Vol. 10, 1980), pp. 283-99. This rigorous re-framing, in terms of cybernetics, distinguishes between ‘openness’ and ‘closedness’ (cf., low versus high grid), and between ‘weak’ and ‘strong connectedness’ (cf., high versus low group). Possible ways of organizing are then expressed in terms of a ‘transaction matrix’, which, it turns out, has only four solutions. These solutions match cultural theory’s four ways of organizing, and are ‘truly distinct types that cannot be transformed into each other unless the principal conditions are altered’ (Manfred Schmutzer, personal communication). The grid and group dimensions, it appears, have been nicely chosen to pick up this fourfold set of discontinuities.

⁹ Respectively, John Adams, *Risk* (London: UCL Press, 1995); Michael Thompson, Steve Rayner and Steven Ney, “Risk and Governance, Part II: Policy in a Complex and Plurally Perceived World”, *Government & Opposition* (Vol. 33, no. 3, 1998), pp. 330-54; Marco Verweij, *Cultural Theory and Transboundary Environmental Problems: The Protection of the Rhine and the Great Lakes* (New York: Palgrave, 2000); Frank Hendriks, *Public Policy and Political Institutions: The Role of Culture in Traffic* (Aldershot: Edward Elgar 1999); Steve Rayner, “Management of Radiation Hazards in Hospitals: Plural Rationalities in a Single Institution”, *Social Studies of Science* (Vol. 16, 1986), pp. 573-91; Karl Dake and Michael Thompson, “Making Ends Meet, in the Household and on the Planet”, *GeoJournal* (Vol. 47, No. 3, 1999), pp. 417-24; Brendon Swedlow, “Cultural

Influences on Policies Concerning Mental Illness”, in Dennis Coyle and Richard Ellis (eds), *Politics, Policy and Culture* (Boulder, CO: Westview Press, 1994); Steven Ney, “The Rediscovery of Politics: Democracy and Structural Pension Reform in Continental Europe”, in Robert Holzmann, Mitchell Orenstein and Michal Rutkowski (eds.), *Pension Reform in Europe: Process and Progress*, (Washington, DC: The World Bank, 2003); Christopher Hood, *The Art of the State* (Oxford: Clarendon, 1998).

¹⁰ Benoit B. Mandelbrot, *The Fractal Geometry of Nature* (New York: Freeman, 1977).

¹¹ The full merger of cultural theory and the analysis of complex social systems is underway: Paul Tayler and Michael Thompson, *The Forces That Cause Movement* (manuscript in progress).

¹² Albert O. Hirschman, *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States* (Cambridge, Mass.: Harvard University Press, 1970); Karl Polyani, *The Great Transformation* (Boston: Beacon Press, 1944); Duncan Snidal, “The Politics of Scope: Endogenous Actors, Heterogeneity, and Institutions”, *Journal of Theoretical Politics* (Vol. 6, No. 4), pp. 449-72; Philippe C. Schmitter, “Still the Century of Corporatism?”, *Review of Politics* (Vol. 36, 1974), pp. 85-131; Robert D. McKinlay and Richard Little, *Global Problems and World Order* (London: Pinter, 1986); Mark I. Lichbach, *The Rebel’s Dilemma* (Ann Arbor, MI: University of Michigan Press, 1995); Giandomenico Majone, *Evidence, Argument and Persuasion in the Policy Process* (New Haven: Yale University Press, 1990); Wolfgang Streeck and Phillippe C. Schmitter “Community, Market, State – and Associations? The Prospective Contribution of Interest Governance to Social Order”, *European Sociological Review* (Vol. 1, No. 2), pp. 119-38; Charles Perrow, “Markets, Hierarchy and Hegemony”, in Andrew van de Ven and William F. Joyce (eds.), *Perspectives on Organizational Design and Behavior* (New York: Wiley, 1981); David Miller, *Market, State and Community* (Oxford: Oxford University Press, 1989); Amitai Etzioni, *The New Golden Rule* (New York: Basic Books, 1998); Mark Granovetter, “Economic Action and Social Structure: The Problem of Embeddedness”, *American Journal of Sociology* (Vol. 91, No. 3, 1985), pp. 481-510; Jeffrey Bradach and Robert Eccles, “Prices, Authority, and Trust: From Ideal Types to Plural Forms”, *Annual Review of Sociology* (Vol. 15, 1989), pp. 97-118; Helmut Wiesenthal, “Markt, Organisation und Gemeinschaft als ‘zweitbeste’ Verfahren sozialer Koordination”, in Raymund Werle and Uwe Schimank (eds), *Gesellschaftliche Komplexität und kollektive Handlungsfähigkeit* (Frankfurt: Campus, 2000); William Ouchi, “Markets, Bureaucracies and Clans”, *Administrative Science Quarterly* (Vol. 25, 1980), pp. 129-41; Jon Elster, “The Market and the Forum: Three Varieties of Political Theory”, in Jon Elster and Annund Hylland (eds), *The Foundations of Social Choice Theory* (Cambridge: Cambridge University Press, 1986); Adam Seligman, *The Idea of Civil Society* (Princeton, NJ: Princeton University Press, 1995).

¹³ Harry Eckstein, “Cultural Science as Social Science, Rational Choice as Metaphysics”, in Michael Thompson and Richard Ellis (eds), *Culture Matters: Essays in Honor of Aaron Wildavsky* (Boulder, CO, Westview, 1997), p. 31.

¹⁴ Steven Ney and Michael Thompson, “Consulting the Frogs: The Normative Implications of Cultural Theory”, in Thompson, Grendstad, and Selle (eds), *op. cit.*

¹⁵ Joseph G. Morone and Edward J. Woodhouse, *Averting Catastrophe: Strategies for Regulating Risky Technologies* (Berkeley, CA: University of California Press, 1986);

David Collingridge, *The Management of Scale: Big Organizations, Big Decisions, Big Mistakes* (London: Routledge, 1992); Langdon Winner (ed.), *Technology and Democracy* (Dordrecht: Kluwer, 1992).

¹⁶ With the exception of fatalism. That is to say, while the other three forms of organizing need a minimum amount of fatalism, the reverse does not hold true. Fatalism, unlike the others, can feed on, and sustain, itself. This is, of course, the infamous “poverty trap”, or vicious circles of low trust and social capital.

¹⁷ Barry Schwartz, “A Pluralistic Model of Culture,” *Contemporary Sociology* (Vol. 20, 1991), p. 765.

¹⁸ All quotes taken from <http://www.earthfirstjournal.org/efj/primer/index.html> (17 November 2003).

¹⁹ In the original: ‘Die Veralltaeglichung des Charisma’, Max Weber, *Wirtschaft und Gesellschaft* (Tuebingen: Mohr, 1921/1972), pp. 142-148.

²⁰ Ian Castles and David Henderson, “The IPCC Emission Scenarios: An Economic-Statistical Critique”; Nebosja Nakicenovic, *et.al.*, “IPCC SRES Revisited: A Response”, *Environment & Energy* (Vol. 14, Nos. 2 &3, 2003); and Ian Castles and David Henderson, “Economics, Emissions Scenarios and the Work of the IPCC”, *Environment & Energy* (Vol. 14, No. 4, 2003).

²¹ Roger Bate, “The Political Economy of Climate Change Science,” in *Environmental Unit Briefing Paper No. 1* (London: Institute of Economic Affairs, 2001), available at <http://www.iea.org.uk> (21 November 2003).

²² Some qualification is needed here. Policy arguments that require water to flow uphill, say, or the sun to go round the earth, or motion to be perpetual (what a great way to mitigate the greenhouse effect!) or the moon to be made of green cheese, are unlikely to be persuasive because the scientific facts they seek to overturn lie outside the ‘challengeable Pale’ (the English Pale was a small area, around Dublin, beyond which the writ of English law did not run). For some indication of how that pale (which, of course, is far from fixed) can be mapped and coped with see Michael Thompson and Michael Warburton, “Uncertainty on a Himalayan Scale: How to Save the Himalayas When You Cannot Find out What’s Wrong with Them”, *Mountain Research and Development* (Vol. 5, No. 2, 1985), pp. 115-135; and John Adams and Michael Thompson, *Taking Account of Societal Concerns about Risk*, Research Report 035 (London: Health and Safety Executive, 2002).

²³ For the full argument, see Marco Verweij, “Curbing Climate Change the Easy Way”, *Government & Opposition* (Vol. 38, No. 2, 2003), pp. 139-61.

²⁴ Paul Sabatier and Hank Jenkins-Smith (eds), *Policy Change and Learning: An Advocacy Coalition Approach* (Boulder, CO.: Westview, 1993).

²⁵ Berlin, *op. cit.*, p. 92.

²⁶ Michael Shapiro, “Introduction: Judicial Selection and the Design of Clumsy Institutions”, *Southern California Law Review* (Vol. 61, 1988), p. 1555-63.

²⁷ William B. Gallie, “Essentially Contested Concepts”, *Proceedings of the Aristotelian Society* (Vol. 56, 1956-57), pp. 167-98.

²⁸ Cf., Jürgen Habermas, *Theorie des Kommunikativen Handels*, Bd. 2 (Frankfurt: Suhrkamp, 1987).

²⁹ Cf., Daniel A. Bell, *East Meets West: Human Rights and Democracy in East Asia* (Princeton, NJ: Princeton University Press, 2000).

³⁰ Albert O. Hirschman, "Social Conflicts as Pillars of Democratic Market Society", *Political Theory* (Vol. 22, No. 2, 1994), pp. 203-218; John A. Guidry and Mark Q. Sawyer, "Contentious Pluralism: The Public Sphere and Democracy", *Perspectives on Politics* (Vol. 1, No. 2, 2003), pp. 273-89.

³¹ At a more general level, it is difficult to see how clumsy solutions could be generated in undemocratic regimes, in which human rights are not fully upheld. Not surprisingly, we would maintain that each way of organizing comes with its own distinctive model of democracy, no one of them has the 'right' model; the essence of democracy, rather, is in its contestation. Hierarchy calls for a guardian model of democracy; egalitarianism instills a preference for a participatory model of democracy; individualism extols a protective model of democracy, which should enable individuals to carry out their own plans; and fatalism breeds a belief that democracy may be a good thing, but will not be established in this life. See Frank Hendriks and Stavros Zouridis, "Cultural Biases and the New Public Domain: *Cui Bono?*"; and Lotte Jensen, "Images of Democracy in Danish Social Housing", both in Thompson, Grendstad and Selle (eds), *op. cit.*