

Brexit: A New Dawn for Animals Used in Research, or a Threat to the ‘Most Stringent Regulatory System in the World’?

A report on the development of a Brexit manifesto for Animals Used in Science.

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As Britain prepares to leave the European Union, much discussion is taking place as to how this will affect the law relating to animals in the United Kingdom. Does Brexit present a threat to animal welfare, or an opportunity for positive reform? This article discusses the impact of Brexit in the context of animals used in research. In particular, it examines work of the Association of Lawyers for Animal Welfare (ALAW), its advisors and other campaign groups, to influence the Brexit agenda and create a manifesto for animals. How does this discussion fit with the link between science, philosophy and law and where will this leave the United Kingdom as it makes its own way in the world? Is UK law, often lauded by those who use animals in experimentation as a beacon of animal welfare regulation, likely to emerge stronger or weaker? We argue that Brexit presents an opportunity to address issues around severe suffering, freedom of information and continued reform to take account of developing knowledge of suffering and sentience. The need for funding to research alternatives is identified as paramount. We suggest that, if adopted by the UK government, the manifesto presents an opportunity for the United Kingdom to, once again, become the initiator of legislation to reform the protection of animals used in science.

Keywords: Brexit, Animal Welfare, Research Animals

Introduction

To voters in the United Kingdom, the 2016 referendum to remain in or leave the European Union (EU) may have seemed to be purely about people. Who should have sovereignty over people's lives in the UK, decide where the money goes or set its trade laws? However, following the decision to leave, animal welfare groups were quick to identify the potential advantages and disadvantages for animals. This led to the setting up of various interest groups to consider the challenges Brexit poses to animals and to seek ways in which they could influence the agenda in a United Kingdom no longer answerable to a higher authority for its legislative control of our relationship with animals.

Animal welfare groups have united to consider the likely threats and opportunities to animal welfare in the various sectors where we come into contact with or use animals - wildlife, companion animals, used in research and farmed – and to set out their demands for change. The resulting manifesto ‘Brexit – getting the best deal for animals’ (‘the Brexit manifesto’), coordinated by the UK Centre for Animal Law (A-law)¹ and the Wildlife and Countryside Link² includes a chapter on the use of animals in research that is the subject of this article.

At least six animal charities and campaign groups (four of them in joint submissions coordinated by A-law) also gave written evidence to an inquiry into Life sciences and the Industrial Strategy launched by the House of Lords Science & Technology Committee in July 2017. These groups each proposed a vision for a life sciences strategy that reflects the UK’s commitment to reduction, refinement and replacement of animal use in research.

The law

The United Kingdom is, with some justification, seen as the originator of worldwide control of laboratory animal use. Considerable controversy throughout the 19th century led to the Cruelty to Animals Act 1876 in response to recommendations made in a Royal Commission report that animal experiments should be subject to regulation and control.³ Scientists in the UK were dismayed and claimed that they would be left behind their European counterparts if experiments involving animals were regulated.⁴

The European Union also has a place in the historical development of laws regulating animal experiments. In 1985, the Council of Europe (not an EU body) adopted a Convention for the Protection of Vertebrate Animals Used for Experimental and Other Scientific Purposes. Shortly afterwards, European Union Council Directive (86/609) was adopted, requiring Member States to introduce or strengthen existing domestic provisions controlling animal experimentation. This forced some European countries to adopt legislation in this area for the first time. The part played by representatives of the United Kingdom cannot be understated and this influence will be lost post-Brexit. The progress made in 1986 shows how the European Union has sometimes acted a force for good in moving welfare standards forward. However, as will be discussed later, it would be wrong to assume that the European Union has answered the moral questions around what its legislation still allows to be done to animals.

¹ A charitable organisation bringing together people concerned with animal protection law: www.alaw.org.uk

² A coalition of voluntary organisations concerned with the conservation and protection of wildlife and the countryside <https://www.wcl.org.uk/>

³ Report of the Royal Commission on the Practice of Subjecting Live Animals to Experiments for Scientific Purposes, 1876, London: HMSO

⁴ French, R, *Anti-vivisection and Medical Science in Victorian Society*, 1975, London: Princeton University Press.

In the UK the Animals (Scientific Procedures) Act 1986 (ASPA) was passed to regulate procedures carried out on protected animals⁵ for scientific or educational purposes with the potential to cause pain, suffering, distress or lasting harm. As introduced, ASPA regulated animal use in research through a licensing system, which required separate licences to be in place for the person carrying out a procedure and for the project itself⁶ and required that the project take place only at a designated establishment or as required under section 6 of ASPA⁷.

It falls to the Home Office to decide whether to grant a project licence authorising the use of animals for a programme of works. In making that determination ASPA requires the Secretary of State to carry out, in effect, a harm : benefit analysis by weighing up *"the likely adverse effects on the animals concerned against the benefit likely to accrue as a result of the programme to be specified in the licence."*⁸

Importantly, ASPA (as enacted) also stipulated that a project licence should not be granted unless *'...the applicant has given adequate consideration to the feasibility of achieving the purpose of the programme to be specified in the licence by means not involving the use of protected animals.'*⁹ This in effect incorporated the 'Three Rs' principle (replacement, reduction and refinement) into UK law.¹⁰

Thus, through ASPA the UK gave statutory effect to these two important principles (the harm/benefit analysis and Three Rs), which in turn provided the foundation for later EU regulation¹¹ and consequential amendment to UK law by amendment to ASPA itself.¹²

Oversight of the role of the Home Office was provided through the Animal Procedures Committee (APC), established by ASPA to give advice to the Secretary of State about the use of animals in scientific procedures; since 2013 this oversight has been provided by the Animals in Science Committee, which replaces the APC. It operates similarly, but was established by the amended ASPA to comply with Directive EU 2010/63/EU.¹³

There were further important regulatory and other developments over the next decade.

In 1998 the Government set out plans for a local Ethical Review Process ('ERP'), requiring designated establishments conducting animal experiments to have in place an ethical review

⁵ Animals (Scientific Procedures) Act 1986 (as amended), section 1 for the definition of 'protected animal'.

⁶ Animals (Scientific Procedures) Act 1986, section 3

⁷ Ibid, section 6

⁸ Ibid, section 5(4)

⁹ Ibid, section 5(5).

¹⁰ In short, this means to replace the use of animals, reduce the number of animals used and to refine procedures so that they cause less suffering. Guidance on the Operation of the Animals (Scientific Procedures) Act 1986: Home Office (March 2014) Section 2.1 defines the 3Rs for the purposes of ASPA (as amended): https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/291350/Guidance_on_the_Operation_of_ASPA.pdf

¹¹ Directive 2010/63/EU on the protection of animals used for scientific purposes; see further below.

¹² the Animals (Scientific Procedures) Act 1986 Amendment Regulations 2012 (SI 2012/3039), see further below

¹³ <https://www.gov.uk/government/organisations/animals-in-science-committee/about> See further below.

process for proposed projects involving animals by April 1999.¹⁴ In 2013 ERP's were replaced with Animal Welfare and Ethical Review Body (AWERB's), performing a similar function, but reflecting changes required to give effect to Directive 2010/63/EU on the protection of animals used for scientific purposes.¹⁵

Between the period from 1997 to 1999 the UK Government announced that it would not issue licences for testing finished cosmetic products and substances intended for use as cosmetic ingredients, the development or testing of tobacco or alcohol products, the use of great apes, the use of ascites method of monoclonal antibody production (except in exceptional cases) and the use of the acute oral Lethal Dose 50% (LD50) test, except on 'exceptional scientific grounds'.¹⁶

Developments around the use of animals to test household and cosmetic products continued (albeit at an arguably incredibly slow pace) at EU level. In response to public concern about the use of animals to test cosmetic products, Council Directive 93/35/EEC¹⁷ was adopted in 1993 as the sixth Amendment of EU Directive 76/768/EEC¹⁸ (the Cosmetics Directive)¹⁹ which sets out the safety standards for cosmetics across EU countries. The Directive introduced a timetable to ban animal testing of finished cosmetic products, the testing of animal ingredients and import, selling and marketing of cosmetic products subject to animal testing outside the EU by 1 January 1998. Unfortunately, because of the lack of alternatives to animal testing, the EU passed a further directive in 1997 postponing the deadline for implementation to 2000.²⁰ In 2000, the deadline for implementation was delayed yet again for another two years.²¹

In 2002 Directive 2003/15/EC on the approximation of the laws of the EU Member States relating to cosmetics products was adopted as the 7th Amendment to the Cosmetics Directive to prohibit animal testing for cosmetic products in the EU.²² Further amendments were subsequently made to introduce a phased in approach, so that it eventually prohibited, from 11 March 2009, animal testing for cosmetic ingredients and the marketing of cosmetic products containing ingredients which have been tested on animals. From 11 March 2013, it prohibited the sale of cosmetic

¹⁴ For further information see 'Review of the 'Ethical Review Process' in Establishments Designated under the Animal (Scientific Procedures) Act 1986 (2001), paragraph 2.

¹⁵ see further below.

¹⁶ See 'Animals in Scientific Procedures Report': House of Lords Select Committee on Animals in Scientific Procedures (2002 Chapter 1.5; <https://publications.parliament.uk/pa/ld200102/ldselect/ldanimal/150/15004.htm>)

¹⁷ Council Directive 93/35/EEC of 14 June 1993 amending for the sixth time Directive 76/768/EEC on the approximation of the laws of the Member States relating to cosmetic products.

Official Journal L 151, 23/06/1993 p.32.

¹⁸ Council Directive 76/768/EEC of 1976 on the approximation of the laws of the Member States relating to cosmetic products

¹⁹ Directive 76/768/EEC was replaced as of July 2013 by Regulation 1223/2009/EU on cosmetic products, but provisions for animal testing remains the same as in Directive 76/768/EEC, as amended.

²⁰ Commission Directive 97/18/EC, OJ L 114, 01.05.1997, p. 0043-0044

²¹ Commission Directive 2000/41/EC, OJ L 145, 20.06.2000, p. 0025-0026

²² Commission Directive 2003/15/EC OJ L 66, 11.3.2003, p. 26-35

products and ingredients tested on animals after that date anywhere in the world (the 'marketing ban').²³

Thus, it took a decade for the EU to give effect to public concern about animal testing for cosmetics. This occurred against a backdrop of a voluntary ban on the testing of cosmetic finished products and ingredients on animals in the United Kingdom having been achieved much earlier.

A new milestone in EU regulation of animal experimentation occurred through Directive 2010/63/EU on the protection of animals used for scientific purposes, which was adopted on 22 September 2010, replacing Directive 86/609/EEC and setting out further measures required by EU states to regulate the use of animals for research purposes. This entered into force on 9 November 2010 and required Member States to transpose the directive into their law by 10 November 2012. By January 2015, all Member States had completed the process.

The Directive enshrined the principle of the Three Rs (replacement, reduction and refinement), already the cornerstone for ASPA in the UK. The scope was widened to include cephalopods and fetuses of mammals in their last trimester. Other key features included laying down minimum standards for housing and care of animals used for research purposes, introducing a system of project evaluation requiring assessment of pain, suffering and distress, regular inspections and publication of non-technical project summaries and retrospective assessments. Taken as a whole, it can be regarded as an incremental step in pan-European protection of animals used in experiments, but it falls a long way short of answering the philosophical concerns of animal advocates.

In the UK the 2010 Directive was transposed into domestic law by amendment to ASPA by the Animals (Scientific Procedures) Act 1986 Amendment Regulations 2012 (SI 2012/3039) and ASPA (as amended) now reflects the provisions of the 2010 Directive. Therefore, even if the directive was repealed, the law would remain unchanged.

What is evident however is the symbiotic relationship between the UK and the European Community, with the UK both leading and following, on occasions, movements to reduce animal suffering in experiments. This clearly seen through the advancement of the Three Rs that appears in UK law, is accepted as the cornerstone of protection in the EU and developed further in amendments to UK law reflecting later changes pushed along by the EU.

The congruity of legislative control might lead to the conclusion that Brexit should have little, if no, effect on the use of animals for research purposes. However, it would be unsafe, in our view, to make such an assumption. There are both direct and indirect threats arising from Brexit for the interests of animal used in research. There are also potential opportunities for improvements

²³ European Commission press release 'Full EU ban on animal testing for cosmetics enters into force.' (11 March 2013) http://europa.eu/rapid/press-release_IP-13-210_en.htm

in welfare and reduction in the numbers of animals used in research through the development of non-animal alternatives.

Brexit and animals use in experimentation: the continuing moral challenge

At this point, it is worth considering continuing philosophical concerns regarding animal use in experimentation. This has long been the most contentious and hotly contested area of invasive human interaction with animals. Advocates of animal research have long argued that the harm caused to animal is a price worth paying. Several reports in this area have concluded that the decision to use animals is a difficult but essential choice. For example, a House of Lords Select Committee on Animal Experimentation in 2002 concluded that:

The unanimous view of the Select Committee is that it is morally acceptable for human beings to use other animals, but that it is morally wrong to cause them unnecessary or avoidable suffering.²⁴

This position neatly sums up the widely held beliefs of those who advocate the continued use of animals in experimentation. It is the bedrock of UK and EU legislation and poses the primary assumption that this is something we have to do, there is no choice, and the best that can be done is to regulate the decision to cause deliberate pain and suffering and to make animals' lives as comfortable as possible.

However, many theologians, academics and scientists alike contest this premise. For example, a report of the Oxford Centre for Animal Ethics on the ethics of using animals in research comes to a very different conclusion than the House of Lords. It argues that the thinking behind the basic position is founded on a flawed normalisation of approach that ignores the strength of moral argument against such practices:

This normalisation is challenged by new moral thinking which centres around three positions: (i) individual animals have worth in themselves. Sentient beings (beings capable of pleasure and pain) are not just things, objects, machines, or tools; they have their own interior life that deserves respect. This view extends to sentients as individuals not just as collectivities or as part of a community. (ii) Given the conceding of sentience, there can be no rational grounds for not taking animals' sentience into account or for excluding individual animals from the same basic moral consideration that we extend to individual human beings. And (iii) it follows that causing harm to individual sentient beings (except when it is for their own good – for example, in a veterinary operation), if not absolutely

²⁴ House of Lords, Select Committee on Animals in Scientific Procedures, 2002. Accessed 2nd November 2017 at <https://publications.parliament.uk/pa/ld200102/ldselect/ldanimal/150/15001.htm>

wrong, minimally requires strong moral justification. Indeed, some would argue that such acts of harming innocent (i.e., morally blameless) sentient beings is absolutely wrong.²⁵

What is clear is that the position of both UK and EU legislation holds to a particular moral standpoint that has been entrenched for many years and claims to reflect public morality. However, even here, the acceptance of using animals is not as clear-cut as is often portrayed. Recent figures indicate that the UK public accepts by 2:1 that animal use is acceptable where there is no alternative.²⁶ However, the same survey reveals that 61% suspect that unnecessary duplication of experiments is taking place and 47% that scientists could do more to reduce pain. It appears the UK public accepts the need to use animals but lacks confidence in the effectiveness of the regulatory framework. These findings give rise to suggestion that most UK citizens would support more being done to improve the situation for animals used in experimentation in the UK. Those within the animal welfare lobby who contributed to the Brexit manifesto have attempted to balance the desirability of ensuring the maintenance of existing moral standards enshrined in existing law, against the potential offered by Brexit to encourage the UK towards an incremental step in enhancing its underlying ethical coherence.

Brexit: An opportunity to re-think UK law?

The animal charities and campaign groups participating in writing the Brexit manifesto urge the Government to use Brexit as an opportunity to carry out a fundamental review of the legislation to ensure that animal interests are adequately protected. The Brexit manifesto includes calls for the Government to:

- make a public commitment to ending the permitting of 'severe' suffering, as defined in UK legislation;
- review the re-use of animals who have undergone procedures classified as 'moderate' or 'severe', to ensure that there is a strict limit to severity depending on the animals' life experiences;
- commit to a stringent review of defined areas in regulatory testing, including the use of a second species and multiple routes of administering substances, with the aim of identifying and eliminating avoidable tests;

²⁵ Linzey, Andrew, Clair Linzey, and Kay Peggs. "Normalising the unthinkable: The ethics of using animals in research." Oxford Centre for Animal Ethics, 2015, para 11.5.

²⁶ Leaman, J, J Latter and M Clemence. "Attitudes to animal research in 2014", Ipsos MORI, Social Research Institute. Accessed 2nd November 2017 at http://www.abpi.org.uk/media-centre/newsreleases/2014/Documents/BIS_animalresearch_trendreport.pdf

- commit to a ban on the export of animals for use in research, save with Home Office consent to be granted where there would otherwise be a greater welfare detriment. This reflects the transport stress that animals endure, as well as the lack of control of standards with respect to housing, husbandry and procedures in third countries; and,
- introduce a structured programme of thematic review with timetables for reporting and action to be taken.

The Brexit manifesto also reiterates previous calls for greater transparency around the use of animals in research and urges the government to finally repeal section 24 of the amended ASPA, which effectively places a blanket ban on regulators releasing any information from animal research.

The challenges posed by a new era of trade

A key concern of animal charities and campaign groups is the risk, identified in the Brexit manifesto, that *'as the UK enters into bilateral trade negotiations with the EU and countries outside the EU, it may abandon provisions that seek to ensure that higher welfare standards apply to the use of animals in experiments within the UK.'*

Whilst there have been concerns about the EU cosmetics ban, notably the exemption for mixed use ingredients and the fact that cosmetics companies can still test their products or ingredients on animals outside the EU, as long as they do not rely on the results of these tests in order to sell these products in the European Union, there is no doubt that it has been a very important and symbolic step. Its importance is not only to the interests of animals within the EU, but as an impetus for international recognition that the use of animals for cosmetics testing is unacceptable.

It would be a significant blow to those efforts if the UK entered trade deals that weakened or retreated from the cosmetics ban in any way. Michelle Thew of Cruelty Free International observes²⁷ that: *'Consumers need...reassurance from ministers that a quick trade deal with the US – where cosmetics animal testing is still permitted – will not result in any weakening of this sales ban and that cruel cosmetics will remain a thing of the past.'*

The Brexit manifesto calls for import bans to be negotiated through relevant trade agreements which should properly reflect animal welfare concerns and calls upon the government to ban the

²⁷ <https://www.theguardian.com/world/2017/jul/30/uk-must-keep-ban-on-cruel-testing-of-cosmetics-on-animals>

importation of products developed outside the EU using animals in ways which would not be permitted in the UK or EU countries. A breach of this fundamental moral position would be of serious concern to those working on the manifesto and would signal a serious breach in trusting the incumbent government to maintain the moral integrity of existing protection.

Future Investment in Science: ensuring research funding for alternatives

In written evidence to the House of Lords Science and Technology Committee Life Sciences inquiry into Life Sciences and the Industrial Strategy (September 2017), Cruelty Free International, Naturewatch Foundation, Humane Society International UK and Animal Aid (in written evidence coordinated by the UK Centre of Animal Law)²⁸ emphasise the opportunity to re-direct funding to non-animal methods (NAM's).

The joint written evidence, coordinated by the UK Centre of Animal Law suggests that *'...the development of new medicines and UK competitiveness in the sector should not mean an increase in the use of animals in research but rather greater preferential funding for non-animal methods.'*²⁹

This could be achieved by re-directing funding to incentivize and support initiatives that support the aims of reducing, replacing and refining the use of animals in research. As they state:

*'We agree that there is a need to continue growing the Government science budget to remain internationally competitive. To achieve the ambition of the Directive 2010/63/EU of reducing, replacing and refining animal experiments, part of this growth should involve significantly increasing funds to initiatives such as the 2005 roadmap³⁰ by NC3Rs, Innovate UK, et al. for advancing predictive biology via non-animal technologies, and others³¹ (including contract research organisations and smaller start-up labs and units within universities) that foster replacement research and animal welfare improvements in laboratory settings to improve their capacity to contribute to the sector. Unless the country invests on a greater scale, we fear that nothing will change.'*³²

The Royal Society for the Prevention of Cruelty to Animals (RSPCA) echoes these concerns in written evidence to the inquiry, expressing that it is *'...deeply concerned that there is not enough*

²⁸ UK Centre for Animal Law – Written evidence (LSI0061)

²⁹ *ibid*, paragraph 26.

³⁰ A non-animal technologies roadmap for the UK: Advancing predictive biology (2015), https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/474558/Roadmap_NonAnimalTech_final_09Nov2015.pdf

³¹ Langley GR, Adcock IM, Busquet F, et al (2017) Towards a 21st century roadmap for biomedical research and drug discovery: consensus report and recommendations. *Drug Discov Today*. 22(2): 327-39.

³² *ibid*, paragraph 34.

*investment into non-animal alternative technologies for pre-clinical research.*³³ The RSPCA points to possible reasons being the difficulty in developing and validating new model systems for non-animal alternatives, a lack of investment and intransigence within the research community to move away from the use of animals in research.³⁴ It also identifies the importance of initiatives (such as *'The National Centre for the Three Rs CrackIT*³⁵ *and the Innovate UK non-animal technologies programme..'*) that can help change this mindset and facilitate the development of non-animal technologies. It urges the government to provide additional funding to ensure that the UK does not fall behind the rest of Europe if, after leaving the EU, it no longer has access to EU funds supporting the development of non-animal alternative models.³⁶

The National Anti-Vivisection Society (NAVS) similarly calls for investment in non-animal technologies and points to other international initiatives in the US and China and perhaps, most hopefully, the Netherlands which has announced a timetable to phase out animal procedures and encourage innovation in the development of alternatives with a view to phasing out animal testing by 2025.³⁷

Brexit presents an opportunity for the UK to re-focus funding and encourage the development of non-animal technologies. However, it also presents a risk that a failure to do so will see the UK lag behind other European countries that remain recipients of EU funding and investment that encourages the life sciences sector to embrace change and develop alternative technologies to replace animal models. Written evidence from groups representing animal interests reflects a perception of recalcitrance within the scientific community to embrace the potential of non-animal technologies, despite the emerging evidence of its scientific benefit. The Brexit manifesto highlights the need to support initiatives that can incrementally introduce change.

Animal interest groups approach this area with an air of pessimism. Written evidence from the RSPCA expresses disappointment that the *Strategy for Life Sciences (2011)*³⁸ does not include any plans or strategies to achieve its stated aim to reduce the use of animals in scientific research.³⁹ In their written evidence to the inquiry, Cruelty Free International, Naturewatch Foundation, Humane Society International UK and Animal Aid also express disappointment that the Strategy *'does not include any recommendations for reducing and replacing the use of animals in scientific research...'*⁴⁰

³³ Royal Society for the Prevention of Cruelty to Animals (RSPCA) – Written evidence (LSI0014)

³⁴ *ibid*, 'Science and innovation' paragraph 1.

³⁵ <https://crackit.org.uk>

³⁶ *ibid*, 'Responsibility and accountability' paragraph 16.

³⁷ National Anti-Vivisection Society - Written evidence (LSI0044), paragraph 9

³⁸ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32457/11-1429-strategy-for-uk-life-sciences.pdf

³⁹ Royal Society for the Prevention of Cruelty to Animals (RSPCA) – Written evidence (LSI0014), 'Industrial Strategy' paragraph 5

⁴⁰ *ibid*, paragraph 33.

Conclusion

When the referendum result was announced on 24th June 2016, it was a shock for those inclined to see European cooperation as the surest way for the UK to advance the cause of animals. The UK instigated the Eurogroup for Animal Welfare that has been instrumental in keeping Animal Welfare on the agenda and campaigns for the continuing advance in developing EU legislation. Countries that, historically, had limited legislation to protect animals now acquiesce to regulation of animals used in science, farm animals and many other areas. It appeared at first sight that the loss of our position of influence by leaving the EU might lead to a slowing down of progress.

However, the EU has not always been able to maintain momentum because of its essential DNA. It is, primarily, a trading block where legislation to regulate animal experimentation was designed to secure a level playing field in science, rather than for the benefit of the animals concerned.

It could be suggested that the EU actually held back control to a certain extent as a trading block of many nations,, with different welfare values, has to compromise when it comes to legislative control. The science of welfare has moved on apace, whereas legislative control has lagged behind. In 2007, the European Parliament issued a call for the EU to work towards phasing out the use of 10,000 primates in experimentation.⁴¹ This was based upon science indicating suffering in transportation, housing, loss of the ability to express social behaviour and the presence of alternative methods. At the time of writing (November 2017), that the figure had fallen to around 9000 primates that indicates that only slow progress is being made for even animals at the upper end of sentience.

A sobering fact is that the UK is still the largest single user of animals in experimentation in the EU.⁴² More than 3 million animals die in UK laboratories each year, a fact that is at the forefront of thinking of those involved in creating a Brexit manifesto for research animals. The UK is a chief culprit in failing to reduce the number of animals used.

On the other hand, it should also be borne in mind that the UK secured its reputation as the initiator of animal welfare reform well before it joined the EU. Legislative control of animals used in experimentation, animals slaughtered for food and farm animals in general all began well before the UK joined in 1974. It initiated some of the very earliest protection of animals,⁴³ set an

⁴¹ European Union, Parliamentary Written Declaration 40/2007

⁴² Cruelty Free International Investigation, 2014. Accessed at <https://www.crueltyfreeinternational.org/why-we-do-it/facts-and-figures-animal-testing>

⁴³ An Act to Prevent the Cruel and Improper Treatment of Cattle. [22 July 1822]. See S. Brooman and D Legge, *Law Relating to Animals* (London: Cavendish Publishing, 1997) pp. 40-43

international standard for farm animals,⁴⁴ and passed the earliest laws to regulate the use of animals in experimentation.

The potential provided by Brexit is for the UK to be no longer confined by the compromise of agreements between many nations. It could set higher standards than those imposed in international law, and champion the betterment of welfare standards for animals kept, reared or caught for experimentation purposes. It could set an international benchmark for the treatment of such animals just as it did previously in 1876 and 1986. The UK could reset thinking in the area to encompass a constant monitoring of ethical standards and maintain the debate over the link between science, morality and law. There are immediate areas of concern in need of attention such as defining moderate or severe suffering, removing certain species from experiments altogether, preventing wild capture and freedom of information. More needs to enhance and improve the three R's that might make the UK a worldwide centre in developing alternative methods. There is a pressing need to set in motion a mechanism for constant review, renewal and modification of regulation according to our expertise and evidence of animal suffering. This is what a nation genuinely committed to a moral view of the status of animals would do. This is a vision that would allow the UK to reclaim its place as the torchbearer of reform of regulation of animal use in experimentation.

⁴⁴ 'Report of the Technical Committee to enquire into the welfare of animals kept under intensive livestock husbandry systems.' Chairman: Professor F. W. Rogers Brambell. Cmnd. 2836, December 3 1965. Her Majesty's Stationery Office, London; See also 'Farm Animal Welfare: Past Present and Future' (2009) Farm Animal Welfare Council http://www.fao.org/fileadmin/user_upload/animalwelfare/ppf-report091012.pdf accessed 2nd November 2017.