



POLITICALSCIENCE

HOSTED BY THE GUARDIAN

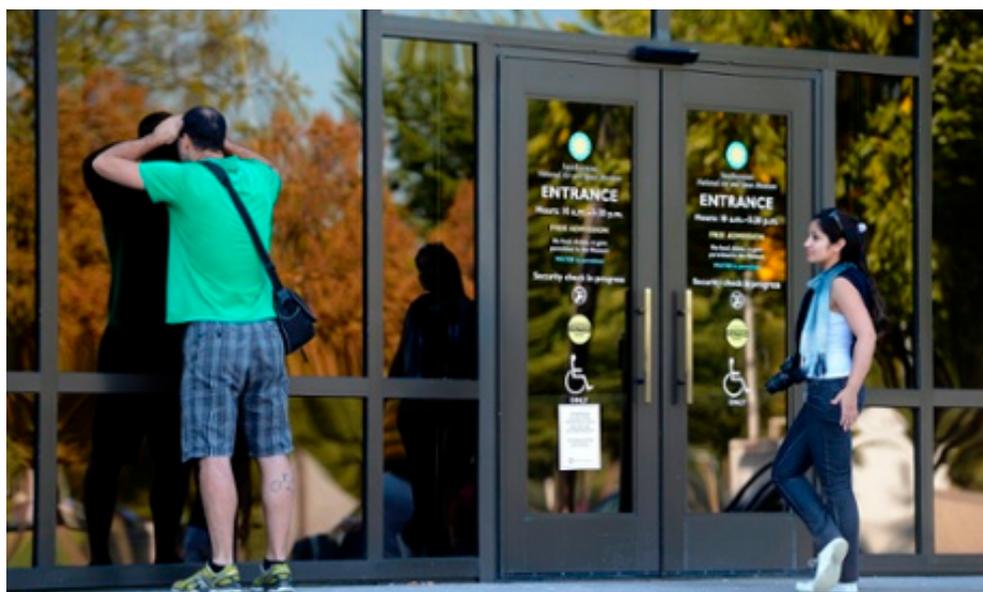


In defence of brain-rotting clichés and scientific myths

Hype about new technologies might tick people off, but can it help us think about the future?

Stian Westlake

theguardian.com, Tuesday 15 October 2013 12.38 BST



Tourists look into the closed Smithsonian National Air and Space Museum in Washington, DC. Photograph: SHAWN THEW/EPA

Technology hype really ticks people off. Every new website or gadget seems to come draped in overblown promises and breathless enthusiasm. Reams of tech and science journalism could be summed up as “ain’t it cool”. You don’t have to be a professional techno-grump like Evgeny Morozov to be a bit fed up with it all.

But what if technology hype is actually useful and important?

Last week I came across two severe cases of what we might call Innovation Hype Fatigue: historian of science David Edgerton on the [50th anniversary of Harold Wilson's White Heat of Technology speech](#), and a [Nature article on the myths of scientific discovery](#) by Heloïse Dufour and Sean Carroll (h/t [Becky Higgitt](#)).

Edgerton amusingly described Wilson's White Heat speech as a parade of "rubbishy techno-futurism encapsulated in brain-rotting clichés". He added that important people speak "much the same nonsense today".

Dufour and Carroll are calmer, but they share Edgerton's suspicion of innovation nonsense. In their case, they analyse a number of heroic myths of scientific discovery from Lister to Pasteur to Fleming and find them to be "far from accurate". They don't have much time for these stories. "Scientific myths are harmful," they state. The reason that they give is that they are "particularly damaging to the public's and to students' understanding of the pace and complexity of science".

It's not just intellectual offering these critiques of innovation hype. If satire's more your thing, look at the Twitter account [@ProfJeffJarvis](#), or the Facebook page "I am F*cking Ambivalent About Science", which take off the rather breathless techno-enthusiasm of the real Jeff Jarvis and the Facebook page "I F*cking Love Science" respectively.

Lots of people dislike these "harmful" myths and "brain-rotting" clichés. But are they really the problem that Edgerton, Dufour, Carroll and others make them out to be? It's an important question, because technology hype seems to be as old as the hills. Dip into Tom Standage's *The Victorian Internet* or Carolyn Martin's *When Old Technologies Were New* and you'll find plenty of entertaining stories about how people promised that the new technologies of the electrical age would transform the world in tones as giddy as George Gilder or Jeff Jarvis.

Are innovation myths and hype bad or not? I'll grant that they are often untruthful – or rather, to follow Harry Frankfurt's description of bullshit, they are reckless as to whether they're true or not.

This seems to be at the heart of Dufour and Carroll's objection to them: myths are bad because uninformed people might believe them, and it is bad for people to believe wrong things. This in itself seems a bit tautologous, but I assume that the unspoken worry is that believing myths about science will cause people to make poor decisions – say, voting for political parties with bad science policies, or making mistakes in their own research.

But when it comes to innovation, being wrong might not always be a bad thing.

All great human endeavours mobilise the emotions. Techno-guff motivates people to devote their careers, to work that much harder, to give up on safer but more boring alternatives. Economists, sociologists and psychologists have all looked at this phenomenon.

Economists of innovation have known since at least the days of Alfred Marshall that investing in innovation and research benefits society more than it benefits the innovator. History is full of people and firms that make important breakthroughs only to see someone garner most of the rewards.

But because the world in a broader sense benefits from these developments, societies have always looked for ways to induce people to innovate anyway. Many of these are economic: patents, tax credits and research grants. Some seek to appeal to the innovator's vanity or desire for social approval: hence part of the allure of prizes. But whatever the mechanism, the aim is to get people to have a go at innovating when, if they approached the matter with a cooler head, they might not have bothered. The same can be said for motivating people to use new innovations (which drives most of the economic benefit from technology). Early adopters create benefits for others by working out how technologies are used and ironing out bugs, and they are often significantly motivated by hype and self-actualisation.

This is where psychology comes in. A major theme of popular psychology in the last couple of decades has been the irrationality of the human mind, but not all cognitive biases are bad. An interesting type of useful irrationality is optimism. Researchers such as Martin Seligman and Tali Sharot have documented how optimism is a highly functional trait. Experiments show that optimists systematically misperceive the future, believing that things are more likely to turn out well than is actually the case (the most accurate predictions come from mild depressives). Moreover, they contextualize their past experiences in comforting ways. "I succeeded? It's because I'm great." "I failed? I guess I was unlucky." And here's the interesting thing: optimists tend to be more successful than pessimists in a whole range of endeavours, and their optimism carries others along with them. A little bit of self-delusion can be a powerful thing.

An interesting complement to research on optimism is work by David Tuckett of UCL on what he calls "conviction narratives" (pdf). A conviction narrative is a story that rationalizes one's planned actions. Tuckett's initial research focused on managers of portfolios of securities: it showed that the stories they made up were central to their ability to make investment decisions, and provided them with the conviction to act. Tied

up in this is the idea that optimistic conviction narratives and optimistic traits are mutually reinforcing. Stories matter, and they matter for reasons not entirely related to how true they are.

This links to the research on the [sociology of expectations](#) (pdf), which studies the function of shared ideas like “the electronic superhighway”, “the hydrogen economy”, or “[the human genome](#)”. Creating appealing, plausible stories about future technologies acts as a focal point for investment, and makes things happen that otherwise wouldn't.

Of course we shouldn't accept hype unquestioningly. It always pays to ask what a hype merchant's agenda is, what they are trying to sell us, and whether it is in our interests. Technology hype has, after all, gone hand-in-hand with advertising [since the days of the Space Race](#) and no doubt long before. Actively engaging with the future, as the authors of the University of Sussex's [STEPS manifesto](#) advocate, is a good idea. But this is a judgment to be made case-by-case.

Viewed in this way, scientific myths and magical thinking about innovation, science and research look take on a different character. We shouldn't see them as unenlightened idiocies that need to be stamped out through careful research, but rather as potentially useful stories that encourage us to invest in research, even where it might be against our narrow sectional interests. Bullshit perhaps, but benign and powerful bullshit.

Stian Westlake is executive director of research at Nesta, the UK's innovation foundation. On Twitter he is [@stianwestlake](#)

More from the Guardian [What's this?](#)

[What your Instagrams and selfies reveal about you](#) 27

Oct 2013

[Is this the most competitive Premier League title race ever?](#) 25 Oct 2013

[Lady Gaga's X Factor performance sparks hundreds of complaints](#) 29 Oct 2013

[Element of the week: meitnerium](#) 25 Oct 2013

[Science Weekly podcast: female fertility and ageing](#) 28 Oct 2013

More from around the [What's this?](#)

web

[Ingenious Survival Tips That Can Save Your Life](#)  (MSN)

[The Mangroves' Date With History](#) (International New York Times)

[This is why you should never make up a random phone number](#) (faknumber.org)

[Beauty re-defined](#) (Business Trailblazers)

[Stephen Hawking and Richard Dawkins](#) (Financial Times)

© 2013 Guardian News and Media Limited or its affiliated companies. All rights reserved.

