Introduction

> Good afternoon ladies and gentlemen. This is your pilot speaking. We are flying at an altitude of 35,000 feet and a speed of 700 miles an hour. I have two pieces of news to report, one good and one bad. The bad news is that we are lost. The good news is that we are making very good time.[1]

As Leon Kass's quote suggests, in the arena of assisted reproductive technologies we are making rapid progress and reproductive science continues to propel us further into uncharted territories. In the last four decades we have witnessed a 'reproductive revolution':[2] great strides have been made to alleviate the effects of infertility. Advances such as *in vitro fertilisation* (IVF),[3] sex selection,[4] reproductive cloning,[5] embryo selection for the purpose of creating 'saviour

[1] L. Kass and J. Wilson, *The Ethics of Human Cloning* (Washington, DC: AEI Press, 1998).
[2] A phrase used in the title of a book by R. Lee and D. Morgan, *Human Fertilisation and Embryology: Regulating the Reproductive Revolution* (London: Blackstone Press, 2001).
[3] IVF refers to *In Vitro Fertilisation*, whereby a woman's ovaries are stimulated (usually as a consequence of fertility drugs). Several eggs are then retrieved and fertilised in the laboratory. One or two fertilised eggs are then transferred to a receptive uterus and, if all goes well, a normal pregnancy follows. See R. Edwards, P. Steptoe and J. Purdy, 'Establishing Full Term Human Pregnancies Using Cleaving Embryos Grown in Vitro' (1980) 87 *BJOG: An International Journal of Obstetrics & Gynaecology* 737–756. A. Steptoe, 'Biology: Changing the World – A Tribute to Patrick Steptoe, Robert Edwards and Jean Purdy' (2015) 18(4) *Human Fertility* 232–233. J. Wang, 'In Vitro Fertilization (IVF): A Review of 3 Decades of Clinical Innovation and Technological Advancement' (2006) 2(4) *Therapeutics and Clinical Risk Management* 355–364.
[4] See M. Meseguer, et al., 'Gender Selection: Ethical, Scientific, Legal, and Practical Issues' (2002) 19(9) *Journal of Assisted Reproduction and Genetics* 443. R. Klitzman, 'Struggles in Defining and Addressing Requests for "Family Balancing": Ethical Issues Faced by Providers and Patients' (2016) 44(4) *Journal of Law, Medicine and Ethics* 616–629.
[5] See M. L. Lee, 'The Inadequacies of Absolute Prohibition of Reproductive Cloning' (2004) 11(3) *Journal of Law and Medicine* 351–372. S. Frankin, *Dolly Mixtures: The Remaking of Genealogy* (Durham: Duke University Press, 2007). B. Steinbock, 'Reproductive Cloning: Another Look?' (2015) 2006(1) *University of Chicago Legal Forum* 87–111. A. Langlois, 'The Global Governance of Human Cloning: The Case of UNESCO' (2017) 21(3) *Palgrave Communitcations* 21.

siblings',[6] uterus transplantation[7] and mitochondria (that allows a child to be genetically related to two mothers)[8] have all emerged as part of a rapidly changing branch of medicine, each promising to upset the status quo and to transform human reproduction.

As new technologies continue to revolutionise reproduction, they challenge our legal and ethical assumptions surrounding parenting, family formation, gender roles, obstetrics and neonatology. In the United Kingdom, it was the IVF revolution in the late 1970s and the surrounding debates that provided the impetus for regulation of assisted reproduction. This scientific breakthrough of the world's first 'test tube baby' – so called because she was conceived outside a female host – gave rise to a wave of public concern surrounding the possible harms, risks and ethical dilemmas associated with the use of new artificial reproductive technologies to create children. In order to allay such fears, the UK became one of the first countries in the world to regulate fertility treatment. In 1982 the Government commissioned the Warnock Committee of Inquiry to examine scientific developments in the fertilisation and embryology field.[9] Following publication of the Committee's Report[10] and a protracted process of public consultation through Green and White Papers, Parliament eventually passed the Human Fertilisation and Embryology Act 1990 (HFE Act 1990)[11] as the principal means of regulating assisted reproductive technologies. Reproductive science is a moving target, however, and not long after enactment of the HFE Act 1990, increasing legal challenges highlighted the vulnerabilities of the statute. Cases on issues ranging from disputes between gamete

[6] S. McLean and S. Elliston (eds.) (2013) *Regulating Pre-Implantation Genetic Diagnosis: A Comparative and Theoretical Analysis* (London: Routledge, 2013). R. Scott, 'Choosing between Possible Lives: Legal and Ethical Issues in Preimplantation Genetic Diagnosis' (2006) 26(1) *Oxford Journal of Legal Studies* 153–178. C. Hsin-Fu et al. 'Preimplantation Genetic Diagnosis and Screening: Current Status and Future Challenges' (2017) *Journal of the Formosan Medical Association* (in press).

[7] See M. Brännström, 'Uterus Transplantation and Beyond' (2017) 28(5) *Journal of Materials Science: Materials in Medicine* 7.

[8] See D. Griffiths, 'The (Re) Production of the Genetically Related Body in Law, Technology and Culture: Mitochondria Replacement Therapy' (2016) 24(3) *Healthcare Analysis* 196–209. R. Scott and S. Wilkinson, 'Germline Genetic Modification and Identity: The Mitochondrial and Nuclear Genomes' (2017) *Oxford Journal of Legal Studies* 1–30.

[9] Report of the Committee of Inquiry into Human Fertilisation and Embryology, 1984, Cm 9314 (The 'Warnock Report').

[10] See previous note.

[11] Hereafter referred to as the HFE Act 1990.

progenitors over the fate of their frozen embryos,[12] the creation of saviour siblings[13] and controversy surrounding reproductive cloning[14] all exposed the weaknesses of the HFE Act 1990. As Margaret Brazier pointed out as far back as 1999:

> Warnock deliberated at a very early stage of the 'reproductive revolution'. Neither the science nor the infrastructure which now underpins the 'reproductive business' was well developed.[15]

Over the next fifteen years, the legal landscape within which the HFE Act 1990 was operating in had altered greatly; the Human Rights Act 1998, Gender Recognition Act 2004, Human Tissue Act 2004 and the Civil Partnerships Act 2004 had all come into force. Numerous legislative initiatives and amendments had been introduced to consolidate the HFE Act 1990, often on an ad hoc basis. Such amendments included allowing embryo research to be licensed for therapeutic stem cell research[16] and human reproductive cloning. In 2004, the law was amended so as to permit donor-conceived children to know information regarding the genetic lineage and access the identity of their gamete donor on reaching the age of 18.[17] As these initiatives demonstrated, the law enshrined in the HFE Act 1990 had quickly become outdated. As the government conceded, 'time, particularly in this field, does not stand still'.[18] The Human Fertilisation and Embryology Authority (HFEA), the independent statutory authority responsible for licensing fertility treatments and research conducted using human embryos, acknowledged:

> the regulatory landscape has changed considerably over the last decade and human reproductive technologies have developed into both a mainstream and a complex, cutting-edge area of healthcare.

[12] *Natalie Evans* v. *Amicus Healthcare Ltd and Others; Lorraine Hadley* v. *Midland Fertility Services Ltd and Others* [2003] EWCH 2161, [2004] 1 F.L.R 67 (Fam); *Natalie Evans* v. *Amicus Healthcare Ltd and Others* [2004] EWCA (Civ) 72, [2004] 2 F.L.R 766, CA; *Case of Evans* v. *The United Kingdom* (Application 6339/2005), [2006] 1 FCR 585 (ECtHR); *Evans* v. *United Kingdom* (Application no 6339/05); [2007] 22 BHRC 190 [54] (ECtHR).

[13] *R (on the application of Quintavalle)* v. *HFEA* [2003] 3 ALL E.R 257 [2005] 2 ALL ER 555.

[14] *R* v. *Secretary of State for Health, Ex P Quintavalle* [2003] 2 W.L.R 692.

[15] M. Brazier, 'Regulating the Reproduction Business' (1999) *Medical Law Review* 166, at p. 173.

[16] The Human Fertilisation and Embryology (Research Purposes) Regulations 2001.

[17] Human Fertilisation and Embryology Authority (Disclosure of Donor Information) Regulations 2004.

[18] Human Tissue and Embryos (Draft) Bill, (Cm 7087) foreword by Caroline Flint, Minister of State for Public Health, May 2007.

> Regulation of this field should adapt to these changes by trying to avoid overlap and by becoming more proportionate, efficient, targeted, flexible and able to accommodate new developments.[19]

Unlike unassisted reproduction, which is largely regarded as a private choice,[20] assisted reproduction and the use of ARTs have been singled out by the UK as warranting specialist regulation and being a branch of medicine of such particular concern and significance that the state should have a direct stake in its evolution.[21] The UK's comprehensive regulatory regime in this area has been described as the first of its type and one that has been widely copied throughout the world.[22] The UK is not alone in deeming reproductive medicine to be of especial regulatory concern, but for those governments committed to specialist regulation, governing this ethically charged domain is no easy feat. Jackson framed the challenge this poses well when she stated:

> The relationship between law and human reproduction is a complex and fascinating one . . . Creating a regulatory framework capable of accommodating all of the ethical dilemmas thrown up by this rapidly shifting terrain undoubtedly represents one of the most important and difficult tasks for law in the twenty-first century.[23]

Facilitating the march of science and keeping abreast of new developments presents constant challenges. Prior to the enactment of the Human Fertilisation and Embryology Act 2008 (HFE Act 2008), it was a fair assertion to describe the UK law in this area as 'marching with medicine, but in the rear and limping a little'.[24] It was against this background that the government belatedly accepted that if the legislative framework was not to be superseded by technology; it was time to redraft the legislation:

[19] Human Fertilisation & Embryology Authority, *Response by the Human Fertilisation & Embryology Authority to the Department of Health's Consultation on the Review of the Human Fertilisation and Embryology Act* (24 November 2005), p. 2. www.hfea.gov.uk/docs/ReviewoftheActResponse.pdf.

[20] Although note restrictions to abortion in the UK may rightly be regarded as an interference with one's private choices in the context of unassisted reproduction – see S. Mc Guinness, 'A Guerilla Strategy for a Pro-Life England' (2015) *Journal of Information Law and Technology* 238–314.

[21] Brazier, 'Regulating the Reproduction Business'.

[22] E. Jackson, 'The Human Fertilisation and Embryology Bill 2007' (2008) 3(4) *Expert Review of Obstetrics & Gynecology* 429–431, at p. 431.

[23] E. Jackson, *Regulating Reproduction, Law Technology and Autonomy* (Hart Publishing: Oxford, 2001), p. 1.

[24] *Mount Isa Mines* v. *Pusey* (1970) 125 CLR 383.

> The Government thought a review into existing legislation was timely and desirable in light of the development of new procedures and technologies in assisted reproduction, possible changes in public perceptions and attitudes on complex ethical issues, and the continuing need to ensure effective regulation in this area to reduce uncertainty and the scope for legal challenge.[25]

Following much activity in this area[26] the lengthy process of updating the legislation culminated in the HFE Act 2008.[27] Welcoming Royal Assent, Lisa Jardine, Chair of the Human Fertilisation and Embryology Authority at the time, stated:

> This is a momentous day for the HFEA and for those with fertility problems. The regulatory system that has served us so well has been renewed. Parliament has provided a clear framework for the future and a solid base on which to regulate 21st century practice within 21st century law.[28]

Closer examination of the regulatory framework and a look forward at new horizons in the context of reproductive technologies, suggests Jardine was perhaps overly optimistic about the achievements of the new legislation. The HFE Act 2008 is an amending statute, and as Jackson observed much of the regulatory architecture in the 1990 legislation 'remains intact'.[29] In retaining the architecture of the 1990 legislation and merely amending or adding certain provisions, the government missed an ideal opportunity to consider how to equip the regulatory

[25] Impact Assessment on the Human Fertilisation and Embryology Bill (2008), Evidence Base, Background, para 3.

[26] The government announced a review of the HFE Act 1990 in January 2004, citing developments in reproductive medicine since the enactment of the 1990 legislation, and conducted a public consultation in 2005. In December 2006 the government published the policy proposals in the White Paper: *Review of the Human Fertilisation and Embryology Act: Proposals for Revised Legislation (including establishment of the Regulatory Authority for Tissue and Embryos)* (Cm 6989). The Human Tissue and Embryos (Draft) Bill (Cm 7087) followed in May 2007. This was scrutinised by the Joint Committee of both Houses; see the House of Lords and the House of Commons, *Joint Committee on the Human Tissue and Embryos (Draft) Bill*, July 2007 (HL Paper 169-I, HC Paper 630-I). Policy proposals from the White Paper and pre-legislative scrutiny were then incorporated into the Human Fertilisation and Embryology Bill, which was introduced into Parliament on 8 November 2007.

[27] The HFE Act 2008 received Royal Assent on the 13 November 2008 and the majority of the HFE Act 2008's amendments came into force in October 2009 (with the exception of the provisions pertaining to parenthood, which commenced in April 2009).

[28] Human Fertilisation and Embryology Authority, Press Release, 'HFEA Chair Welcomes Royal Assent for HFE Act', 13 November 2008, www.hfea.gov.uk/en/1746.html.

[29] E. Jackson, 'Human Fertilisation and Embryology Bill 2007' 429.

framework for what has been described by Welin as the third era of human reproduction.[30] Welin aptly compartmentalised human reproduction into three distinct eras:

> Historically, the first is normal conception inside the woman, the growth of the foetus inside the womb and then, after nine months, birth and the appearance of a new individual. The second era is *In Vitro* Fertilisation (IVF). The foetus starts outside the woman as a fertilised egg, moves to the body of the woman and the foetus travel together in space-time to separate at birth. In the third era of reproductive ectogenesis, the two never travel together. The foetus spends its gestational time outside the woman's body. We have two entities separated in space-time the whole time. The intimate connection consisting in the foetus being part of the woman's body is gone.[31]

Much of the debate and regulation in the UK and other jurisdictions centres on what Wellin labelled the first and second 'eras' of reproduction. The legal and ethical issues raised by IVF, dubbed the second wave of reproduction have been much debated, but as Deech and Smajdor noted, 'IVF was just the start of a long procession of technological developments' and 'public concern over IVF has waned'.[32]

Almost a decade on from the HFE Act 2008, legal challenges levied against the statute have once more exposed vulnerabilities in the regulatory framework.[33] Science has moved on and IVF is now

[30] A. Alghrani, 'The Human Fertilisation and Embryology Act 2008: A Missed Opportunity?' (2009) 35 *Journal of Medical Ethics* 718–719. M. Fox, 'The Human Fertilisation and Embryology Act 2008: Tinkering at the Margins' (2009) 17 (3) *Feminist Legal Studies* 333–334.

[31] S. Welin, 'Reproductive Ectogenesis: The Third Era of Human Reproduction and Some Moral Consequences' (2004) 10 *Science and Engineering Ethics* 615–626, at p. 617.

[32] R. Deech and A. Smajdor, *From IVF to Immortality; Controversy in the Era of Reproductive Technology* (Oxford: Oxford University Press, 2007) at p. 10. For a review of the book see A. Alghrani and M. Brazier, 'Book Review: R. Deech and A. Smajdor, From IVF to Immortality: Controversy in the Era of Reproductive Technology' (2008) *Medical Law Review* 469–474.

[33] For instance, there have been challenges mounted against surrogacy provisions, *Re Z (A Child)* [2016] EWFC 34 *Re Z (A Child) (No.2)* [2016] EWHC 1191 (Fam) in which the court made a declaration of incompatibility in respect of s54 (1) and (2) of the HFE Act 2008, which precludes a single person from applying for a parental order for children born via surrogacy. See also *M v. F & SM (Human Fertilisation and Embryology Act 2008)* [2017] EWHC 2176 (Fam). For more on this legal provisions of the HFE Act on surrogacy see A. Alghrani and D. Griffiths, 'The Regulation of Surrogacy in the United Kingdom: The Case for Reform' (2017) 29 (2) *Child and Family Law Quarterly* 165–186. There have been many challenges mounted against HFEA for administrative errors regarding

routine.[34] The reproductive industry is now well established and is thriving globally: in 2017, in the UK alone the value of the sector to UK GDP was estimated to be in the region of £600 million a year.[35] The majority of services (some 60 per cent) are provided by the private sector, with the NHS providing the remaining 40 per cent.[36] Reproductive tourism, whereby people travel from abroad to access fertility services, has increased dramatically in the last 20 years.[37]

parenthood provisions: *Re Human Fertilisation and Embryology Act 2008 (Cases A, B, C, D, E, F, G and H)* [2015] EWHC 2602 (Fam), [2015] All ER (D) 57 (Sep) and *Re Human Fertilisation and Embryology Act 2008 (Cases AD, AE, AF, AG and AH)* [2017] EWHC 1026 (Fam). Lack of adherence with consent provisions was recently challenged in *ARB v. Hammersmith* Ltd [2017] EWCH 2438 (HC), discussed in Chapter 3. In *R (on the application of M)* v. *Human Fertilisation and Embryology Authority* [2016] EWCA Civ 611 – the HFEA's decision not to allow a couple to export their late daughters egg's to the United States was successfully challenged. They wished a centre in the United States to use the eggs to create an embryo with anonymous donor sperm, which would be implanted into the deceased's mother, so that she could raise any child who may be born as her grandchild in accordance with their late daughter's wishes. In another challenge in *Yearworth* v. *North Bristol NHS Trust* [2010] QB 1 the Court held that the claimants had ownership of, and therefore property rights in, their sperm and that there had been negligent infringement of those rights by the Trust when the storage system failed, causing the samples to thaw and be irreversibly damaged).

[34] The Department of Health, Triennial Review of the Human Fertilisation and Embryology Authority Review Report published in March 2017 noted that worldwide an estimated 5 million babies have now been born following IVF treatment, with more than 225,000 born in the UK and thus 'it could be argued that IVF has become a standard medical procedure that is much less at the cutting edge of medical science than many unregulated treatments' – para 2.4.

[35] HFEA Innovation in Regulation, February 2017, at p. 4.

[36] Ibid. Note that NHS funding comes through Clinical Commissioning Groups (CCGs). NHS England provides commissioning guidance to CCGs. Although The National Institute for Health Care and Excellence (NICE) provides best practice guidance, and recommends in the context of access to IVF that 'In women aged under 40 years who have not conceived after 2 years of regular unprotected intercourse or 12 cycles of artificial insemination (where 6 or more are by intrauterine insemination), offer 3 full cycles of IVF, with or without ICSI. If the woman reaches the age of 40 during treatment, complete the current full cycle but do not offer further full cycles.' However, NICE guidance is not mandatory and is not necessarily followed by clinics. Fertility Network UK, which monitors provision, reported in 2017 that many areas in England are cutting back on provision of IVF on the NHS to save money – see BBC News, 'NHS Access to IVF Being Cut in England' 7 August 2017.

[37] For an interesting paper on reproductive tourism and the large-scale bypassing of domestic fertility services, which is a relatively new phenomenon, see E. Jackson, 'Learning from Cross Border Travel' (2017) 25(1) *Medical Law Review* 23. L. Culley, N. Hudson, F. Rapport et al., 'Crossing Borders for Fertility Treatment: Motivations, Destinations and Outcomes of UK Fertility Travellers' (2011) 26(2373) *Human Reproduction* 2379–80. R. Fletcher, 'Reproductive Consumption' (2006) 7 (1) *Feminist Theory* 27–47.

Reproductive science continues to seek out alternate ways to enable alternative methods of procreation. New reproductive technologies such as uterus transplantation,[38] the creation of bioengineered uteri[39] and artificial gametes[40] now loom on the horizon.[41] I refer to these new technologies, as 'new horizon' technologies. They usher in a different set of legal, ethical and social questions to those that arose from IVF and the 'second era' of reproduction. I suggest the third era of reproduction that Wellin referred to, should also encompass these new technologies in addition to artificial wombs (ectogenesis). The central purpose of this book is to advance debate on from the now much-debated issues that arise from the second wave of reproduction and to begin to offer a critical and legal analysis of the regulatory challenges raised by new reproductive technologies in the 'third era'.

The milestone of a decade on from the government's decision in 2008 to update the principal legislation governing assisted reproductive technologies renders it timely and appropriate to review the regulation in place alongside the latest developments in this area. Throughout, the overarching endeavour will be to examine two possible future advances on the horizon and whether the present regulatory architecture has the mechanisms in place to respond to the legal and ethical challenges they will encompass. The well-established HFEA 'horizon scanning' programme, involves a body of experts who meet regularly to discuss what is likely to be around the corner, scientifically, so that the HFEA can equip itself to respond. In this book, I seek to engage in a 'horizon scanning' of two future reproductive technologies (ectogenesis and uterus transplantation) from an explicitly legal-ethical, as opposed to scientific, perspective.

[38] M. Brännström, 'Uterus Transplantation and Beyond'. For media articles on prospect of uterus transplantation into men see M. Bilger, 'Scientists Are Now Attempting to Figure Out How to Get Men Pregnant' *LifeNews.com*, 20 June 2016.

[39] For instance, see the success of uterus transplantation and research currently being undertaken on the creation of bioengineered uterus: M. Brännström, 'Uterus Transplantation and Beyond'.

[40] See A. Smajdor and D. Cutas, 'Artificial Gametes' Nuffield Council on Bioethics Background Paper (2015).

[41] C. Limon, 'From Surrogacy to Ectogenesis: Reproductive Justice and Equal Opportunity in Neoliberal Times' (2016) 31(88) *Australian Feminist Studies* 203–219.

Writing on the regulation of reproductive technologies is difficult, given that it is a fast-paced area of innovation. At the outset it should be noted that I am not a moral philosopher, but rather a medical lawyer dealing with a subject that invokes ethical issues. As such, the principal objective of this book is to critically examine the regulation of assisted reproductive technologies and address whether the present legislative framework can accommodate the challenges raised by the new horizon reproductive technologies. While a growing wealth of literature has emerged on the ethical issues raised by the progress of reproductive science, relatively few commentators address the legal issues or how they may be regulated in practice. This book seeks to fill this lacuna and addresses exactly how, if these technologies come to pass, they can be regulated in practice and what legal challenges they raise. The UK regulatory framework was chosen as a regulatory model, since it was the first of its kind in the world and has provided a global example of a model of regulation of this controversial branch of medicine.

This book is split into two parts:

Part I: Regulating Reproductive Technologies: Challenges Old and New

Before looking to how we should regulate assisted reproductive technologies beyond the horizon today, it is necessary to first address those possible today. This book commences in Chapter 1 with an examination of the complex relationship between law and human reproduction and the regulatory challenges therein. I examine the justification for subjecting those who require assistance or the use of ARTs to procreate to far stricter controls than those who reproduce without assistance, and Parliament's justification for singling out this branch of medicine as an area meriting specialist regulation. The chapter provides a detailed account of the regulatory framework in the UK from a past, present and future lens. Despite the aims of the reforms in 2008 to make sure the regulation of assisted reproductive technologies was fit for purpose in the twenty-first century, the HFE Act 2008 represented a missed opportunity to substantively review and reflect on the regulation and thwarted achievement of this goal.

Chapter 2 examines an aspect from the 'second wave' of human reproduction that continues to generate controversy: disputes between gamete progenitors over the fate of frozen IVF embryos. Whilst IVF is

now a well-established technology and one that is widely used globally,[42] it still raises challenges which will grow in complexity as we charge towards the third era of reproduction; namely, how do we resolve disputes between progenitors over their gametes when fertilisation takes place outside a female host and in a 'neutral' environment? In unassisted reproduction, women hold the paramount say, primarily because the embryo/fetus is located within a woman's body and thus her bodily autonomy is engaged.[43] Once fertilisation/gestation can take place in vitro, in a neutral environment, arguably both gamete progenitors are equally situated with regards to the embryo/fetus. How then should disputes that arise as to the fate of those gametes be resolved? Exploring the theme of how ARTs are equalising mens' and womens' reproductive roles, I explore why, if at all, women should retain the decisive say over their embryos/fetuses, irrespective of whether they are in vivo or in vitro. The dispositional authority of gamete progenitors over their embryos becomes more complex when we consider not just embryos growing in vitro, but fetuses which can be gestated and maintained in an artificial womb (ectogenesis) or possibly implanted into a male host (via a uterus transplant). Using two examples of English legal disputes between gamete progenitors, *Evans* v. *Amicus* [2004][44] and *ARB* v. *Hammersmith Ltd* [2017],[45] in this chapter it is argued that the UK framework is not equipped to fairly deal with such disputes. Alternative models, which could be used to regulate such disputes in a more equitable manner, are examined.

Part II: Regulating New Reproductive Technologies

The book then moves on to consider new horizon reproductive technologies.

Chapter 3 is the first of two chapters on ectogenesis: an artificial or mechanical uterus or chamber that can mimic the functions of the maternal uterus. Complete ectogenesis, the gestation of a human being entirely

[42] It is estimated that around five million children have been born through IVF and related assisted reproductive technologies (ARTs) ESHRE. (2013).
[43] See *Paton* v. *British Pregnancy Advisory Service* [1979] QB 276 and *Paton* v. *UK* (1981) 3 E.H.R.R 408.
[44] *Evans* v. *Amicus Health Care Ltd and Others* [2004] 2 WLR 713 (Fam.); [2004] WLR 681 (CA); *Evans* v. *United Kingdom* [2006] 1 FCR 585 (ECtHR); [2007] BHRC 190 (ECtHR).
[45] *ARB* v. *Hammersmith* Ltd [2017] EWCH 2438 (HC).