

Make a Stand for Good Science

BY BARRY BROOK

Scientists must work harder at making the public aware of the stark difference between good science and denialist spin.

“Don’t feed the troll!” This is a common admonition in the expanding science blogosphere – at least the rational quarters. Trolls, in the internet vernacular, are people who intentionally post false or controversial messages to gain attention or foment a conflicting style of debate. Most remain shielded within the anonymous confines of their online pseudonym. A rare but vocal few are sufficiently emboldened by self-confidence (or hubris) to speak out in public.

For the long-standing “debate” over the relative merits of evolution versus creationism, they usually style themselves as “creation scientists” or “intelligent designers”. In climate science and policy, those few apparently well-educated people who continue to deny the now vast body of scientific knowledge and analysis on the causes and consequences of global warming are variously called sceptics, denialists, contrarians, delayers or delusionists. Whatever the label you attach to them, they are all cut of the same anti-intellectual cloth.

Their business is the dissemination of disinformation, doubt and unscientific nonsense. One of their most regular ploys is to leverage the widespread lack of public appreciation of how science operates. The scientific process of theoretical postulates, hypothesis testing, critical evaluation (and re-evaluation) of ever accumulating empirical evidence, model validation and peer review is inherently complex and often technical.

Science has little top-down control on what should and should not be investigated (embryonic stem cell research and bioweapons development notwithstanding). There is no attempt to ignore inconvenient findings and no global conspiracy to distort the truth for securing funding or notoriety. Good science – evidence and ideas that are repeatedly supported by observations, experiments and models – gradually emerges from the pack and moves from being hypotheses to theories, paradigms and laws.

Yet some people will attempt to hijack science for political or ideological reasons and in doing so besmirch science’s public image. They are good at doing this, and they often exert a disproportionate influence on policy. Some will simply argue that the Earth is flat because “it looks flat”.

Groups with vested interests in business-as-usual (such as tobacco spokespeople or fossil fuel lobbyists) will attempt to push so-called “scientific evidence” to support their claims. In fact they are at best drawing selectively on a small part of the evidence, or at worst relying on “junk” science – that is, outdated, discredited or fabricated data and ideas.

If confronted with good science, deniers sidestep valid critiques and ignore counter-evidence (or dismiss it by deferring to other discredited ideas). They are hard to pin down because they don’t want a serious scientific debate.

The *Washington Post* recently reported Walter Meier of the National Snow and



Barry Brook’s principal research is on reducing extinctions and mitigating the worst ravages of global change.

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Ice Data Center about the parlous state of Arctic sea ice: “Flying over the Arctic, one might perceive the sea ice cover as broad, Meier said, but that apparent breadth hides the fact that the ice is so thin. ‘It’s a façade, like a Hollywood set,’ he said. ‘There’s no building behind it.’”

Joseph Romm, who writes a blog on climate change and denialism (www.climateprogress.org), commented: “What a perfect metaphor for the delayers. Their arguments seem solid and impressive, but it’s a façade.”

Scientists should beware of feeding trolls by engaging them on their terms. Instead be strong, well-informed advocates for good science! Don’t think that it is enough to be merely passive bystanders. Good science alone invariably wins these silly debates, but usually not before denialist spin does much damage.

Active and forthright public communication of science is not only an obligation of scientists, but a critical necessity. This is especially true for climate change and environmental sustainability, where we are perilously close to running out of time.

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