

## **Selling Science?**

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### **Abstract**

This paper will examine the role of a broad coalition of science communicators, led by the UK Science Media Centre (SMC), in communicating the proposed practice of creating animal human hybrid embryos. It focuses on the implications such campaigns have on the quality and independence of science news and the role of scientific institutions and scientists in the provision of information about their work to publics and media. Drawing on data from 16 interviews (with specialist science journalists, PR operatives, and key news sources), and a content analysis of 427 UK newspaper articles, findings reveal that a powerful coalition of scientists, learned societies, and charities won a clear victory on their own terms, using a range of PR strategies (issues management, relationship management, crisis management, etc), in a struggle against a less cohesive group of religious figures, ethicists, and campaigners. This victory can be explained with reference to a number of public relations approaches and tactics, but this persuasion-based PR success arguably came at a price for scientists, journalists, and publics because it encouraged: self-censorship among scientists in public debate; uncritical “churnalism”; and the simplification and “hyping” of complex scientific research of uncertain value.

### **Introduction**

Numerous studies have found that, when writing about science, journalists often get too close to their news sources. Dorothy Nelkin’s influential study *Selling Science* found that “many journalists are in effect retailing science and technology more than investigating it, identifying with their sources more than challenging them” (1995, 164).

Likewise Hansen highlights science journalists' over-reliance on official and elite sources (1994, 111) and Boyce suggests relationships between science journalists and sources are "too familiar to remain 'objective'" (2007, 33). Research into human genomics news has also suggested such relationships have led to uncritical displays of optimism when reporting claims about the benefits of the technology (Haran et al. 2008). The reasons for the power imbalance between journalists and their sources are numerous, but it is commonly argued that the political economic constraints under which journalists work play a significant role. Journalism's contraction in this period has been more than matched by an unprecedented expansion in the field of PR and media management, and science communication has been affected by these trends as much as any other news beat. Williams and Clifford's work found that UK science news specialists are under significant pressure to do more work across more media platforms than previously and that this is leading to news about science which is more homogenous, less independent, less critical, and increasingly reliant on PR (36-56). This echoes the findings of numerous studies which have charted the growing importance of science public relations in setting agendas, influencing media frames, mediating news events, and in some cases actually providing journalists with the very words and images that make up the science news we consume (Göpfert 2008). This paper explores the impact of a high-profile science public relations campaign on the quality and independence of science news, but also on the prospects for open and accurate public debates about science by news audiences and scientists alike.

## **Methods**

I sought to answer the following research questions: what were the aims and tactics of science communicators in the hybrid embryos debate?; how successful were science media managers at influencing newspaper coverage of hybrid embryos? and; are there any problems associated with such media relations campaigns around controversial science? A multi-method approach was adopted. In order to determine which source groups were most successful at generating coverage, and to examine the nature of their interventions, I completed a comprehensive analysis of coverage (427 items) in the UK national press (broadsheets, tabloids, and mid-market) between January 2006 and

December 2008.<sup>1</sup> All coding categories were developed inductively from scrutinising the media coverage, and from a thorough knowledge of previous similar content and discourse analyses of genomics coverage. Notes were made to ensure consistent categorisation of basic details such as format, news hook, and journalist specialism, as well as more complex coding categories relating to sources quoted and the kinds of arguments and rhetoric most commonly used on both sides of the debate.

Analysis of the manifest content of media messages can generate findings which *indicate* the success (or not) of a media management campaign. It can also outline and suggest broad areas of media management work that were successful or not. But in order to get under the skin of the media, to gain insights into exactly *how* news sources sought to influence media discourse, it is necessary to carry out research with the full range of social actors involved in the processes of news production. I therefore also conducted sixteen semi-structured interviews with key participants in the media debates including: specialist science journalists, primary news sources such as scientists, campaigners, and religious leaders, as well as press officers and senior media managers (more details can be found in the endnotes).<sup>2</sup> The findings of the content analysis were used to inform a semi-structured interview design which focussed on exploring: the media management aims of participants on both sides of the debate; the resources that media managers devoted to the communication of the science; the public relations tactics employed; whether and how news sources collaborated and co-operated with other groups of news sources; and finally, potential or actual problems that arose around the media management of the hybrid embryos story. This article will mainly draw on the interview data from journalists, and those who argued *in favour* of allowing the creation of hybrid embryos, because the principal aim is to understand and interrogate how the science was sold to the news media, the public, and policy makers with a particular emphasis on the media relations strategies used.

## **Findings and discussion**

### Aims and PR tactics

#### *A highly organised PR coalition*

One of the most striking characteristics of the PR campaign in favour of hybrid embryos was the organised show of media-management unity by participants (it is rare, if not unprecedented), that such a large range of organisations with an interest in communicating science should work together so closely, and for so long). Early on in the development of the story a coalition of scientists and press officers formed to allow the groups involved to pool PR resources, putting aside sectional or organisational interests. The coalition, which grew substantially over the course of the debate, was co-ordinated by the Science Media Centre, which instituted a fortnightly PR “war party” (Minger) in December 2006 to plan media strategy in response to government plans to ban the creation of hybrid embryos in the upcoming HFE Act. The coalition consisted of a large number of organisations and individuals, but key members were: scientists whose work would be affected by the proposed ban; learned societies; research councils and funding bodies, and numerous health charities.

#### *Managing relationships between scientists and science journalists*

PR is as much concerned with managing relationships with key publics as it is about managing communication (Ledingham 2003), and one of the key publics targeted by the coalition were specialist science and health journalists. The cultivation and dissemination of key messages was accompanied by a well-planned, and highly effective, drive to cement already strong relationships between scientists and specialist reporters. This was made somewhat easier by the fact that many of the key reporters, scientists, and press officers in this debate belong to very close-knit social, as well as professional, networks. Key “relationship management” tools were regular media briefings at the SMC (there were five dealing with hybrids between 2006 and 2008). Such briefings, a regular feature at the SMC, usually begin with a number of scientists giving presentations in front of an audience of invited specialist journalists followed by an open question and

answer session. As one communicator told us, “you always have to tailor your communications to your audience and so the minute you start that process, then you are, I guess, [...] trying to persuade someone” (Press Officer, UK learned society). In a PR battle aimed at constructing persuasive narratives for understanding the science they were tightly-managed media events set up in order to secure “maximum impact” for the scientists (Fox).

There are some strong indications that relationship management with specialists was effective for the coalition. Unusually, more science specialist journalists covered this story than any other group of reporters.



	N	Percent
Science/Health	131	29.2%
Political	88	19.6%
No named journalist	80	17.9%
Letter to the editor	51	11.4%
Unspecified/general reporter	42	9.4%
Columnist	20	4.5%
Other Specialism	13	2.9%
Guest writer: science/medical	9	2.0%
Guest writer: other	9	2.0%
Guest writer: religion/ethics	5	1.1%
Total	448	100.0%

Table 1: The specialism of reporters in press coverage of hybrid embryos

In a general content analysis of science coverage in the UK media Boyce et al. (2007, 19-20) found that only ten per cent of all science news is normally written by specialist reporters, rising to 16 per cent of articles specifically about human genetics. The benefits to the coalition of cultivating the science beat are clear. Of course, such specialists are often more able to understand and communicate complex science, but there are other practical advantages. In this case science and health specialists were far more likely to cite pro-hybrid sources (principally scientists), and far less likely to quote opponents (mainly reproductive ethics campaigners), than other groups of journalists.

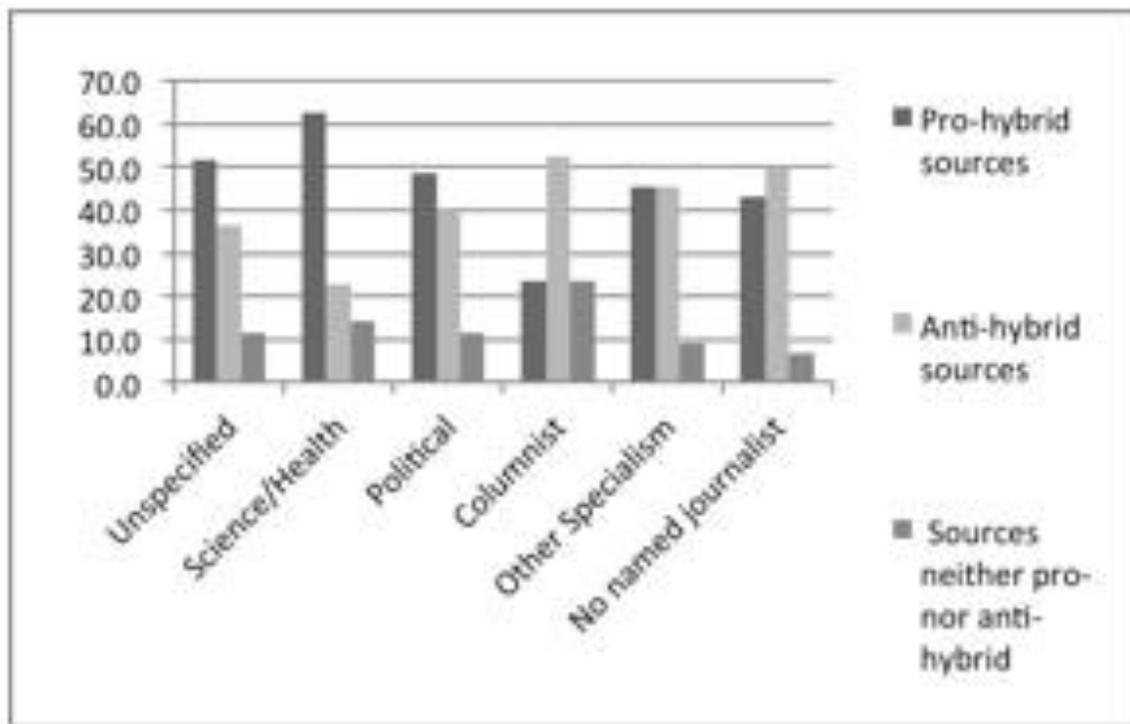


Figure 1: Proportion of pro- or anti-hybrid sources quoted by reporters from different specialist news beats (n=646)

Pro-hybrid sources outnumbered their opponents overall in the news coverage – 53 per of all quoted sources were in favour of hybrids compared with 34 per cent against. The coalition’s media relations success cannot be wholly explained by the influence of strong PR, of course. That said, the testimony of many stakeholders suggests the

coalition's press strategy played a significant part in securing favourable coverage (Fox, UK learned society press officer, Connor, MacKellar, Quintavalle).

*Managing messages: text-based information subsidies*

As well as relationship management, the coalition also produced high volumes of conventional text-based information subsidies for journalists. The SMC's "roundup" press releases were particularly successful. These documents aim to "put research into context", and differ from conventional press releases in that they are composed entirely of quotations from scientists and other sources (Greenacre). They are usually pre-emptive attempts to manage news coverage, and are often written in anticipation of breaking news about controversial science. They are invariably embargoed in order to control when this information is allowed to be published. One SMC press officer told me, "It's purely about putting the comments of the scientists out, so that when journalists do cut and paste bits of press releases, which they obviously do [...] they're cutting and pasting quotes from the best scientists who kind of represent the scientific consensus" (Greenacre). The SMC is insistent that these documents do not overtly attempt to impose a narrative on the issue at hand: "When churnalism does happen they're just churning the scientists' words and not a pre-agreed 'line' from the SMC" (ibid.).

This emphasis on information transfer over rhetoric and persuasion, is telling. As Haran argues, the organisation's claim that it "eschews PR" is somewhat problematic, as the line between information and persuasion can be hard, perhaps impossible, one to draw (2011, 247). Reticence to see what the coalition did as "conventional PR" and discursive anxieties about accusations of spin are important. The SMC has undoubtedly taken measures to minimise their own organisation's rhetorical influence on framing, or selling, science. However, whether they consciously planned them or not it is clear from the content analysis that a shared set of messages existed.

	No. of stories	% of stories
Promise of potential or actual therapies/cures	315	73.8
Embryos destroyed after 14 days (or sooner)	124	29.0
Shortage of eggs justification	109	25.5
Embryos still mainly human (e.g. Containing 99.9% human DNA)	99	23.2
Embryos won't be placed in humans/animals	82	19.2

Table 2: Most common arguments in favour of hybrid embryos (n= 427)

Arguments which mention the promise of potential cures and therapies occur in three quarters of all articles which mention hybrid embryos. Other arguments include: the guarantee that embryos would be destroyed before they were two weeks old; the justification that hybrids were needed to overcome a shortage of donated human eggs; the suggestion that the hybrids were mainly human in terms of their genetic make-up, in order to counter arguments about creating monsters, and desecrating nature; as well as the assurance that the embryos would never be allowed to develop in animal or human wombs. Variations on such claims permeate the press releases, briefings, and other information subsidies supplied by all partners in the coalition throughout the campaign. These messages do serve to pass on information from science communicators, of course. But they also frame the debate in ways that are advantageous to those who supported the

science; they are (highly convincing) persuasive tools which are easily digestible and reproducible by overworked journalists working to tight deadlines.

#### Potential problems with such PR campaigns

In instrumental terms these science communicators won a clear media victory, which was later compounded by the proposed ban on creating hybrids not being implemented. But science media relations campaigns should not be judged on their effectiveness alone. I turn now to a series of potential problems which relate to the ability of a weakened science news media to act as an interrogative watchdog, and anxieties around the social effects of promoting messages about science to the media in this way.

#### *Churnalism, science PR, and accountability:*

Three of the four science press officers I interviewed confirmed they regularly experience “cut and paste journalism”, and that their material was routinely “churned” in the reporting of hybrids. They also talked about the fact that they are rarely questioned about the content of their promotional messages. Furthermore, most media relations work influences the news media from offstage, beyond the view of all but the most careful and tenacious readers. This can be problematic. However imperfectly applied in practice, in principle, journalists have a commitment to upholding the public interest. PR usually has a primary commitment to organisational self-interest. These two do not always overlap. Information subsidies are not always free; they can have a hidden price which can manifest itself in effects on news independence and, by implication, the possibilities for full public debates about controversial science.

#### *The “c-word”: when is a campaign not a campaign?*

One problem identified by this study is a lack of willingness on the part of science communicators to accept they took part in a persuasive PR campaign. There is a clear tension in their discourse about whether they actually *campaigned* or not. I use the word throughout because I see this unequivocally as a PR campaign: an organised, professional, and systematic attempt to persuade politicians and the public to support well-defined goals. All four press officers interviewed disagree. Robin Lovell-Badge’s

explanation of such reticence is telling. “‘Campaign’ sounds a little bit like, either it’s personal interest or you sort of distort the truth a little bit to try and get your way. [...] A campaign is like the pro-life groups did, writing to all their MPs and saying vote against, without giving the full information. [...] [Ours] was a campaign for the truth, and it was to provide, as much as we could, the scientific truth to Members of both Houses of Parliament in such a way that they could make their own decision in an informed way”. The implication seems clear: campaigning is done by self-interested publics, but when scientists use similar tactics the persuasive act is inoculated against the taint of vested interest by the certainty of scientific truth. This displays quite an un-reflexive approach to the nature of ideology, discourse, and the plurality of meaning in communicative acts. It also suggests a rather scientific privileging of the authority of scientists over that of lay publics.

Other interviewees displayed a more nuanced understanding of the contingent, contestable, and perhaps fragile, nature of scientific “truth”. Leszek Borysiewicz emphasises how scientists should participate in open-ended debate rather than simply seek to persuade publics of a fixed set of immutable truths, and displays anxieties that scientists, and public trust in science, might be damaged by playing the media game:

In public debate, if there is something that the public do hold with scientists, that’s open mindedness [...]. That value of being seen to be even handed, and being prepared to be convinced by an alternative view, is something that is at its core. Once you cross that line you get into the very dangerous territory of promoting propaganda for a particular course or direction. [...] It is not for science to dominate society’s views.

This was a general point, and he did not accuse anyone involved with this campaign of communicating propaganda. Nonetheless, this widespread failure to acknowledge the persuasive and political nature of the communicative tactics and rhetoric employed by the coalition does not bode well for the prospects of critical self-reflection when problems do occur.

*Simplification, hype, and scientific self-censorship:*

One area of the campaign that attracted sharp criticism from some quarters was the repetition of the claim that the proposed hybrid embryos were composed of 99.9 per cent human genetic materials. Variations on this claim were present in almost a quarter of all articles. The figure was also reproduced in many of the press statements of coalition members. In April 2008 the (then) science editor of the *Daily Telegraph*, Roger Highfield, published a critical article claiming this figure “misleads the vast majority of people”, and citing a statement from mitochondrial DNA expert, and Nobel Prize winner, Sir Martin Evans that the science of hybrid embryos had been “hyped” and claims about cures “overheated” (*Daily Telegraph*, April 8<sup>th</sup>). In a blog post about the production, packaging, and circulation of scientific “facts” for the media Highfield later claimed “this ‘fact’ was propaganda”.

There is also some doubt about the indirect effect of this PR campaign on the formation of a public scientific consensus around hybrid embryos. A related, but less visible, problem than the range of voices actively promoted by the coalition is the notion that scientists who questioned the promise of hybrid embryos, or who queried the need for such a large media relations effort, simply kept quiet in order to give the impression of a united front. This was confirmed in some of our interviews. Fiona Fox commented, “I think some scientists self-censored”. Similar concerns were raised by journalists and scientists. This is troubling because of the unspoken limits it places on open and honest public debate about science among scientists. Such self-imposed foreclosure on dissent may also have disturbing consequences for wider public debate about science. Disconcertingly, as this journalist implies, the dangers of such a falsely homogenous public scientific debate may correlate with the amount of effort, resources, and “hard work” expended on persuasive public and media relations.

Some in the coalition accept the dangers of self-censorship but charges of simplification and hype are denied. In answer to claims about the controversial 99.9 per cent figure Fiona Fox told us, “[that was] the truth as the scientists knew it. I do not accept that they sat in a room and said, ‘we’re going to say it’s 99.99 per cent human because that will win us the vote in Parliament’”. Some blamed scientists or PRs for wilfully miscommunicating their science; others blamed the news values such as

controversy and conflict and science journalism's propensities to simplify and sensationalise. But the problem is more complicated than either suggestion implies. Communicating scientific uncertainty to journalists is notoriously difficult, even more so when one is pitted in a Manichean media debate against ideologically opposed campaigners. The problems of simplification, hype, and scientific self-censorship are systemic, complex, and multiply determined and arise because of: the often intense struggles between polarised groups of news sources and media managers; the demands placed on these groups by media forms and journalistic norms; as well as their own (understandable) urge to generate sympathetic coverage. If blame can usefully be placed anywhere it is on the rules of the game more than the tactics that groups or individuals employ when playing it.

Bauer and Gregory write that both "science and journalism are traditionally sceptical professions" which should "interrogate and assess results critically. Their work seeks controversy and the debunking of myths" (2007, 47). PR, on the other hand serves to promote "a positive image of its paymaster so as to minimise controversy and critical response" (*ibid.*). I agree with the broad normative assumptions underpinning these statements, and worry that engagement in large-scale persuasive PR campaigns such as this, no matter how ethical, reflexive, and sensitive they may be, might have the unintended consequence of weakening the sceptical edge and interrogative ability of both scientists and journalists. In so doing, it could also diminish the public's ability to participate in full and meaningful debates about controversial science.

### **Endnotes**

1. Our sample was generated using the Nexis media database and the search string: hybrid embryo OR admixed embryo OR animal human hybrid OR human animal hybrid OR human animal embryo OR animal human embryo OR chimera OR parahuman OR cybrid OR centaur OR Mootant OR Franken\* OR Humanzee OR chimpmanzee OR minotaur. The validity of our coding categories was tested using a pilot sample of 40 stories selected to represent the diversity of coverage. After further discussion a finalised coding frame was formulated and a detailed 16-page coding manual was written to ensure the consistency of coders. Regular coding review meetings were held, the research team

worked in the same room, and maintained regular informal conversations to maintain consistency. Overall inter-coder reliability tests showed our reliability rates were very high: most variables were over 90% reliable, and all were more than 80% reliable.

2. My interviewees were: Fiona Fox, Director, Science Media Centre; Will Greenacre, Press officer, Science Media Centre; Press officer, UK learned society; Press officer, medical research charity; Nick Hillier, Press officer, Academy of Medical Sciences; Prof Robin Lovell-Badge, Head of Developmental Genetics at the Medical Research Council, Prof Sir Leszek Borysiewicz, (then) Chief Executive, Medical Research Council; Dr Stephen Minger, (then) Senior Lecturer in Stem Cell Biology at Kings College, London; Steve Connor, Science Editor, the *Independent*; Mark Henderson, Science Editor, *The Times*; Roger Highfield, (then) Science Editor, the *Daily Telegraph*; National newspaper specialist science/health journalist (anonymous); Archbishop Peter Smith, (then) Archbishop of Cardiff; Peter Kearney, Director, Scottish Catholic Media Office; Dr Calum MacKellar, Director, Scottish Council on Human Bioethics; Josephine Quintavalle, Director, Comment on Reproductive Ethics

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