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Assuaging fears of monstrosity: UK and Swiss initiatives to open up animal laboratory research

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Suspicion always attaches to mystery. ... The best project prepared in darkness, would excite more alarm than the worst, undertaken under the auspices of publicity. (Bentham, 1999 [1791]: 30)

The relationship between animal laboratory research science (AR) and society has a particularly complex, contested and troubled history and is associated with secrecy and obfuscation. Various works in the literature show societal fears that scientific experimentation on animals is a monstrous activity,¹ asking: ‘What kind of person would do such an experiment?’ (Merriam, 2012: 127). Two recent policy initiatives – the UK Concordat on Openness on Animal Research (UKC) and the Swiss Basel Declaration (BD) – seek to open up science–society relations and AR in order to build more trust and assuage fears of monstrosity within this space. These initiatives illustrate the challenges of negotiating or restoring trust in the relationship between science and society (see Dierkes and von Grote, 2000; Jasanoff, 2004; Wynne, 2006) and the complications of implementing an open-science agenda (Levin et al., 2016). This chapter explores the complexities of trust and openness in science and society relations through a comparative analysis of recent openness initiatives in the UK and Switzerland, examining the influence of historically troubled relations between AR science and society and considering whether the provision of more

1 One of the most well-known fictional accounts depicting the animal researcher as a monster is H. G. Wells’s (1896) *The Island of Dr Moreau*.

information and greater transparency will be enough to mend the relationship.²

Historically, AR has been practised outside the purview of the public (Garrett, 2012), and intense debates between the AR community and society have sorely tested their trustful relations in the past. In the UK and Switzerland accusations of betrayal can be found on both sides of the science–society divide. In the UK, the legacy of so-called ‘extremist’ and violent animal-rights activities from the 1990s and the 2000s continue to taint the AR relationship.³ Scientists and scientific institutions working in AR claimed that secrecy was necessary for security reasons as they were virtually ‘under siege’ (Festing, cited in Shepherd, 2007: 1). In Switzerland there is a similarly troubled relationship of trust between AR and society (Michel and Kayasseh, 2011).

In both countries the public has heard accusations of cruelty used in animal laboratory experiments, and animal-rights and anti-vivisection organisations often frame secrecy as a way to conceal activities that are unpalatable to the public. In the UK, for example, a number of undercover operations by animal-rights and anti-vivisection organisations have found that some scientists and animal-research technicians were not meeting required welfare standards towards the animals in their care.⁴ These exposés suggested that scientists could not be trusted to follow procedures or apply ethical practices of animal welfare in their laboratories, and also raised concerns about the adequacy of the regulatory system governing animal research. Furthermore, the UK and Switzerland are particularly pertinent cases to consider in this

2 The chapter draws on data collected during a thirty-month project: *Animals and the Making of Scientific Knowledge*. This project included semi-structured interviews with scientists and other members of the UK AR community, and a focus group with members of the Basel Declaration Society, as well as a range of documentary sources such as organisations’ webpages, newsletters, committee notes and other grey literature, along with secondary data, such as media reports.

3 For a comprehensive historical overview of animal rights ‘extremism’, see Monaghan (1997, 2013) and Hadley (2009).

4 A summary of undercover investigations in the UK by the British Union against Vivisection is provided by Linzey et al. (2015: 58–67).

context, as both countries claim to have among the strictest regulations worldwide governing animal research.⁵

Since 2012 there has been a dramatic rise in transparency discourses from the UK and Swiss AR communities, which emphasise the importance of greater openness about the activities, goals and justifications for continuing to use animal laboratory experiments. The BD and the UKC are key policy initiatives within these transparency discourses that aim to build trust. However, a growing social-science scholarship questions the assumption that greater transparency will necessarily improve accountability and trust within governance frameworks (Hood and Heald, 2006; Meijer, 2013; Worthy, 2010), and highlights the potential tensions between secrecy and openness (e.g. Birchall, 2011; Jasanoff, 2006; Strathern, 2000).

The 'technologies of secrets', a term employed by Holmberg and Ideland (2010) in a Swedish case study, refers to the patterns that underlie the fluid and flexible boundaries of openness and secrecy. They argue that, in the Swedish context, AR openness initiatives are often carefully stage-managed so as to allow what they term 'selective openness' in order to control (and preserve) existing power relations between science and the public. McLeod and Hobson-West (2015) suggest that, in contrast, openness initiatives in the UK, at least, are allied towards 'cautious openness', potentially allowing for greater input from interested members of the public. However, their research also highlights the variation in the discursive framing of the meanings of openness and what outcomes might be expected.

For scientists and institutions, opening up animal research also comes with attendant anxieties about the dangers of being more transparent, and whether such risks will outweigh the benefits of allowing greater public access inside the laboratory. In particular, the notions of openness, trust and mistrust must be considered against the

5 For example, in 1985 it was claimed that 'the current Swiss law for the protection of animals is already one of the most stringent in the world' (Jean-Jacques Dreifuss (University of Geneva), cited in MacKenzie, 1985: 17). The revised Swiss animal protection law, which came into effect in 2008, is also described as 'one of the most strict worldwide' (Swissinfo.ch, 2014). Similarly, in the UK there are frequent claims that the country has 'some of the strictest [animal research] regulations in the world' (Science Media Centre, 2013).

backdrop of the troubled relationship between AR and society, which since the early 1980s has included betrayals and controversy. In the UK, fears of the past continue to haunt AR practices. This troubled history is also pertinent in the Swiss context, as is outlined below.

The troubled history of animal research and science–society relations

The Head of the UK Animals in Science Regulation Unit (ASRU) recently commented that a ‘vicious circle of distrust’ has developed in the AR domain (MacArthur Clark, 2015). This narrative of distrustful relations associated with AR dates from the 1970s, particularly the impact during the 1990s and 2000s of both the increase in exposés of unethical and non-compliant activities by scientists and serious instances of hard-line and violent animal-rights activism. This historical context remains a fundamental challenge to trust in contemporary debates about transparency and AR.

The UK has a long history of AR protests, including some animal-welfare and anti-vivisection organisations that have been campaigning since the end of the nineteenth century. Although most organisations have tended to engage in non-violent forms of protest, during the 1970s and 1980s a marked increase in direct action (both legal and illegal) brought animal research into the spotlight (Matfield, 2002). From 1996 many AR breeding facilities were targeted, resulting in the closure of several of the smaller companies (Monaghan, 2013). Huntington Life Sciences, the largest contract research company in Europe, then became the focus of a campaign involving attacks on company infrastructure and staff, as well as secondary targets such as banks, stockbrokers and client companies. In 2001, owing to fears about the impact of animal-rights groups on Huntington Life Sciences, the Royal Bank of Scotland refused to renew a loan to them of \$20 million. This led to concern about the future of the country’s bioscience-based industries, and the UK Government introduced legislation targeting illegal animal-rights activities, which included a specific police task force with powers to arrest any person found protesting outside a private residence (Matfield, 2002).

Direct-action animal-rights activities continued throughout the 2000s against other AR-related organisations, including pharmaceutical

companies (Monaghan, 2013). In addition, several UK universities were also targeted. The most high-profile (and ongoing) protest involved the University of Oxford in 2004, following the University's announcement that a new biomedical sciences building would include a rehoused animal unit. A campaign was initiated by a group called SPEAK in an effort to halt the construction of the new building, with the particular concern that primates would be housed in the unit. While this campaign began as lawful protests with letter writing and non-violent demonstrations, the co-founder of SPEAK was eventually convicted in 2009 of conspiracy to commit arson.⁶ In addition, the Animal Liberation Front began publishing warnings that individuals associated with the new building (including building contractors and suppliers) 'were going to get some' (Animal Liberation Front communiqué posted on their Bite Back website, cited by Monaghan, 2013: 938).

Two incidents stand out in this historical narrative for their monstrous and distressing nature, because they involved grave robbing. In 2004 a campaign of intimidation was carried out against the Hall family who owned Darley Oaks Farm (breeding guinea pigs) in Staffordshire. This campaign included sending threatening letters to employees, and then the body of the owner's mother-in-law was removed from a cemetery by four activists who were linked to the Animal Rights Militia. Her remains were not recovered until 2006 (Ward, 2005). In media coverage the animal-rights activists responsible were described as being 'worse than animals' (Wright and Pendlebury, 2004: 9). The second case of grave robbing occurred in Switzerland in 2009, when the CEO of Swiss-owned Novartis, Daniel Vasella and his family, were targeted. An urn with Vasella's mother's ashes was stolen from the family cemetery and has never been recovered. Additionally, two crosses were placed in the family plot inscribed with the names of Daniel Vasella and his wife, also depicting a fictional date of their death (Stephens, 2009).

This historical narrative of violent direct action against AR scientists and supporters has had a powerful impact on relations between the AR community, animal-rights and animal-welfare groups, and the

6 SPEAK is a grassroots organisation that continues to organise protests and rallies in Oxford and Cambridge on animal-related issues. See, for example, <http://speakanimaliberation.blogspot.co.uk/>.

wider public. However, since 2012 there has been a general sense that the more extremist and violent actions against animal researchers and animal-research institutions and industry have largely diminished. Speaking of Research, which began in the UK as a pro-AR group and now provides international AR news, articulates a narrative of fearful scientists now being able to speak up for their research:

Until recently scientists were afraid to talk about their own research using animals, resulting in animal rights groups monopolizing the debate on animal testing – however in the last few years all this has changed. (Speaking of Research, 2015)

In the UK this decline is attributed to a number of factors, including tighter policing leading to the imprisonment of core violent perpetrators, and the amendment and introduction of new legislation (Monaghan, 2013).⁷ Several initiatives have also been developed to support people who have been affected by violence from animal-rights activists. For example, in 2004 a group called Victims of Animal Rights Extremism was set up with a membership of 100 people who had suffered violence and harassment. This group lobbied the UK Government to establish legislation specifically giving harsher convictions for illegal activities linked to animal-rights 'extreme acts' (Bhattacharya, 2004).

UK and Swiss initiatives to open up animal research

Following the decline in instances of violent and illegal actions against AR researchers and institutions, the AR community has increasingly begun to point to transparency as a means to reduce continued opposition to AR, as well as a way to address misinformation. In the UK and Switzerland, in particular, significant initiatives have emerged which portray openness as the key to building greater rapport between scientists and citizens over the use of animals in research.

Two major surveys of public attitudes to animal testing made a significant contribution to the initiation of these new transparency initiatives because they suggested there was declining public support for AR. The first was a Special Eurobarometer on Science and Technology

7 Although some statistics from the USA suggest that individual scientists are more likely to be targeted now, rather than institutions (see Grimm, 2014).

carried out in 2009 across six EU countries (see YouGov, 2010). This survey reported that 84% of respondents mostly agreed that new guidelines should ban all animal experiments that cause severe pain and suffering. The survey also found that 80% mostly supported the publication of all information about animal experimentation, except confidential data that would allow the names of researchers or their work places to be disclosed. The European Coalition to End Animal Experiments (ECEAE) argued the poll highlighted a gap in understanding between the AR community and the wider public:

The outcomes of the Eurobarometer survey prove once again that there is an obvious gap between the claims of the scientific community about animal use and public opinion about the issue. (ECEAE, 2010)

The second significant contribution to the development of new transparency initiatives was a poll carried out in the UK in 2012 funded by the Department for Business, Innovation and Skills (see Ipsos MORI, 2012). The poll suggested that support for animal research had declined, along with trust in the governance of these procedures. The poll found the number of people who object to animal research of any kind had risen (to 37%), as well as those who lack trust in the regulatory system (33%), and more than half the respondents (51%) suspected there was unnecessary duplication of animal experiments. These findings were widely reported in the media with headlines linking this growing opposition to failing trust, such as this comment from the *Guardian*: ‘Public opposition to the use of animals in medical research is growing and trust in both scientists and the rules governing the controversial practice is falling’ (Campbell, 2012).

There was some variation, however, in how scientists and commentators interpreted the results of the poll. For example, Professor Sir John Tooke, president of the Academy of Medical Sciences, said he was concerned at the poll’s results. Stephen Whitehead, chief executive of the Association of the British Pharmaceutical Industry, saw the poll as ‘a wake-up call’, and a need for the UK AR community to be ‘more forthright about the fact that without animal research, the bio-pharmaceutical sector cannot continue to innovate new treatments’. However, Sir Mark Walport, former head of the Wellcome Trust, denied that complacency among scientists had led to falling

public support. He blamed a continuing 'environment of intimidation', which, at its most extreme, constituted 'terrorism' (cited in Campbell, 2012). This variation in responses illustrates the continuing tension for the AR community in both seeking out support and trust from the wider public through greater transparency, and also fearing dangerous or 'unruly publics' (de Saille, 2015) who may put scientists or institutions in jeopardy as a result.

The Basel Declaration

The BD was the first AR transparency initiative to emerge in Europe. It was launched in 2010 by the Basel Declaration Society, a membership organisation supported by donations from the pharmaceutical industry and other institutions affiliated to AR. The BD emerged out of a life sciences conference in Basel entitled 'Research at a Crossroads', held in November of the same year. This conference involved about eighty life-science researchers from Germany, Sweden, France, the UK and Switzerland. Sessions were focused around issues associated with non-human primates, transgenic animals, and ethics and communication with the wider public (Forschung für Leben, 2010).

The BD is a one-page document with extremely ambitious goals, and is framed as the foundational ethical framework for animal research, just as the Helsinki Declaration is for human medical research:

Like the Helsinki Declaration, which forever altered the ethical landscape of human clinical research, the aim of the Basel Declaration is to bring the scientific community together to further advance the implementation of ethical principles ... and to call for more trust, transparency and communication on the sensitive topic of animals in research. (Basel Declaration Society, 2011)

Both individuals and organisations are encouraged to sign up to the BD. It is significant that scientists were prepared to be individual signatories (rather than via an institution), because this demonstrated a deeper, more personal commitment to the openness agenda of the BD: 'That's why it's good if it's signed by individuals rather than universities ... it's a bit more commitment in a way. You do it as a person' (Basel Declaration Society scientist, focus group, April 2015).

The Basel Declaration Society is an international grassroots organisation. By signing up to the BD,⁸ signatories agree to ten fundamental principles (see Basel Declaration Society, 2011). These principles cover a range of topics relating to areas such as respecting and protecting animals, choosing research questions and experimental designs carefully, and acknowledging the importance of open communication and engagement with the public.

The UK Concordat on Openness on Animal Research

The UKC was developed through a two-step process. In October 2012 a 'Declaration on Openness on Animal Research' was launched at a widely covered media event, coordinated by Understanding Animal Research, a membership organisation that promotes and supports AR interests. At this event, over forty research institutions and funders promised to adhere to the UKC that was to be developed over the following year, followed by public consultation.⁹ The final version of the UKC sets out requirements for universities, industry and related organisations to be more open about the ways in which they use animals in scientific, medical or veterinary research. Signatories are required to report annually to Understanding Animal Research about the progress of these commitments. Only organisations and institutions (not individuals, as in the Swiss case) can sign up to the UKC, and they are required to make the following four commitments: (1) to be clear about when, how and why animals are used in research; (2) to enhance communications with the media and the public about research using animals; (3) to be proactive in providing opportunities for the public to find out about research using animals; and (4) to report on progress annually and share experiences (Understanding Animal Research, 2014).

As stated earlier, the UKC was initiated as a direct response from the AR community to concerns about the declining support for animal laboratory research suggested in the results of the 2012 Ipsos MORI

8 In 2017, the total number of signatories to the BD (both individuals and organisations) was 4,621 (Basel Declaration Society, 2017).

9 In 2017, the number of signatories to the UKC was 116 organisations (Understanding Animal Research, 2017).

poll. The press release for the 2012 Declaration highlights the expectation that public confidence in AR will be boosted through openness about both the procedural aspects of AR and promotion of the benefits of AR:

Confidence in our research rests on the scientific community embracing an open approach and taking part in an ongoing conversation about why and how animals are used in research and the benefits of this. (Understanding Animal Research, 2012).

Key aims in the UKC and the BD

There are three key aims that cut across the UK and Swiss animal-research openness initiatives. These aims highlight the hoped-for benefits from greater transparency of AR, but also signal the continued tensions which attach to science–society relations in this arena.

Facilitating a more informed public dialogue

Both initiatives seek to provide the public with the opportunity to be more informed about AR. The BD frames dialogue with the public on animal welfare in research as involving transparency and ‘fact-based communications’ (Basel Declaration Society, 2011). It is also anticipated that providing more information will benefit both supporters and critics of AR. For example, a report from a meeting organised by Understanding Animal Research and the Basel Declaration Society in 2012 states:

These [findings from the meeting] corroborate the notion that transparency and open dialogue increase understanding of both the needs of scientists and the concerns of critics in a *mutually beneficial way*. (McGrath et al., 2015: 2430; emphasis added)

Both the BD and the UKC seek to provide more information to the public in order to counter misinformation, with the ultimate goal of achieving greater public support. However, both initiatives explicitly distance the provision of such information from a straightforwardly educational approach, and encourage ‘two-way inclusive discourse’ (Basel Declaration Society, 2015) and allow ‘people to come to their own position on this issue’ (Understanding Animal Research, 2014: 5). This first aim of improving dialogue is therefore framed around

society and the provision of information to members of the public. While benefits for AR are anticipated from a better informed public, both initiatives are careful to emphasise that transparency and openness are important values in their own right. In contrast, the second aim is framed around science and the benefits that can come from greater openness between animal researchers themselves.

Building solidarity and support between animal researchers

The troubled history between AR and society outlined earlier has contributed to a sense of vulnerability for many people working in animal research. Both the BD and the UKC initiatives anticipate benefits not only to the public through the provision of more information and cooperation, but also to the AR community. The BD, in particular, has a mandate to build and support an open international AR community.

Underlying the push for improved solidarity is a presumption that greater transparency will not completely eliminate controversy or the potential for future conflict with critics of AR. This was highlighted in a *Nature* article that covered the announcement of the BD. Stefan Treue, director of the German Primate Center in Göttingen, comments: 'The animal issue is never going to go away. ... We need solidarity among all researchers' (cited in Abbott, 2010: 742). Solidarity is envisaged in different ways. Firstly, it involves the provision of support in response to direct action against the AR community. An example of this occurred in 2013 after an AR facility at the University of Milan was occupied by an animal-rights group, resulting in damage and the release of animals in the unit (Abbott, 2013). The Basel Declaration Society organised a 'Call for Solidarity' and collected 5,700 signatures from BD signatories, which were then presented at a rally in support of AR in Milan (Basel Declaration Society, 2013a).

A more complex and challenging feature of solidarity is the sharing of research data between researchers. Both the UKC and the BD encourage researchers to follow the ARRIVE guidelines,¹⁰ which aim

10 The Animal Research: Reporting of in vivo Experiments (ARRIVE) guidelines were developed by the UK National Centre for Replacement, Refinement and Reduction of Animals in Research in 2010. See: <https://www.nc3rs.org.uk/arrive-animal-research-reporting-vivo-experiments>.

to improve and maximise information published on AR and as a consequence, minimise unnecessary and repetitive studies (McGrath et al., 2015). A position statement on the importance of open access (see chapter 2) and sharing research results was also developed following a workshop organised in London by the Basel Declaration Society and Understanding Animal Research in 2013. This statement does acknowledge, however, the challenges of increased data sharing because of potential proprietary interests in the results of AR experiments (see Basel Declaration Society, 2013b), which is a tension acknowledged in the open-science agenda more broadly (see chapter 5, and Levin et al., 2016).

This second aim of the UKC and the BD – to build solidarity between the AR community and to encourage the greater sharing of information – reveals there are always limits placed on what, and with whom, information about AR is shared. In this light, the third aim, of building trust, has increased importance.

Building trust in animal research and scientists

The final key aim identified here relates to building trust in animal research and science–society relations. In the Swiss context this goal was explicitly articulated by several scientists during a focus group meeting. One participant commented that through education and dialogue it was possible to ‘to take away the fears that are there, to explain what is going on – and *then the trust can be built up* and everything works much better’ (Basel Declaration Society scientist, focus group, April 2015; emphasis added). However, another scientist argued that the complexity of AR was impossible to fully explain to the public and therefore trust needed to precede openness: ‘If people don’t trust you, you can explain as much as you like; they will not buy it’ (Basel Declaration Society scientist, focus group, April 2015).

In the UK, linking transparency to trust and confidence in animal research is also unequivocally referenced in the UKC, where signatories are asked to recognise that in order to be seen as trustworthy they are under an obligation to be ‘be open, transparent, and accountable’ in relation to all AR activities (Understanding Animal Research, 2014). Another example in the UK reveals how a concern that falling public

trust in the AR regulatory system might impact on support for animal laboratory research funding. One of the signatories to the UKC, the Association of Medical Research Charities, explains that trust in AR governance is vital for funders, 'as they need the public's trust to continue funding work to fight diseases and find better treatments' (Nebhrajani, 2014).

The three aims outlined above illustrate how the UKC and BD seek to renegotiate society–science relations and AR under the aegis of greater transparency, but there are some ongoing difficulties and challenges to this agenda.

Challenges to renegotiating trust through more openness in AR

Yeates and Reed (2015: 504) argue that while transparency in AR sounds 'apodictically good', the value of openness initiatives must always depend on how, and with whom, information is actually shared. Signatories to the UKC are required to make specific information about their use of animals publicly available. One area where this has led to quite significant changes is the provision of information on institutional websites. A survey carried out by the author in June 2013 of ten UK university websites showed that most only had generic statements about experimentation on animals, giving very little specific information about what AR was carried out within the institution. Only two websites had details about the animal species used in research or any information about procedures. In contrast, a survey of websites of ten universities that were listed as signatories to the UKC in March 2016 revealed that all now provided details of the number and types of animal species used each year in the institution.

University College London (UCL), among other universities, has publicised this new approach to openness on its institutional website. In a 2014 *Times Higher Education* article, a senior academic explains UCL's commitment to transparency and openness and the UKC (see Else, 2014). In the same article, however, a spokesperson for the British Union for the Abolition of Vivisection welcomed greater transparency but feared that the new website was merely a public-relations exercise that sought to 'sanitise the reality of what life in a laboratory is like for animals in experiments' (Bailey, cited in Else, 2014). This comment

suggests that on its own the provision of more information to wider society is not enough, and increased transparency does not necessarily lead to more trust. Philosopher Onora O'Neill (2002) has observed that transparency and openness initiatives can actually have a detrimental impact on trust because of fears that the information provided is being cherry-picked. O'Neill also highlights the centrality of confidence in the individuals and institutions that provide information, and that, without this, transparency and openness will not be enough on their own to build trust.

A further missing component in these discussions about trust and transparency is that scientists are rarely encouraged to speak about their own values and how they intersect with their research on animals. Therefore, these values remain hidden, or at least the moral and ethical ambiguities inherent to AR are almost never part of the information made available. This tendency to disassociate the personal views of animal experimenters from their work was highlighted in a 1995 report on AR scientists in the USA, which suggested that the use of dispassionate language tended to reinforce an image of scientists as cold, unethical and uncaring (Rowan et al., 1995). Over two decades later there is still very limited space allowed for AR scientists to reflect upon or discuss how their values and ethical decisions relating to their research fit into the wider socio-political and economic landscape (see McLeod and Hartley, 2017). In terms of building trust in the relationship between science and society in connection to animal research, therefore, there needs to be more openness about how values and ethics are incorporated into animal-research decision making by scientists, and how they are included in the AR regulatory framework. Of course, this is challenging, given the history of conflict on AR and the potential of making scientists more vulnerable if personal details about their values are made more accessible. This observation leads to the importance of research to understand the challenges and experiences of scientists and institutions who are being asked to embrace transparency initiatives such as the BD and the UKC. Historical studies suggest that AR scientists who feel stigmatised or threatened are less likely to be comfortable with being open about their research (Arluke, 1991; Birke et al., 2007). Participants in this current research who are actively promoting and driving forward the openness agendas in the UKC and the BD have expressed a degree of frustration that some

AR scientists still require convincing that it is safe for them to be more open about their research.

Conclusion

A historical relationship of mistrust has shaped the relationship between science and society on the topic of AR, and both sides believe that monstrosity exists on the other. Rudolf Wittkower, a historian writing on the cultural history of monsters, explained that ‘monsters – composite beings, half-human, half-animal – play a part in the thought and imagery of all people at all times’ (cited in Gilmore, 2003: 11). Animal research crosses this composite boundary, as animals become experimental subjects for the benefit of humans (primarily), and it is easy to understand why research involving animals elicits such cultural and social discomfiture.

The UKC and the BD both emerged out of an increased concern from the animal-research and biomedical communities that the societal mandate for conducting AR was declining. The three key aims of these initiatives discussed in this chapter suggest: (1) there is a genuine commitment to providing more information and opportunities for meaningful public dialogue; (2) the promotion of solidarity within the AR community could lead to more open access to data (although this is complicated by commercial interests); and (3) in both the UK and Swiss contexts, openness and trust are being discursively constructed as interlinking motifs.

However, it is important to recognise that transparency initiatives such as the UKC and the BD are unlikely to be enough on their own to build greater trust between the AR community and wider society. There also needs to be evidence of the trustworthiness of the AR regulatory system and the accountability processes that govern it (Dodds, 2013) as well as more opportunities for animal-research scientists (safely) to reflect upon, and make more transparent, the value-based decision making that is an inextricable part of their work, in order to then have a more productive conversation with wider society. The biggest challenge to opening up AR remains how to provide these opportunities and spaces where there can truly be inclusive, co-productive and safe conversations that move beyond caricatures of monstrous scientists or publics (see also chapter 8).

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