

# Science + fiction = science fiction

One term is missing, says **Francis Keenan**

This collection of short stories, edited by Geoff Ryman, brings together authors and scientists in an innovative fashion. Each story is based in part on real research being undertaken by a scientist, with the latter providing an afterword to the story which includes an overview of the scientific concepts involved.

The aim of the book – to show that SF based on real science can be just as exciting as that based on ‘fantasy’ science (such as faster-than-light travel) – is commendable. As noted in the introduction to the collection, science is under threat, often due to ignorance or misunderstanding of the subject. One way to address this is to make people more aware of how scientists actually work and what science they produce. If this can be achieved via the medium of entertainment, be it books, TV or films, then so much the better.

## Not compelling

Unfortunately, I found it difficult to be enthused by the stories in this collection, which do not convey the excitement of real scientific research and discovery. For example, the ‘Global Collider Generation: an Idyll’, by Paul Cornell, deals with the construction of a particle collider which encircles the Earth, and mentions a successor which encircles the whole Solar System, outside the orbit of Neptune. However, the story itself is not compelling and does not bring out the sense of wonder generated by such amazing devices as the Large Hadron Collider, on which it is based.

Some of the stories, such as ‘Death Knocks’, by Ken MacLeod, are entertaining, but have a rather tenuous link to the science topic under consideration (distributed computing in this case).

## Missing the point

The Introduction criticises the bad science in TV shows such as *Battlestar Galactica*, and its copy of Bush-era America. This completely misses the point.

*Battlestar Galactica* is not about science and should not be judged on this basis. It uses an SF setting to comment on current issues, including the war on terror, religion and fundamentalism, in an entertaining and (hopefully) thought-provoking manner. Its quality was recognised in 2005 when it received a prestigious Peabody Award.

Similarly, the original *Star Trek* TV show, which also contained lots of bad science, used the medium of SF to cover a range of issues relevant to the time it was made (the 1960s), including the Vietnam War and racial intolerance.

Bad science does not necessarily mean bad SF storytelling. Indeed, given a choice between bad science and a good story, or good science and a bad story, most readers would opt for the former. This is the problem with this collection; the science is good, but is not matched by the stories.

## Inspiring SF

It is well known that *Star Trek* helped to inspire many schoolchildren in the US and UK in the 1960s and 1970s to study science and engineering at university. More recently, the success of *CSI: Crime Scene Investigation* led to a major increase in applications to forensic science courses at universities. In both *Star Trek* and *CSI*, science and scientists are portrayed in a very positive manner, even if the science itself is not always accurate. Is this lack of scientific accuracy a worry? To some extent, but it is outweighed by the fact that such programmes do at least show that science is exciting and entertaining.



**Geoff Ryman (ed) (2009),**  
*When it changed.*  
*Science into fiction: an anthology*  
Comma Press ISBN 1905583192

If this collection of stories has even a small fraction of the impact that *Star Trek* and *CSI* have had on the image of science and scientists, that would be a very positive outcome.

However, in my opinion it is simply not entertaining enough for this to happen. I hope I am wrong.



**Professor Francis Keenan is** Head of the School of Mathematics and Physics at Queen's University, Belfast. Supported by AWE Aldermaston and PPARC, he has developed presentations to schoolchildren and the general public on the science in science-fiction films and television programmes.  
[f.keenan@qub.ac.uk](mailto:f.keenan@qub.ac.uk)

# Why argue with magic medicine?

**Tracey Brown**  
lambasts  
regulatory flattery

Does it matter if people want to spend their money on homeopathy? If a half-hour consultation with a herbalist makes some people feel better, and they've got the money, where's the harm? I don't think there is much, most of the time. I come across many people who use those things but see a doctor when they need medical advice for serious ailments.

I have been contemplating this since I found myself described by some alternative medicine companies last year as leading a campaign against homeopathy. I have never given a fig about any private, reason-defying rituals that people engage in – whether taking magic 'medicine', chanting prayers or dressing up as traffic wardens after dark. In fact it is a common misconception among promoters of science that people should live their lives in a way that is consistent with evidence. Why so? Private life is not policy making. For science in civic society, public life should be what matters.

This is not to say that critics who challenge any practice for its lack of foundation should be asked to hold back. On the contrary, it is vital that misleading claims are addressed loudly and publicly and scientific reasoning is available to all. This is doubly so when dubious remedies such as homeopathy are promoted to people more susceptible to their promises, such as those suffering from chronic diseases for which medicine offers little, or when they are pitched as an alternative to life-saving anti-malarials and anti-retroviral drugs.

## Farce

But if then, knowing for example that there is no active ingredient in homeopathy or that some minor ailments may be symptoms of an underlying condition... if then people say 'oh well' and take it anyway, this shouldn't be high among the concerns of science communicators. Official flattery of such practices, on the other hand, should be top of the list.

This was why so many of us objected when the Medicines and Healthcare products Regulatory Agency (MHRA) introduced a licensing scheme for homeopathy a few years ago. MHRA is the statutory body with responsibility for reviewing the safety and efficacy of medicines, its roots in the post-Thalidomide Medicines Act of 1968, and we depend on it to tell us 'what works'. When it started counting 'homeopathic provings' as evidence, in order to remove 'barriers to the expansion of the industry', it seriously let the public down. As communication of medical science and evidence, this is farcical.

## Private magic

Now we are facing yet more official flattery of pseudo-medicine. Last autumn, the government began seeking responses to its catchily-titled 'Joint Consultation on the Report to Ministers from the Department of Health Steering Group on the Statutory Regulation of Practitioners of Acupuncture, Herbal Medicine, Traditional Chinese Medicine and Other Traditional Medicine Systems Practised in the UK'. It is minded towards professional registration as set out by the Prince of Wales' plans for legitimising alternative medicine. At his behest there has been a huge expansion in pseudo-medical professional registration, accreditation, courses and diplomas. Absent medical training, such schemes offer the form of science-based medical registration, but not the content.

---

MHRA is the statutory body with responsibility for reviewing the safety and efficacy of medicines, its roots in the post-Thalidomide Medicines Act of 1968, and we depend on it to tell us 'what works'

---

Under pressure of objection, the official argument (and the argument of companies such as Boots for selling remedies that don't work) has been not that they have evidence or believe it's beneficial (apparently they don't) but that the public wants the stuff. Well, since when does indulging in a bit of private magic mean the public wants official regulators to abandon standards of evidence? This kind of regulatory flattery is both deeply patronising and incredibly cowardly, which may befit its Royal origins but is no gain at all for the public, whatever they continue to do in private.



**Tracey Brown** is Managing Director of Sense About Science  
[tbrown@senseaboutscience.org](mailto:tbrown@senseaboutscience.org)