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# Opening up animal research and science–society relations? A thematic analysis of transparency discourses in the United Kingdom

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## Abstract

The use of animals in scientific research represents an interesting case to consider in the context of the contemporary preoccupation with transparency and openness in science and governance. In the United Kingdom, organisations critical of animal research have long called for more openness. More recently, organisations involved in animal research also seem to be embracing transparency discourses. This article provides a detailed analysis of publically available documents from animal protection groups, the animal research community and government/research funders. Our aim is to explore the similarities and differences in the way transparency is constructed and to identify what more openness is expected to achieve. In contrast to the existing literature, we conclude that the slipperiness of transparency discourses may ultimately have transformative implications for the relationship between science and society and that contemporary openness initiatives might be sowing the seeds for change to the status quo.

## Keywords

animals and science, openness, public trust in science, transparency discourses

## 1. Introduction

In contemporary public discourse, transparency has become a ubiquitous term closely tied to a doctrine of ‘good governance’, and the principle of ‘openness’ now permeates the realms of policy and regulation throughout techno-industrial democracies (Gonçalves, 2006; Hood and Heald, 2006). In terms of science–society relations, Jasanoff (2006) observes that ‘it is almost an article of faith that openness is essential’ in order for advances in science and to also ensure a beneficial relationship with citizens (p. 21). Often, the assumption is that transparency is an enabling tool to help move from ‘deficit’ to ‘engagement’ (Irwin, 2006; Rowe and Frewer, 2005; Wynne, 2006) or even co-production (Jasanoff, 2004).

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One of the key tropes in the science governance literature is the linking of transparency and public trust (or mistrust). The conventional approach is to refer back to the 1996 BSE crisis in the United Kingdom (House of Lords, 2000; Phillips et al., 2000), although there is a much longer history of public misgivings about science (Wynne, 2006). Public deliberation and participation initiatives have proliferated since the late 1990s in efforts to *rebuild public trust* in science (Bauer et al., 2007: 86) with transparency often seen as a lynchpin. The UK government, in particular, presents a discursive position where ‘trust, transparency and restored legitimacy are tightly coupled’ (Irwin, 2006: 306). However, efforts to apply transparency and openness ideals in practice have not been smooth-sailing, evident in the oft-quoted example of genetically modified (GM) food (Irwin, 2006: 314; Rowe et al., 2005).

A range of literature considers transparency and science policy-making, covering topics such as accountability and civil society (Fox, 2007), agriculture in the European Union (EU) (Heard-Lauréote, 2007), environmental governance (Gupta, 2008), fisheries (Wilson, 2009) and government regulation (Etzioni, 2010). These examples highlight that understanding the complex and slippery nature of transparency is like ‘setting sights on a moving target’ (Oliver, 2004: 1). Indeed, there is no single definition; transparency is ‘more often invoked than defined’, with no consensus on how to measure the ‘success’ of transparency initiatives (Hood, 2006: 3). Others note a ‘dark side’ to transparency (Nerlich, 2013) and that ‘operationalising’ transparency can complicate rather than produce trust in science-public relations (Fox, 2007; Jasanoff, 2006; Strathern, 2000). Furthermore, openness in science is almost always limited to some degree given that the ‘degree of openness is context-specific and needs to be traded off against other important social values’ (Jasanoff, 2006: 22). Therefore, the relationship between public science and ‘transparency’ is more often semi-transparent – with varying degrees of ‘opacity’ (Birchall, 2011; Wilson, 2009). This apparent complexity makes the use of empirical case studies particularly valuable. This article focuses on one controversial topic in the United Kingdom: the debate over animal research.

The United Kingdom is an important focus due to its significant place in international animal research debates and long history of regulation dating back to 1876 Cruelty to Animals Act. This was replaced by the Animals (Scientific Procedures) Act 1986 (shortened to ‘ASPAs’), overseen by the Home Office. Recently, ASPA was amended via the transposition of European Directive 2010/63/EU which came into force in the United Kingdom in January 2013. The United Kingdom has a highly publicised history of so-called extremist protest campaigns, such that the UK situation is watched closely internationally (Hobson-West, 2012). Arguably, the high state of alert has now lessened, with fewer reports of scientists and institutions being threatened by ‘extremist’ tactics in the headlines.

Concerns about information restriction in the United Kingdom date back to the nineteenth century, with accusations of a ‘culture of secrecy’ (Vincent, 1998: 17), and animal research, in particular, has been criticised for being secretive (Nuffield Council on Bioethics, 2005). Since the 1980s and 1990s, animal protection groups have increasingly called for more transparency and openness (Monaghan, 2000). In the past 10 years, however, scientists and other actors who support the need for animal research have also begun to mobilise transparency discourses (Jump, 2014).

Surprisingly, perhaps, contemporary empirical studies in the United Kingdom are limited. A notable ethnographic study from the United States (Arluke, 1991) provides some salient insights into the ‘dilemma of information control’ which many animal researchers practise daily. Later work carried out by Birke et al. (2007) also highlights the construction of a ‘siege mentality’ articulated by some scientists, who consider themselves and even ‘science’, to be under attack by animal rights activists. Recently, O’Sullivan (2006) has written about transparency in Australia claiming that animal advocacy groups assume that more transparency will produce greater public opposition, whereas animal researchers assume the opposite. Crucially, however, the animal research community is slow to ‘open the laboratory door’, unwilling to test whether greater openness will indeed result in stronger public

support (O'Sullivan, 2006: 14). While this work provides some interesting insights into the Australian context, the author does not fully explain her survey methodology which makes comparing her findings challenging. O'Sullivan's main conclusion is that 'both sides cannot be correct' and she is particularly interested in assessing whether animal research has been opened up. Overall, then, this work differs markedly from the national context of our research, from our explicit and original interest in the construction of transparency discourses, and in the methods employed (see below).

Finally, a Swedish case from Holmberg and Ideland (2010) provides a useful comparator. The authors explore how scientists and others discursively construct 'the public' in relation to secrecy. Like O'Sullivan, Holmberg and Ideland argue that scientists appeal to transparency hoping to gain public acceptance. However, they contend animal researchers (like weapons or nuclear researchers) resort to a kind of limited transparency, which they term 'selective openness'. They conclude this is a way of controlling information, equating to an 'enlightenment/deficit model of public communication' (Holmberg and Ideland, 2010: 365). The result is that the status quo is preserved. Our study uses different methods, and the United Kingdom presents a very different national setting to Sweden. We also come to different conclusions about the transformative potential of transparency discourses.

## 2. Methods and data analysis

This article forms one strand of a wider research project looking at animal research regulation and the role of the 'public'. The project is itself part of a larger 5-year research programme exploring the relationship between science, policy and notions of the public, funded by the Leverhulme Trust. While the wider project uses interviews, this method was considered inappropriate for this particular article as we wanted to wholly focus on 'public' discourses and the 'public face' of organisations. Future research could use our analysis as a foundation for exploring further how these different discursive storylines might link to policy-making processes (Hewitt, 2009).

The majority of the data discussed here are publically available documents collected electronically, through search engines, *Google*, *Google Scholar* and *DuckDuckGo* and through databases such as *Web of Science*, *Lexis Nexis* and *ProQuest*. Combinations of the following broad search terms were used to identify relevant texts: transparency, openness, secrecy, animal research/experimentation/testing and animal rights/welfare/protection/regulation. We could have searched more narrowly for particular initiatives (such as the 'Openness Declaration', more of which below) which would have resulted in a more specific, easier to manage, dataset. However, this would not have sufficiently met our aim of exploring the variety of contemporary transparency discourses.

The literature trawl located 80 texts, and with further 'snowball' sampling this grew to 116 documents. These date from February 1986 to June 2014, with the majority (91) of the texts produced between 2000 and 2014. Documents vary significantly in their format, length and 'type'. They comprise parliamentary briefings, governmental reports, consultation documents, opinion pieces/blogs, newspaper articles, journal articles, organisation webpages, positioning documents and other grey literature. We recognise this is a broad and varied dataset with documents produced for differing purposes and audiences; however, as justified above, this allowed us to look at the full range of public discourses. Nevertheless, we cannot claim to have collated an exhaustive collection of every publically available text relating to transparency and UK animal research. We ceased gathering data when satisfied we had reached data saturation with respect to the themes identified through the iterative analysis process (Saumure and Given, 2008). We then used an applied thematic approach to code and identify discursive themes (Guest et al., 2012) and adopted aspects of Hajer's (2006) analytical approach, explained next.

Following Hajer, we identified three discourse coalitions: animal protection groups, animal research community and government/research funders. Hajer (1993) defines discourse as 'an

ensemble of ideas, concepts, and categories through which meaning is given to phenomena' (pp. 45–46). A discourse coalition is 'a group of actors that, *in the context of an identifiable group of practices*, shares the usage of a particular set of "storylines" over a particular period of time', where a storyline is 'a condensed statement summarising complex narratives' (Hajer, 2006: 69–70). Crucially, it is through storylines that actors *impress their views of a given problem or issue upon others* (Hajer, 1993, 2006; emphasis added).

The advantage of using this approach for our study is that it makes discourse paramount. The result is that organisations not normally grouped can be analysed together, enabling a deeper understanding of the discourse itself. This approach is also advantageous in moving away from the assumption that there are straightforwardly *two opposing sides* to a controversy. Finally, a focus on problem definition and persuasion fits particularly well with our controversial case study, where the question of what is at stake or what should be done (e.g. the impact on medical progress from a reduction in animal research) is highly contested.

One potential danger of using the concept of discourse coalitions is they could be read as rigid, independent categories, when this is far from the case. Indeed, Hajer (2005) accounts for this in his own analysis of the acid rain controversy. He argues that storylines used by discourse coalitions are always developed in association with, and in response to, each other. The strength of the concept is that it allows for 'combining the analysis of the discursive production of reality with the analysis of the (extradiscursive) social practices from which social constructs emerge and in which the actors that make these statements engage' (Fisher and Forester, 1993: 8–9). In other words, it includes analysis both of what is said (and how) and who is saying it. We particularly like the duality inherent in this concept and the centrality of persuasion as noted above. However, we accept that other theoretical tools, such as policy networks or social movement studies, could also be fruitfully applied to the dataset. We leave such analysis for future papers.

### 3. Analysis of discourses relating to transparency and openness in animal research

Table 1 summarises the key discursive themes and main storylines produced through our analysis. We go on to provide some illustrative examples using the headings of the three discourse coalitions.

#### *Animal protection groups*

Over the past three decades, various animal welfare, rights, and anti-vivisection organisations have called for more transparency and openness. We analyse these together under the heading 'animal protection groups'. It should not be inferred that these groups have identical philosophies. In the main, these groups operate independently. Nevertheless, as we illustrate below, their transparency discourses have enough in common to be treated under the same heading. We now set out their key storylines.

*Storyline 1: Secrecy and dishonesty.* A key storyline is an emphasis on the need for less secrecy, portrayed in this context as a deliberate and negative action, linked to dishonesty and concealing unacceptable practices from the public, as the following examples illustrate:

Researchers do not want the general public to know what really happens behind the closed doors of their animal testing laboratories - they have too much to hide! (Animal Experiments Pictures, n.d.)

Animal experiments have always been shrouded in secrecy. The experiment industry prefer this secrecy because of the public's revulsion surrounding the use of animals for experimental purposes. (Naturewatch Foundation, n.d.)

**Table 1.** Summary of key discourses relating to animal research and transparency.

| Discourse coalition              | Main Storylines   | Summary of key discursive theme                                      |
|----------------------------------|---|--|
| (a) Animal protection groups     | <ol style="list-style-type: none"> <li>1. Secrecy and dishonesty</li> <li>2. Transparency and democratic accountability</li> <li>3. Openness and public opinion</li> </ol>                    | Transparency is needed to counter a secretive system                 |
| (b) Animal research community    | <ol style="list-style-type: none"> <li>1. Openness and public opinion</li> <li>2. Openness and countering misinformation</li> <li>3. Openness and a precautionary approach</li> </ol>         | Transparency is need to counter misinformation and misunderstanding  |
| (c) Government/ research funders | <ol style="list-style-type: none"> <li>1. Transparency and democratic accountability</li> <li>2. Openness and countering misrepresentation</li> <li>3. Secrecy and public mistrust</li> </ol> | Transparency is needed to counter mistrust in Science and Government |

In addition to these general comments, many of the groups have centred their critique on Section 24 of ASPA, popularly termed the ‘confidentiality clause’ (or, by critics, the ‘secrecy clause’). Section 24 makes it a criminal act for a public servant to divulge (even to Parliament) any information which a researcher does not wish to disclose. In practical terms, this means details about a research project may be exempt from applications under the Freedom of Information Act 2000.

The Home Office claims the original reason behind Section 24 was to protect ‘commercially sensitive’ material and personal details of researchers and that it was not meant to be a blanket ‘confidentiality clause’ (see the British Union for the Abolition of Vivisection (BUAV), 2012: 2). However, animal protection groups remain unconvinced claiming animal researchers are effectively hiding behind Section 24 because they need to keep the ‘reality’ of their work secret. People for the Ethical Treatment of Animals (PETA) (2013) is currently running a campaign to remove Section 24 and state on their website that:

Every day, ten thousand animals are subjected to all kinds of horrendous acts of abuse in British laboratories ... What makes this all the more shocking is that this abuse is going on in secret. A section in the UK law that regulates animal experiments makes it illegal for information about the experiments to enter the public domain.

Many animal protection groups are also critical of the government for the delay in amending Section 24, arguing they are complicit in secrecy. To cite just one example of the National Anti-Vivisection Society (NAVS, 1997),

If an individual breaks the law the legal process is public and transparent. Justice is *seen* to be done. When a vivisector breaks the law or the government’s *Code of Practice*, and an animal suffers or dies as a result, the perpetrator is protected by a shroud of secrecy organised by our own Home Office. (p. 7)

In summary, animal protection groups use a storyline of secrecy linked to dishonesty. This is closely associated with the second storyline – democratic accountability.

**Storyline 2: Transparency and democratic accountability.** The issue of democratic accountability being mobilised by animal protection groups is often framed in terms of a rights discourse – specifically the public’s right to access information about animal research as part of a democratic society. Within this storyline, specific legislative instruments are often referred to as providing supposed guarantee of these rights:

As if the hidden suffering of millions of animals every year were not justification enough to lift the secrecy clause, Section 24 also contradicts the UK’s right to freedom of information enshrined in law. In addition, it is at odds with the commitments to transparency and public accountability within the EU Directive 2010/63 on animals in research. (NAVS, 2013)

Similarly, Thomas (2005), a lawyer who has affiliations with BUAV and the Royal Society for the Prevention of Cruelty to Animals (RSPCA), draws a connection between the right to information on animals and basic human rights legislation:

The right to receive and impart information contained in Article 10 of the European Convention on Human rights ... has been described ... as ‘the lifeblood of a democracy’. (Thomas, 2005: 11)

Some animal protection groups also link freedom of information with the public’s role in science governance and even that it is in the best interests of scientific progress:

Animal experimentation is horrifically cruel ... Freedom of access to this information is also an essential part of the democratic process and is the only means by which research can be properly scrutinised to ensure the best outcome for science. (PETA, 2013)

This association between democratic accountability and science governance is often allied with the contribution that the ‘public purse’ makes to animal research, as the following two examples demonstrate:

Vast amounts of taxpayer money and resources are being spent on animal experiments that are conducted in secret, with little in the way of recourse for review or accountability by the public. (Martindale (Science policy advisor to PETA), 2013)

The public would be ‘shocked to learn their charitable donations and taxes have been funding experiments on cats or dogs’. (Michelle Thew (BUAV), cited in Jeory, 2013)

This issue of the relationship between funding and openness will be detailed below.

**Storyline 3: Openness and public opinion.** The third key storyline associates transparency with enabling the public to make (ethical) judgements about the appropriateness of the procedures used. For example,

The public is deeply concerned about the use of animals in research, but is excluded from access to any information which would allow them to judge for themselves whether the experiments are necessary. (Jan Creamer, cited in NAVS, 2003)

It is difficult from the information currently available in the public domain for anyone to gain a good understanding of why animals are used in research and testing or what they actually experience. (RSPCA, 2004: 23)

Underlying the above quotes is arguably the assumption that more information would lead to a drop in support. However, some organisations in this coalition make this connection explicit:



Of course, if the public knew the truth of what happens to those laboratory animals it would have to stop! So it should – and that’s why we want Freedom of Information. (Piddington, 2002: 1)

... we believe that if people could see the real suffering that goes on inside UK laboratories – instead of the sanitised version that usually gets broadcast by the media – the real majority would be those in opposition to animal testing. (Alistair Currie (BUAV), cited in Morelle, 2006)

This section has demonstrated three interrelated storylines – secrecy, democratic accountability and public opinion. Together, we argue, these can be understood as contributing to a key discursive theme (Table 1), namely, that transparency is needed to counter existing levels of secrecy in animal research policy and practice.

### *Animal research community*

Our documentary analysis suggests the UK animal research community is in the process of shifting from an emphasis on the *risks* of openness to the *necessity* for greater transparency. For example, in October 2012, a group of over 40 research institutions and funders published a *Declaration on Openness on Animal Research* and agreed to ‘work together to establish a Concordat that will develop principles of openness, practical steps and measurable objectives which will underpin a more transparent approach to animal research’ (Declaration on Openness Coalition, 2012). This announcement followed results from a government-funded survey (Ipsos MORI, 2012) suggesting a growing public opposition to animal research. The following sections look in more detail at how the research community has constructed transparency and openness discourses.

*Storyline 1: Openness and public opinion.* The first storyline we identified is that increasing openness will lead to increased public acceptance of biomedical research on animals, and importantly, trust in the work researchers are doing. This is in line with O’Sullivan’s (2006) work in Australia and Holmberg and Ideland’s (2010) work in Sweden. To return to the United Kingdom, how precisely is this link made? In the following quote, ‘confidence’ is linked to a more open dialogue with the public:

Confidence in our research rests on the scientific community embracing an open approach and taking part in an on-going conversation about why and how animals are used in research and the benefits of this. We need to continue to develop open dialogue between the research community and the public. (Declaration on Openness Coalition, 2012)

While it is likely this Declaration has helped produce a surge in transparency and openness discourses, the link between transparency and greater acceptance and trust from the public has been made by ‘pro-animal research’ lobby groups for some time:

These campaigning [‘anti-vivisectionists’] groups have been able to generate significant opposition to animal research and bad publicity for universities ... However, better communication and greater transparency are the best ways to engender trust and public support. (Simon Festing (former CEO of UAR), cited in Shepherd, 2007)

Some members of the public and the scientific community are fearful that animals are being mistreated under closed doors. For this fear to be wiped out and to encourage public support of ethical animal testing, transparency needs to be improved in British animal testing. (Murnaghan, 2010)

This storyline, then, explicitly links transparency and public support. As we now reveal, this is complemented by the claim that the status quo is characterised by misinformation, primarily due to the activities of animal protection groups.



*Storyline 2: Openness and countering misinformation.* As noted, the tactics of intimidation of a minority of activists in the 1980s and 1990s had a powerful impact on the animal research debate. Around this time, concerns were voiced that keeping silent meant a failure to counter misinformation. The following examples come from a popular science magazine and an academic journal:

Many scientists are deeply upset by the selective quotations from their work and the unfairness of the criticisms levelled against them. For the most part, however, they have lain low because they are frightened by the violence of some of their opponents ... Nonetheless, I believe that the long-term damage generated by misinformation and widespread public mistrust is likely to be much greater if scientists do not join in the debate. (Bateson, 1986: 30–32)

The scientific community must demonstrate that the accusations of routine and unrestricted harm to animals which pervade the animal welfare literature are untrue. To this end we should be more open about our mostly moderate activities ... (Cooper and Johnson, 1991: 1410)

However, from the mid-2000s onwards, this discourse appears to have shifted towards even more explicit calls for increased engagement of the scientific community. This shift was identified by the Nuffield Council on Bioethics (2005) who observed that there appeared to be the beginnings of a sea change in the relationship between animal researchers and the public:

Until recently, most scientists were reluctant to engage with the public ... Currently there is a small, but increasing number of academic and industrial scientists, and scientific institutions involved in animal research who are more willing to engage in public debates about their work ... [These initiatives] help to improve understanding about issues raised by animal research and reduce secrecy and lack of transparency ... (pp. 28–29)

Space precludes a detailed discussion of what factors led to this apparent shift. For our purposes, what is important is that this discourse has become dominant in the animal research community. However, there is some divergence in how animal researchers express their support for the push for more transparency, as we now explore.

*Storyline 3: Openness and a precautionary approach.* The analysis suggests a discourse of ‘cautious openness’ coexists with the more enthusiastic calls for more transparency. UK universities, in particular, have expressed concern about the risks of releasing information to the public. For example, Fiona Fox, chief executive of the Science Media Centre (a centre funded by Government to promote public engagement with science) stated at the ‘Openness Declaration’ launch that ‘Many universities still instruct their press offices to remove the “A word” from news releases’ (cited in Cookson, 2012). This may be linked to issues around freedom of information.

In 2012, the House of Lords Justice Committee carried out a review of the Freedom of Information Act 2000. Various submissions from universities highlighted both commercial and safety concerns. For example, the 1994 Group, a conglomerate of universities (now defunct) made the following submission to the review:

The FOIA conflicts with other important legislature ... [ASPA] prohibits the disclosure of the identity of individuals holding Home Office project licences ... However, the University of Newcastle has been forced to disclose details of licences ... by the Information Commissioner following a tribunal ... This is a situation where the personal safety of researchers has potentially been placed in jeopardy and where the FOIA is in direct conflict with another piece of legislature. (1994 Group, cited in House of Lords, 2012: 181)

Likewise, the following extract from a publically available Freedom of Information (FOI) request to Cardiff University demonstrates that information about the location of animal research facilities may be declined because of safety concerns:

The University considers that some of the location information contained within the information requested, if released, is likely to endanger the health and safety of staff directly involved in the research, their families and colleagues due to the increased risk of targeting by extremist animal rights groups. (University of Cardiff, 2013)

The animal research community adopts a key discourse that transparency is needed to counter misinformation and misunderstanding (Table 1). However, this last section has complicated matters by highlighting a kind of counter-discourse which could be summarised as ‘cautious openness’. This bears comparison with, but is not identical to, Holmberg and Ideland’s (2010) concept of ‘selective openness’ which ‘is a matter of controlling information ... but [is] also a matter of who is to provide information. Information should be controlled by the research community, not by the media or animal rights activists’ (p. 365). However, our point is different: that some actors (namely universities) are arguing that obligations to provide more information to the public conflict with other key institutional responsibilities.

### *Government/research funders*

While we are aware governments and funders of research have different priorities and roles in society, particularly in relation to accountability and how this is measured, our findings suggest that a discourse coalition operates in the United Kingdom which includes both funders and government.

*Storyline 1: Transparency and democratic accountability.* As already highlighted, UK animal rights extremism was regarded as a serious threat to both individuals and industry by the early 2000s. In the following extract from the Labour Government’s ‘Protecting People’ plan in 2006, the perceived tensions between democracy and more openness are considered obvious:

We are engaging publicly to explain the way we are approaching these issues. The Government welcomes debate, in line with our democratic processes and traditions, but we are determined to remove the threat posed by those who advocate extremism. (HM Government, 2006: 4)

By contrast, more recent government statements are less cautious. While not about animal research per se, the following example from the UK coalition agreement (Conservative and Liberal Democrats) reveals the vigour with which transparency is linked to democracy:

The Government believes that we need to throw open the doors of public bodies, to enable the public to hold politicians and public bodies to account. (Cabinet Office, 2010: 20)

Our analysis reveals that charities and funders often reference the obligations created by the use of public money. The following two examples are from the publically funded Biotechnology and Biological Sciences Research Council (BBSRC) and first, an umbrella group of medical charities:

Some 11 million people donate every month to UK medical charities, delivering some £1 billion a year to their coffers. Sharmila Nebhrajani, the head of the Association of Medical Research Charities said: ‘We owe it to the public therefore to be clear about how and why we use animals so they can have confidence in the research their donations fund’. (Cited in Phillips, 2012)

BBSRC takes seriously its responsibility to be open and transparent about the animal research that it funds, and encourages researchers to communicate about their research. (BBSRC, 2013)

As with section ‘Animal research community’, there is some evidence that universities are expressing caution with this apparent enthusiasm for transparency. For example, one of the directors at Universities UK has argued that the increasing privatisation of UK universities means they should not be treated in the same way as public bodies under the Freedom of Information Act (Stern, 2012). The question of public money is being used as a key marker of the extent to which transparency is required. We return to the interesting question of universities in the conclusion.

*Storyline 2: Openness and countering misinformation.* The data reveal this storyline remains strong and goes back at least several years. For example, in the Labour Government’s plan to address animal rights extremism in 2004, there is an emphasis on providing ‘accurate’ information:

To address the lack of information and public awareness of the regulation of animals in scientific procedures, the Government has implemented a communications strategy to provide objective and accurate information about these issues. (Home Office, 2004: 7–8)

Fast forward a decade, and the current government have recently published a ‘delivery plan’ aimed at explaining how animal research can be reduced. This argues,

Transparency and openness about the use of animals in research, and why their continued use remains necessary, helps to improve our overall understanding about the issue, enables an informed public dialogue and help to mitigate anxieties and misunderstandings. (HM Government, 2014: 3)

This discourse is also mobilised by the Science Media Centre (2013), in their case with explicit blame levelled at materials produced by animal protection groups:

Activists have claimed that the animal research visible to the public only represents a sanitised fraction of what is actually going on. While it is true that the legacy of extremism makes some researchers cautious, institutions are increasingly giving journalists no-holds-barred access to their facilities.

We revisit whether this discourse should be read as evidence for the ‘deficit model’ in the conclusion section.

*Storyline 3: Secrecy and public mistrust.* In section ‘Animal protection groups’, we discussed how this discourse coalition mobilises a secrecy storyline. Our data provide evidence that government and research funders do recognise this critique and attempt to counter it in their public discourses. For example, for over a decade, the Wellcome Trust, a major funder of biomedical research, has exhorted animal research scientists to be more open:

Wellcome Trust director Mike Dexter said that this reluctance to talk publicly perpetuated the stereotype of the ‘secretive scientist’. (Times Higher Education, 2001)

More recently, Sir Mark Walport, a subsequent director of the Wellcome Trust and now the Government Chief Scientist, explicitly links openness with public trust in biomedical research:

This [Ipsos MORI] poll clearly demonstrates that a majority of the public supports experiments involving animals ... But it also reminds us that we must communicate openly with the public if we are to maintain this high level of trust. (Cited in Wellcome Trust, 2012)

The following 2013 quote from a parliamentary written statement referring to the review of Section 24 of ASPA also aligns transparency and public trust:

The solution we develop must improve the overall transparency surrounding research using animals, to create an environment which fosters informed debate leading to greater public trust ... (Home Office, 2013)

In addition to these kinds of generalised statements, there are also more specific policy changes championed. One of the main efforts is via online publication of summary 'abstracts' from project applications. This began in 2004, with non-compulsory abstracts being criticised for highly technical language (Phillips and Jennings, 2008), but from 2013 these have become mandatory. These 'non-technical summaries' are provided on the Home Office (2014b) website, which states,

The Secretary of State considers the provision of a non-technical summary (NTS) is an essential step towards greater openness and requires one to be provided as part of the licence application in every case. (p. 19)

The whole Section 24 debate, cited above, is another example of the way in which transparency is constructed as a necessary step on the route to public trust. In 2014, the Home Office carried out a 3-month public consultation on the review of Section 24, and the 'Ministerial Foreword' highlighted the importance of openness and transparency:

The public offers conditional support for the use of animals in research, but rightly expects that any harm to animals must be more than balanced by benefits to humans, animals or the environment. To maintain public trust we must be as open and transparent as possible about activities under the regulatory framework. (Home Office, 2014a: 2)

Government and research funders use similar storylines as other discourse coalitions to produce a discourse which constructs transparency as necessary to counter a wider mistrust in Science and Government. This discourse is clearly being translated into policy decisions, such as the review of Section 24 in ASPA, as well as mandating non-technical summaries for all licensed animal research projects which are publically available.

#### 4. Conclusion

At the beginning of this article, we argued that the United Kingdom has an important role to play in debates about animal research governance and that animal research is a particularly interesting case study through which to better understand transparency and governance. Notable examples aside, we observed that there is limited published analysis of animal research and transparency discourses.

Our analysis found that animal protection groups in the United Kingdom primarily construct transparency as a counter to secrecy; the animal research community constructs transparency as a counter to misinformation and misunderstanding; and government/research funders construct transparency as a counter to public mistrust in science and politics. Wider implications will be discussed below, but here we suggest that authors interested in transparency in other fields (such as big data or climate science) could use our summary table as a kind of analytical or organisational map. This would enrich others' analysis by enabling them to quickly identify novel discourses in their field of study or, alternatively, enable broader conclusions to be more confidently drawn about the precise nature of transparency discourses across contemporary technoscience. On starting this project, we expected that such a conceptual map would already exist in the literature; in the event we created our own.

More broadly, this study has several key strengths and elements of originality. First, it focuses on the United Kingdom, whereas the existing literature is based on work in the United States, Sweden and Australia. Given the key role of the United Kingdom, this is valuable in itself. Second, it looks in detail at transparency discourses. By looking at all three coalitions in one article, we

have had to sacrifice some depth; however, applying Hajer's concepts of storyline and discourse coalition has allowed us to explore the association between different groups of actors. In general, debates relating to the use of animals are often characterised by polarised positions. However, in the discourse relating to openness, it is fascinating to see some similarities as well as the expected oppositional stances. This synergy was also found in previous empirical research looking at how stakeholders construct the public (Hobson-West, 2010).

As Holmberg and Ideland (2010: 356) note, there are many studies within the sphere of public understanding of science (PUS) that have explored the public(s) understandings of science, and their work usefully provides an analysis of the less frequently studied scientists' constructions of 'the public'. Our study adopts a different approach, by highlighting how different discourse coalitions construct the relationship between transparency and governance. Our analysis suggests that the UK situation is not completely restricted by 'selective openness' as in Sweden, where public debate about animal research is 'non-existent or stagnated' (Holmberg and Ideland, 2010: 366). Rather, in the United Kingdom there currently appears to be three very active discourse coalitions, whose varying storylines allow for at least some debate and challenge to the status quo.

We justified our methodological approach via our stated interests in public discourses. The use of a discourse analysis has been crucial to revealing the complexities and difficulties of mobilising transparency initiatives, particularly when there is simultaneously overlap in the language used by the discourse coalitions, but also a wide gulf in the imagining of outcomes. It would now be instructive to use interviews to explore the storylines we identified in more depth. More specifically, we suggest that the role of universities is especially ripe for analysis. As this article revealed, UK universities are taking a leading role in voicing concern about 'opening up' the animal laboratory doors and are acting as a counterbalance to an apparent rush to transparency. Articulating the pressures on universities, and exploring the relationship between university administration and individual animal researchers, is therefore one key area we plan to explore in further study.

So, how should our findings be interpreted in terms of the wider relations between science and society? On the one hand, it is tempting to conclude that all three discourse coalitions utilise the classic deficit model. Sometimes this is explicit – claiming more knowledge will produce more public understanding and either less/or more support for animal research. Sometimes this is less explicit – where concepts like knowledge or understanding are not used, but transparency operates as a shorthand or proxy for them. This conclusion would align us with other authors on animal research (including Holmberg and Ideland, 2010) and work in PUS on a vast array of topics. For a summary, we turn to Stilgoe et al. (2014) in a recent special issue of this journal:

The move from 'deficit to dialogue' is now recognised and repeated by scientists, funders and policy makers ... But for all the changing currents on the surface, the deeper tidal rhythms of science and its governance remain resistant ... the deficit models we thought were dead are continually reinvented. (pp. 5–7)

On the other hand, we consider that an alternative, and more positive, conclusion is possible. Rather than yet more evidence of the deficit model and the intransigency of science–society relations, the current transparency agenda does provide at least the *potential* for transformation. Our analysis shows the complexity and slipperiness of the concept of transparency and confirms that no one definition exists (Hood, 2006). This lack of definition should not be seen as surprising, particularly if transparency is seen as a 'buzzword' which can allow interpretive flexibility (Vincent, 2014: 9). Indeed, this interpretative flexibility is, in practice, a kind of messiness which itself may create space for changing relationships or for new topics to be put on the political agenda. As Marilyn Strathern (2000: 315) observes, 'commitment to transparency is overtly commitment to putting an organisation to the test'.

Of course the ‘consequences’ of greater transparency are variable and uneven, and where some areas may be opened up, other areas become sequestered (Jasanoff, 2006). However, the current drive for more openness in animal research does seem to ‘test’ aspects of the status quo. For example, the recent move to make ‘non-technical’ summaries mandatory and publically available has encouraged greater consideration of pain assessment by animal researchers and debate about how pain should be scientifically measured (Home Office, 2013). This at least provides the possibility that interested citizens can challenge specific Home Office decisions on research projects to a degree never possible before. Arguably, at least in this example, a stated commitment to transparency has forced a reimagining of public–science relations and an actual change in scientific practice. More broadly, we therefore agree with Levidow and Marris (2001) that ‘New rhetorics of openness play a contradictory role: they can perpetuate earlier prescriptive models in new guises, or open them up for democratic change, or even do both at the same time’ (p. 357). It is incumbent on social analysts of transparency and engagement to at least remain open to this more radical possibility.

In common with findings from other scholarship on transparency, we conclude that ‘opening up’ animal research appears to be ‘more often advocated than critically analysed’ (Hood and Heald, 2006: 3). This article has provided some novel ways to explore and elucidate the notion of transparency, including an analytical template, which we hope will be utilised by PUS scholars for work on other empirical cases. Further research should result in a deeper understanding of the social and political factors underlying transparency discourses and ultimately establish what effect transparency initiatives actually have upon contemporary science–society relations.

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