



CHALLENGING THE ‘BORN ALIVE’ THRESHOLD: FETAL SURGERY, ARTIFICIAL WOMBS, AND THE ENGLISH APPROACH TO LEGAL PERSONHOOD

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ABSTRACT

English law is unambiguous that legal personality, and with it all legal rights and protections, is assigned at birth. This rule is regarded as a bright line that is easily and consistently applied. The time has come, however, for the rule to be revisited. This article demonstrates that advances in fetal surgery and (anticipated) artificial wombs do not marry with traditional conceptions of birth and being alive in law. These technologies introduce the possibility of ex utero gestation, and/or temporary existence ex utero, and consequently developing human beings that are novel to the law. Importantly, therefore, the concepts of *birth* and *born alive* no longer distinguish between human beings deserving of legal protection in the way originally intended. Thus, there is a need for reform, for a new approach to determining the legal significance of birth and what being legally alive actually encompasses. Investigating the law of birth is of crucial importance, because of the implications of affording or denying the subjects of new reproductive technologies rights and protections. A determination of the legal status of the subject of fetal surgery or an artificial womb will determine what can and cannot be done to each entity. Moreover, the status afforded to these entities will drastically impact on the freedoms of pregnant women.

KEYWORDS: Artificial Wombs, Born Alive Rule, Fetal Surgery, Law of Birth, Legal Personhood, Viability

I. INTRODUCTION

The law of England and Wales is clear that legal personality is afforded to all persons born alive.¹ The law does, and seemingly always has, unambiguously distinguished between a child before and just after birth. Before birth, a fetus has no legal personality, whereas after it has been born it is afforded all the rights and protections of a child.² There is not, however, much further clarification about the meaning of *birth* or what it means to be *born alive*. The law makes its distinction at birth, despite apparent biological similarities between human beings just before and just after birth,³ because ‘for legal purposes there are great differences. . . [before and after birth] that raise a whole host of complexities.’⁴ This article argues that these complexities are no longer limited to the unborn/born dichotomy. The legal principles determining what constitutes being (born) alive will be examined, further developing the debate about how the law manages difficult questions on the cusp of life and death. Emerging medical advances in the treatment of fetuses in utero and premature infants give cause to question whether the legal concepts of *birth* and *born alive* provide a sound legal and ethical approach to assigning personhood.

In 2017, a Philadelphia team of scientists and fetal surgeons announced the development of the ‘biobag’.⁵ This was an artificial womb prototype (AW) that had, in clinical trials, successfully supported lamb fetuses on the viability threshold for four weeks.⁶ The biobag is significant for three reasons. First, all test subjects survived the experiment without experiencing any of the common complications associated with (lamb) preterm birth.⁷ It is hoped that this technology will also have the capacity to overcome the present limitations of neonatal intensive care and improve patterns of morbidity and poor prognoses in human preterms.⁸ AWs could have an immediate clinical application as an alternative to neonatal intensive care.⁹ Secondly, the biobag marks a shift in physiological approach to intensive care for developing human beings. It treats the subject *as if it had not been born* (removed from the uterus) by closely mimicking uterine conditions to effectively prolong gestation.¹⁰ Thirdly, the subject of an AW is distinct from both a fetus in utero and a premature neonate treated by traditional intensive care.¹¹ The subject is an underdeveloped human being

1 *Paton v British Pregnancy Advisory Service Trustees* [1979] QB 276.

2 A Alghrani and M Brazier, ‘What is it? Whose it? Re-positioning the Foetus in the Context of Research?’ (2011) 70 *Cambridge Law Journal* 51, 52.

3 P Singer, *Practical Ethics*, 1st edn (CUP 1993), 126.

4 N Naffine, ‘Who are Law’s Persons? From Cheshire Cats to Responsible Subjects,’ (2003) 66 *Modern Law Review* 346, 359.

5 E Partridge et al, ‘An Extra-Uterine System to Physiologically Support the Extreme Premature Lamb’ (2017) 8 *Nature Communications* 1.

6 *ibid.*

7 *ibid.*, 2; *ibid.*, 6.

8 K Costeloe et al, ‘Short Term Outcomes after Extreme Preterm Birth in England: Comparison of Two Birth Cohorts in 1995 and 2006 (the EPICure studies)’ (2012) 345 *British Medical Journal* <<https://doi.org/10.1136/bmj.e7976>> accessed 3 January 2018.

9 E Romanis, ‘Artificial Womb Technology and the Frontiers of Human Reproduction: Conceptual Differences and Potential Implications’ (2018) 44 *Journal of Medical Ethics* 751, 752.

10 For a more in-depth discussion and justification of the conceptual differences between artificial wombs and other forms of neonatal intensive care see: *ibid.*

11 *ibid.*, 753.

ontologically identical to, and undergoing the same processes as, a fetus in utero, but without the support of a human gestator. This developing human being is neither in utero nor existing independently ex utero. Because the AW continues gestation as if its subject had not been born, it does not resemble the traditional image of life ex utero.

AWs are not the sole reason to reconsider the born/not born dichotomy. Fetal surgeries have been undertaken for some time,¹² and ever-advancing techniques bring new possibilities. In 2016, Texas-born Baby Boemer made headlines as 'the baby born twice'.¹³ During Margaret Boemer's pregnancy it was discovered that her unborn fetus had an aggressive and life-threatening tumour. An innovative surgical team succeeded in extracting the pre-viability fetus almost entirely¹⁴ from the uterine environment, removing the tumour, and placing the fetus back into the uterus to continue gestating. Lynlee Boemer was then delivered healthy at the end of the normal gestational period.¹⁵ The advent of both AWs and innovative fetal surgeries give rise to questions about the workability of birth as the point of affording legal personality. Should the law consider a mechanism of affording legal personality involving a more nuanced approach than asking if the human being is in or ex utero?

There has been considerable academic commentary concerning the significance of birth. This discussion, however, has focused on the protection that should be afforded to fetuses gestating in utero.¹⁶ Brazier and Alghrani raised, but did not attempt to answer, the question of whether the subject of an AW was born alive.¹⁷ There has been little further consideration of how birth might not always be the significant marker in a human's development (as it was thought to be) because of the development of technologies enabling gestation ex utero. Current academic discussion has not provided in-depth investigation of the legal fine print detailing what birth encompasses from a legal perspective. This article attempts to fill this gap and demonstrate that clarification and greater nuance in the law is necessary.

Investigating the law of birth is of crucial significance. Legal personhood signals the extent to which the interests of an entity are worthy of legal recognition. Personhood is the mechanism that affords entities with the rights and protections underlying the entirety of criminal and civil law. Legal personhood also determines the nature of the relationships an entity can have with others. It is notable, for its implication in legal discourse, that granting legal personality to an entity changes the way it is discussed 'as it turns something... into *someone*'.¹⁸ Personhood, or the absence of it, affects what may legally be done to, and perceptions about, the developing human being. Understanding how the subject of the AW should be treated is thus important for

12 A Smajdor, 'Ethical Challenges in Fetal Surgery' (2010) 37 *Journal of Medical Ethics* 88, 88.

13 S Scutti, 'Meet the Baby who was Born Twice' (CNN 20 October 2017) <<https://edition.cnn.com/2016/10/20/health/baby-born-twice-fetal-surgery/index.html>> (accessed 6 April 2018).

14 The fetus is completely extracted, but the placenta remains in situ.

15 Scutti (n 13).

16 Eg E Wicks, 'Terminating Life and Human Rights: The Fetus and the Neonate' in E Charles and S Ost (eds), *The Criminal Justice System and Health Care*, 1st edn (OUP 2007), 202.

17 Alghrani and Brazier (n 2), 68.

18 S Matambanadzo, 'Embodying Vulnerability: A Feminist Theory of the Person' (2012) 40 *Duke Journal of Gender, Law and Policy* 45, 68.

establishing the legality of clinical trials of AWs on humans. Recent success with animals¹⁹ gives reason to believe human trials are on the horizon. The legal status that the gestational subject ex utero is afforded will also have broader ramifications. For example, it will impact on-going debates about the definition of stillbirth.²⁰ This will, in turn, influence abortion jurisprudence and legal discussion of embryo research, because of the normative and political impact of affording or denying the gestating human being access to certain rights and entitlements.

This article argues that the current test for legal personality fails to adequately address the legal prospects for the subject of an AW or fetal surgery. Thus, it is important to explore an alternative concept. This article first outlines the prospect of artificial womb technology (AWT) and fetal surgery, demonstrating how they dramatically impact on our understanding of birth. Secondly, this article explores how the law currently affords personality to illustrate that the concepts of *birth* and *born alive* need clarification. Further, it demonstrates that new technologies demonstrate that *birth* and *born alive* do not distinguish between human beings deserving of legal protection in a satisfactory or ethically sound way. Finally, this article highlights some important questions that should be addressed in future to afford clarity to the legal concepts of *birth* and *born alive*.

II. ARTIFICIAL WOMBS AND FETAL SURGERY: THE FUTURE OF OBSTETRICS

AWT offers the ability to gestate fetuses ex utero. The technology, if perfected, will mimic the uterine environment and support a developing human being throughout the gestational period. In the distant future, AWT might eliminate the need for pregnancy at all. Human beings could be created in laboratories by *in vitro* fertilisation and grown in an AW until 36 weeks from conception. This process, known as complete ectogenesis, however, remains a remote possibility. English legislative provisions currently prevent experimentation on embryos after 14 days from development,²¹ hindering potentially illuminating research about how embryo development in artificial conditions might be achieved.²² Partridge *et al's* recent publication of the biobag study, however, revealed a prototype AW with potential. In the study, lambs were removed from the uteri of ewes and placed into the biobag when developmentally equivalent to the human preterm neonate on the recognised viability threshold:

19 J Couzin-Frankel, 'Fluid-filled "biobag" allows Premature Lambs to Develop Outside the Womb' (Science 25 April 2017) <<http://www.sciencemag.org/news/2017/04/fluid-filled-biobag-allows-premature-lambs-develop-outside-womb>> (accessed 11 October 2017).

20 BBC News, 'Parents of Nottingham Stillborn Baby Call for Legal Change' (5 October 2017) <<http://www.bbc.co.uk/news/uk-england-nottinghamshire-41511170>> (accessed 27 April 2018).

21 Human Fertilisation and Embryology Act 1990, s 3(3) (a) as amended by Human Fertilisation and Embryology Act 2008.

22 In this article, I make no comment on the 14-day rule. It is worth noting, however, that there have been recent calls from the scientific community to lift this restriction following some recent successful experiments at the boundaries of the law. This resulted in a Nuffield Council on Bioethics Workshop to facilitate critical discussion of the time limit. For a report summarising findings see: Nuffield Council on Bioethics, *Human Embryo Culture; Discussions Concerning the Statutory Time Limit for Maintaining Human Embryos in Culture in the Light of Some Recent Scientific Developments* (2017) <<http://nuffieldbioethics.org/wp-content/uploads/Human-Embryo-Culture-web-FINAL.pdf>> (accessed 9 April 2018), 4.

23–25 weeks.²³ All test subjects were successfully 'delivered' from the biobag after a 4-week period and survived. All subjects also avoided developing the most common, and often fatal, complications that plague (lamb) preterms.²⁴ These same complications have seemingly prevented meaningful change in mortality rates and long-term prognoses in human preterm-neonates for some time.²⁵ The biobag study was so successful that, subject to further animal testing, the authors suggest testing on humans is on the horizon.²⁶ They identify their clinical target population as prematurely born neonates.²⁷ We are seemingly on the verge of AWT not as an alternative to all pregnancy, but as a viable alternative to neonatal intensive care. While complete ectogenesis is not in our immediate future, *partial* ectogenesis (the development of a human being in an AW for part of the typical gestational period)²⁸ may well be.²⁹

It is a mistake to presume newly designed AWs should be treated just like all other neonatal intensive care. Firstly, the subject of this technology will have, at some point, been gestated in utero. The process still involves the pregnant woman, because subjects of the technology will be either delivered prematurely or extracted by C-section³⁰ with the pregnant woman's consent. Secondly, AWT treats its subject *as if it had not been born*. During the incubation period, the subject of the AW is not exercising any capacity for life, whether it is capable of exercising any independent life functions or not.³¹ AWT is able to mimic the uterine environment almost entirely, and thus continues the process of gestation. In contrast, conventional care for preterms provides interventions and assistance to perform life functions that the preterm is attempting or beginning to attempt alone.³² Thirdly, AWT has the capacity to support much younger subjects than conventional neonatal intensive care, and it is likely that it will be used to support these less developed preterms.³³ Conventional support for preterms, such as mechanical ventilation, has proved inadequate beyond the viability threshold because they cannot support developing human beings without any capacity for independent life.³⁴ Traditional intervention can assist the inherent vulnerabilities

23 Partridge et al (n 5).

24 *ibid* 2; *ibid* 6; Biobag technology has at least demonstrated that this is true in respect of preterm lambs. The success of the project in preterm lambs does not necessarily mean that the biobag will be as successful at addressing these complications that result from being preterm in *human* preterm neonates. There are also limitations to these studies in respect of sample size etc. The researchers, however, do imply in their paper that the results give enough reason to believe the biobag might be as successful in humans (experiencing similar complications) so as to justify the experimental application of the technology on human beings in the future.

25 Costeloe et al (n 8).

26 Partridge et al (n 5) 11.

27 *ibid*, 11.

28 Partial ectogenesis is the development of a human being in an AW for part of the typical gestational period following transfer from the maternal womb. C Kaczor, *The Edge of Life: Human Dignity and Contemporary Bioethics, Philosophy and Medicine*, 1st edn (Springer 2005), 113.

29 S Gelfand and J Shook (eds), *Ectogenesis; Artificial Womb Technology and the Future of Human Reproduction*, 1st edn (Rodopi 2006), 1.

30 Until this technology becomes more commonplace, it is probable that the subjects of AWT are likely to be preterm neonates, which would have otherwise been treated with conventional neonatal intensive care.

31 Romanis (n 9) 753.

32 *ibid* 753.

33 *ibid* 753.

34 *ibid* 752.

of an underdeveloped human body, but it cannot aid the further development of the human being if that human does not have the capacity to develop. For example, mechanical ventilation cannot support lungs before a certain threshold of development³⁵ (around 22 weeks).³⁶ The AW prototype, however, does not appear to have this limitation.³⁷ The subject of the AW does not need semi-functional lungs: it is reliant on gas exchange through cannulae and amniotic fluid,³⁸ just as the fetus in utero is reliant on amniotic fluid and the umbilical cord. The AW thus can, and will, challenge current conceptions of viability.³⁹

Finally, the subject of AWT could have different capacities to, will behave differently to, and will be treated differently to, a newborn baby.⁴⁰ Adopting the terminology applied to newborn babies and premature neonates is inappropriate, because this fails to account for the differences in behaviour and location between the AW subject and the baby in intensive care. The subject is more ontologically similar to, and is undergoing the same processes as, a fetus in utero. However, its ex utero location makes it inappropriate to label it as a fetus because most medical definitions (and lay conceptions) of the fetus refer to it being 'unborn',⁴¹ implying it remains located in a pregnant woman's uterus.⁴² Because all terminology used to describe the product of reproduction at various different points in development is inappropriate for the being in the AW, a different term should be adopted.⁴³ The term 'gestating,' that I first coined elsewhere, refers to the 'human being in the process of ex utero gestation in an AW exercising. . . [regardless of whether] it is capable of doing so, no independent capacity for life'.⁴⁴ We must be mindful of the conceptual differences between AWT and neonatal intensive care to ensure that the implications of AWT, such as the impact on the law of birth, are fully investigated.

A second important development profoundly changing our understanding of birth is advanced fetal surgery, most famously performed on LynLee Boemer in 2016. The advent of different techniques for surgical procedures on the in utero fetus brings much needed aid to fetuses with conditions that would otherwise prevent them surviving long enough to be born alive.⁴⁵ Lenow describes how 'the ultimate achievement in fetal surgery was the partial removal of the fetus from its mother's uterus and onto an operation field'.⁴⁶ Surgeries involving the fetus's removal partially resemble a

35 Couzin-Frankel (n 19).

36 This point is identified because it is the age of the youngest premature neonate that has ever survived. It is notable, however, that lung development will occur at a slightly different rate for different fetuses and so this is not a fixed point.

37 J Hendricks, 'Not of Woman Born: A Scientific Fantasy' (2011) 62 Case Western Reserve Law Review 399, 405.

38 See Partridge et al (n 5) 2–4 for a detailed description for how the biobag functions.

39 Romanis (n 9) 753.

40 *ibid* 753–54.

41 Eg E Martin, *Concise Medical Dictionary*, 9th edn (OUP 2015), 275.

42 Romanis (n 9) 753.

43 *ibid* 753.

44 *ibid* 753. For further conceptual differences between artificial wombs and conventional neonatal intensive care discussed in more detail see: *ibid*.

45 Smajdor (n 12) 89.

46 J Lenow, 'The Fetus as a Patient: Emerging Rights as a Person' (1983) 9 American Journal of Law and Medicine 1, 17.

caesarean because the same incision is made into the uterus. The patient of the surgery is the pregnant woman, who must consent to the procedure. The fetus is then removed from the incision and operated upon. Baby Boemer's surgeon described his procedure in a press interview, explaining the fetus was 'hanging out in the air. . . the foetus is outside, like completely out, all the amniotic fluid falls out, it's actually fairly dramatic'.⁴⁷ During surgery, the fetus remains dependent on the placenta (attached by umbilical cord), and is returned to the uterus on completion of the procedure.⁴⁸ In utero, the fetus continues undergoing natural gestation for the remaining period.

What terminology should be used to describe the subject of a fetal surgery while ex utero? The subject of a fetal surgery differs from a fetus because it is ex utero. Thus, a distinct term for this unique entity will ensure clarity in the discussion and potentially avoid attaching misleading moral connotations to the subject of a fetal surgery. In some ways, the subject of a fetal surgery, as an entity independent of the pregnant woman, becomes a second 'patient' of the surgeons. However, referring to it as a 'patient' implies access to the rights patients are granted in English law, and it is not certain that the subject of a fetal surgery would have access to these protections. The developing human being in the course of this surgery, therefore, will be referred to as the *fetal operatee* when removed from the uterine environment, and the fetus before removal from and after it has been returned to the uterus. These unique entities (the fetal operatee and the gestateling) raise interesting problems for the application of the born alive rule.

III. THE TEST FOR LEGAL PERSONALITY

English law is clear that, before birth, there is no person on whom legal rights or duties can be bestowed.⁴⁹ In *Paton*, Sir George Baker held that 'a fetus. . . cannot have a right of its own until it is born and has a separate existence from its mother'.⁵⁰ Lord Mustill echoed this conclusion almost 20 years later: 'it is established beyond doubt for the criminal law, as for the civil law. . . that the child en ventre sa mere does not have distinct human personality. . .'.⁵¹ Birth as the focal point of personality is a product of the criminal law and negligence in civil law, and is a tradition of the time in which the law was formulated. Savell argues that the law's insistence that subjects with personality have been born is understandable in the civil context, 'as. . . conferring legal status on fetuses might bring pregnant women's rights into direct conflict with those of fetuses'.⁵² A lack of fetal personhood also precludes criminal charges being levied against pregnant women for harm caused in utero.⁵³ Recognising fetal personhood, in civil or criminal law, would be a significant curtailment of pregnant women's liberty⁵⁴ and would create incentives for vulnerable women to evade medical and social care, putting themselves (and their fetus) at risk.⁵⁵

47 Scutti (n 13).

48 Smajdor (n 12) 88.

49 K Savell, 'Is the Born Alive Rule Out-dated and Indefensible?' (2006) 28 Sydney Law Review 625, 624.

50 *Paton* (n 1), per Sir George Baker P at 279.

51 *Attorney-General's Reference (No 3 of 1994)* [1998] AC 245, per Lord Mustill at 261.

52 Savell (n 49) 661.

53 *Attorney-General's Reference* (n 51); *CP (A Child) v Criminal Injuries Compensation Authority* (2015) QB 459.

Acquiring legal personality is not just a matter of being born, but also being born 'alive'. Stillbirth occurs when a child is born without having demonstrated any signs of life.⁵⁶ The existence of a stillborn child is legally acknowledged,⁵⁷ but the law never affords them, or accepts they did at any point have, legal personality. A stillborn child cannot be the victim of a homicide,⁵⁸ or bring an action (or have another person bring an action on their behalf) in tort.⁵⁹ To obtain legal personality, therefore, a human being must be both born (have an independent existence),⁶⁰ and it must be evident they were born alive.⁶¹ 'Born alive' is a concept still closely tied to the moment a neonate is delivered, because it is usually easy to observe life in the newborn without complex diagnostic tools. Birth was also, before the advent of techniques like ultrasound, the most reliable confirmation that a developing human being even existed. Limited medical and obstetrical knowledge about pregnancy and fetal development often meant that 'it could not be known with certainty if a woman was pregnant [and] if it was reasonably clear that she had been pregnant, it could not be known. . . if the child was still alive in her womb'.⁶² With the need to provide a pragmatic answer to the beginning of legal life, birth seemed the most determinative point in the development of human beings that could be used to trigger legal protections.

It has been argued that the born alive rule is not a substantial legal principle, but an out-dated evidential presumption.⁶³ Critics point to developments in fetal monitoring,⁶⁴ such as 3D imaging,⁶⁵ that have enabled medicine to determine that developing human beings exist and exhibit signs of supported life before birth. With such evidence available, some argue that we should not be so reliant on birth as a starting point.⁶⁶ There has even been some judicial support for this claim. In the Supreme Court of Canada,⁶⁷ Major JJ, in a dissenting judgment, posited that technology like fetoscopy⁶⁸ should mean that the 'born alive' rule is abandoned, because birth is no longer the only way to evidence a human being's development.⁶⁹ The possibility of ex

54 E Romanis, 'Pregnant Women may have Moral Obligations to Foetuses they have Chosen to Carry to Term, but the Law should never Intervene in a Woman's Choices during Pregnancy' (2017) 6 *Manchester Review of Law, Crime and Ethics* 69, 78.

55 *ibid* 78.

56 Births and Deaths Registration Act 1953 s 41, as amended by Still-Birth Definition Act 1992 s 1(1).

57 Note that if a developing human birth is delivered dead before 24 weeks this is not a stillbirth, but is legally recognised as a miscarriage. See: Births and Deaths Registration Act 1953 s 41, as amended by Stillbirth Definition Act 1992 s 1(1). A miscarriage does not involve any recognition that a distinct developing human birth legally existed.

58 *Attorney-General's Reference* (n 51).

59 *Burton v Islington Health Authority* [1993] QB 204.

60 *Paton* (n 1).

61 *Attorney-General's Reference* (n 51).

62 G Casey, 'Pregnant Woman and Unborn Child: Legal Adversaries?' (2002) 8 *Medico-Legal Journal of Ireland* 75, 76.

63 Naffine (n 4) 259.

64 *ibid* 259.

65 Savell (n 49) 645.

66 A Peterfy, 'Fetal Viability as a Threshold to Personhood: A Legal Analysis' (1995) 16 *The Journal of Legal Medicine* 607, 630–31.

67 *Winnipeg Child and Family Services (Northwest Area) v G (DF)* (1997) 3 SCR 925.

68 *ibid* per Major JJ at 981.

69 *ibid*.

utero gestation, for different reasons, provides more ammunition to the argument that the focus on 'birth' may be an out-dated approach to affording legal personality. The next sections highlight the inherent ambiguities in each element of the test for legal personality, and issues arising with its application to new technologies.

The consequences of the legal status of these novel entities, determined by examining the test for legal personality, are important to emphasise. Without legal personhood the fetal operatee and the gestateling cannot access some of the most significant protections that the law offers to persons, including protection in the law of homicide or the ability to seek recourse after negligent treatment.⁷⁰ Determining what protection these entities are afforded will be of the utmost importance to potential intended parents of each entity. Further, the legal status afforded to each has significant implications for pregnant women. If the fetal operatee were afforded legal personality this would subject the pregnant women to external control, on the basis of the interests of another, for the duration of her surgery and potentially for the remainder of her pregnancy. If the gestateling is afforded legal personality this will have the effect of shifting perceptions, or adding additional legitimacy to shifting perceptions, about viability with significant implications for future abortion provision. These implications are explored in more detail throughout this article.

IV. FETAL SURGERY: BORN OR NOT BORN

In English statute and case law, descriptions of birth all imply birth is a matter of separation of gestator and gestational subject. In *Paton*, birth was described as 'a separate existence from [the] mother'.⁷¹ The Births and Deaths Registration Act 1953 (BDRA 1953) defines a born child as a child 'issued forth from its mother'.⁷² These definitions, however, provide no clarification about what constitutes separation or a separate existence. This section examines the evolution of the law of birth and its application to AWT and fetal surgery. It is argued that the dividing line of birth is no longer clear-cut, because these rules and principles have been entirely developed in the context of abortion/murder and the maternal-fetal conflict.⁷³ Maintenance of an 'ex utero existence' as the dividing line between personality and no personality could have disastrous implications for women. However, erasing the legal significance of birth altogether could leave some ex utero human beings without adequate protection.

70 It should be noted that if the fetal operatee or gestateling were 'born alive' but disabled as a result of negligent treatment, the parents could sue for wrongful birth. See: *Parkinson v St James and Seacroft NHS Hospital Trust* [2001] Lloyds Rep Med 309, CA. The parent's ability to seek recourse in this circumstance is not insignificant, but it may not always be helpful. There may be instances where the fetal operatee or gestateling do not survive to be 'born alive' in law and thus a claim for wrongful birth would be precluded. Moreover, this is not the same as the fetal operatee or gestateling having a claim in their own right.

71 *Paton* (n 1) per Sir George Baker at 279.

72 Births and Deaths Registration Act 1953 s 41, as amended by Still-Birth Definition Act 1992 s 1(1). Further statutory definitions of birth include: Infant Life Preservation Act 1929 s 1(1) 'an existence independent of [the] mother' and Congenital Disabilities (Civil Liability) Act 1976 s.4 (2)(a) birth is when the baby 'first has a life separate from its mother'.

73 A Alghrani, 'Regulating the Reproductive Revolution: Ectogenesis – A Regulatory Minefield' in M Freeman (ed), *Law and Bioethics: Volume 11*, 1st edn (OUP 2008), 305.

A. Is Birth Just a Matter of ‘In vs. Ex Utero?’

The majority of attempts to interpret the meaning of *born* are 19th century authorities: criminal cases in which a fetus/infant was killed during delivery. These cases consider whether a defendant was guilty of murder or, because birth was not complete, the lesser crime of infanticide⁷⁴ and/or concealment of birth.⁷⁵ In *R v Crutchely*,⁷⁶ Parks B directed that an infant was born only when ‘the whole body of the child had come forth from the body of the mother’.⁷⁷ In *R v Poulton*, Littledale J instructed that being born meant ‘the whole body is brought into the world’.⁷⁸ These conclusions were echoed more recently in *Rance v Mid-Downs Health Authority*.⁷⁹ Brooke J (as he then was) observed that the law provided no protection to ‘the child while . . . in the process of being born before it had been completely separated from its mother’.⁸⁰ It is clear that legal birth is a process in which an infant has been entirely expelled from the uterus.

There is concern in the literature that the focus on birth as the point legal personality is acquired may be unworkable if human beings could be gestated ex utero. This concern has, however, been almost entirely focused on complete ectogenesis. If a child can be gestated *entirely* in an AW, without a human gestator, at what point has *birth* taken place?⁸¹ However, AWT in its current form and in its immediate anticipated clinical application concerns partial ectogenesis: cases in which a fetus conceived in and gestating in utero,⁸² is removed to continue gestating in an AW.⁸³ This use of AWT does not concern situations in which the gestating was never inside a woman’s body. The question of when birth occurs if a human being never existed in utero is important, but, as a less immediate possibility, it is not explored here.

Applying the law to partial ectogenesis might seem intuitive. The question of legal birth seems to be purely a pregnancy law question: is it in or ex utero? Extraction at any point, whether by natural premature expulsion or deliberate premature evacuation, transferring the fetus from the uterus to the AW, is a *birth*. In an AW, the gestating has a separate existence from the woman who previously carried it. A fetus in utero has no legal personality, even if almost at full term. A gestating ex utero, however, presumably has legal personality and all associated protections, even if premature (and potentially pre-viable) and sustained only by an AW.⁸⁴

74 Offences against the Person Act 1861 s 58.

75 *ibid* s 60.

76 *R v Crutchely* (1837) 7 Car & P 814.

77 *ibid* per Parks B at 816.

78 *R v Poulton* (1832) 5 Car & P 328.

79 *Rance and Another v Mid-Downs Health Authority and Another* [1991] 1 QB 587.

80 *ibid* per Brooke J at 620.

81 The consensus in the literature seems to be that birth would be the point the gestating was removed from the artificial womb. See Alghrani and Brazier (n 2) 60; M Sander-Staudt, ‘Of Machine Born? A Feminist Assessment of Ectogenesis and Artificial Wombs’ in S Gelfand and J Shook (eds), *Ectogenesis: Artificial Womb Technology and the Future of Human Reproduction*, 1st edn (Rodopi 2006) 124; E Steiger, ‘Not of Woman Born: How Ectogenesis will Change the Way we View Viability, Birth and the Status of the Unborn’ (2010) 23 *Journal of Law and Health* 143, 155.

82 Or, it may have been created using IVF and then implanted into a woman’s uterus for gestation.

83 Gelfand and Shook (n 29) 1.

84 Provided that it is legally born alive as well as birthed. This will be explored in detail later in this article.

Fetal surgery, however, could demonstrate that a developing human being's ex utero existence should not necessarily equate to it having been birthed. During fetal surgery the fetal operatee (minus the placenta) is extracted from the pregnant woman's body to be operated upon, remaining attached only by umbilical cord, and then returned to the womb. In Margaret Boemer's case, her fetus was removed for only 20 minutes, but was fully extracted in that time by the same process as a newborn delivered by caesarean and was existing ex utero. Therefore, the consequence of current law (birth is expulsion)⁸⁵ is the conclusion that the fetal operatee is *legally born*. Recognising this birth, however, is potentially inconsistent with fundamental principles of English law. For the purposes of analysing this tension, it is assumed a fetal operatee would be born alive if it is *birthed*, therefore acquiring personality.⁸⁶ This section considers two intuitive responses to conceptualising the fetal operatee's ex utero existence, first that it is born and second that it is not born, to demonstrate why both are problematic.

1. The Problem with Recognising the Fetal Operatee's 'Birth'

Birth is not a homologous event. Women can give birth by a variety of processes including, but not limited to, vaginal delivery, technologically assisted vaginal delivery and caesarean.⁸⁷ It is also sometimes difficult to ascertain how far through a delivery a developing human being has to be in order to be legally *birthed*. A broad definition of birth, as a matter of only being no longer inside another person, accounts for all these complicating factors. Equally, however, a broad non-exhaustive definition may create problems by being too inclusive. The broad definition potentially encompasses the fetal operatee, thus potentially enabling its acquisition of legal personality.⁸⁸

The law is clear that the fetus is not a legal person,⁸⁹ and this protects pregnant women from exploitation. In *Re F*⁹⁰ the judgment explicitly precluded any possibility of fetal personhood, because affording it personality would result in the subordination of pregnant women.⁹¹ During pregnancy there is often unavoidable tension between fetal welfare and a pregnant woman's autonomy. If fetuses were awarded legal personhood, they could be made a ward of court and decisions would be made in their best interests, thus forcing pregnant women to forego basic freedoms.⁹² Extending legal personhood to fetuses would result in pregnant women's actions and choices being subverted to external control.⁹³ This subversion contravenes the 'fundamental principle, plain and incontestable. . . that every person's body is inviolate'.⁹⁴ The law is clear

85 *Paton* (n 1).

86 Meaning that if the fetal operatee is legally born, and it is assumed it is legally born alive, it would then acquire legal personality.

87 Johnson Memorial Health, '5 Different Types of Childbirth and Delivery Methods You Should Know' (Johnson Memorial Health Blog 15 January 2015) <<http://blog.johnsonmemorial.org/blog/what-type-of-birth-is-right-for-you-and-your-baby>> (accessed 20 April 2017).

88 Assuming it was also legally born alive.

89 *Paton* (n 1).

90 *Re F (In Utero)* [1988] Fam 22.

91 *ibid*.

92 *ibid* per May LJ at 138.

93 *ibid* per Balcombe LJ at 143.

94 *Collins v Wilcock* [1984] 1 WLR 1172, per Lord Goff at 1177.

that women should not have their ability to self-determine negated by pregnancy.⁹⁵ The fetal operatee is only ex utero as a function of medical convenience, and were the surgeon to operate on the fetus in situ, the primacy of the female body could not be disappeared. It might be argued, however, that the fetal operatee is unique because during surgery it is entirely ex utero. Can it be argued that granting it legal protections would affect it alone, without interfering with the pregnant woman?

Even when ex utero the fetal operatee is dependent on the placenta, and therefore the pregnant woman, for life. Whatever is done to the fetal operatee, therefore, also physically impacts the pregnant woman. The pregnant woman is the patient for the purposes of the procedure: it is her consent that is significant.⁹⁶ In providing permission for the procedure, she chooses to align her interests with those of her fetus/fetal operatee; however, she is empowered to determine the boundaries of that permission. If the fetal operatee also obtained legal personality during the procedure, it would be possible for a surgeon to act *ultra vires* the pregnant woman's consent when necessary to promote the best interests of the fetal operatee. This might empower medical professionals to effectively force a pregnant woman to be subject to further physical processes, to which she may even have expressly precluded permission, in the course of the surgery that might aid the ex utero fetal operatee. This is a monumental, and ethically indefensible, burden to place on her.

If we assume that the fetus was not so dependent on the pregnant woman, it might be argued there was still a rational solution in applying the rules of legal birth to the fetal operatee. When ex utero the fetal operatee has its legal birth recognised, but this can simply be *undone* when it is returned to the uterus, because it has become a fetus (a different entity) once more. There is no legal precedent, however, for the *undoing* of a human being's personhood. Once a person has legal personality, the only way that it is removed is death.⁹⁷ There might be concern that if a fetal operatee were recognised as legally born, and consequently assigned legal personality,⁹⁸ it would carry this status back into the uterus. There is no definitive legal definition of death, and there is room for discussion about whether the fetal operatee is legally alive,⁹⁹ but it may be counter-intuitive to imagine that re-insertion into the womb is equivalent to death. A fetal operatee carrying legal status back into the womb would cause exactly the subordination of pregnant women the Court of Appeal has deemed 'intolerable',¹⁰⁰ by enabling a fetus to make legally enforceable claims governing a pregnant woman's behaviour. There are grounds to argue, however, that in this novel situation personality should be treated with more fluidity.

In other areas of law, entities can gain and lose personality by other processes. Companies can be deprived of legal personality, because the law, in order to achieve a

95 *Re MB (An adult: medical treatment)* [1997] EWCA Civ 3093.

96 *Smajdor* (n 12) 90.

97 *Naffine* (n 4) 357; There are also serious issues in determining how death should be legally defined because of its implications in terms of the loss of legal personhood. See: M Brazier and E Cave, *Medicine, Patients and the Law*, 6th edn (Manchester University Press 2016) 510.

98 Assuming it was legally born alive.

99 This will be explored later in the meaning of being legally born alive.

100 *Re F* (n 90) per May LJ at 138.

particular purpose,¹⁰¹ has constructed the personality framework that applies to them. Rules and limitations about the operation of that personality can also, therefore, be constructed. Rules could be constructed to recognise that, although the same living human being in a physical sense, there need be no continuity in legal recognition between the fetal operatee and fetus. It could be argued that the fetal operatee ceases to exist, which could be akin to a sort of 'death,' when it becomes a fetus once more. There seems to be, however, no scope in current law for this possibility of demeaning a human being to a status lesser than a legal person whilst still biologically 'living', even when there are significant changes in their physicality. For example, living human beings with legal personality do not have their status degraded even if they become mentally or physically incapacitated, if they are dependent on others, or even imprisoned. Human legal personality has never been treated as a contextual status.

It might be considered dangerous to set a precedent that human legal personality can be gained and lost by anything other than birth and death (in the biological sense).¹⁰² The rights and entitlements associated with legal personality for human beings are treated as more innate than those attached to other entities with personality. Human rights provisions explicitly prevent any individual from being demeaned to a lesser status than any other person in law,¹⁰³ because personality is the vehicle through which the most fundamental human rights are guaranteed and individuals are protected from exploitation and oppression. There may be concern about the normative political implications of recognising that personality can be undone based on a human being's capacities or their location. Fetal surgery can be conceptualised as an isolated case entirely removed from concerns about the denial of rights to vulnerable minorities; however, a legal mechanism of undoing personality by anything less than death still could conjure up these feelings of unease.¹⁰⁴

2. The Problem with Claiming the Fetal Operatee is 'Non-birthed'

Those concerned about the normative implications of *undoing personhood* might argue the fetal operatee has not been legally born. To make this argument, the fetal operatee's circumstances must be differentiated from the baby *traditionally born*. The first significant difference is the connection between the pregnant woman and fetal operatee. In *obiter* in *A-G's Reference*, Lord Hope alluded to the significance of an in utero

101 For example, to enable limited liability as a logical consequence of a company having its own personality distinct from its shareholders: See A Dignam and J Lowry, *Company Law*, 8th edn (OUP 2015) 16.

102 Even without legal recognition of birth for the fetal operatee, there may well be a drastic impact on the treatment of pregnant woman who have been involved in fetal surgery. Even if legal personhood could be undone, fetal surgery would still change the perception of how the fetus should be treated. It has become a *second patient* that is, for a time, legally recognised and this will impact on the pregnant woman who is carrying it. The effect has been observed with the developments of fetal imaging creating the fetal operatee and influencing decision making in obstetrics: see Lenow (n 46). This effect may be more impactful in instances where the fetal operatee has not only been observed, but also has been interacted with ex utero and has been the subject of a procedure that did not involve the pregnant woman.

103 For example, the Human Rights Act 1998 prohibits all slavery and forced labour (Sch 1, art 4) and protects the right to liberty and security (Sch 1, art 5).

104 It might be time to move to a more nuanced perspective of legal personality and how it might be afforded and removed. There might be lessons to be learnt from other areas of the law, for example company law. This will be briefly discussed later in this article.

existence being 'total dependence... on the protective physical environment furnished by the mother, and on the supply of the mother through the physical linkage... of nutrients, oxygen and other substances essential to fetal life and development'.¹⁰⁵ This comment suggests legal birth could be both a matter of location (no longer within the uterine environment) and of connection (no longer reliant on the pregnant woman for nutrient supply). The question of whether a remaining physical connection between a pregnant woman and her fetus/newborn once ex utero means birth is incomplete has not been addressed in modern case law or commentary.

In older authorities, however, there was substantial discussion of whether a baby was legally born if, once ex utero, it still remained attached to the pregnant woman by the umbilical cord. In *Crutchely*, Parks B suggested the umbilical cord is irrelevant: the only condition necessary and sufficient for birth is expulsion.¹⁰⁶ He directed that if the defendant were found guilty of murder because of umbilical attachment, there would be legal grounds for appeal.¹⁰⁷ *Crutchely* was acquitted, and there was thus no appeal affording an appellate court the opportunity to scrutinise the significance of post-expulsion connection. Erskine J made a more conclusive direction in *Trilloe*,¹⁰⁸ instructing that a baby was legally born even if still attached by naval string.¹⁰⁹ This reasoning was adopted in *Reeves*.¹¹⁰ Modern authorities in other jurisdictions, which form persuasive precedent, also reach this conclusion.¹¹¹ These authorities all concern situations in which a baby was delivered by natural means and the cord seemed an observable formality. It could be demonstrated, therefore, that fetal surgery is distinguishable because it involves a technological medical intervention, and the fetal operatee remains dependent on the connection, unlike the newborn. While a distinction can be made, it seems insufficient. The prospect that the intentional killing of an ex utero developing human being (even if the subject of a surgery) would not be recognised as homicide just because it remained connected by (and dependent on) the umbilical cord, would offend centuries-old legal tradition in defining homicide.

The second difference between fetal operatee and newborn baby is the intentions of the actors around them. The surgeons intend, when delivering a baby by caesarean, that the procedure marks the beginning of that baby's permanent existence ex utero. Despite initially performing the same incision and removal, a surgical team intends the opposite when undertaking a fetal surgery. The argument is then that the fetal

105 *Attorney-General's Reference* (n 51) per Lord Hope at 255.

106 *Crutchely* (n 76) per Parks B at 816.

107 *ibid.*

108 *R v Trilloe* (1842) Car & M 650.

109 *ibid* per Erskine J at 651.

110 In *R v Reeves* (1839) 9 Car & P 25, at 26 Vaughan J remarked that he would be surprised if 'the child and the after-birth might be completely delivered and yet because the umbilical cord was not separated the child might be knocked on the head and killed without the party who did it being guilty of murder'. This observation attempts to put the issue to bed by making any other conclusion seem nonsensical.

111 In *R v Hutty* [1953] VLR 228 (Supreme Court of Victoria), the Supreme Court of Victoria in Australia had cause to interpret the meaning of birth. The judgment was clear that 'it is not material that the child may still be connected to its mother by the umbilical cord... but it is required that the child should have an existence separate from and independent of its mother, and that occurs when the child is fully extruded from the mother's body...'

operatee should not acquire personhood because it is not treated as if it is, and it is not *intended* that it be, birthed. Including the intentions of other agents in deciding whether something was a *someone* could have unsettling consequences. If the parent/s of a disabled newborn believed it should not receive life-saving treatment there would be no suggestion that treatment is withheld because, based on the parent's intentions, it was not a person worthy of recognition. Discussion is instead directed to whether treatment is in the newborn's best interests.¹¹²

If either distinction was successfully drawn, the result would be that a developing human being exists *ex utero* without legal personality, albeit temporarily. This also has concerning ramifications. Without personhood during the operation, liability for grossly negligent surgeries causing death *in utero* and subsequent stillbirth of fetuses might be precluded. Gross negligence manslaughter could only be established if a baby was born alive with injuries sustained from negligent surgery that later cause death.¹¹³ The offence of child destruction (if before 24 weeks), or of procuring miscarriage could not be established because there would be no *mens rea*.¹¹⁴ There may be no civil recourse following the stillbirth of a fetus that died *in utero* as a result of negligent fetal surgery. If the fetus is not born alive, then it is not an entity that can bring an action in tort. There would only be a course of action in negligence for the baby born alive but injured by negligent surgery.¹¹⁵

Fetal surgery does not sit easily in the in/out dichotomy that the law of birth has constructed. As the possibilities of fetal surgery advance to treat more conditions,¹¹⁶ the implications will become more significant. The law must be able to answer the question of status in the event of a claim that fetal surgery was negligent. Having examined the alternative interpretations of the current rule, a more nuanced approach to birth than 'in or out' may be the only appropriate solution. Returning to the possibilities of AWT, related but distinct problems arise when we consider the legal status of the gestateling. The language of birth seems inappropriate for gestatelings at the earliest stages of development. An AW is designed to continue the process of gestating as if the gestateling had never been expelled from the uterus. It seems logical to argue that removal from the uterine environment only to be placed in an AW should not be considered legal birth because the processes that traditionally occur before birth are continued. However, if the fetal surgery problem is reduced wholly to a matter of location, the law's construction means extraction to be placed in an AW would be the gestateling's *birth*. It might be argued that birth remains, for legal purposes, the

112 *Re B (A Minor) (Wardship: Medical Treatment)* [1981] 1 WLR 1421.

113 See *Attorney-General's Reference* (n 51).

114 If the fetus were removed, this procedure then undertaken negligently, and the fetus died after being returned to the uterus, all before the fetus was legally 'capable of being born alive' or at 24 weeks gestation, the surgeon could not be guilty of the offence of child destruction. The surgeon would not be guilty of 'procuring a miscarriage' in these circumstances because it is unlikely that it could be established that they intended that the fetus be miscarried *in utero* post-surgery.

115 In these specific circumstances, the 'baby born alive' would be able to pursue an action in negligence for damage caused during the surgery, because at birth they attain legal personality and inherit 'the damaged body for which the [foetal surgeon] (on the assumed facts) [is] responsible.' *Burton v Islington HA* (n 59) per Dillon LJ at 219.

116 BBC News, 'Two Unborn Babies' Spines Repaired in Womb in UK Surgery First' (24 October 2018) <<https://www.bbc.co.uk/news/amp/health-45958980>> (accessed 25 October 2018).

clearest and most appropriate point in development to transform legal protections¹¹⁷ even if there are some instances where application of the rules seems less logical. The law, after all, has to draw the line somewhere,¹¹⁸ and affording protection to developing human beings ex utero in an AW does not have the same problems of creating an antagonistic relationship with the female body.

V. ARTIFICIAL WOMBS: BORN ALIVE OR INACTIVELY ALIVE

Legal protections, however, are not just a matter of being ex utero. They are also conditional on proof that the ex utero human being is 'alive'.¹¹⁹ This section argues that the law cannot simply rely on the convenient dividing line of location (or the bodily autonomy of pregnant women) to deal with the difficult cases of AWT and fetal surgery and their total impact on the traditional understanding of birth. There are still ambiguities in the meaning of *born alive* in the substantive test for legal personality that must be addressed. Little attention has been paid to the lack of clarity, however, because courts have had little cause to examine the definition of a legal person in itself, instead examining only the application of the test in particular circumstances.¹²⁰ With the advent of emerging technologies this may be about to change. The novel developing human beings that are the subjects of emerging technologies demonstrate that given definitions of *born alive* do not account for the possibility of ex utero gestation. The current definition of 'born alive' is too narrow for the gestating and fetal operation because they do not breathe or exercise any independent capacity for life.

In *C v S*, Sir John Donaldson MR remarked that 'alive is a simple concept. . . It should be construed in conformity with the. . . Births and Deaths Registration Act 1926, which makes the birth of a child which *breathes or shows any other signs of life* registrable as birth'.¹²¹ There remains ambiguity. Is an infant *born alive* if it breathes only with assistance technology? What signs of life aside from breathing are sufficient proof that a child was born alive? While only some of these complexities have been addressed in the courts, the inherent difficulty in determining whether a child is born alive has been acknowledged. In *C v S*, Heilbron J observed that questions of 'when a [born] child is actually alive, are. . . problems of complexity to even the greatest medical minds'.¹²²

In *Re A* the legality of surgically separating conjoined twins, where one was entirely dependent on the other exercising all major life functions, was considered.¹²³ Walker LJ observed there could have been grounds to question whether the weaker twin was born alive because she was entirely dependent on her sister for life.¹²⁴ His judgment highlighted counsel's submission that, 'just as the law has had to redefine death, so it may have to redefine the concept of being alive'.¹²⁵ The question was

117 Wicks, (n 16) 203.

118 K Greasley, *Arguments about Abortion: Personhood, Mortality and Law*, 1st edn (OUP 2017), 190.

119 Births and Deaths Registration Act 1953 s 41, as amended by Still-Birth Definition Act 1992 s 1 (1).

120 Savell (n 49) 637.

121 *C v S* [1987] 1 All ER 1230, per Donaldson MR at 149 (my emphasis).

122 *ibid* per Heilbron J at 145.

123 *Re A (Children) (Conjoined twins: Surgical Separation)* [2001] Fam 147.

124 *ibid* per Walker LJ at 241–42.

125 This was because all parties were willing to concede that the weaker twin was born alive. *ibid* per Walker LJ at 242.

abandoned,¹²⁶ however, his acknowledgement demonstrates an awareness of the need to explore what legal life encompasses, and in circumstances broader than AWs. Walker LJ asserted that there was legally 'no real analogy between Mary's dependence on Jodie's body for her continued life, and the dependence of an unborn fetus on its mother'.¹²⁷ It is possible, however, to see the similarities between the gestating in an AW and the fetus in utero. In the AW, the gestating does not, regardless of whether it is capable of doing so, exercise any independent capacity for life.¹²⁸ The technology effectively mimics natural gestation prolonging gestation rather than providing invasive support with life functions like current intensive care. Ex utero the gestating is undergoing the same processes, with the same opportunities for continued development, as the fetus in utero,¹²⁹ only supported by artificial means instead of another human being. Is it possible, therefore, to argue that it is not 'born alive?'

A. Breathing after Birth

The BDRA 1953 specifies that a child is born alive if it breathes after birth. In both *C v S*¹³⁰ and *Rance*,¹³¹ the Court considered what kind of breathing a fetus would have to be capable of ex utero to demonstrate that it *could be* born alive. Sir John Donaldson MR concluded in *C v S* that a fetus was capable of being born alive only if it was capable of breathing after birth, with or without the aid of a ventilator.¹³² It was not specified whether breathing needed to be demonstrated only immediately after, or for some continuing time after, birth. It seems intuitive that there must be some discernable breathing,¹³³ and thus survival for some reasonable period of, albeit undefined, time¹³⁴ after birth. Four years later, in *Rance*, Brooke J (as he then was) appeared to deviate from the conclusion that breathing included assisted breathing. He observed that Parliament had demonstrated awareness of the common law approach to the 'concept of being alive in its legislation relating to the registration of births and deaths'.¹³⁵ Thus, he concluded, the BDRA 1953 was clearly drafted to afford legal personality and protection to only 'the child. . . breathing and living through its own lungs alone, without deriving any of its living or power of living by or through any connection with its mother'.¹³⁶

126 *ibid*.

127 *ibid* per Walker LJ at 255.

128 *Romanis* (n 9) 753.

129 The fetus is of course biologically alive, but is not legally alive. Before the viability threshold, a fetus is not capable of an independent existence.

130 *C v S* (n 121).

131 *Rance* (n 79).

132 *C v S* (n 121) per Donaldson MR at 151.

133 This is implied in the wording of the BDRA 1953, as amended by the Still-Birth Definition Act 1992 s 1(1).

134 J K Mason, *The Troubled Pregnancy: Legal Rights and Wrongs in Reproduction*, 1st edn (CUP 2007), 21.

135 *Rance* (n 79) per Brooke J at 619.

136 *ibid* per Brooke J at 620–21. Brooke J's judgement echoes *R v Handley* (1874), in which the jury were informed that they should determine whether a child was born alive by examining whether the child was breathing and living by breathing through its own lungs and deriving no power of life from its mother. See *R v Handley* (1874) 14 Cox 79, per Brett J at 81.

Commentary generally suggests¹³⁷ that *Rance* and *C v S* are conflicting accounts of what post-birth breathing is sufficient to demonstrate a newborn is 'born alive.' There is a stark contrast between a newborn able to breathe alone (unaided), and another only able to breathe with a ventilator. The Nuffield Council of Bioethics highlight that conflicting authorities mean the law lacks a 'sufficiently accurate and certain definition of "born alive" appropriate for use in the light of modern medicine and technology'.¹³⁸ They recommended that the Royal Colleges¹³⁹ collaborate to establish a working definition of *born alive* to inform a statutory definition.¹⁴⁰ While some of these organisations acknowledged the report,¹⁴¹ a working definition has not materialised.

It is, however, possible to interpret *Rance* as complementary to *C v S*. Brooke J's statement does not exclude breathing with assistance technology. Brooke J makes no reference to assistance; he merely confirms that a neonate must breathe independently of a pregnant woman using its own lungs. Premature neonates in intensive care use their own lungs even when breathing with assistance because ventilation assists lung function, rather than entirely replacing it. Only this interpretation of *Rance* avoids illogical conclusions. It would be bizarre to claim preterms in intensive care, or patients under general anaesthesia, are not legally alive because ventilators assist breathing. Even if there were a conflict in authorities, a definition encompassing assisted breathing is a better account of the law because the *C v S* definition is ratio from the Court of Appeal. Moreover, the Abortion Act 1967 specifies that the fetus in utero is 'capable of being born alive' from 24 weeks gestation.¹⁴² This evidences Parliament's intention to recognise that neonates that can only breathe with ventilator support are born alive, because most neonates born at 24 weeks require mechanical ventilation.¹⁴³

Early model AWs subvert our understanding of life ex utero by creating an environment in which the gestating does not 'breathe'. The gestating does not use its lungs to acquire oxygen. It is placed in amniotic fluid allowing gas exchange, just like the fetus in utero, through cannulae.¹⁴⁴ Acquiring oxygen by placental gas exchange, rather than ventilation, is one of the precise benefits of AWs: ensuring the lungs are inactive allows the organ to continue to develop. Greasley, in attempting to demonstrate that there are meaningful differences between the human being just before and just after birth, argues that significant biological adaptations occur during the process of birth. She makes specific reference to 'the clearing of fluid from the lungs in order

137 M Brazier and J Harris, "Fetal Infants": At the Edge of Life', in P Ferguson and G Laurie (eds), *Inspiring a Medico-Legal Revolution; Essays in Honour of Sheila McLean*, 1st edn (Ashgate Publishing 2015) 61.

138 Nuffield Council on Bioethics, *Critical Care Decisions in Fetal and Neonatal Medicine: Ethical Issues* (2006) <<http://nuffieldbioethics.org/wp-content/uploads/2014/07/CCD-web-version-22-June-07-updated.pdf>> (accessed 27 April 2018), para 8.13.

139 Specific reference is made to the Royal College of Obstetricians and Gynecologists, the Royal College of Pediatrics and Child Health and the British Association of Perinatal Medicine.

140 Nuffield Council on Bioethics (n 138), paras 8.15 and 9.11.

141 Some even produced recommendations on when to assist premature neonates: British Association of Perinatal Medicine, *Babies Born Extremely Preterm at less than 26 weeks of Gestation: a Framework for Clinical Practice at the Time of Birth*, (British Association of Perinatal Medicine 2008, (2008) <https://www.bapm.org/sites/default/files/files/Approved_manuscript_preterm_final.pdf> (accessed 27 April 2018).

142 Abortion Act 1967 s 1(1) (a), as amended by Human Fertilisation and Embryology Act 1990 s 37.

143 T Lissauer and G Clayden (eds), *Illustrated Textbook of Pediatrics*, 4th edn (Mosby Elsevier, 2012) 159.

144 Partridge et al (n 5) 4.

to allow them to inflate and draw in breath'.¹⁴⁵ If extraction and placement in an AW were successful, the gestating would not make or need to make such a biological adaptation for 'life ex utero'. Does lack of breathing, thus, mean gestatelings are not *born alive*?

B. Signs of Life

Some older authorities suggest that breathing alone is insufficient proof of life.¹⁴⁶ In *R v Enoch*, Parks J observed that in addition to breathing, 'there must have been a independent circulation in the child, or the child cannot be considered alive'.¹⁴⁷ The BDRA 1953, however, does state that a child is born alive if it breathes *or* demonstrates *any other* signs of life.¹⁴⁸ Decisions such as *Enoch* were made, and the BDRA 1953 was drafted, before modern medical technologies made answering questions about breathing after birth more definitive and determinable. Williams explains that, 'it is generally true to say that before birth. . . the child does not breathe air, oxygen being obtained instead through the birth-cord, which is connected with the after birth. When the afterbirth is detached from the womb the child is compelled to breathe to sustain its life. Breathing (that is to say breathing air) has always been taken as evidence of life. . .'.¹⁴⁹ In *C v S*, Donaldson MR observed that primitive circulation and movement of the cardiac muscle in the fetus were 'real and discernable signs of life'.¹⁵⁰ However, without the capacity to breathe, this was not enough to persuade that the fetus was capable of being born alive. Breathing is central to the modern interpretation of *born alive*. Case law focusing on the 'capacity to be born alive' is specific about the post-birth 'alive' human being breathing. In *C v S*, Heilbron J observed that describing a child as 'live born or alive even though it cannot breathe, would surprise not only doctors but many ordinary people'.¹⁵¹ In modern coroners' inquests determining whether a child was born alive, factual findings focus on whether there was post-birth breathing.¹⁵²

An Australian Court of Appeal, however, endorsed a broader approach to defining born alive than focusing on breathing alone, finding that there could be no single test

145 Greasley (n 118) 191.

146 In *R v Brain* (1834) 6 Car & P 350, per Park J at 350, it was observed that many children are born alive 'but do not breathe for some time after their birth.' In *R v Sellis* (1837) 7 Car & P 350, per Coleman J at 370, it was suggested breathing is not decisive proof of being born alive because a fetus could breathe and yet have died before birth is complete. The jury were told they must be satisfied that 'the child was wholly born into the world in a living state' at the time that it was decapitated, the implication being that a living state encompasses more than breathing.

147 *R v Enoch* (1833) 5 Car & P 539, per Parks J at 539.

148 Births and Deaths Registration Act 1953 s 41, as amended by Still-Birth Definition Act 1992 s 1(1).

149 G Williams, *The Sanctity of Life and the Criminal Law*, 1st edn (Alfred A Knopf 1957) 7.

150 *C v S* (n 121) per Donaldson MR at 151.

151 *ibid* per Heilbron J at 146.

152 See: *R (on the application of T) v HM Senior Coroner for West Yorkshire* [2018] 2 WLR 211. In this case, a young woman had concealed her pregnancy and the birth of a child. She claimed that the child had not cried or made any noise after birth. She believed it was stillborn and so she hid the body of the child in a shoebox under her bed and did not tell anyone. A post mortem was inconclusive about whether the infant was stillborn or had died after birth. This case did not focus on the issue of whether the infant had been born alive, but in the medical evidence the coroner submitted on the issue of whether it was born alive, there were frequent references to evidence about whether it may have breathed post-expulsion.

to define 'alive'.¹⁵³ The judgment was deliberately not proscriptive about what signs of life might be satisfactory to evidence an independent life. It remains to be seen whether, in interpreting *born alive* in light of medical technologies, English courts will continue to focus on breathing alone (dismissing older authorities as based on rudimentary medical knowledge), or embrace a broader and less proscriptive approach examining 'other signs of life'. If the latter, medical opinion would feature heavily in decisions about what signs of life would be sufficient.¹⁵⁴ The BDRA 1953 is phrased broadly, potentially indicating that parliament intended medical input in defining *being alive* because medical evidence could be introduced to evidence 'any other signs of life' where necessary. The common law already takes the approach that defining death is a medical question in particular circumstances.¹⁵⁵ The same approach might be taken to defining legal life if the question were posed to a court. It is thus important to consider if the gestating displays any 'signs of life'.

The gestating will display some primitive signs of life, particularly later in gestation, for example, primitive circulation and/or increasing movement. The plain meaning of 'sign of life' includes only activities that are exertive and that, by definition, demonstrate some independent life. The primitive signs in the gestating, similar to that of a fetus, do not evidence that the gestating is working to sustain its own life. This observation also applies to the fetal operatee still sustained by its gestational carrier throughout surgery. Greasley, in emphasising the significance of birth, highlights other biological state changes beyond breathing that are demonstrated in the newborn post-birth and not the fetus. These behaviours, such as the activation of the digestive system,¹⁵⁶ are likely to be considered those active 'signs of life' evidencing (some) self-sufficiency. The gestating encased in an AW does not make any biological adaptation to life *ex utero* because it remains a subject of gestation. The gestating and fetal operatee are unique from any human beings that have existed *ex utero* before in terms of gestational age and capacities. In the future, AWs could sustain a gestating that today is unable to survive *ex utero* and is described as the product of miscarriage.¹⁵⁷ These gestatings, even those just beyond our current viability threshold, are far less prepared to sustain themselves. This determines the function that an AW must perform to sustain them.¹⁵⁸ The born alive rule applies in the same way to all gestatings in the AW, at whatever stage of development, because their location and behaviour is the same. The developed gestating (even at 36 weeks) is still the subject of the same process as the pre-viable (22 weeks or younger) gestating and equally does not exercise any of its capacities for independent life. Thus, for relevant legal purposes, all gestatings must be treated the same.

153 *R v Iby* (2005) 63 NSWLR 278 (New South Wales Court of Criminal Appeal), per Spigelman J at 280: 'the common law "born alive" rule is satisfied by an indicia of independent life. There is no single test of what constitutes "life".'

154 It is clear that this is the case from discussion in *R (on the application of T) v HM Senior Coroner for West Yorkshire* (n 152).

155 Death is not defined in statute in English law, and there is judicial deference to medical definitions of death. See *Brazier and Cave* (n 97) 511.

156 *Greasley* (n 118) 191.

157 *Re A* [1992] 3 Med LR 303; *Airedale NHS Trust v Bland* [1993] 1 All ER 821.

158 *Romanis* (n 9) 754.

C. Gestatelings are not 'Dead'?

The ambiguity in the BDRA 1953 means it is difficult to isolate what signs of life alone evidence that a person has become 'legally alive'. Smolensky notes the inadequacies in the law defining the beginning of life, and posits that the answer lies in the forced symmetry approach.¹⁵⁹ She argues that if a defining characteristic can be isolated that makes a person legally dead, the emergence of that characteristic identifies when a person becomes legally alive.¹⁶⁰ Using the forced symmetry approach in the English context is difficult because death is not clearly legally defined.¹⁶¹ In England, legal death is determined by medical diagnosis in individual circumstances. This is usually brain stem death.¹⁶² If the loss of brain function that can sustain life means a person would be described as legally dead,¹⁶³ does the absence of independent brain function to sustain life logically suggest the entity is not *alive*?

The Academy of Medical Royal Colleges defines death as 'the irreversible loss of those essential characteristics which are necessary to the existence of living human person[s] and thus... death should be regarded as the irreversible loss of consciousness combined with the irreversible loss of the capacity to breathe'.¹⁶⁴ It is possible to describe the gestateling as lacking the essential characteristics necessary to the existence of living human persons? During gestation the gestateling possibly lacks consciousness, does not yet independently co-ordinate necessary bodily functions and lacks the capacity (or does not evidence their capacity) to breathe. The gestateling is, therefore, seemingly not *alive* in the AW. However, in order to be *dead* the absence of identified capacities must be permanent and irreversible. We cannot describe the gestateling as *actively alive*, but it is completely counter-intuitive to describe it as *dead*. The gestateling will, at some point, be both capable of exercising an independent life, and eventually will, if undisturbed, be removed from the AW and begin to do that. If the gestateling is not *dead* but not *legally alive*, what is its status? Does this problem signal the deconstruction of the binary between legal life and death? This question is in need of exploration not only in the context of AWs, but also in light of other emerging technologies including immortal stem cell lines, artificial gametes and cryonics.

Greasley argues that a binary concept of personhood is important to ensure that all individuals within a certain range of person-relevant capacities are treated of equal moral status regardless of interpersonal variations.¹⁶⁵ The law must draw a line affording protection somewhere, even if the line will always be arbitrary in a process of development.¹⁶⁶ Birth normally involves the routine delivery of a human being with

159 K Smolensky, 'Defining Life from the Perspective of Death: An Introduction to the Forced Symmetry Approach,' (2006) 41 University of Chicago Legal Forum <<https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1387&context=udf>> (accessed 14 March 2018).

160 *ibid* 42.

161 Brazier and Cave (n 97) 511.

162 For example, *Re A* (n 157); *Airedale NHS Trust v Bland* (n 157).

163 Smolensky (n 159) 70–72.

164 Academy of Medical Royal Colleges, *A Code of Practice for the Diagnosis and Confirmation of Death* (2008) <http://aomrc.org.uk/wp-content/uploads/2016/04/Code_Practice_Confirmation_Diagnosis_Death_1008-4.pdf> (accessed 18 April 2018).

165 Greasley (n 118) 187.

166 *ibid* 189.

particular capacities following 36 weeks gestation in utero. It is assumed intuitive that, even if premature, a baby looking and acting human should be afforded the same legal protections as a child. Greasley relies on some of the behavioural patterns only exhibited in born human beings to demonstrate there are more significant behavioural similarities between all human beings ex utero, than between human beings in and ex utero. She references responsiveness to environmental stimuli and interactions with other human beings as behavioural evidence of the significance of birth.¹⁶⁷ The gestating, while encased in an AW, is more removed from the world with limited possibilities for human interaction.¹⁶⁸ Based on the importance that might be afforded to interaction, how far would the encasement of the gestating impact on the social and legal response to it? Greasley's arguments about the significance of birth only work if 'birth' is not defined as emergence from the female body, but re-defined as the emergence of a human being from the process of gestation and making the necessary biological adaptations for independent life. If this were the case, however, we would face the novel possibility of human beings existing ex utero without legal personality. Similar concerns raised in respect of lack of protection for the fetal operatee during surgery can be voiced about the lack of protection for gestating during its treatment, especially while AWT is an experimental technology.

D. The Intersection between 'Born Alive' and Viability

There might be a temptation to resolve concerns about a gestating's lack of legal protection by arguing that it should be considered *born alive*. This argument relies on acceptance that the primitive signs of life that the gestating demonstrates should be considered sufficient for the purposes of the BDRA 1953, and thus the gestating should be afforded legal personality. The previous sections have argued why this approach is difficult to ground within the current law, however, the consequences of recognising life in an AW as *born alive* should be carefully anticipated for thoroughness.

Viability marks the point from which fetuses are granted a limited right not to be aborted¹⁶⁹ (to be left alone to continue gestating). A fetus *capable of being born alive* is protected in the offence of child destruction.¹⁷⁰ The Abortion Act 1967 (AA 1967) stipulated that a fetus was assumed *capable of being born alive* at 24 weeks.¹⁷¹ The terminology in the AA 1967 ensures that fetuses beyond 24 weeks are always protected¹⁷²; but this does not necessarily exclude fetuses younger than 24 weeks from protection, if evidence is provided that such a fetus is *capable of being born alive*. When the AA 1967 was first enacted, or when it was amended in the 1990s, there were ample opportunities, which were not seized, to repeal the offence of child destruction to insert precise terminology to match the 24 weeks threshold in the AA 1967. Parliament may, therefore, have intended *capable of being born alive* to carry

167 Ibid 191.

168 Romanis (n 9) 754.

169 Romanis (n 54) 72.

170 Any person who by wilful act intentionally destroys such a fetus is guilty of child destruction: Infant Life Preservation Act 1929 s 1(1).

171 Abortion Act 1967 s 1(1)(a), as amended by Human Fertilisation and Embryology Act 1990 s 37.

172 Outside of the specific exceptions in Abortion Act 1967 s 1(1)(b)-(d), as amended by Human Fertilisation and Embryology Act 1990 s 37.

some weight beyond the 24 weeks minimum threshold. Interpretation of *capable of being born alive* has deliberately been left to the courts. Some judgments have acknowledged this in stating that *capable of being born alive* is ambiguous and lacking in clear meaning.¹⁷³ Moreover, judges have demonstrated their willingness to entertain consideration of whether fetuses younger than the minimum threshold in the AA 1967 are *capable of being born alive*. Whether an 18-week fetus was *capable of being born alive* for the purposes of the offence of child destruction was the focus of the judgment in *C v S*.¹⁷⁴

Affording legal personhood for the gestateling¹⁷⁵ could lead to the contention that a fetus in utero capable of surviving in an AW should be considered *capable of being born alive*. It could be argued that it is inconsistent to recognise that a gestateling is *born alive*, while a fetus (before current viability) in utero at the same point of development is determined not *capable of being born alive*. It might be argued that it is illogical that all gestatelings before 24 weeks would be legally 'born alive' despite not being, based on their physical capacities, legally *capable of it*.¹⁷⁶ Concern about any inconsistency in recognition afforded to the gestateling and fetus in utero could easily be addressed by acknowledgement that they are fundamentally different entities.¹⁷⁷ There is no moral continuity between the fetus and the gestateling because the relationship that each entity has with the female body is different. It is ethically defensible, if not an ethical imperative, to afford the gestateling ex utero and the fetus in utero different legal statuses to protect the rights of pregnant women.¹⁷⁸ It is not clear, however, that abortion legislation allows for inconsistent treatment based on the differing relationships that entities have with the female body. The Infant Life Preservation Act 1929 (ILPA 1929) expressly determines that the protection afforded to fetuses depends on the point at which preterm neonates can survive, despite the fetus and preterm neonate being fundamentally different entities and having a different relationship with the female body. Statutory provisions seemingly allow abortion access on the basis of a fetus's lack of development (and the threshold of development has changed over time), not on the basis that a woman has control over her own body. There is, thus, the potential for AWT to threaten access to abortion by two mechanisms.

The first mechanism endangers access as technology continues to reduce the point at which a gestateling can survive ex utero. When the English offence of child destruction was constructed in the 1920s, it was not envisaged that medical technology would advance to the point of AWTs. However, AWT might be utilised to argue that if the gestateling is *born alive*, *capable of being born alive* should then be interpreted to include those fetuses 'capable of being born alive *only* if supported in an AW'. The law

173 *C v S* (n 121) per Heilbron J at 147.

174 *ibid*.

175 It would acquire legal personality because it has been birthed (see earlier discussion) and it would be assumed legally born alive.

176 This is the case if, to be *capable of being born alive*, a fetus in utero must be 'capable of breathing' (assisted or otherwise) once ex utero. Before 22 weeks a fetus (and equally a gestateling) lacks the capacity to breathe because it does not have sufficiently developed lungs.

177 Romanis (n 9) 753–54.

178 This approach has been valued elsewhere in English law. See: *Re F* (n 90) per May LJ at 138.

has consistently adjusted its viability threshold to encompass evolving medical technologies. Parliament, for example, reduced the initial threshold of prima facie proof that a fetus was capable of being born alive from 28 weeks in the ILPA 1929 to 24 weeks in the AA 1967. Thus, it might be argued that the lack of precise definition of legal viability is intended to further encompass future developments without statutory amendment. The reference to mechanical ventilation in the judicial interpretation of *capable of being born alive* could be considered further evidence that viability is a moveable concept based on the state of technology. In both *C v S*¹⁷⁹ and *Rance*,¹⁸⁰ judges deferred to experts in fetal medicine when discussing the possibilities of ex utero survival.

Given that there has been no case law since 1991, it is hard to evidence the viability threshold moving backwards beyond 24 weeks gestation. In the USA, the movement of the viability standard, and consequent restrictions on abortion access from an earlier point in pregnancy, has been evident and stark.¹⁸¹ This steady erosion of abortion rights, however, is unlikely in English courts because of explicit protections embedded in statute.¹⁸² The medicalisation of abortion and the construction of defences in the AA 1967 means a woman could opt for abortion until 24 weeks, even if carrying a fetus *capable of being born alive* only because it could be sustained in an AW. A doctor's decision to permit abortion even when AWT is available is unlikely to be successfully challenged because there has been a consistent display of judicial deference to medical opinion in abortion.¹⁸³ In *Paton*, Sir Baker P remarked that a judge who sought to interfere with the discretion of doctors to provide abortion under the AA 1967 would be both 'bold and foolish' unless there were an 'obvious attempt to perpetrate a criminal offence.'¹⁸⁴ The greatest risk is, therefore, an unregulated trend towards medical professionals advising against or refusing to provide abortion.

There should still be cause for concern with the language enshrined in the ILPA 1929. *Capable of being born alive* is an uncertain term, because how it is interpreted has the potential to change with technology. Thus, *capable of being born alive* creates an environment of legal uncertainty, which violates the human rights of those subject to the law, and creates ambiguity¹⁸⁵ and moral uncertainty. Perceptions of viability among the medical profession could shift as AWT is increasingly utilised in the treatment of premature neonates.¹⁸⁶ Caution might take root amongst medical practitioners who perceive increased gestating survival ex utero as cause for unease about

179 *C v S* (n 121).

180 *Rance* (n 79).

181 In the *Roe v Wade* 1973 410 US 113 judgment, the Supreme Court held that fetal viability, and therefore the point at which a State had a legitimate interest in fetal life, was 28 weeks. In *Planned Parenthood v Casey* 1992 112 US 2791, just 19 years later, while reaffirming the constitutional right to an abortion for women, the Supreme Court held that states could restrict abortion access from 22 or 23 weeks. The Supreme Court also noted that viability might soon be established even earlier due to advances in technology. For more in-depth discussion see: M Swyers, 'Abortion and its Viability Standard: The Woman's Diminishing Right to Choose' (1997) 8 George Mason University Civil Rights Law Journal 87, 104.

182 Abortion Act 1967 s 1.

183 Eg *Paton* (n 1).

184 *ibid* per Baker P at 282.

185 *R v Misra and Srivastava* [2005] 1 Cr App R 328.

186 Romanis (n 9) 755.

all abortion provision, or abortion provision earlier in gestation than current understandings of viability. This culture of caution could lead to an increase in conscientious objection,¹⁸⁷ or influence the approach taken to patient counselling about abortion. Doctors' concerns or personal opinions could threaten women's access to abortion in various ways. Doctors could impart bad or unclear medical advice if they approach consultations about termination with caution or objection. Women who receive confusing advice could leave consultations without understanding that they can seek abortion elsewhere.¹⁸⁸ Access to termination could become more difficult for women without access to alternative advice (for example, in rural areas). If access becomes (or is perceived as becoming) more difficult because of doctors' attitudes, this is of particular concern for younger women or women from lower socio-economic backgrounds who may be less empowered to seek alternative opinions. Any restrictions on abortion arising from increased caution (or conscientious objection)¹⁸⁹ without the oversight of the law or democratic institutions would be a dismal state of affairs for women.

The second mechanism by which AWT threatens access to abortion is by empowering the anti-abortion lobby and subsequent intervention from Parliament. The UK anti-abortion lobby is gaining traction by using more visceral imaging in campaigning.¹⁹⁰ They are likely to claim AWT for increased legitimacy and continue to use the language of viability to advocate for a reduction of the time allowed¹⁹¹ for the 'social ground' for abortion,¹⁹² and to change the point of distinction between miscarriage and stillbirth.¹⁹³ It might be argued that since 92 per cent of abortions are undertaken early in pregnancy (before 13 weeks),¹⁹⁴ a reduction in time limit would have minimal impact. Any restriction, however, on the time a woman is afforded to make such an impactful decision concerning her body is a degradation of her bodily autonomy and integrity.

VI. MOVING FORWARD: BEING CLEARER ABOUT BIRTH AND BEING ALIVE

Innovative fetal surgeries and AWT clearly pose a problem for the operation of the law. The problems highlighted may seem like science fiction, however, fetal surgeries are already being performed and AWTs are seemingly imminent. Both technologies will

187 Abortion Act 1967 s 4.

188 A Shahvisi, 'Conscientious Objection: A Morally Insupportable Misuse of Authority', Institute of Medical Ethics Summer (Research) Conference 16 June 2017.

189 Abortion Act 1967 s 4.

190 P Braithwaite, 'How UK Anti-abortion Activists Use American Tactics to Shock and Shame Women' (Open Democracy 19 December 2017) <<https://www.opendemocracy.net/5050/phoebe-braithwaite/uk-anti-abortion-american-tactics-shock-shame>> (accessed 9 January 2018).

191 S McLean, 'Abortion Law: Is Consensual Reform Possible?' (1990) 17 *Journal of Law and Society* 106, 113.

192 Abortion Act 1967 s 1(1) (a), as amended by Human Fertilisation and Embryology Act 1990 s 37.

193 There was an attempt to amend the definition in a private members bill 'Registration of Stillbirths Bill 2013-4' and another attempt in the 'Civil Partnerships, Marriages and Deaths (Registration Etc.) Bill 2017-19'. However, in the final version of the Bill that received royal assent on 26 March 2019 there was no amendment to the definition of stillbirth as 24 weeks. Changes were made to the law in the Civil Partnerships, Marriages and Deaths (Registration, Etc) Act 2019, however, to make provision for a report on the registration of pregnancy loss and for the investigation of stillbirths.

194 Department of Health, *Abortion Statistics, England and Wales 2017* (2018) <<https://www.gov.uk/government/statistics/abortion-statistics-for-england-and-wales-2017>> (accessed 10 August 2018), 4.

have real impact on how we conceive of legal personhood. Ambiguities about what legal *birth* and legally *born alive* encompass cannot be left unsettled. The beginning of legal life must be clearly defined because the consequences are immense¹⁹⁵ for both novel human entities and for pregnant women. A better definition would avoid the presently inevitable but avoidable confusion in potential negligence or wrongful death actions when/if fetal surgeries or experimental AWs go wrong. The law must adopt a more nuanced approach to respond to emerging technologies. Precisely what this nuance should encompass is a very complex question and beyond the scope of this article. Some questions that legislators or policymakers ought to address, however, are briefly highlighted in this section.

A. How much Should Location Feature in the Law?

The total separation of developing human being and pregnant woman should remain an important dividing line in determining appropriate legal protections. The fetus's location must feature in law, despite causing inequality in treatment between developing human beings in and ex utero, to prevent the subjugation of pregnant women. Some emphasis on location ensures the protection of a person's right to choose what happens to their body, a right afforded the highest protection in law,¹⁹⁶ and to which pregnant women are equally entitled. However, whether the in/out dichotomy is the be all and end all, or whether there should be a distinction between the gestating and a neonate (not dependent on an AW) is a different, and necessary, discussion. There is scope for argument that legal personality should only be afforded to those human beings that have completed gestation and made the necessary physiological and behavioural transitions allowing independent life.

If legal personality is afforded to the novel human beings discussed in this article, the law would be significantly lowering its threshold for personality. The gestating and fetal operatee are potentially, though not necessarily, very underdeveloped human beings that have yet to reach the current point of viability. The born alive barrier exists to recognise that a human being is exercising some independent capacity for life. The barrier no longer has that symbolism if being legally alive is inclusive of being *passively alive* in the AW. The born alive rule would no longer distinguish between beings that can exist independently (even with help), and beings that cannot.

B. What about the Process of Birth is Significant?

While location remains important, the law must be clearer about what becoming and being ex utero involves. It seems intuitive that a full-term neonate post-delivery, but remaining connected to the pregnant woman by umbilical cord, is considered a legal person for the purposes of homicide. It also, however, seems untenable to describe a fetal operatee as born when ex utero on the surgeon's operating table, but still connected by umbilical cord, because of the potential implications for the pregnant women who consented to the procedure. How might we explain the difference between the ex utero existences of these two developing humans? We might look to the intention that something is birthed, rather than temporarily ex utero, for answers, but

195 Smolensky (n 159) 42.

196 *Collins v Wilcock* (n 94).

detailed examination is necessary to produce a coherent legal account of birth that can be applied consistently.

C. Should the Developing Human Being's Capacities Feature in the Law?

The born alive requirement demonstrates birth was intended to be a convenient marker for demonstrating that a human being has certain capabilities and therefore deserves legal protections. The law must clarify what capacities are relevant to being legally alive. Until recently, the inability to breathe unaided was regarded as a sign of death, but technology allowing the prolonged assistance of individuals without this capacity has enabled the continued life of individuals who would otherwise have died.¹⁹⁷ This has meaningfully impacted on our understanding of death.¹⁹⁸ Our understanding about breathing at the beginning of life has also been changed by mechanical ventilation in preterm care. How AWT will further impact on our interpretation of references to breathing in law must be determined. Moreover, are there capacities other than breathing, which should be regarded as significant when determining the legal meaning of born alive? The Nuffield Council on Bioethics recommended these questions be addressed in 2006,¹⁹⁹ and advancing reproductive technologies continue to make these questions ever more pressing. The Nuffield Council recommended a broad definition to encompass various possibilities at the beginning of life.²⁰⁰ But, there is the potential for uncertainty to cause inconsistency. What a legal definition should encompass requires careful examination.

D. What does it mean to be Ex Utero and Lack Personality?

Even ignoring legitimate anxieties concerning the application of legal *birth* to novel human beings, it is apparent that the novel developing human beings in this article would, without parliamentary revision or creative judicial interpretation, fall outside the legal definition of *born alive*. There is the possibility of developing human beings existing, at least partially ex utero, without legal personality. The AW is an entirely novel legal problem, and fetal surgery is a rather recent, and rapidly advancing, development that has yet to be thoroughly addressed. Both are cause for concern, because is unclear what protections human beings subject to these processes would be entitled to.

E. Could there be a 'Third Status:' Legal Existence before Legal Personality?

Hammack has posited that 'the law should avoid bright lines and strict rules. . . personhood, either fully acknowledged or completely absent, is simply too blunt an instrument to negotiate the complex biological realities of human reproduction in the 21st century'.²⁰¹ Personhood is currently constructed as a binary, where there is only the possibility of having legal personality or not, and this may be too restrictive to have traction moving forward. However, AWT and fetal surgeries illustrate problems

197 Smolensky (n 159) 83.

198 *ibid* 83.

199 Nuffield Council on Bioethics (n 138).

200 *ibid* para 8.16.

201 J Hammack, 'Imagining a Brave New World: Towards a Nuanced Discourse of Fetal Personhood' (2013) 35 *Women's Rights Law Reporter* 357, 370.

in the operation of a rule that works well in the overwhelming majority of circumstances. Most births are legally straightforward and the born alive rule is easily applied. There might be an argument to keep the law simple and merely create exceptions for developing human beings that fall outside the norm. This article has discussed harms potentially associated with legal uncertainty in creating exceptions. However, another contemporary solution, that facilitates possibilities outside existing binaries by, for example, acknowledging a new category for recognition, could be appropriate.

Legal personhood is not necessary to afford entities with protection. The human fetus in utero is recognised, and afforded some limited protections, in abortion law.²⁰² Embryos routinely created as part of the IVF process, whilst lacking personality, are also routinely afforded some legal protections.²⁰³ Animals, despite lacking legal personhood,²⁰⁴ are recognised as deserving of some protections and afforded them accordingly.²⁰⁵ These are examples of instances in which entities have their legal existence recognised but not valued to the same degree as a legal person.

If a third status—a *partially born* category for entities like the gestating and fetal operatee—were created, it could be used to identify subjects accurately, avoid creating a ripple effect in other areas of law, and solve relevant discrepancies appropriately. This approach could also be useful in understanding what protections should be afforded in other circumstances, for example where a baby is born with anencephaly (absent a brain or a major part of the brain). A third status could also facilitate discussions about what protections should be afforded to novel ex utero human beings without complicating law that operates without issue in the majority of cases.²⁰⁶ There is also scope for discussion about whether there should be less concern for legal consistency. In different contexts the developing human being's capacities, in conjunction with its location and other factors, could justify it being treated and recognised differently to a fetus/newborn. A third status could, however, carry normative concerns regarding setting a precedent of creating different categories of human being. Further academic discussion on this matter is warranted.

202 Outside of the exceptions in Abortion Act 1967 s 1 (as amended by Human Fertilisation and Embryology Act 1990 s 37) a fetus is protected by the Infant Life Preservation Act, which criminalises child destruction (s 1(1)) and the Offences Against the Person Act 1861 s 58 criminalising the procurement of miscarriage.

203 Eg the Human Fertilisation and Embryology Act 1990 s 3(3)(a), as amended by the Human Fertilisation and Embryology Act 2008 renders it unlawful to experiment with embryos after 14 days from conception.

204 Notably, however, the Non-human Rights Project (<<https://www.nonhumanrights.org>> accessed 18 December 2017), a US-based civil rights organisation, advocates that chimpanzees and other non-human animals can demonstrate sophisticated abilities (e.g. communication and the capacity for meaningful relationships) with which moral status is associated and has sought, through litigation and policy advocacy, the legal recognition of personhood for these animals. The animal rights advocacy group has been so far unsuccessful in attaining the same legal rights for these animals as humans, but has brought to light evidence that seriously suggests these animals have attributes that make their lives almost as or as morally valuable. See The Guardian, 'Chimpanzees do not have the Same Legal Rights as Humans, US Appeals Court Rules' (9 June 2017) <<https://www.theguardian.com/world/2017/jun/09/chimpanzees-do-not-have-same-legal-rights-as-humans-us-appeals-court-rules>> (accessed 18 December 2017).

205 Eg the Animal Welfare Act 2006 s 1 contains provisions criminalising behaviour that causes excessive suffering to an animal.

206 Note that for the reasons advanced in the Nuffield Council Report, there is substantive need to revisit and clarify the meaning of born alive already, regardless of what may be the appropriate approach to personhood (or not) for the gestating or fetal operatee. See Nuffield Council on Bioethics (n 138) para 8.13.

F. What about Abortion Access?

Any change to the legal definition of life will change what *capable of being born alive*, the viability standard enshrined in law, encompasses. Viability was perceived as a politically 'neutral' time limit for abortion,²⁰⁷ and a politically expedient and dispassionate compromise between the pro-choice and anti-abortion lobby²⁰⁸ because it plays a crucial role in ensuring English abortion provisions are 'medicalised'. However, conventional neonatal intensive care, even with its limitations, challenges the 24 weeks minimum viability threshold,²⁰⁹ because it can secure the survival of preterms younger than 24 weeks. AWT on the horizon will strengthen this challenge to the legal conception of viability further by introducing dependence viability cases²¹⁰ into the mix. This may ultimately restrict access to abortion by either encouraging cautious medical practice because of the perception that gestatelings lower or should lower the viability threshold, or by aiding the anti-abortion lobby in their quest to amend the AA 1967 to restrict access to terminations. A transparent and less medicalised discussion about abortion provisions, which is not *entirely* focused on the fetus, is necessary and appears imminent.

VII. CONCLUSION

Legal personality is afforded to human beings at birth.²¹¹ Traditionally birth was a clear-cut marker for legal status, which could be applied with consistent and predictable results. Before birth, a fetus has no legal personality, after live birth a baby becomes a legal person.²¹² This article has uniquely demonstrated, however, that emerging reproductive technologies bring with them the need to re-evaluate how the law bestows legal personality. The emergence of new possibilities for human beings at younger stages in development existing ex utero demonstrate that birth is not a simple concept. The two elements of the law of personality, *birth* and *born alive*, are in need of further clarification and nuance.

Fetal surgery and AWT do not sit well in the in/out dichotomy that the law of birth has constructed. Both raise concerns about our understanding of birth as just an ex utero existence. Within current law, both the fetal operatee and gestateling might be considered legally birthed because they both exist ex utero, however, they are unlikely to be considered legally *born alive*. They are not *actively* and *independently alive* in a way that fits with traditional conceptions of life in the law. Evidential requirements for being legally *born alive* are centred on breathing,²¹³ though there may be a move towards greater recognition for²¹⁴ 'other signs of life'.²¹⁵ Gestatelings and fetal

207 E Jackson, *Regulating Reproduction: Law, Technology and Autonomy*, 1st edn (Hart Publishing 2001) 84.

208 Even though in reality neither the pro-choice, nor anti-abortion lobby can be entirely satisfied with this 'compromise'. See: McLean (n 190).

209 Jackson (n 207) 84.

210 These are instances in which a fetus has reached a point of development that means it can be described as capable of being born alive only if it is sustained ex utero in an artificial womb that takes over the gestational process. It would not be capable of surviving with only the assistance of traditional intensive care.

211 *Paton* (n 1).

212 Alghrani and Brazier (n 2) 52.

213 *C v S* (n 121).

214 If the law in England and Wales follows the persuasive precedent established in Australia in *R v Iby* (n 153).

215 Births and Deaths Registration Act 1953 s 41, as amended by Still-Birth Definition Act 1992 s 1(1).

operatees are not breathing or exercising an independent capacity for life. The gestateling is in a process of continued gestation almost identical to the fetus in utero, and the fetal operatee is dependent on the umbilical cord and placenta. Fetal operatees and gestatelings, however, are not *dead*. They are not permanently deprived of the capacity to demonstrate signs of life and/or breathe in the future. These technologies, demonstrate that there is a need to delve deeper into what being alive encompasses and should encompass in law.

To address the issues that emerging technologies raise involves making difficult decisions about how to classify different developing human beings. If both the gestateling and fetal operatee are not born alive, they will not acquire legal personality. Importantly, the lack of personality for the fetal operatee protects the rights of pregnant women by ensuring they are not made subordinate to the interests of the fetal operatee during a surgery and, potentially, to their fetus after a surgery. Lack of legal personality for the gestateling prevents its existence from providing ammunition to legal challenges to abortion provision based on an argument that fetuses before 24 weeks could be removed from the uterus and successfully sustained in an AW. Affording legal personality to these developing human beings would significantly lower the threshold of legal protections, and would have broad implications for the treatment of fetuses and embryos, and for women. Despite this, there remain lingering concerns about the possibility of human beings existing *ex utero* *without* legal personality. Without personhood, both the fetal operatee and gestateling are vulnerable to exploitation and a lack of redress if they die as a result of negligent treatment before they are *born alive* (either by delivery from the uterus at a later time or removal from the AW). There may, therefore, be value in considering a 'third status' approach: recognising that there may be harms in a binary approach to legal personality.

This article has also identified some further questions that require renewed discussion about the law of birth. Determining how the law should respond to these issues requires thorough further investigation. It is clear, however, that there must be greater nuance in the law moving beyond the current binary in order to address these important ethico-legal issues. Impactful technologies are here: fetal surgery is an increasingly important intervention, and AWT is potentially only years away from human testing.²¹⁶ Careful anticipation of technology and procedures impacting on interpretations of legal birth will prevent reaction in the public, by Parliament, and in courtrooms being driven by fear or confusion,²¹⁷ thus minimising the danger of clumsy responses having unintended consequences.

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216 Couzin-Frankel (n 19).

217 Gelfand and Shook (n 29) 1.

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