Comment

ROAD MAPS FOR THE 21ST-CENTURY RESEARCH IN SCIENCE COMMUNICATION

Notes from some spaces in-between

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ABSTRACT: Science communication is less a community of researchers, but more a space where communities of research coexist to study and deal with communities of researchers. It is, as a field, a consequence of the spaces left between areas of expertise in (late) modern society. It exists to deal with the fragmentations of expertise in today's society. In between those fragments is where it lives. It's not an easy position, but an awareness of this unease is part of how science communication scholars can be most effective; as we examine, reflect, debate and help others manage the inescapable cultural gaps of post/late modern knowledge communities.

This less of an essay, and more a tale of not writing one. Part of my point is tied up in the fact this is short and easy to read, so consuming it shouldn't waste too much of your time. With that health-warning, I'll continue.

When I was asked to contribute a piece to this issue, I was tempted to say no. I wanted to support the journal, and was flattered to have been asked alongside the other contributors who I regard and revere as "grownups" compared to my own embryonic career. But it put me in a tricky position. Quite simply, the lead question – 'does science communication deserve a special attention as an academic discipline? – made me uncomfortable. Honestly: I don't think science communication as an academic discipline deserves special attention compared other disciplines. Neither do I think science communication as an academic discipline necessarily deserves special attention in relation to the work and thoughts of professional science communicators either.

If I'm honest, I'm not entirely convinced science communication really exists.

I mean, I know people call themselves science communicators, people take degrees in it, research it, teach it. Indeed I have done all these things myself. I lecture in the subject and, unusually for this field, I have a PhD in it too (most science communication scholars started in another field). So did, again unusually, at least one of my undergrad tutors. I suppose if there are "second generation" PhDs like me, we can claim disciplinary status by now? Further, as I slightly shame-facedly tell my undergrads every year, I have been working in science communication since I was 16. I have practised, analysed, had nightmares about and fought over science communication, I have run conferences on the topic, written and peer reviewed articles about it, lectured, facilitated, and co-edited a book on this science communication thing. This isn't necessary a criticism of science communication; it is just the way I see it. Still, I'm just not sure science communication exists in much more than a parasitic sense.

The problem with this as a starting point is that it makes for a rather dull essay. I was tempted to post back a simple "um… no" in 48pt type. I don't have any new ideas or data to present. The slightly more well thought out version of "um… no" is still a bit too broad to say much that is interesting. I believe it, but I do also think its largely waffle. For me, science communication is a consequence of the spaces left between areas of expertise. Here, amongst the particlesof expertise society has created, is where science communication scholars sketch their living. It's not necessarily an easy position, but an awareness of this unease is part of how science communication scholars can be most effective; as we examine, reflect, debate and help others manage the inescapable complexity of post/late modern knowledge communities. This thing we call "Science communication studies" exists to deal with the cultural gaps left by the fragmentations of expertise in today's society.

It's a compromise I suspect most people in science communication recognise. As such, it is probably best kept flexible. I spend my time reading sociology, science studies, media studies, history of science,

social psychology and more, I absorb both professional science writing and non- or semi-professional blogging as well as tracking and listening in on, as best I can, their audiences. These are all areas and communities have some experience of, even training within. They are all areas I struggle to keep up with, and doubt I'll ever be taken seriously by. Occasionally seen an interesting semi-outsider, perhaps, but never taken seriously. I'm ok with that. I enjoy my place in the middle. It's a compromise I'm used to.

 Running with these basic conclusions, I was tempted to expand on this point with an overview of the sociological literature on the subject; it structures my thinking on the question after all. I was very aware of the open nature of this journal, and so the capacity to reach an even broader audience than the already multidisciplinary *Public Understanding of Science* or *Science Communication* (i.e. I couldn't assume any particular prior knowledge). I drafted a few thousand or so words on the philosophical background to these thoughts. I started by outlining the more 'essentialist' ways of defining what this thing called science is, such as Karl Popper's (1963) 'demarcation criterion' of falsificationism (see also Chalmers, 1999), contrasting this with Thomas Gieryn's (e.g. 1995, 1999) 'cartographic' depiction of science as analogous to space on a map; science is of a transient cultural space, its characteristics developed incrementally (and variably) through a series of border disputes. I then worked through a loose history of the social organisation of scientific expertise, applying Woolgar's (1988) sense of a movement from "amateur" to "academic" science, before our current post-war "professional phase", where can see shifts in the funding of science, especially the rise of corporate R&D labs, worries over intellectual property rights and policy-directed research (we might also refer to as "Big Science", Weinberg, 1961). Taking a more theoretical approach to the development of many specialist areas of study – a sort of fragmentation of expertise – I then sketched some notes on late modernity (i.e. Giddens, 1991) and sense of a risk society (Beck, 1992). In particular, Giddens sense that today we all rely upon a host of different experts and, at the same time, are likely to be ignorant of most of them. We do not have time to learn how to build a computer, programme it and do brain surgery and therefore rely heavily on trust (or more specifically, civil inattention, see also Gregory & Miller, 1998: 102-3). Finally, I drew out the sometimes hierarchical nature of distinctions between different areas of expertise, returning to Gieryn to reflect more on his idea of "boundary work" possibly with Steven Epstein's (1996) case study of AIDS research, but also folding in Bourdieu's (e.g. 1986) sense of exchanges of "cultural capital", especially in university settings (Bourdieu, 1988).

 I read back my notes. They were boring. They read like a rehash of lecture notes for the intro to science and society course I teach our MSc students in their first term. Which, I guess they were. Go and read the sources I've just cited above instead (that's why I cited them). Or take a course like the one I teach on if you are really interested.

 I thought about changing track slightly to talk about the way digital communications can make a clash of intellectual culture more obvious. I found a small collection of blog-posts and blog-comments on which I could pin some of the theoretical points from my first draft. In particular the following struck me as a way of articulating the points about expertise that I might otherwise have used a mix of Gieryn and Giddens for. It comes under an article where a journalist talks about the experience of people online following Ben Goldacre invited them to "pre-mock" a maths-related story she was thinking of running:

> *you should be able to ask for advice from a broad pool without being ridiculed. We have lots of meetings where people tell us that Academics have to get more media savvy. On the other side people scream that the media are rubbish at Science. In a world where you need to work so hard just to learn your own profession Twitter is probably one place for us to help understand other professions.*
> *(Comment from Adam Dutton, posted to Ahmed, 2010)*

 I wanted to mix blog-posts, twitter-posts and comments in with more traditionally scholarly analysis and, possibly, lines from my students' work, to demonstrate the ways in which these overlap, blur and inform each other. To demonstrate the ways in which I have learnt not only from the academy but practitioners (especially the self-reflection and analytical interest of bloggers) and, perhaps most of all, my students. I could have reflected on my move from the rather insular research of a PhD student to the necessary broader scope of someone who teaches on rather practically orientated MSc. I could reflect on the ways this has put me in odd and sometimes difficult positions, how engaging as a science communication scholar has shown me first-hand the same problems and opportunities that I see scientists having with processes of public engagement. I could use examples of how I've been amazed at responses to blogposts on topics I find rather old fashioned (e.g. Bell, 2010a), where I have not only found an audience who come to the issue for the first

time, but that their freshness in attitude audience forced me to look at the questions in new ways too. I thought about reflecting on how I had started following science writers on twitter to keep an eye on them; from the stance of distant professional (and sceptical) critique. But that, through following them, I found I learnt more about and with this learnt to respect them a lot more, even become friends with some. A form of Stockholm syndrome, perhaps, but one I think I have learnt from and, importantly, am a better science communication teacher for. I should also underline that I would say that critical distance is very useful in science communication studies, that I try to maintain some, and that off the back some of the inevitable compromises and simplifications involved in engagement with such communities I have had exchanges in public with other science communication scholars (e.g. Nisbet, 2010).

Again, I produced a few thousand words of draft. Again, the result was boring.

I tried again. This time I thought about the ways in which science communication exists in some tangible sense; the historical ways the field has grown, its assumptions, its policies, its characters and publications, its localities and differences. In other words, its growing (if not complete and coherent) professionalism. The editors, after all, had suggested I talk about the experience of editing a book of essays on the topic (Bell et al, 2008) from that I could talk about the backlash from professional communities when we advertised a call for papers (Mellor et al, 2008) as well as the ways disciplines overlapped at the annual iterations of the conference it was based on (first held at Imperial in 2006; at Kingston next year). I also considered referencing my professional experience. I took myself out and about London and visited museums and offices I had worked in. I walked around the libraries of my early studies, breathing in their own individual book-mould smells and reviewing the books which had taught me about the historical and intellectual development of the science communication industry in the UK. Again, I drafted a few thousand words. I folded in historical notes on actions of the 1980's and 1990's (e.g. see Bodmer, 2010, also Thomas and Durant, 1987, Durant 1993) and longer history behind it (see Broks, 2006). The impact of BSE and other "crisis" (see Irwin, 2009), the dialogic turn in the UK (House of Lords, 2000, Burchell et al, 2009) including a move "upstream" (Wilsdon & Willis, 2004). Also, the ways in which the ideas of this shift from "deficit" to "dialogue" have been part of a professionalistion of science communication in the UK, to extent that a conference on science communication would provide its delegates with a four page "jargon buster" (Bell, 2010b).

Again, a few thousand words. Again, boring. Again, all been said before, and better that I could (again, there's a reason I've cited these particular sources, I think they are worth sharing).

So, all I can do is reiterate my general point. Science communication is less a community of researchers, but more a space where communities coexist and the work of a science communication worker (be they academic, practitioner or bit of both) is one of constant negotiation. That this is problematic, but unavoidable.

I don't want to valorise the in-between-ers, to over Romanticise this position or imply that we are somehow present in an objective situation-less stance. Science communication scholars have situations, their views are always limited, but as a group they are multiple and changing. It has both advantages and disadvantages; it is annoying to work in and, I'm sure annoying to be around; frustrating and frustrated. I should also stress that a more disciplinary bounded view – be this media studies or sociology or psychology or some other way of focusing – is equally justified and useful, just as they are equally annoying and blinkered. None of us can know it all. As pseudonymous science blogger "Gimpy" put in a post in celebration of Donald Rumsfeld's point about various types of known and unknown unknowns:

> *Our criticism can only ever be informed by insights that occur to us. If we are not to be so arrogant as to assume that we've thought of everything then we must offer up criticism with humility. Our insights are just pin holes in the curtain of ignorance that clouds our worldview.*
> *(Gimpy, 2010)*

As I replied in a comment to that post, 'Some of us have "known" the secret wisdom of Donald Rumsfeld for years'. We're all just stumbling to know the best of our own little bit, we can use Haraway (e.g. 1988) to realise and articulate that, or Popper, or Gimpy, or Rumsfeld, or something else, or see it for ourselves. My point is that in science communication, we must be especially aware of this, and think about how to make the most of the clashes and gaps between such bits.

Maybe you disagree with this. Great. Write a blogpost outlining why and we'll have a conversation. I'm happy to have my mind changed, though it doesn't happen quickly (we could do it by email, or even post a handwritten letter, but frankly if I'm going to take the time to engage in a proper conversation

about this, I might as well open it to a broader audience). For now, all I can provide as an answer is that science communication scholars are not distinct. They do not stand out. They do not claim special place. Nor should they. Precisely because the odd non-position we reside in, we know better.

   This was story about not writing an essay rather than actually doing so. This was because I'm someone who works in the spaces between academic disciplines rather than building one of my own.

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