Geophysical Research Abstracts
Vol. 17, EGU2015-5529, 2015
EGU General Assembly 2015

Professionalism, scientific freedom and dissent: individual and institutional roles and responsibilities in geoethics

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Debate and dissent are at the heart of scientific endeavour. A diversity of perspectives, alternative interpretations of evidence and the robust defence of competing theories and models drive the advancement of scientific knowledge. Just as importantly, legitimate dissent and diversity of views should not be covered up when offering scientific advice to policy-makers and providing evidence to inform public debate – indeed, they should be valued. We should offer what Andy Stirling has termed 'plural and conditional' scientific advice, not just for the sake of democratic legitimacy, but because it supports better informed and more effective policy-making. 'Monocultures' of scientific advice may have a superficial appeal to policy-makers, but they devalue the contribution of scientists, undermine the resilience of regulatory structures, are often misleading, and can lead to catastrophic policy failure. Furthermore, many of the great societal challenges now facing us require interdisciplinary approaches, across the natural sciences and more widely still, which bring to the fore the need for humility, recognition that we do not have all the answers, and mutual respect for the views of others.

In contentious areas such as climate change, extraction of shale gas and radioactive waste disposal, however, such open dialogue may make researchers and practitioners vulnerable to advocates and campaigners who cherry-pick the evidence, misinterpret it, or seek to present scientific uncertainty and debate as mere ignorance. Nor are scientists themselves always above such unethical tactics. The apparent authority conferred on unscrupulous 'campaigning scientists' by their academic and professional credentials may make it all but impossible to distinguish them from those who legitimately make the case for a minority scientific view (and may be marginalised by the mainstream of their discipline in doing so). There is a risk that real scientific debate may be thwarted.

Individual geoscientists have a responsibility to behave ethically in such contested areas of science – both with regards to their own work and its dissemination, and in examining the claims of others. But learned and professional scientific bodies also have an important role to play. Increasingly, they are expected to establish and police the ethical 'rules of engagement' of scientific practice and discourse, whether through codes of conduct or developing non-mandatory guidelines and cultures of best practice. This presentation will examine how professional standards can be developed and promulgated, so as to foster a diversity of scientific views and permit dissenting voices to be heard, while also allowing scientifically and professionally illegitimate behaviours to be identified and addressed.