

Taking evidence seriously

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The author is a Professor of Physics at New York University and Professor of Mathematics at University College London. His main research interests are in statistical mechanics and quantum field theory. He is co-author with Roberto Fernández and Jürg Fröhlich of *Random Walks, Critical Phenomena, and Triviality in Quantum Field Theory* (Springer, 1992) and co-author with Jean Bricmont of *Intellectual Impostures: Postmodern Philosophers' Abuse of Science* (Profile Books, 1998; *Fashionable Nonsense in the USA/Canada*). His most recent book is *Beyond the Hoax: Science, Philosophy and Culture* (Oxford University Press, 2008).

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by *Alan Sokal*

[You people] in what we call the reality-based community . . . believe that solutions emerge from your judicious study of discernible reality. That's not the way the world really works anymore. We're an empire now, and when we act, we create our own reality.

— *A senior adviser to President Bush, summer 2002*

Arguing that public policy ought to be based on evidence is a bit like defending Motherhood and Apple Pie — who could possibly object (at least overtly)? And yet, the implications of taking seriously an evidence-based worldview are far more radical than most people realize.

Here's an example: The Government is now introducing standards of competence in homeopathy, aromatherapy, reflexology and other “alternative” therapies, in order to protect the public from inadequately trained practitioners. That sounds nice, at first glance. But what, precisely, does it mean to be “competent” in a system of pseudo-medicine that has never been demonstrated to be efficacious beyond the placebo effect? Perhaps for its next act, the NHS will introduce introduce bloodletting and trepanation, duly guaranteed by rigorous standards of competence for practitioners.

Despite the utter scientific implausibility of homeopathy — in which the “remedies” are so highly diluted that they contain not a single molecule of the alleged “active ingredient” — the NHS actively promotes homeopathy on its website and provides homeopathic “treatment” at the taxpayers' expense. And there are five homeopathic hospitals in the UK, of which four are funded by NHS money.

No one, not even the Health Minister, knows how much the NHS spends annually on unproven (or disproven) “complementary and alternative” therapies, because the NHS does not bother to keep track — but estimates range from £50 million to £450 million. Granted, that's a tiny fraction of the £92 billion NHS budget, but it's still money that could give thousands of cancer patients provably effective therapies that are now denied for cost reasons.

Here's another example: The Government under former Prime Minister Tony Blair assiduously promoted state subsidies for “faith-based schools”. Of course, “faith” is here being used as an ecumenical-sounding euphemism for “religion”, but the word is still revealing. For what is “faith”, if not the pseudo-justification that some people trot out when they want to make claims without adequate evidence?

After it was reported that a publicly funded Christian school in Gateshead had been teaching creationism, Blair was asked in Parliament whether he was “happy to allow the teaching of creationism alongside Darwin’s theory of evolution in state schools”. Blair (always the consummate politician) avoided a direct answer, but defended the school in question and said that “in the end, a more diverse school system will deliver better results for our children.” Shall we also, in the name of “diversity”, subsidize schools teaching that the moon is made of green cheese?

Of course, Muslim, Hindu, Sikh and Jewish Britons can rightly complain that the state has long funded Church of England and Roman Catholic schools. But the proper remedy is not to extend state patronage from Christianity to other superstitions; rather, it is to implement a complete separation of church from state, and more generally to insist that taxpayer-funded institutions have no business propagating dogmas unsupported by evidence.

Moreover, segregating children of Muslim parents from children of Christian parents for separate indoctrination is woefully misguided. Instead, why not bring together students of both backgrounds in a high-school history class to examine the historical evidence bearing on the composition of the New Testament and the Qur’an?

The extreme example of the Government’s cavalier attitude towards truth and evidence was, of course, the selling of the war in Iraq. Rather than dispassionately using intelligence information to help evaluate policy options, Bush and Blair’s operatives pressured their intelligence agencies to find “evidence” — exaggerated, tendentiously interpreted, or simply fraudulent — supporting a predetermined policy. The result is the mess we’re now in. Globally, the Iraq war has helped recruit a new generation of militants for al-Qaeda; in the Middle East, it has strengthened Iran. All of this could easily have been predicted before the war. And of course it was: not only by leftists, but also by those few conservatives who had not succumbed to the hubris of overestimating their own power.

The bottom line is that all of us — conservative and liberal, believer and atheist — live in the same real world, whether we like it or not. Public policy must be based on the best available evidence about that world. In a free society each person has the right to believe whatever nonsense he wishes, but the rest of us should pay attention only to those opinions that are based on evidence.

The author is a Professor of Physics at New York University and Professor of Mathematics at University College London. His book Beyond the Hoax: Science, Philosophy and Culture will be published in March by Oxford University Press.