How far should we go? Public relations, mediatisation of science and science communication

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Scientists around the world are under increasing pressure to publicise their work or participate in public engagement. This discourse between science and society is seen as crucial not only for the position of science within society but also for the development of scientific research. Whether it is funding bodies demanding work packages for dissemination, as is typically the case for EU funded projects, or funders requiring a plan for knowledge exchange, or even our employing institutions seeking to gain reputation by showcasing high quality research in public, few scientists can now escape the pressure to enter into the public arena, or what Habermas has called the public agora – the space where society debates and discusses the issues of the day. And with good reason. For once we leave school, it is only through these public fora, particularly the media, that we learn about new scientific and technological developments.

For all sorts of reasons, from arguments that science should be seen within culture in the same way that history and art are, to requirements to account for public spending, I think it is appropriate that researchers are encouraged to make their research accessible to civil society. But I also think that questions arise about how this is done. In particular, I think that the effects of the growing science image machine, also known as public relations, warrants consideration. And grow it has since the early days of online press release distribution services, such as EurekAlert[1] founded in 1996 by the American Association for the Advancement of Science.

Or this European version, AlphaGalileo[2], founded by the UK Particle Physics and Astronomy Research Council in 1998 and now an independent service for journalists. Originally developed in the late 1990s these press information services were part of the initial response from science-based organisations to address the perceived lack of public understanding of science amongst the public and to help facilitate journalists' access to science news. Both clearly state that providing journalists with access to science news and science research organisations access to journalists are their primary purposes and both are well regarded for the role they play. However, widely researched changes in the media ecosystem, both in terms of reductions in news room staff but also in the rise of online publications and websites offering 'science news', suggest it is time to reconsider how PR could and should be mobilised to support the dissemination of scientific results.

Consider, for example ScienceDaily[3]. From the website's look (including the advertisements) you could easily be forgiven for thinking that this was an online newspaper. Explore a little more deeply, and you do have to dig deep as the information is provided only at the very bottom of the website page, you will find a button 'contribute' which takes you to information which clearly indicates that this is in fact yet another press release distribution service. Perhaps more worryingly, the information for press officers highlights that the readership is mainly high school and university

[1] http://www.eurekalert.org/
[2] http://www.alphagalileo.org/
[3] http://www.sciencedaily.com/

students (that is those people that universities may want to attract as potential undergraduate or postgraduate students) and researchers (who could potentially be staff or collaborators). In my experience, few of my Masters students in Science Communication realise that the material offered by Science Daily is in fact produced by press officers, rather than journalists (although the savvy amongst us would see that the materials are usually attributed to universities or other research organisations). And this I find rather worrying – when PR material masquerades as journalism.

So, are there models of PR practice that can support public-oriented journalism, enabling an open an honest critique of scientific research that helps society to benefit from and exploit these fascinating findings in a whole host of different ways? After all the stories on Science Daily also appear in newspapers and the website does provide some filtering, in that only some of the press releases are in fact published.

This talk, then, will focus on three strands: the rise of public relations for science and the influence of public relations on both scientists and science journalism. Throughout the talk I will seek to draw out strands where further research is required. I will conclude with some thoughts on whether there are ways that the practice of public relations could be developed to better support science journalism in the public interest.

Let's first explore what we mean by public relations for science and the actors involved.

Grunig and Hunt (1984) define public relations as 'the management of communication between an organisation and its publics' (p. 6), which gives a fairly neutral view of a profession whose practitioners are often referred to derogatively as 'spin doctors'. Certainly, most other definitions make at least oblique reference to the persuasive function of public relations. For example, the Chartered Institute of Public Relations in the UK defines public relations as

'*Public Relations is about reputation - the result of what you do, what you say and what others say about you.*

Public Relations is the discipline which looks after reputation, with the aim of earning understanding and support and influencing opinion and behaviour. It is the planned and sustained effort to establish and maintain goodwill and mutual understanding between an organisation and its publics.' (CIPR, 2015)

Notice the reference to influencing opinion and behaviour. This acknowledges at least some element of persuasion is involved.

Gandy (2009) argues that 'the primary role of public relations is of purposeful, self-interested communication. Although modern public relations may involve more efforts to "understand" a variety of publics, this apparent concern [with publics] may be seen as instrumental in that greater knowledge of publics facilitates the more efficient segmentation of those publics for the delivery of targeted communications to them.' (p. 134) Since public relations is normally undertaken on behalf of either an organisation (corporate or public sector) or an individual, it is usually fairly straightforward to determine who benefits from the activity and to consider how or why they might tell a story in a particular way. For example, a media release issued by a University press office is likely to draw attention to the University name and to present the University in a positive light. The

University usually issues these press releases with a view to enhancing their reputation, possibly because they feel that this will improve student recruitment, help staff to feel positive about the place they work or ensure that funding panels recognise that they have a strong research track record.

The same could be said for the scientific journals that issue press releases; they are not trying to sell more copies necessarily, but they are seeking to enhance their reputation within the research community and perhaps the wider educated public. And clearly these organisations must think that these public relations efforts are worth the cost – public relations, after all requires staff who draw salaries. It is not free. And there has been a large growth in the science public relations industry over the past 30 years. By and large, in the case of public sector research (as opposed to research conducted by industrial scientists) these PR efforts are focused on what we call media relations. That is efforts to get journalists to write positive stories about the organisation, through for example writing about the research that its staff conduct or the research presented at conferences or published in journals.

For most researchers, public relations might, then, be seen as a tool that helps them to 'sell' their research to journalists, by providing staff who can help the researcher craft an appealing story. As I mentioned, this PR support comes from a number of sources: the press offices of major scientific journals, such as Nature and Science; conference PR offices; as well as the researcher's own institutional press office and even the growing number of national science media centres, as we shall see later in this talk.

From my research, it is clear that growth of the science PR machine has affected the way that scientists interact with the media. One scientist I spoke to highlighted the rise of conference related PR and that many of these press releases are produced for studies which have not yet been through peer review. He notes that this move to communicate before publication is a trend that has developed in the past few years (Weitkamp & Eidsvaag, 2014).

'It's interesting because the criterion to get things publicised [in newspapers] has become […] easier over the years. I mean I've been doing PR for you know 30 years here, something like that and the ASC [American Chemical Society] used to be very stringent about having things published before they would talk about it [… before they would issue] a National press release. But that's gone by the wayside […] and now what happens is when you submit an abstract for one of our National meetings […] and whichever ones [abstracts] they deem newsworthy they start a conversation with the person who's submitted the abstract.'

Increasingly concerns have been raised about the influence of public relations on what appears in the news across a host of news topics, including science news. Gandy (2009) refers to public relations as offering an information subsidy to the journalists, by offering them carefully packaged material designed to meet their needs. Media releases are written in the style of news stories, ready to be cut and pasted onto news pages (whether print or online), a process that BBC Journalist Waseem Zakir termed Churnalism. PR efforts are not limited to print media: video news releases perform the same function for broadcast media and can later be uploaded to YouTube, providing content for social media.

Dorothy Nelkin highlighted as early as the 1990s in her book, Selling Science, the beginnings of a move amongst scientists to engage with the media and seek to control the public image of science. Today many scientists accept that talking to journalists is part of their public role, though they may still raise concerns about how the media reports science in general. This willingness to speak with journalists has coincided with a growth in public information or press office roles within research organisations. These staff facilitate interactions between researchers and journalists but do so wearing an organisational hat. This suggests that they will at least consider, and probably prioritise, the interests of their organisation over other interests, which might include journalism for the public good.

An interesting development in this area, is the rise of independent science media centres which have the purported aim of improving science journalism, such as the UK Science Media Centre[4]. There are now several similar organisations springing up around the world. Science Media Centres are not without criticism; Fiona Fox and Connie St Louis (Fox & St Louis, 2013), for example, argue that they contribute to churnalism and uncritical reporting and that these organisations, by acting as cheerleaders for science contribute to the management of the image of science. It is through these channels, that as Peters et al. (2008) argue, 'science probably controls its media image more effectively than ever before' (p.271).

Within this context, Jo Madden and I have been exploring the influence of the UK Science Media Centre on science reporting in the UK. Preliminary findings indicate that the SMC is effective at contributing to the UK news agenda and exposes further evidence of churnalism within the UK as journalists lift quotes directly from SMC media releases. We explored two activities offered by the science media centre, press briefings, where journalists are invited to hear experts talk about the issue and press releases, which include written quotes from experts. Both types of activity offered on average 3 different experts to journalists, though these experts may have provided similar explanations or comments on the subject. Data show that there are a number of sources of activity that prompted the Science Media Centre to organise a press briefing or issue a press release, such as journal papers, and the SMC can be seen as contributing to the general PR activity surrounding certain publications.

We were interested to explore whether the SMC contributed new or different voices into the public arena. However, we found that, through its choice of experts, the SMC may be reinforcing existing institutional dominance by featuring senior researchers from prominent UK universities. Only a minority of featured experts (11.8%) were affiliated with government, industry or NGOs. One might argue that these types of organisations (at least government and industry) have their own PR machines to facilitate media engagement, but the SMC does not seem to be seeking to widen the range of voices available for journalists to call upon.

The media made use of the resources provided by the UK Science Media Centre, with 63% of articles quoting an expert provided by the SMC. We did not have data on which journalists attending the briefings, so cannot break the data down with respect to those journalists writing the story and not attending the briefing compared with those who do attend.

[4] www.**sciencemediacentre**.org

So, if we accept that Science Media Centres are effectively PR agencies working on behalf of science, then evidence from our study suggests that they are quite effective at influencing coverage.

The question of whether SMCs in fact improve quality of science reporting or merely ensure that dominant views are propagated in the media remains. There are certainly examples of the SMC working with organisations to reduce the chance of studies being misinterpreted and to minimise the risk of negative or 'scary' headlines. In many cases, this is probably perfectly reasonable, but I think our research does raise questions about whether the organisations like the Science Media Centre prematurely influence public debate about emerging science and technology and help to maintain the dominance of certain voices within the debates that do arise.

Several studies have explored the relationship between public relations and journalism and raised concerns about cut and paste journalism which uncritically transfers public relations material onto the news pages. In fact the Washington Post was criticised in 2014 for running press releases on its health and science pages (Raeburn, 2014). Nigel Hawkes, a long time British Science reporter, reflects on the rise of PR:

"We went from famine to feast in the period between 1990 and say, well, now. You've gone from a period when you were scratching around for stories and you were glad if you found one, to one where you've always got a choice of four or five. [...] All the journals put their stuff on the web, and all the universities put their stuff on the web, and it's instantly accessible, which was never the case. So there's been a major change really.[...] And because it's all written in a form that you can just cut and paste, we're back to the old problem of churnalism. It's terribly easy to write perfectly coherent stories just by cutting and pasting press releases." Nigel Hawkes, quoted Williams (2010).

In other research from my group we explored the way that journalists quoted sources more generally (Weitkamp & Eidsvaag, 2014]. We found that slightly over half of the stories produced (n=35) included only one directly quoted source; and 16% included no direct quotes at all. We were able to identified media releases associated with 50 of the news stories (approximately 78%). 2 of these did not include any direct quote. Of the remaining 48 articles, 22 or 46% only used quotes taken from the media release.

At the very least, these studies suggest that press offices are providing information subsidies to the newspapers. It also adds to the growing evidence that the scientific establishment is building the science news agenda together with journalists, through the provision of easy to use media material. In essence the scientific establishment is exerting some perhaps considerable control over the way that science is presented in the media and who presents that science.

Surely from the perspective of scientists this might be considered a good thing? It suggests that the scientific establishment has worked out ways to influence media coverage so that the media present stories and information about science that scientists are comfortable with. After all, press releases issued by scientific journals and university press offices are normally approved by the scientist involved who also confirmed that they were happy with the quotes attributed to them. From this we might logically conclude that scientists will therefore be happier with the media coverage of science – and surveys do suggest that most are happy with their own encounters with the media, though they seem to retain a more neutral attitude to science coverage in general (see for example, Peters et al., 2008).

But does this increasingly cosy relationship improve science journalism, one of the areas of science communication that has been highly criticised (both by scientists and others)? Clearly not if we consider that journalism to be the 4th estate, were it holds the establishment, in this case the scientific establishment, to account.

This leads me to ask, can some public relations functions, perhaps for example those of independent science media centres, be employed in such a way that the positively support journalism in the public interest? Perhaps they could be encouraged to produce material that would actually increase the diversity of voices represented in media coverage of science, or provide additional sources able to explore the nuances of research. Brown (2014) suggests that inclusion of quotes in press releases which provide a critique of the research, are attractive to journalists and might even increase the chances that it would be taken up.

Christin Autzen (2014) goes a bit further; arguing that journalists should not be censored for cut and paste journalism in some situations. She suggests that the straightforward, single paper stories that report new research findings can be taken straight from the press release, freeing up time for science journalists to fulfil their watchdog role by investigating scientific institutions or reporting more complex and controversial stories, for example the ethical questions around stem cell research or the political dimensions of climate change. As she states:

'My suggestion would be for independent science journalists to leave their comfort zone, stop concentrating on how to get more science stories into magazines, newspapers and television, and start asking questions like: are we spending too much money on metabolic research and too little on sociology, if we want to reduce the number of people suffering from lifestyle diseases? ' (Autzen, 2014; 4-5)

So my second research theme is to consider whether in fact public relations could be deployed to support quality journalism in the public interest. If so, how and what training would they require?

I'd now like to move on to consider how the expectation that scientists will engage with the media might be influencing scientists. So this section is perhaps not so much about mediatization of science but about the mediatization of scientists.

Let's look first of all at training. Brian Trench and Steve Miller (Trench & Miller, 2012) have argued that the training that is available to scientists across Europe is largely focused on dissemination to the public, rather than how scientists could influence and engage in public debate or foster dialogue and deliberation. Exploring the training offered by universities, they conclude that 'The PR needs of universities and the competition for students, staff and funds are also the main drivers of supports for researchers' public communication through targeted training' (Trench & Miller, 2012: 726) Trench and Miller highlight that France stands out as one of the few European countries that offers training designed to encourage scientists into dialogue with society rather than focusing primarily on media dissemination skills.

A study undertaken a few years ago by the Royal Society suggested that in the UK 73% of respondents had not had any media or communications training (Royal Society, 2006) and UK Science and Media Expert Group (2010) has called for all scientists to receive some form of media

training. Anecdotally, our Unit[5] is receiving an increasing number of requests to either tender for training programmes or offer tailored communications training for researchers, either through their home institutions or through scientific organisations. Many of these requests are essentially for media training. It seems that organisations have decided that scientists need help to 'speak' in a language suitable for public consumption or even help to craft messages that present their research in the most appropriate light. Most appropriate, of course, is open to interpretation.

Some researchers may choose not to engage with the media, but I think it is fair to say that scientists are now in an environment which normalises mediated communication. And I think this may have some as yet unexplored repercussions.

Solomon Asch (1961), a psychologist, argued in the 1950s that people tend to conform to group views. His studies showed that in a group situation, participants were more likely to give an obviously wrong answer when the majority of the other people (who appeared also to be participants in the experiment) selected an incorrect outcome (in this case that one line which was obviously not the same was in fact the same length as the other). If the majority of the group chose either lines A or B as the matching line, so did the research participant (see Figure 1). Further investigation through interviews with the participants identified two reasons for the wrong answers: that the participants didn't want to disagree with the others (a normative influence) or that they thought the others were better informed than they are (an informational influence).

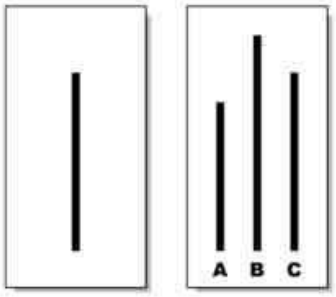

Figure 1

How might this relate to our scientists and their public communication? In two ways: firstly as public engagement/communication has become more 'normal' within their community, scientists may feel under pressure to conform with these expectations and undertake communication/engagement activities. This may be seen as a positive effect given wider societal drivers that demand researchers make their findings more widely available but it may also lead to poor quality communication if those engaged feel pressured to do so. And it may also mean that scientists turn to those tools they perceive easiest to use (for example press releases), to tick a perceived 'public engagement' box that they must fill. I think the time is ripe to explore whether the pressures on scientists to communicate are leading to public engagement tick box culture and whether this has wider implications for mediated communication. Certainly, there are calls for scientists to engage more critically with the press releases written about their work and suggestions that scientists are becoming more accepting

[5] http://www1.uwe.ac.uk/research/sciencecommunicationunit

of the need to find a 'media angle' on their research. The impacts of public engagement pressure on the ways that scientists communicate, is, then, my third area for further research.

Another issue that Asch's work raises which I think warrants further exploration is whether scientists communicating in public feel less comfortable offering views or evidence that contradicts, challenges or raises concerns about scientific theories or practices that are perceived to be widely held. As yet there is only anecdotal evidence (Bojanowski, 2014) to suggest that scientists are moderating their public communication to align with consensus views, though there is some research that suggests people may do this in other situations.

In the case of mediated communication (that is working with the media), this ability to challenge theories, institutions or conventions in public may be further limited by the involvement of PR professionals who broker access to the media. These staff have at least a partial gatekeeping role (in the sense that White (1964) refers to the gatekeeping role of the media), in that they are usually responsible for selecting which research is presented to the media, as well as shaping the way that this research is presented to the media through the crafting of a press release. While many scientists will rewrite press releases produced by the press office staff, it is a committed communicator who will challenge the decision of the press office **NOT** to produce a media release about their research in the first place.

It is certainly possible that between the norms and professional controls exerted by the scientific community that discourage public dissent and the creation of public controversies (which may well be encouraged in conferences and scientific literature accessed by peers) and press office's seeking to make research attractive to the media and serve their own institutional interests, that contrary views are silenced or marginalised. This may in turn inadvertently strengthen the perception that there is a consensus view about a particular scientific area, and this may further marginalise and discourage public dissent. Noelle- Newman (1984) refers to this as a spiral of silence, where the climate of opinion (or consensus view) becomes dominant through the silencing of dissenting voices and in this way the media and public assume a stronger consensus of opinion than may in fact be the case. The extent to which the mediatisation of science and the rise of public relations are creating these effects needs to be explored.

This talk has focused on the media, and I would not like to suggest that all dissemination efforts take place in this sphere. Scientists use a variety of tools to disseminate research to civil society and are also increasingly involving civil society actors in the early stages of research development, as suggested by the Responsible Research and Innovation declaration put forward under the Italian presidency of the EU. Nevertheless, traditional media, newspapers, magazines and broadcast forms, remain a staple of many scientists' dissemination activities and in contrast to public lectures, science cafes and many other face to face communication activities, reaches both large numbers of people and those who are not already interested in science (though of course they may not attend to the media communication). Furthermore, in my experience of grant reviewing, media are rarely left off the list of tools and tactics to be used for public dissemination. For these reasons I think it is important to explore the influence of the rising public relations for science industry on the way that science is translated into the public sphere. I've identified four themes for research today. There are, of course, many other facets of this science, PR and media triad that one might investigate.

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