# Science in the public eye

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*tags:* Outreach, Science Communication, Science education, society


**(https://theatreofreason.files.wordpress.com/2014/07/image-1.jpg)**

On Friday I had the great and terrifying pleasure of presenting a keynote speech to the Imperial College Graduate School's Annual Research Symposium.

I used the opportunity to share thoughts on a subject that intersects both my academic studies in science communication and my long career as an actor in TV, theatre and film. The subject was science communication in its widest public sense – in mass public culture, and through mass media.

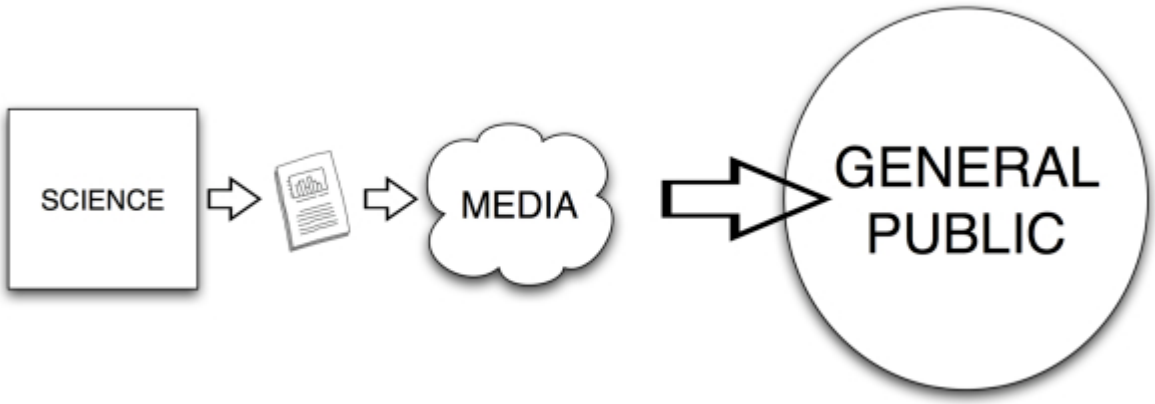
I called the talk 'science in the public eye' – rather than 'science in mass media', 'popular science', or any other variation – because I believe that the concept of a mass-cultural "public eye" – somewhere where science is increasingly seen through communicators like Brian Cox or Stephen Hawking – has its own character and challenges, easily overlooked by those who wish to see science communicated most

widely.

We are living in an age of global mass media and branding. With it we're witnessing the arrival of scientists into the mass-cultural celebrity mainstream, and wide incorporation of scientific narratives and themes into screen drama. Science is now on the A-list.

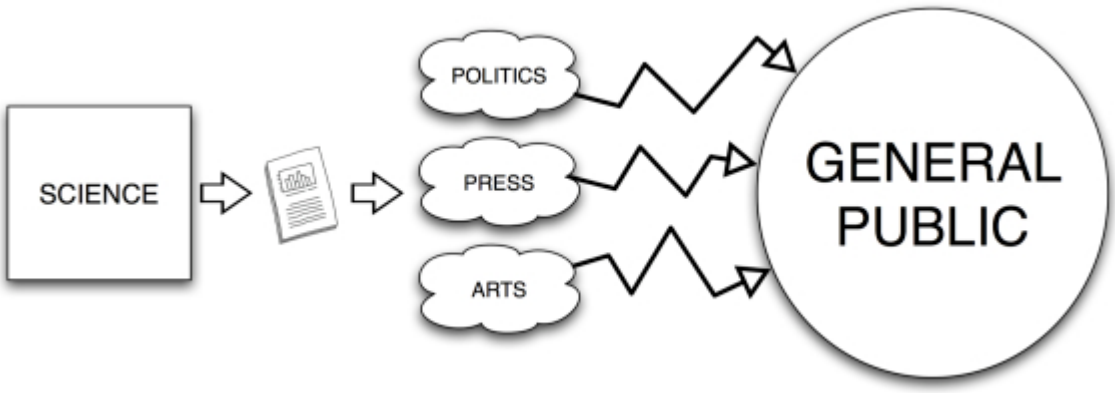
Yet to be in "the public eye" is not just to be famous or celebrated – It is to be the subject of close public scrutiny. A critical gaze. The public eye doesn't just receive or consume information. It perceives it. And it acts on that perception. It's an active agent. It discerns – critiques – decides – judges.

This idea of an active public engagement with, and critique of, science's purpose and meaning – despite years of science communication scholarship – can still seem alien to some. The old and much-discredited '**deficit model (http://en.wikipedia.org/wiki/Information_deficit_model)**', despite decades of attack, retains an enduring, intuitive appeal. Science is there to be learned by the public, not contextualised or interpreted. The model looks something like this:-




**(https://theatreofreason.files.wordpress.com/2014/07/deficit-model.jpg)**

Science and its practice lie outside the general public sphere. Its products are periodically communicated in a linear channel through media to a general public, who are deemed to have a 'deficit' of knowledge that must be corrected in order to enhance the democratic wealth of the citizen. Yet these products are frequently prone to distortion by other societal entities such as tabloid media, politics or film drama – so that the public eye sees the wrong message – and therefore wrongly blames or mistrusts science for what it sees:-




**(https://theatreofreason.files.wordpress.com/2014/07/distortion.jpg)**

For me the crucial flaw in this model lies in the hazy idea of a "general public". A dumb consumer –

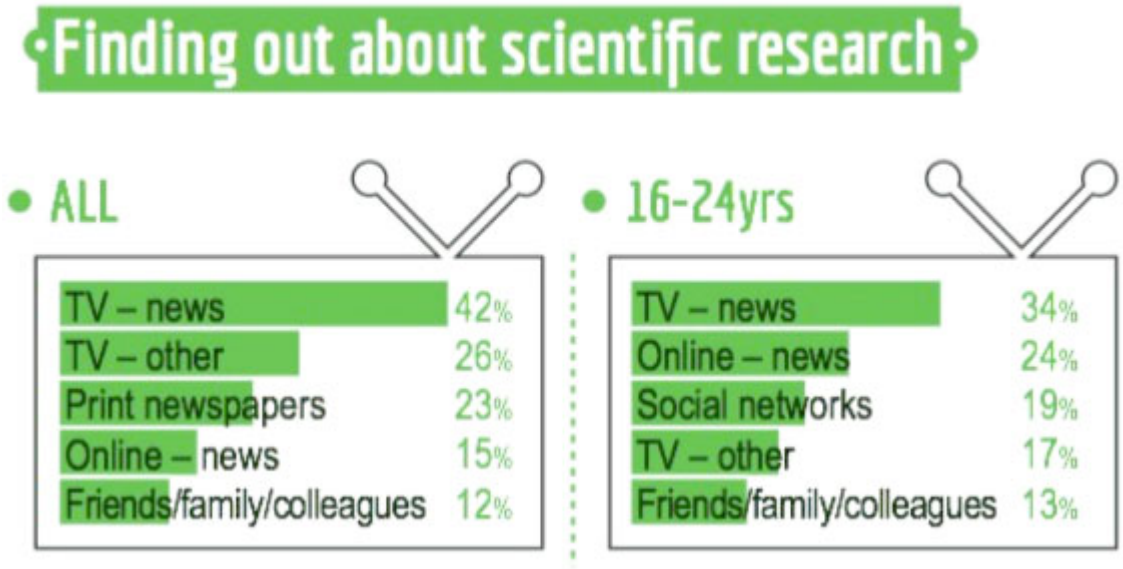
gullible, easily led – prone to any distortion of scientific fact in the press, politics or drama and responding to any communicative stimulus in predictable ways. This entity must be made 'scientifically literate' before it can be trusted with societal issues that have a scientific element.

My years as an actor in the public eye – communicating with, in and amongst this so-called 'general public' – have given me a large dose of humility about my status in the communicative relationship – and perhaps some insight into how empowered democratic citizens really digest the knowledge that's important for them, and make their own choices based upon it.

So in rejecting the traditional deficit model, I tried by the end of my talk to construct my own conceptual model for science's communicative relationship in the public eye. (see below). I preceded this with a loose list of personal observations – things I'd picked up about the public from my years working with it, and what science might need to bear in mind when it ventures into the same world:-

# 1. Public knowledge isn't linear – it's networked.

The democratic citizen doesn't simply 'receive' knowledge from a single source – they acquire and process it from a fascinating network of formal and informal sources – as this Ipsos MORI survey on public attitudes to science shows :-




**(https://theatreofreason.files.wordpress.com/2014/07/ipsos-sci-sources.jpg)** [1]

# 2. Science in the public eye is about engagement with what science MEANS to us, and what it can DO FOR US, not

## just what science IS.

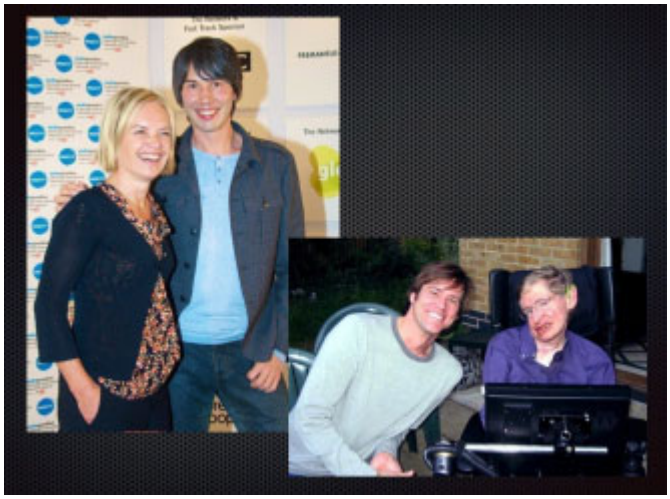
The idea of 'scientific literacy' – as the acquiring of key knowledge items of a scientific nature in order to be a better citizen – misinterprets the essential active motivation of the democratic citizen for an engagement with science. Science and scientists remain incredibly well trusted and supported in society, contrary to the assumptions of many [2] – yet in the wider public eye, citizens are concerned less with accurate scientific "facts", and more with context – with the meanings and purposes of science to lives and livelihoods. That's why the two key questions of a science journalist to a researcher are often "How will this research change lives?" and "How soon will it be available?" – not simply "What have you discovered"?

## 3. The public eye narrates, fictionalises, caricatures and archetypes the things it cares about. This is not personal to science – it's the way our culture meditates on meaningful things.

The scientific community can often seem overly anxious about **distortion** in mass media – the idea that the image of scientists and the facts of science are constantly misrepresented to toxic effect in news, films or TV drama. The caricatures of scientists on film, or illogical scientific plot devices in dramas, are assumed to have a harmful effect on public attitudes. Yet the scientist is only one of many societal entities – politicians – police – lawyers – journalists – who are similarly extemporised in the public eye – through drama, art, news, advertising, comedy. This is the way a vibrant democratic culture meditates – and should be regarded as a sign of cultural significance, and not simply mischief. The democratic citizen – bombarded daily by ingenious advertising or clever political rhetoric – has learned to distinguish a fanciful story from a pertinent truth.

## 4. The 'Scientific Hero' has become a dominant cultural archetype in our society in recent years – and celebrity scientists are complicit in its construction and promotion.

A recent study by science communication scholars Mathew Nisbett and Anthony Dudo [3] noted that the positive archetype of the 'scientific hero' had come to dominate film archetypes of scientists in the last ten years. At the same time we've seen the rise of embodied scientific 'heroes' such as Brian Cox in lavishly filmed documentary series – replete with ostentatious locations and photographic effects. Importantly, Professors Cox and Hawking have also made numerous appearances in the mass media –



on chat shows, magazine covers, awards ceremonies, at TV premieres – posed alongside traditional media celebrities. Hero personalities – not just documentary presenters.

It may be tempting to think that these scientists are reluctant tourists in the public eye – simply there to promote the truth of science, while it is the media and the public that are doing all of the myth-making, archetyping and manipulation of their wider image.

Yet the truth is far more interesting. These celebrity scientists can be fully complicit in the co-construction of their own heroic image – as can be seen from this Radio Times magazine cover from 2011 – a scientist holding the very sun in his hands like a mythical master architect! :-

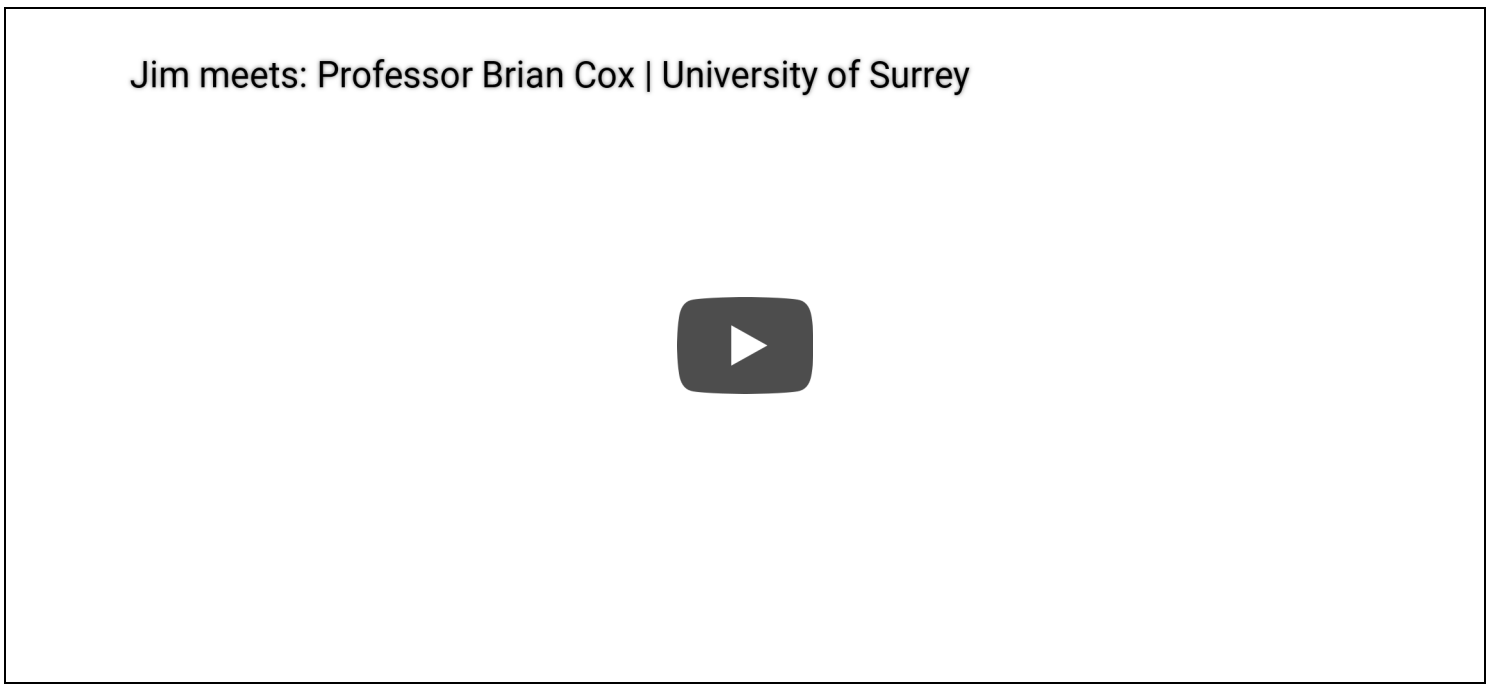

**(https://theatreofreason.files.wordpress.com/2014/07/rt-cover.jpg)**

Just a photographer's artistic conceit? Behind the scenes photographs from this cover photo session [4] reveal that our scientist willingly worked with the photographer on different ideas for the image – different attitudes, poses – even a 'cool' pair of glasses :-

**(https://theatreofreason.files.wordpress.com/2014/07/cox-posing.jpg)**

So this is not a scientist being 'distorted' by the public eye – it is a scientist co-operating fully with it to realise a constructed public image. And the key point is that this image-making has a strategic scientific motive.

In 2011, Professor Cox took part in a fascinating public interview session at Sussex University with another great public communicator, Physicist Jim Al-Khalili. If one listens to the clip of this session below from 16:40 – 19:30, Cox makes revealing comments about the nature of scientific celebrity. As a response to a question about how he reacts to criticism of his communication activities, he reveals that there is support for his approach from the very highest echelons of science in the UK, as a means to promote the strategic interests of science.




So if we accept Professor Cox's argument about there being a strategic imperative and great desirability for science in the full public eye – are there any hazards to be aware of?

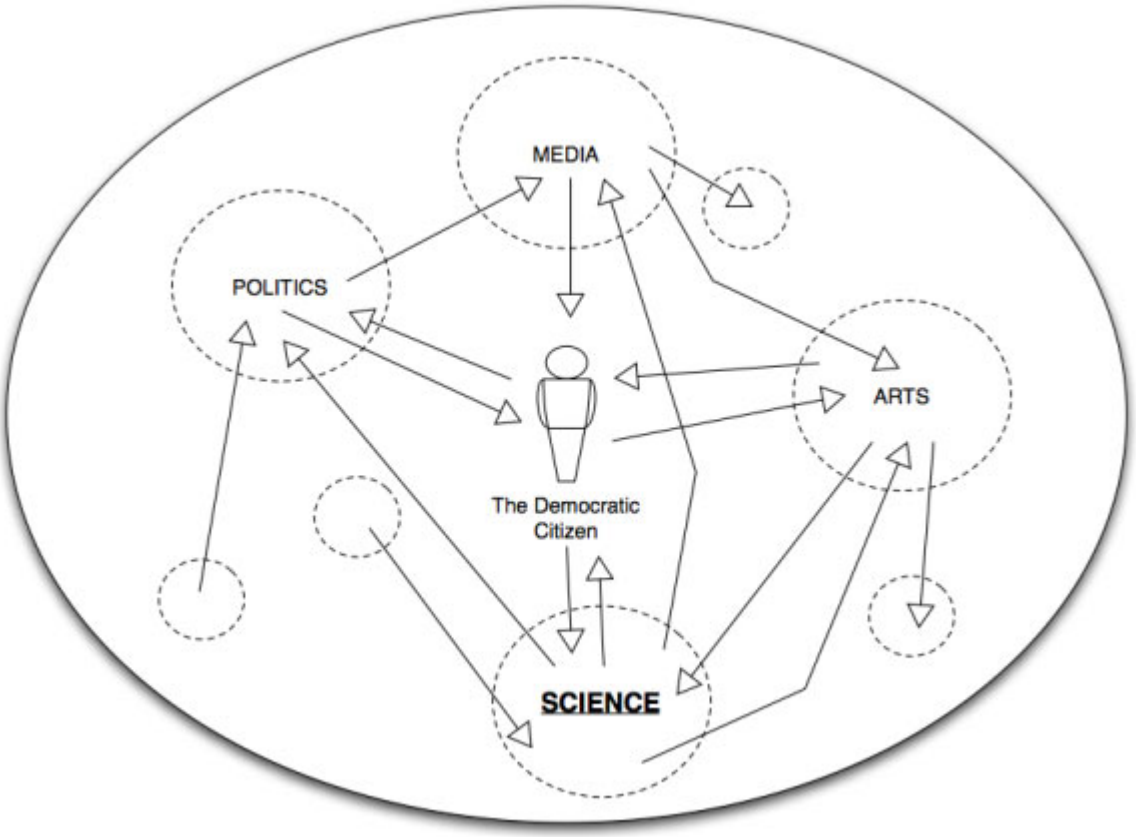
In my talk I identified one in particular: the risk of being 'damned by association'. If there's one thing that's focused public anger in recent years, it's the idea that the selfish actions of a clever, rich or powerful minority have led to social inequality, injustice and financial instability. From crisis bankers, to dodgy newspaper editors, to MPs expenses, the enemy is the same. A privileged elite – overly entitled, and believing themselves above ordinary public morals.

Now I don't believe for a second that science belongs in this group! But the danger, I feel, lies in association. As I argue in **this blog (http://refractiveindex.wordpress.com/2011/02/14/a-critique-of-rock-stars-of-science/)**, a celebrity isn't "one of us" – they are the 'other' – privileged and separated from normal public experience. If the public eye ceases to identify science as "one of us" – it could quickly come to see scientists as aligned only with other elite society players, and therefore not sharing the broader public interest. Then, when science needs the trust of the public the most, it may find itself damned by association.

The boundaries separating a hero from ordinary people – once established – can be difficult to remove.

Yet in spite of these dangers, I agree with Brian Cox that there is a central place for science in the public eye. The idea that such a central constituent of our society should somehow sit apart from the great forum of the public sphere is, to me, ludicrous.

Here is my suggested model for science communication in the public eye:-




**(https://theatreofreason.files.wordpress.com/2014/07/my-model.jpg)**

The public eye absorbs all of its constituents – science, politics, arts, media. The "general public" is all of us – nothing lies outside of it. Secondly, the communication within this vast arena is deeply networked and multi-layered – not linear and uni-directional. Science feeds from the public and its 'estates' as much as it gives to them. Thirdly, the boundaries around science within the public eye are permeable, not closed. Information seeps in and out from the vibrant culture of which it is a part. Finally, and most importantly, the only truly 'general' thing in the model is the democratic citizen that sits at its centre: the final arbiter of purposes and meanings for the common good.

Science's strength isn't in its uniqueness or celebrity – it's in its humanity. Science IS the public. Though it's practised by very few, it belongs to, and is funded by, all of us. It's the greatest of our cultural

artefacts – the best tool for reason we have. It is the very heart of citizenry. Therefore when science steps into the public eye, it should do so with honesty and humility – a fellow citizen – with a passion to share what is important for all of us – not simply to relay what is deemed important for others to know.

Then, when the democratic citizen peers back at science through the public eye, it sees not a remote or elite stranger, but the very best part of its own self.

* * *

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[2] See Worcester, R. (2006) Public Attitudes to Science: What do we know? In J. Turney, ed. Engaging Science: Thoughts, Deeds, Analysis and Action. London: The Wellcome Trust. [Online] Available from: **http://www.wellcome.ac.uk/About-us/Publications/Books/WTX032706.htm (http://www.wellcome.ac.uk/About-us/Publications/Books/WTX032706.htm)** [Accessed May 18, 2012].

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[4] Radio Times (2011) Photo Gallery: Brian Cox [online] Available from: **http://www.radiotimes.com/photos/2011-03-14/photo-gallery-brian-cox (http://www.radiotimes.com/photos/2011-03-14/photo-gallery-brian-cox)** [Accessed July 20, 2014]

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