

Knowledge, Expertise and Engagement

An editorial being written just one month after a momentous American Presidential election can hardly pass without mentioning the major changes we have witnessed in political fortunes in several nations during 2016. The election of Donald Trump, the vote for the United Kingdom to exit the European Union and the rise in popularity of non-centrist political parties in Europe have all caused concern in the liberal media. The characteristics of these political shifts are many, but it is evident that the success for so-called populist causes has in part been to do with a dissatisfaction amongst voters who feel disenfranchised and marginalised. Notably, in the UK's referendum debate on its membership of the EU, the role of 'experts' was frequently criticised by advocates for leaving the EU, leading some to remark that we have entered a 'post truth' world, dominated by a politics of emotion and reaction.

There are of course many ways in which we can view this situation, but much of what we have witnessed throughout 2016 is the opening of a chasm between different ways of knowing and expressing knowledge. This focuses on questions about what constitutes appropriate knowledge, how it is generated, who has access to it, how it is communicated and the ways in which it is mobilised. In the environmental realm, recent flood events in the UK illustrate how knowledge and knowing are becoming fundamental to how the UK deals with intense rainfall that causes extreme floods. The flooding of both the Somerset Levels in 2014 and the city of York in early 2016 were popularly portrayed as 'failures' of the expert-led Environment Agency. Amidst accusations that the Agency had not listened to warnings about silted river channels and the resilience of flood defences, experts were widely criticised for using knowledge selectively and for ineffectively communicating flood risk to residents.

The apparently yawning gap between 'elitist experts' and 'the people' (as some would characterise it) is of course highly complex. In 2000, Susan Owens issued a challenge to environmental social scientists to de-construct top-down approaches for communicating science which leads to the simplistic assumption that 'lay people are ignorant of environmental science and irrational in their response to risks: the public must be engaged in order to be better informed and converted to a "more objective" view' (Owens, 2000: 1141). This questioning of the logic of trying to convert public knowledge to an objective view has been central to the development of Science, Technology and Society (STS) studies across the social sciences (Oppenheimer, 2005; Wynne, 1992), which emphasises the ways that knowledge for policy making is intricately implicated in political struggles and can lead to certain knowledges becoming privileged over others (Demeritt, 2001). Hulme (2009) has referred to this situation as a kind of 'epistemic hegemony', where only particular kinds of science and evidence are deemed acceptable.

In making efforts to challenge this situation, Whatmore (2009) and Lane et al. (2011) have illustrated how knowledge hierarchies can be positively de-constructed by finding innovative ways to harvest knowledge through recognising different forms of expertise and data, which are often informal, experiential and highly contextual. Using what they term a competency group approach, they explore how a range of stakeholders and knowledges can be used to collaboratively develop understandings of controversial environmental issues, such as the causes of localised flooding. Indeed, in *Environmental Values*, the role of experts in the environmental policy making process has recently been addressed by Bergsma's (2016) exploration of values in the context of the USA's National Flood Insurance Program.

These developments point to a burgeoning interest in forms of what Blewitt (2006) refers to as social and experiential learning, where academic researchers and other stakeholders can become part of a knowledge building process that fosters engagement through inclusion. The opportunities for exploring new kinds of knowledge, expertise and engagement are clearly evident within the contributions to this edition of *Environmental Values*, which cover both theoretical and empirical insights. The papers evidence a range of conceptual and methodological strategies for challenging existing understandings of environmental knowledge (Howell and Allen; Katz-Geno et al.) and decision making (Del Corso et al.). Pointedly, several of the papers highlight the ways in which existing epistemic frameworks lead to self-fulfilling prophecies (see Kopeck, in particular) that require overturning. Indeed, they raise issues of academic practice and the ways in which we can contribute to inclusive forms of knowledge construction (e.g. Vargas et al.).

In the first paper, Howell and Allen investigate the role of values, motivations and formative experiences in influencing actions for mitigating climate change. They question a central assumption of much of the literature on pro-environmental behaviour – that holding biospheric values is necessary to promote behavioural change. In analysing values, motivations and formative experiences together, they aim to reveal how these constructs interact and whether, for example, early life exposure to nature in childhood experiences promotes higher levels of pro-environmental behaviour. Their results suggest that this assumption can indeed be questioned, '...because climate change appears to be attracting concern and action from people who are not necessarily acting in response to a deeply-felt connection to nature developed during childhood'. While such experiences can have positive effects, Howell and Allen emphasise the plurality of motivations and experiences that may lead people to become involved in climate action. This is further reinforced by evidence that rather than being solely motivated by biospheric values, there were different routes into climate change action, which prominently include the importance of altruistic values and an ethic of care for others in poorer nations.

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Such evidence points to the complex and varied ways in which people come to have involvement in environmental action and how these might be a response to environmental concerns, political beliefs, moral and ethical dilemmas, as well as to life experience. Barr and Pollard (2016) have stressed the importance of this final factor in the ways that people ‘enter in’ to environmental action and how such formative experiences can be important in their experience of group work. This chimes well with the narrative of Vargas et al. that critically analyses how environmental valuation is undertaken. They make the important distinction between economic models of valuation (such as the Contingent Valuation Method, CVM) and the growing popularity of Deliberative Monetary Valuation (DMV) approaches (Spash, 2007), which recognise that ‘decisions are shaped in the context of an uneven distribution of wealth, power and voice’. As the authors note, various attempts have been made to ensure that publics involved in such deliberative processes are not excluded, either from a forum or within it, and through structuring discussion participants have equal and fair access. The argument of Vargas et al. is that we need to focus on how discussions are performed, through a focus on different forms of rhetoric and communication strategies. In other words, by relying on traditional notions of ‘rational argument’ and communication, some voices can be excluded through their inability to engage in this kind of discourse. Vargas et al. therefore encourage the development of a ‘normative’ DMV ‘that involves more flexible forms of communication and which is more interested in the outcomes of communication than communicative intent [because this] has better prospects for fostering inclusion in the forum, although it cannot fully guarantee it’. Such an argument adds to evidence provided in *Environmental Values* by Büchs et al. (2015) that social scientists need to find new ways for incorporating emotions and alternative means of discourse for understanding environmental dilemmas.

The importance attached to modes of engagement and effective models of inclusivity are highlighted in another context by Del Corso et al.’s analysis of the factors influencing farmer willingness to pay for an ecosystem services scheme. The authors highlight that conventional methods of encouraging the uptake of such schemes have tended to rely on regulatory sanctions and incentives, which utilise rational economic decision making as their basis. However, in using Suchman’s (1995) concept of legitimacy, they argue that establishing collective acceptance of a scheme relies on two key additional elements: one normative and one cognitive. The normative basis establishes a shared moral convention of what ‘should or should not’ be done in a given situation, whereas the cognitive basis is the system of meaning conveyed by an institution – a kind of institutional confidence in the scheme. Such normative and cognitive aspects are important because they lend collective legitimacy to a policy that goes well beyond the notion that decision making can be ascribed to economic factors alone.

The paper by Kopec also concerns the idea of normative influences, but in a different context and with alternative consequences. In a provocative and compelling piece, Kopec investigates how climate negotiators, economists and a wide range of policy makers have settled on the theory of the tragedy of the commons as a way of understanding and planning for climate change negotiations. It is assumed that such negotiations are founded on each nation's protection of its economic self-interest: a desire to emit more carbon to fuel domestic economic growth, whilst spreading the consequences of carbon emissions globally. Yet Kopec argues that 'such models give rise to self-fulfilling prophecies' because they become the basis for modelling negotiations and outcomes, rather than reflecting reality. In this way '[I]t is possible that as economists and game theorists have settled upon using the tragedy of the commons model to analyse international climate negotiations, they have created one of these self-fulfilling prophecies'. In challenging this orthodoxy, Kopec encourages us to be more optimistic; he suggests that recent successes (such as the Paris climate negotiations) point to a breaking of the mould and a recognition that nation states are not driven solely by economic self-interest and that there is an emerging recognition in many nations of the costs associated with predominantly fossil fuel based economies. Kopec's paper therefore inevitably raises questions about the ways in which models become politicised and reflective of particular political cultures, an issue also highlighted by Keary's (2016) recent intervention on the limitations posed by Technological Change Modelling (TCM) for understanding climate change mitigation.

Finally, the paper by Katz-Gerro et al. uses empirical data at the individual scale to examine the ways in which values relate to pro-environmental behaviours. Their survey analysis sought to examine the role of Schwartz's (2012) value framework through the lens of four national contexts: Germany, India, Israel and South Korea. Although they argue that biospheric values are generally associated with higher levels of commitment to pro-environmental behaviours, they highlight the role of national and cultural context in framing the ways in which such values might be translated into action. This could be through both the prominence of environmental issues and the role that other values such as conformity and the adherence to social norms hold in governing behaviour. Indeed, as Yıldırım and Candan's (2015) evidence from Turkey indicates, it is likely that further segmentation of populations will reveal intra-national differences on a generational basis.

In concluding, it is striking how rapidly different kinds of knowledge are beginning to compete for currency in the environmental realm. Grappling with rapidly evolving knowledge networks and the re-framing of expertise requires us to develop both theoretical and methodological tools for addressing environmental problems, not least because the boundaries between the scientific and the public domains are becoming increasingly blurred by the volume of data and speed of communication afforded by social media. Our

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role as social scientists is not necessarily to ‘react’ to these developments, but to open ourselves up to the opportunities afforded by assimilating different kinds of knowledge and expertise. In this way, we would do well to consider Whatmore’s (2009: 596) assertion that public science should ‘... involve re-distributions of environmental expertise in which the inventiveness of social scientists comes to the fore in the design and conduct of research practices that stage more and different opportunities for new knowledge politics to emerge’.

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