Faults of Our Rationality?

Environmental change as a global concern has been brought to political attention for several decades with plentiful research on the role of environmental values, attitudes and behaviour amongst many other relevant aspects. However, always more prominent has been attention to the economic wealth of nations, gaining global economic power and achieving economic growth. Capitalist (and especially neoliberal) thinking and economic models have expanded across the globe and pretty much become mainstream. The number of economic superpowers and trade-connections have grown; we had the G6 in 1975 and now have the Group of 20 advanced and emerging economic powerhouses, or for short G20. Any dips and disasters in the economic and financial sectors seemingly attract greater political attention and intense negotiation than rapid environmental degradation and disasters.

A recent article in the *Guardian* newspaper, by the Economics Editor Larry Elliott, refers to the systems failures in our current economic model and the International Monetary Fund's document for the G20 summit in Hangzhou highlighting that income growth has largely benefitted top end earners whereas the majority of earnings have stagnated, resulting in rising inequalities (Elliott, 2016). Financial capital has become concentrated in the hands of a few people who dictate where investment occurs (and so who profits further), with reduced investment in and attention to public and environmental realms. Why are we then (consciously or not, democratically or not) so tightly hanging on to an economic system that profits few and costs most of society and the natural environment a lot? Keynes' comment on the 'love of money as a possession' springs to mind and how we 'pretend to ourselves and to everyone that fair is foul and foul is fair; for foul is useful and fair is not' (Keynes, 1930, p. 97).

There have, of course, been proposals and discussions around other economic models and systems of production and services, such as Tony Benn's proposed (but not adopted) Alternative Economic Strategy for Britain in the 1970s (Benn, 1989), or initiatives to strengthen a Social and Solidarity Economy (TFSSE, 2014), or the local economy and community-based Transition movement (see e.g. https://transitionnetwork.org/), or cooperative models of production and working such as practised by the Mondragon Corporation (still growth oriented), or non-market bottom-up initiatives based on solidarity as associated with the degrowth movement. None of these or other alternative models and initiatives are without their problems and challenges, but these different economic visions and actions illustrate 'fairer', more equality-based environmentally conscious living and economic development.

The articles in this issue all relate to environmental governance, and in particular issues of social and environmental equity, fairness, and aspects of individual, professional and national agency or empowerment to act environmentally responsibly. These contributions to the debate are less about radical

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actions or systemic/revolutionary change (see e.g. Kyllönen, 2014; Spash, 2016) and more about adapting existing systems, frameworks and approaches to take explicit account of environmental policy, values, processes and outcomes. An implicit message appears to be that business as usual is no longer tenable, with the authors offering insights and suggestions for (small but substantive) change.

The title for this editorial is gleaned from the first contribution by Bryck and Ellis, who examine some formal methods and emotional dimensions of decision making to help elicit why we struggle to act in ways that focus less on monetary gain and more on environmental sustainability. They unpack '[t]he faults of our rationality' (Bryck and Ellis, 2016: 642) and advocate a change in mindset of engineers towards more sustainable decisions as part of their professional remit and responsibility in projects and development programmes, explaining and addressing some of the behavioural and institutional barriers engineers typically face. Discussing a climate change related visioning project aided by 4D visualisation they highlight how the tool was able to aid understanding of the urgency of the problem and the range of possible constructive actions to address it.

This relates to previous discussions in *Environmental Values*. Matthew Cotton used a combination of backcasting with an empathetic and imaginative ethical deliberative process (Cotton, 2013). A common finding is seeing value plurality and ambiguity as essential parts of the decision-making spectrum; with Bryck and Ellis arguing that methods which ignore or grossly simplify complexity and uncertainties undermine reaching more sustainable decisions. How specific methods shape decision-making processes has also been discussed by Costa et al. (2016), in their case focusing on Environmental Impact Assessment (EIA) whereas Bryck and Ellis discuss Engineering Economic Analysis (EEA) and Life Cycle Analysis (LCA). Both papers identify similar challenges and inadequacies in these methods when used as the only decision-support tool. Methods such as multi-criteria decision analysis (MCDA), on the other hand, are highlighted as being better able to accommodate multiple values/stakeholders and fostering communication and inclusive decision making. Some simplification and generalisation can be detected in Bryck and Ellis's analysis of economic, environmental and deliberative decision-making methods, along with a strongly optimistic view of MCDA methods that brushes over the wide range of variations, applications and challenges (see e.g. Ananda and Herath, 2009). Still (or maybe thereby) the authors offer a positive and manageable approach for change within the engineering profession where challenges and possible solutions 'both inspire urgency and optimism' (Bryck and Ellis, 2016: 659). Also, more interdisciplinary learning and practices are identified as an important driver of change for the educational and professional sector; in my experience, a point enshrined in many documents but with little encouraging evidence of its actual implementation.

Shifting attention from the project and professional level to the global level, Hackman's article focuses on social learning and especially the drivers and barriers of regime learning by nation states. He takes two international environmental regimes in the form of environmental treaties as case studies, namely the global ozone regime and the global climate change regime. Like Bryck and Ellis, Hackman identifies increasing levels of consensus as an important element in driving viable environmental governance strategies amongst regime actors. Hackman argues that underlying values and norms need to be ultimately compatible to help bridge diverging views and solve conflicting situations. Hackman uses five analytical indicators to structure his assessment: (i) the level of consensus and problem structure; (ii) a common knowledge pool; (iii) learning mechanisms and communication; (iv) learning agents (such as powerful/key actors); and (v) the characteristics of international bureaucracies. Building a common understanding and forming/extending connections with the networks of broader stakeholders and organisations are seen as important to develop collaboration between industrialised and developing countries on global environmental challenges. Interestingly, Hackman highlights that 'individual interests of different actors in the specific issue […] is stronger than ideological interests in the broader context of the climate change regime.' (Hackman, 2016: 677).

The definition and role of experts is an important, and often contested, aspect in the local to global environmental governance context. The article by Bergsma picks the policy formation process of the US National Flood Insurance Program to study the interaction between experts (geographers in this case) and other policy actors in order to 'better understand the influence of experts on the process of value construction in environmental governance, as well as its possible consequences for environmental management and planning' (Bergsma, 2016: 688). Bergsma draws attention to the influence of framing on how we perceive and address problems: flooding can be framed as a general external risk or as a matter of locational choice (whether or not to build in the floodplain), each associated with different policy options and allocations of responsibility. In this case study, hurricane Katrina acted as an unexpected shock to the system, challenging existing flood management provisions and protective policies beyond their intended capacities. With rapid climate change and complex social ecological and environmental interdependencies we are likely to see more shocks that will challenge, if not force to collapse, existing environmental management measures and approaches. Yet there are few signs of decision- and policy-maker communities switching attention from a 'maintenance mode' to building capacity and systems that better withstand or adapt to shocks. I find the term 'resilience' is often used in this context – systems that can bounce back to a past 'stable state' – but less thought goes into creating systems that are genuinely robust and adaptable. In her work, Bergsma draws attention to the important role that experts can play in terms of strategic efforts

and shaping values in environmental governance processes. She suggests that both operational and strategic policy-making processes need to be considered to address value conflicts and develop more robust and sustainable policy and management systems.

Megs Gendreau's article is also concerned with how decisions are made, focusing on the role of government bodies and environmental agencies in working towards greater environmental (and social) justice. Distinguishing between 'individual' and 'systemic' factors in political agency, Gendreau argues that participatory injustice is not just about a lack of opportunities or participation *per se* but about whether a person 'understands herself to be capable of such participation' (Gendreau, 2016: 708). Again, using a specific case study, here the community living in the 'Westside' of the city San Bernardino in California, she shows how environmental conditions can impact on self-understanding and political agency. The importance of working with the interests and values of local communities is emphasised – be it through self-initiated actions or programmes and policies devised at a higher level that closely reflect those interests and values. Gendreau also draws attention to the wider role that environmental conditions play in civic life; and the environmental injustice done when compensating loss of nature or environmental quality with non-environmental infrastructure such as a school or a health centre.

Fairness is a core theme of the final article in this issue. Doering et al. consider distributive fairness and fair practice rules using the case of quota management systems in fisheries, distinguishing between the community of justice and the instruments of fairness, and identify metrics to assess equity in practice. The authors discuss some of the problems associated with grandfathering (see also Knight, 2014) and misalignments of incentives, highlighting that efficient exploitation (in an economic sense) is possible but often not fair. They discuss different domains of fairness and the need to consider Individual Transferable Quota (ITQ) management 'not only from an outcome but also from a process perspective' (Doering et al., 2016: 746). Economic, social and environmental rationalities have to be considered together in devising instruments towards achieving greater sustainability of fish stocks and livelihoods made from fishing.

What the articles in this issue propose and seek is not a revolutionary new approach but awareness of the plurality of interests and values and a broadening in mindset of what needs to be taken into account in policy and decision making. They aim to make processes and outcomes fairer and more rational in a holistic and integrated 'sustainability' context.

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