

What is special about the human body?

Marie Fox

School of Law, University of Birmingham, England, UK

ABSTRACT

UK health law has recently become more attentive to corporeality and embodiment, with implications for how legal subjectivity is understood. Yet, the body of health law remains a distinctively human body. Non-human bodies figure only at its margins, in its response to technologies such as xenotransplantation which expose the fault-lines surrounding human bodies. I aim to further trouble this boundary by exploring the liminal, queer and posthuman figure of the ‘trans-embryo’. I argue that these extracorporeal embryos carry significant potential to disrupt our understandings of the human and of the legal subject. Eschewing personhood arguments, I aim to recast trans-embryos as embodied and relational products of human and animal reproductive labour. I conclude that, so viewed, they facilitate a new understanding of the corporeality and vulnerability we share with animals, thereby challenging human exceptionalism and the perceived distinctiveness of human bodies. Consequently, new forms of legal subjectivity which reflect an inter-species ethics are required.

KEYWORDS Trans-embryos; human admixed embryos; human/non-human boundary; the human body; corporeality; vulnerability; legal subjectivity

1. Introduction

In a recent examination of stem cell research, Charis Thompson has noted that:

The boundary between human and non-human has long been contested, protected and crossed in biomedicine and in its political and cultural representations.¹

In this article I seek to interrogate this human/non-human boundary in order to question the legal and cultural distinctiveness that attaches to the human body. My enquiry is therefore located at the borders of the human and is mindful of Jennifer Nedelsky’s warning about the pervasive and destructive role of boundary metaphors in law. As she suggests, ‘in law the concept of boundary has become more of a mask than a lens’.² Nedelsky’s work does

CONTACT Marie Fox  m.fox@bham.ac.uk

¹Charis Thompson, *Good Science: The Ethical Choreography of Stem Cell Research* (MIT Press, 2013) 197.

²Jennifer Nedelsky, *Law’s Relations* (Oxford University Press, 2011) 107.

not explicitly address the question of animals, but I suggest that the human/animal boundary is an especially pernicious legal border. It operates to mask the harmful consequences for the bodies of those deemed to fall outside the parameters of the human and shores up an anthropocentric worldview in which the human is deemed the measure of all things. On this understanding, non-human bodies are readily conceptualised as consumable parts or mere research material,³ rather than embodied entities which share relevant characteristics – including their corporeality and vulnerability – with humans.

I begin by considering the historically glaring neglect of corporeality in health law and how in recent years the discipline has demonstrated a greater openness to addressing bodily concerns at the prompting of feminists and other advocates of marginalised bodies. Nevertheless, it is striking that the cast of bodies now considered within the domain of health law remains exclusively human. Consequently, I suggest that if we grant that there is something valuable about corporeality and bodies such that they deserve legal protection from the intervention of others,⁴ we need to address the further question of whether there is anything special about *human* bodies specifically, such that they alone deserve special ethical consideration or legal protection. In thinking through this question, I take as my focus what I argue to be the liminal, queer and posthuman figure of the trans-embryo. Building on the insights of Donna Haraway and Sarah Franklin, I use the label ‘trans’ in this article to signal the queer status of trans-embryos in the sense referred to by Phillip Bernhardt House. He argues that the appellation ‘queer’ applies to ‘anything which actively disrupts normativity, transgresses the boundaries of propriety, and interferes with the status quo in closed social and sexual systems’.⁵

I suggest that designating inter-species embryos as unruly, liminal and trans reveals much more about these entities than dismissing them as mere research material or analogising them to human embryos. Seeing them as trans, rather than ‘human ad mixed’ renders explicit their specific trajectories and functions and illuminates why attempts to shoe-horn them into the pre-existing categories of human or animal in order to legally regulate them are doomed to failure. This is because trans-embryos, as quintessentially queer creatures, engage in what Haraway calls the activity of ‘queering’ – ‘the job of undoing “normal” categories’. Of these tasks she states, ‘[n]one is more critical than the human/nonhuman sorting operation’.⁶ As we shall see in the context of legislating to govern their creation and use, trans-embryos

³See, for instance, Jonathan Safran Foer, *Eating Animals* (Little Brown, 2010); David Nibert, *Animal Oppression and Human Violence: Domestration, Capitalism and Global Conflict* (Columbia University Press, 2013).

⁴This is an issue I consider further with Michael Thomson in ‘Bodily Integrity and the Regulation of Parental Choice’ (work in progress).

⁵Phillip A Bernhardt-House, ‘The Werewolf as Queer, the Queer as Werewolf and Queer Werewolves’ in Noreen Giffney and Myra J Hird (eds), *Queering the Non/Human* (Ashgate, 2008) 139–84.

⁶Donna Haraway, ‘Companion Species, Mis-recognition, and Queer Worlding’ in Noreen Giffney and Myra J Hird (eds), *Queering the Non/Human* (Ashgate, 2008), xxiii–xxvi.

reveal much of the arbitrariness which has accompanied such sorting manoeuvres in health law in the United Kingdom (UK).

The difficulties in slotting these extra corporeal embryos into pre-existing legal categories which are firmly grounded in the animal/human dichotomy seems to point to the need for new and more hybrid legal categories. Thus, rather than advocating personhood for non-humans – a dangerous argument for feminist politics when embryos are at stake – my argument is that the fault lines revealed by legislating for trans-embryos requires us to rethink law's approach to persons and bodies, and specifically its unreflective privileging of the human. In thinking through the relation of trans-embryos to the human-animal boundary, I aim to re-cast trans-embryos as embodied and relational products of human and animal reproductive labour. So understood I argue that they reveal the corporeality and vulnerability we humans – and particularly female humans – share with animals. Read in this way I suggest that the difficulties encountered by law in grappling with the regulation of trans-embryos call into question assumptions that the human body or indeed the human embryo are special. I conclude that debates over how we regulate trans-embryos highlight the need for new forms of legal subjectivity since these can no longer legitimately be grounded in the accident of being born human.

2. Bringing bodies into law

Of course, it must be acknowledged that it is not just in the case of creatures generated through technoscience that law struggles to recognise the embodied and relational nature of living entities. Even for those unambiguously categorised as human, law has grappled with questions of status.⁷ In the case of humans whom it deems persons, law, together with cognate disciplines like bioethics, has long faced accusations of neglecting or inadequately conceptualising the body.⁸ In its infancy, the field of health law, for all its practical concern with interventions on bodies and preoccupation with questions of personhood that are intractably enmeshed with bodily identity,⁹ nevertheless neglected corporeality. Yet, as Therese Murphy and I have suggested, as health law matured it came to be influenced by a strand of feminist commentary which positioned the body itself as a

⁷Law's travails with how to categorise 'marginal' humans such as the fetus, or humans in a persistent vegetative state, are well documented; see, e.g. Sheryl Hamilton, *Impersonations: Troubling the Person in Law and Culture*, (University of Toronto Press, 2009).

⁸Therese Murphy, 'Feminism on Flesh' (1997) 8 *Law and Critique* 37; Ruth Fletcher, Marie Fox and Julie McCandless, 'Legal Embodiment: Analysing the Body of Healthcare Law' (2008) 16 *Medical Law Review* 321; Rosalyn Diprose, 'The Body Bioethics Forgets' in Paul Komaroff (ed), *Troubled Bodies: Critical Perspectives on Postmodernism, Medical Ethics and the Body* (Duke University Press, 1995) 202–21.

⁹Mitch Travis, 'Non-normative Bodies, Rationality, and Legal Personhood' (2014) 22 *Medical Law Review* 526; Hamilton (n 7).

contested site.¹⁰ Beginning with feminist analyses of the bodies of women, and particularly their reproductive bodies,¹¹ over time health law has become populated by a diverse array of bodies, encompassing men's and children's bodies,¹² intersex and transgender bodies,¹³ disabled, transabled and dying bodies,¹⁴ embryonic, non normative and technologised bodies.¹⁵ Legal scholarship has examined how these varied bodies are represented, constructed and regulated by health law. Bringing bodies into health law in this way has served to contest representations of legal subjectivity as universal and disembodied, and positioned the body as 'the locus for rights, dignity and identity'.¹⁶

Yet, strikingly, this growing cast of bodies in health law remains almost exclusively *human*, with the bodies of non-humans figuring only at its margins, in discussions of technologies like xenotransplantation. Indeed, even explorations of such technologies which explicitly trouble the boundedness and integrity of human bodies, rarely take animal bodies as the specific focus of analysis or explicitly interrogate the human/animal boundary.¹⁷ Health law thus remains a discipline enmeshed in liberal humanism, according to which the designation 'human' determines who or what gets to count morally and politically. Increasingly, however, this human exceptionalism seems unsustainable in the face of technological challenge. Even relatively mundane biomedical technologies, such as prosthetics or pacemakers, serve to problematise notions of the natural or corporeal body.¹⁸ Thus, some

¹⁰Marie Fox and Therese Murphy, 'The Body, Bodies, Embodiment: Feminist, Legal Engagement with Health' in Margaret Davies and Vanessa Munro (eds), *The Ashgate Research Companion to Feminist Legal Theory* (Ashgate, 2013) 249–67.

¹¹Kathy De Gama, 'A Brave New World? Rights Discourse and the Politics of Reproductive Autonomy' (1993) 20 *Journal of Law and Society* 114; Isabel Karpin, 'Legislating the Female Reproductive Body: Reproductive Technology and the Reconstructed Woman', (1992–3) 3 *Columbia Journal of Gender and Law* 325; Emily Jackson, *Regulating Reproduction: Law, Technology and Autonomy* (Hart, 2001).

¹²Jo Bridgeman, *Parental Responsibility, Young Children and Healthcare Law* (Cambridge University Press, 2007); Michael Thomson, *Endowed: Regulating the Male Sexed Body* (Routledge-Cavendish, 2007).

¹³Sharon Cowan, 'Gender is No Substitute for Sex: A Comparative Human Rights Analysis of the Legal Regulation of Sexual Identity' (2005) 13 *Feminist Legal Studies* 67; Emily Grabham, 'Bodily Integrity and the Surgical Management of Intersex' (2012) 18 *Body & Society* 1.

¹⁴Isabel Karpin and Roxane Mykitiuk, 'Going Out On a Limb: Prosthetics, Normalcy and Disputing the Therapy/Enhancement Distinction' (2008) 16 *Medical Law Review* 391; Robin MacKenzie, 'Somatechnics of Medico-Legal Taxonomies: Elective Amputation and Transableism' (2008) 16 *Medical Law Review* 390; Alexandre Baril, 'Needing to Acquire a Physical Impairment/Disability: (Re)Thinking the Connections between Trans and Disability Studies through Transability' (2015) 30 *Hypatia* 30; Hazel Biggs, '"I Don't Want to be a Burden!" A Feminist Reflects on Women's Experience of Death and Dying', in Sally Sheldon and Michael Thomson (eds), *Feminist Perspectives on Health Care Law* (Cavendish 1998) 279–95.

¹⁵Travis (n 9).

¹⁶Lisa C Ikemota, '"Race to Health": Racialised Discourses in a Transhuman World' (2005) 9 *De Paul Journal of Healthcare Law* 1101.

¹⁷Monographs on the subject typically address other human-centred concerns: see Sheila McLean and Laura Williamson, *Xenotransplantation: Law and Ethics* (Ashgate, 2005); A Persson and S Welin, *Contested Technologies: Xenotransplantation and Human Embryonic Stem Cells* (Nordic Academic Press, 2008); Sara Fovargue, *Xenotransplantation and Risk: Regulating a Developing Biotechnology* (Cambridge University Press, 2012).

¹⁸Cassandra S Crawford, *Phantom Limb: Amputation, Embodiment and Prosthetic Technology* (New York University Press, 2014).

legal scholars, influenced by disability studies, have argued that our recent preoccupation with corporeality obscures how it is actually the social body, which is integral to our lived experience, that matters, and not the corporeal organic body. In this vein, Gowri Ramachandran's work exposes the fallacy that our bodies are physically continuous, biologically determined, and organic. Rather, highlighting the artifice that attends human bodies, she contends they are more accurately characterised as potentially discontinuous, socially constructed cyborgs¹⁹ composed of organic and inorganic portions.²⁰

Seeking to expand the concept of the body beyond its traditionally understood borders,²¹ Ramachandran invokes the experience of humans with disabilities, who have described coming to experience assisted devices as part of their bodies.²² Having demonstrated that prosthetics expose the blurriness of the boundary between what is and what is not part of the body,²³ she goes on to show that increasing numbers of us might now be regarded as cyborgs, as we become ever more dependent on extra-corporeal devices, including smart phones, which prove difficult to distinguish from prosthetics. Her analysis seems to vindicate Donna Haraway's famous claim that we are all cyborgs now.²⁴ Nevertheless, while acknowledging the need to complicate the organic, natural and bounded body, I would contend that it is important to hold on to the corporeality and materiality of bodies, as well as their social nature, since all of these aspects demonstrate the continuities between human and non-human animal bodies which law strives to deny.

The meaning of that corporeality and materiality is, however, inevitably complicated in a universe of transbiology, which Franklin defines as a 'world of cyborgs' encompassing tissue engineering, reproductive medicine, cloning and stem cell science. This is a world:

made up out of the complex intersection of the pure and impure, where quality and biological control are literally merged to create new kinds of organisms ... the transbiological is not just about new mixtures, playful recombinations of parts or new assemblages: it is fundamentally defined by the effort to differentiate these dirty descent lines into functional, safe and marketable human biology.²⁵

¹⁹Haraway described cyborgs as 'a hybrid of machine and organism, a creature of social reality as well as fiction': Donna Haraway, 'A Manifesto for Cyborgs: Science, Technology and Socialist Feminism in the 1980s' (1985) 15 *Feminist Review* 65, 65.

²⁰Gowri Ramachandran, 'Assault and Battery on Property' (2010) 44 *Loyola of Los Angeles Law Review* 253, 257.

²¹*ibid* 258.

²²Sarah S Jain, 'The Prosthetic Imagination: Enabling and Disabling the Prosthetic Trope' (1999) 24 *Science, Technology & Human Values* 31.

²³Ramachandran (n 20) 266.

²⁴*ibid*.

²⁵Sarah Franklin, 'The Cyborg Embryo: Our Path to Transbiology' (2006) 23 *Theory, Culture and Society* 167, 176.

Indeed, suggesting that cyborgs are merely one facet of the extensive co-mingling enabled by transbiology, Rosi Braidotti argues that it generates what she calls ‘post anthropocentric technobodies’.²⁶ These include cloned animals such as Dolly the sheep, as well as the assortment of trans-embryos combining various different mixes of human and animal material which are my focus. All of these entities pose challenging regulatory questions. More importantly they also call the meaning of normative boundaries – including the therapeutic/non-therapeutic and organic/inorganic as well as the human/animal – into play. To that extent I suggest that trans-embryos are useful for an enquiry concerned to question such boundaries, and the role of legislation in maintaining or shoring them up.

3. Legislating the trans-embryo

The creation of trans-embryos under licence was controversially sanctioned by the Human Fertilisation and Embryology Act 2008 (HFE Act 2008), which designates them as ‘human admixed embryos’. This reform resulted from a campaign in which scientists had touted such embryos as a solution to the shortage of human gametes, and hence human embryos, available for research purposes. In other discourses, including media and policy discourses it seems to me that these embryos were represented paradoxically. To some degree they were conceived as mere research tools – something considerably less than human. However, more prominent depictions echoed scientific discourse in casting them as surrogates for human embryos. In Charis Thompson’s words, they were seen as ‘classic substitutive research subjects’.²⁷ Although this science-inflected strategy sought to normalise trans-embryos as akin to human embryos and thus essentially human, I shall argue that it never fully succeeded in erasing the hybridity or expunging the traces of the animal which contaminate trans-embryos. As a result they retain significant potential to disrupt our understandings of the human. Consequently, and notwithstanding how, post 2008, the science of trans-embryo research appears to have stalled,²⁸ they can usefully facilitate enquiries into whether humans, or human embryos, possess special features to justify the exceptionalism accorded to them in health law.

Various boundaries drawn around the human body could fruitfully be explored to challenge human exceptionalism, as Ramachandran demonstrates.²⁹ Here I focus solely on the boundary which is breached by

²⁶Rosi Braidotti, *The Posthuman* (Polity Press, 2013) 103.

²⁷Thompson (n 1) 190.

²⁸Richard Alleyne, ‘Controversial Hybrid Embryos Are “No Use to Science” New Research Suggests’ *Daily Telegraph* (London, 3 February 2009); Thompson (n 1) suggests that ‘cybrid work had fizzled out by the end of 2011’, 203. <http://www.telegraph.co.uk/news/science/science-news/4446595/Controversial-hybrid-embryos-are-no-use-to-science-new-research-suggests.html> (accessed 3 November 2015).

²⁹Ramachandran (n 20).

incorporating animal material into human bodies, since as Alex Sharpe suggests: 'In the contemporary context, it is perhaps challenges to the human/animal distinction that represent the greatest perceived threat to the notion of human identity'.³⁰ To this I would add that forms of transbiology which disrupt species boundaries not only raise questions about technological meddling with the human body and consequent threats to human identity, but about the ethics of co-opting animal bodies to enhance our lives. Perhaps the most obvious manifestations of these disruptions in contemporary technoscience are the xenotransplant recipient and the trans-embryo. Each figure highlights law's unease with trans-species creatures who breach both bodily boundaries and the species barrier. Elsewhere I have explored the multiple challenges to species, generational and bodily boundaries that are posed by xenotechnologies.³¹ Maneesha Deckha has suggested that they generate 'species anxiety' because 'the humans involved become "animalized" and thus absorb the subordinate status assigned in Western cultures to nonhumans in general'. Consequently she argues that xenotechnologies help expose the contingency of the entire edifice of human identity that underpins Western law.³²

Yet, while the xenotransplant recipient undoubtedly remains a challenging figure for the humanist discipline of health law, s/he nevertheless remains ontologically and morphologically predominantly human. Ultimately therefore 'law proves able to accommodate the human [xenograft] recipient within the legal order'.³³ By contrast, the ability of scientists to increase the human composition of trans-embryos dramatically³⁴ means that they dismantle traditional concepts of personhood, as well as species. The trans-embryo thus outflanks the xenotransplant recipient by posing a more profound challenge to the human/animal dichotomy, which serves to call legal subjectivity into question. As Susan Squier notes, they are 'perhaps the most unsettling of ... liminal lives'.³⁵ To an even greater extent than other cyborg embryos, they exist in a liminal position on the frontiers of the human, literally on a threshold 'betwixt-and-between the moral, day to day, cultural and social stages and processes of getting and spending, preserving law and order and registering social status'.³⁶

³⁰Alex Sharpe, *Foucault's Monsters and the Challenge of Law* (Routledge, 2010) 130.

³¹Marie Fox, 'Rethinking the Animal/Human Boundary: the Impact of Xeno Technologies' (2005) 26 *Liverpool Law Review* 149.

³²Maneesha Deckha, 'Holding onto Humanity: Animals, Dignity and Anxiety in Canada's *Assisted Human Reproduction Act*' (2009) 5 *Unbound* 21, 32–23.

³³Sharpe (n 30) 140.

³⁴Nina Kopinski, 'Human-Nonhuman Chimera: A Regulatory Proposal on the Blurring of Species Lines' [2003–4] *Boston College Law Review* 619.

³⁵Susan Squier, *Liminal Lives: Imaging the Human at the Frontiers of Biomedicine* (Duke University Press, 2004) 90.

³⁶*ibid* ch 1; Victor Turner, 'Frame, Flow and Reflection: Ritual and Drama as Public Liminality' in M Benamou and C Caramello (eds), *Postmodern Culture* (Coda Press, 1977) 33.

The ability of these embryos to sow confusion is exacerbated by the variety of human/animal hybrids and the sometimes confusing terminology employed to describe them. In the run up to the adoption of the HFE Act 2008, media and Parliamentary attention in the UK focused exclusively on the category of Cytoplasmic Hybrid Embryos (cybrids) which are created using somatic cell nuclear transfer (SCNT). Replicating the cloning technology employed to produce Dolly the sheep,³⁷ the nucleus of a human adult cell, such as a skin cell, is inserted into an enucleated animal egg, which is then activated so that it begins to divide, and allows stem cells to be derived from it. The cybrid that results from this process will be more than 99% human (a claim which as we will see was rhetorically significant in the passage of permissive amendments to the relevant law). Yet, because a small amount of animal DNA will be left behind in the mitochondrial structure outside the nucleus, it will not be fully human.³⁸ Scientists had asserted the need for such cybrids due to the shortage of human eggs being donated for research purposes. Creating cybrids enables researchers to derive patient-specific human embryonic stem cell lines without human eggs. Crucially this allows techniques to be perfected on trans-embryos rather than wasting precious human embryos. They thus exemplify Thompson's observation that animals have been used as stand-ins for humans in medical experimentation throughout the history of Western medicine.³⁹

I have argued elsewhere that, by cleverly mobilising the media, scientists, policymakers and bodies such as the BMA were able to deploy certain rhetorical strategies to support and promote this research in a manner that was to prove decisive in UK Parliamentary debates. This strategy outflanked opposition, which was portrayed as reactionary and inflected by religious objection. Thus, for instance, discourses of faith and hope were mobilised to promote the scientific potential of trans-embryos; the use of animal-human hybrids in research was normalised by locating the development of trans-embryos as part of an established research lineage; and the potential of possible alternatives, such as adult stem cells or stem cells derived from cord blood, was downplayed. Proponents of trans-embryo research also highlighted the existence of good regulatory structures, while suggesting that a failure to legislate would generate legal uncertainty which would encourage unscrupulous researchers.⁴⁰ Most critically of all and motivated by the desire to ensure that the human admixed embryo would thereby come within the jurisdiction of the HFE Act 2008, advocates of this research sought to allay concerns about

³⁷Sarah Franklin, *Dolly Mixtures: The Remaking of Genealogy* (Duke University Press, 2007).

³⁸Human Fertilisation and Embryology Authority, *Hybrids and Chimeras: A Consultation on the Ethical and Social Implications of Creating Human/Animal Embryos in Research* (Human Fertilisation and Embryology Authority, 2007) 8.

³⁹Thompson (n 1) 190.

⁴⁰Marie Fox, 'Legislating Interspecies Embryos' in Stephen Smith and Ronan Deazley (eds), *The Legal, Medical and Cultural Regulation of the Body: Transformation and Transgression* (Ashgate, 2009) 95–126.

hybridity and its associated challenges by representing trans-embryos as essentially human. Thus, in Parliamentary debates Lord Walton emphasised that, *unlike proper chimeras*, the admixed embryo was 99.95% human:

The animal component is simply the capsule in which that nucleus has been implanted. That is a very minor component, so it is properly called a human admixed embryo.⁴¹

Parliamentary and media discourse was replete with similar assertions of what Brown calls 'ontological gerrymandering',⁴² since these 'metric calculation[s] of humanness' inevitably lapse into 'the contingencies of counting and the categorical judgments that structure what is and is not an accountable category'.⁴³ Given how the ontological status of the embryo was most certainly up for grabs in these debates, they also reveal how certain forms of embryo are brought into being or enacted through legislative processes.⁴⁴

The outcome was that a key reform measure set out in s 4(6) of the HFE Act 2008, permitted the creation, under licence, of 'human admixed embryos', which the section defined as:

- (a) embryos created by replacing the nucleus of an animal egg or of an animal cell, or of an animal pronuclei, with two human pronuclei, one nucleus of a human gamete or of any human cell, or one human gamete or other human cell,
- (b) any other embryo created by using –
 - (i) human gametes and animal gametes, or
 - (ii) one human pronucleus and one animal pronucleus,
- (c) a human embryo that has been altered by the introduction of any sequence of nuclear or mitochondrial DNA of an animal into one or more cells of the embryo
- (d) a human embryo that has been altered by the introduction of one or more animal cells, or
- (e) any embryo not falling within para (a) to (d) which contains both nuclear or mitochondrial DNA of animal ... but in which the animal DNA is not predominant.

Clearly then the range of trans-species embryos permitted by the legislation extends well beyond the cybrid embryo which had garnered the attention of the media and Parliamentarians in the run up to the adoption

⁴¹Human Fertilisation & Embryology Bill 15 January 2008, col 1190.

⁴²See Steve Woolgar and Dorothy Pawluch, 'Ontological Gerrymandering' (1985) 32 *Social Problems* 214.

⁴³Nik Brown, 'Beasting the Embryo: The Metrics of Humanness in the Transpecies Embryo Debate' (2009) 4 *Biosocieties* 147.

⁴⁴See Woolgar and Javier Lezaun, 'The Wrong Bin Bag? A Turn to Ontology in Science and Technology Studies?' (2013) 43 *Social Studies of Science* 231.

of the HFE Act 2008. While cybrids might fairly be described as ‘human admixed’, the term is simply not an accurate description of chimeras (where animal cells are added to the human embryo), transgenic embryos (where animal DNA is inserted into the cells of a human embryo) or, most radically of all, true hybrids (formed by the fusing of human and animal gametes). Essentially then UK law now permits any trans-embryo to be created under licence provided that the animal component is not predominant. As Brown observes, in permitting the wholesale creation of these various embryos, the HFE Act 2008 is ‘at odds with the ubiquitous claim that cybrid embryos were largely human and therefore morally more legitimate [than other human/animal crosses]’.⁴⁵ This legislative endorsement of new research subjects which emphatically cannot be classified as ‘essentially human’ also illustrates the malleability of the category ‘human’ – an issue to which we will return below.

In the final stages of the Parliamentary debates, Brown’s accusation of germyandering was borne out by the UK Government’s response when challenged about these last minute amendments to the bill.⁴⁶ Mark Simonds, a Conservative Member of Parliament (MP), noted that the government’s ‘shifting position seems to undermine any consistent ethical position on admixed embryos’. Confronting then Labour Government Health Minister Dawn Primarolo with the logic of the government’s earlier position that cybrids were special, he attacked the broader proposal which would allow true hybrid embryos:

The true hybrid is not always at the human end of the spectrum. There is an ethical difference between a cell that is 99 per cent human and one that is 50 per cent human. Where is the principle for having a cut-off point of 50 per cent? Should it be 50 per cent, 51 per cent, or 49 per cent?⁴⁷

In responding, Primarolo resorted somewhat unconvincingly to claims about the ‘irrelevance’ of the particular form that human/animal mixing takes:

once we mix in any elements of animal, the principle of using hybrids for research purposes is established ... once we go down that road – which we already have – it seems illogical to rule something out because of a particular mix.⁴⁸

⁴⁵ibid. Indeed, as Brown (n 43) notes, in any event this reading depended on a particular, problematic (and gendered) reading of the contribution of the nonhuman mitochondrial DNA of the ova, according to which the nuclear DNA of the cell inserted into egg would be determinative. Similar readings have informed concerns about so-called three parent in vitro fertilisation involving cytoplasmic transfer in which mitochondrial DNA is donated by a third party. These concerns are indicative of more generalised anxieties that embryos are bounded, not just in terms of species, but also genetic composition.

⁴⁶As I have noted elsewhere this was only the latest of several U-turns in the Government’s position on trans embryos over the course of the reform process. See Fox (n 40).

⁴⁷Human Fertilisation & Embryology Bill 19 May 2008, col 50.

⁴⁸ibid col 57.

Ultimately, however, in conceding the force of slippery slope arguments in this context she was forced to acknowledge that section 4(6) of the HFE Act 2008 amounted to a failure of boundary work:

[I]n searching around to put the argument on an ethical basis that drew the lines in ethics and science the Government has to admit that we were simply wrong in our original position [that true hybrids were distinguishable from cybrids and should be prohibited].⁴⁹

Similar problems in boundary setting have bedevilled attempts to legislate on this issue elsewhere. For instance, the Human-Animal Hybrid Prohibition Bill which was introduced to the US Congress in 2009, unsuccessfully sought to prohibit the introduction of human stem cells to animals. In contrast to the parliamentary debates in the UK, Senator Samuel Brownback was clear about the boundary work entailed when he introduced the Bill. He stated explicitly, 'it has a direct bearing upon the very essence of what it means to be human, and it draws a bright line with respect to how far we can go'. Yet, as Thompson has shown, the proposed US legislation also countenanced the continuance of all kinds of human-animal mixing, thereby highlighting the difficulties faced by legislators in holding fast to bright lines in this murky field.⁵⁰

Strategising around legislative reform proposals thus illustrates the limits of attempts to legally police 'the human'. It also shows how law is implicated in the ontological constitution of the human,⁵¹ notwithstanding attempts by politicians to portray legal reforms in this field as pragmatic regulatory questions. Thus, and perhaps mindful of litigation over the precise definition of the human embryo in the wake of the HFE Act 1990 (the 1990 Act),⁵² the UK Government resorted to a pragmatic position, exemplified by Primarolo's statement that the key aim of the 2008 amendments to the 1990 Act was simply to 'ensure that all new forms of embryos that may be developed that contain both human and animal DNA will, where the animal DNA does not predominate, fall within the regulation'.⁵³ The legislative process to permit the creation and use of trans-embryos in the UK thus exemplifies the difficulties of holding fast to species categories in any principled or logical manner when faced with such a liminal entity. It also illustrates how in endorsing a shift in regulatory boundaries law, as well as technoscience, enacts the human.

⁴⁹ibid col 58.

⁵⁰Thompson (n 1) 204.

⁵¹See Woolgar and Lezaun (n 44) 334.

⁵²For an overview see Martin Johnson, 'Escaping the Tyranny of the Embryo? A New Approach to ART Regulation Based On UK and Australian Experiences' (2006) 11 *Human Reproduction* 2756.

⁵³HC (n 47) col 59.

3.1 The unruly embryo and the undoing of categories

Although the UK Government ultimately dispensed with its strategy of recuperating the trans-embryo as essentially human, it had constituted a necessary staging post in preparing the way for legal reform. The starting place for the debates preceding the HFE Act 2008 had been the prohibitions contained in sections 3 and 4 of the 1990 Act, which had adamantly ruled out any form of cross species mixing, with the very limited exception of the so-called hamster test for motility of sperm.⁵⁴ Together with reproductive cloning and researching on embryos after 14 days, cross-species mixings were expressly singled out as objects of censure by the 1990 Act. Indeed, the provisions prohibiting trans-species mixing had constituted some of the clearest examples of UK law's boundary work in shoring up the human/animal dichotomy.⁵⁵ Thus, Brown positions the banning of trans-embryos as completely foundational to the 1990 Act, noting that 'in the debate leading up to the Act the trans-species embryo figures as an *unimaginable abhorrence* and the subject of urgent prohibitive legislation'.⁵⁶ Sharpe attributes such abhorrence to the fact that trans-embryos embody a double breach of nature and law, which locates them within the lineage of Foucauldian monsters:

Human/animal admixed embryos can be considered monsters because they meet Foucault's monster conditions... They involve a breach of nature because the process of their creation entails mixing human and animal. They involve a breach of the law because mixing of this kind introduces a profound challenge to key legal distinctions ... The confusion that human/animal hybrids introduce to the law can be considered to be of the most profound kind.⁵⁷

As such, overturning the ban on cross-species mixing represented a serious U-turn, symptomatic of the category crisis that Sharpe's work on monstrosity explores. To facilitate this complete policy reversal, the monstrous and hybrid character of the trans-embryo had to be nullified. This was accomplished by analogising it to the by-now familiar and normalised figure of the human embryo. Drawing such a parallel seems in many ways counterintuitive, since such embryos could only be used for research and typically humans are much more willing to experiment on and use animals than humans for research purposes. However, the effect of the argument was to bring the trans-embryo safely within the regulatory ambit of the Human Fertilisation and Embryology Authority (HFEA), thus ensuring control over the fate of trans-embryos. Although the strategy of casting the trans-embryo as akin to the human embryo was abandoned in the final stages of the legislative

⁵⁴This permitted the creation of two cell hybrids using hamster eggs and human sperm purely for the purposes of testing sperm motility.

⁵⁵Marie Fox, 'Re-thinking Kinship: Law's Construction of the Animal Body' (2004) 57 *Current Legal Problems* 464.

⁵⁶*ibid.*

⁵⁷Sharpe (n 30) 138.

process, it had by then served its purpose by rendering the trans-embryo familiar, thereby containing the anxiety generated by its breach of categories so that opposition to its creation and use was muted.

The Government's eventual concession of a legal failure to draw bright lines between various types of trans-embryos serves both to illustrate Bruno Latour's observation that embryos are 'unruly'⁵⁸ and to demonstrate the difficulty of sorting embryos into existing legal or regulatory categories such as research and reproduction, human and animal and so forth.⁵⁹ The liminal nature of trans-embryos carries a particular power to destabilise or disrupt legal categories, and as the history of the passage of the HFE Act 2008 reveals, they resist a straightforward regulatory response. Thus, the series of regulatory U-turns and evasions over the course of the various consultations and the Parliamentary process exemplify the difficulties in containing trans-embryos given their tendency to 'exceed and overflow'.⁶⁰ Braidotti has suggested that Dolly the cloned sheep represents the 'ideal figuration for the complex, bio-mediated temporalities and forms of intimacy that represents the new post-anthropocentric human-animal interaction'.⁶¹ Her observation applies equally to the trans-embryo which similarly 'embodies complexity, this entity which is no longer an animal but not yet fully a machine'⁶² rendering it too emblematic of the posthuman condition.

As we have seen, the accompanying potential to confuse and unravel concepts makes it appropriate to characterize inter-species embryos as 'trans'. As Franklin notes, Haraway uses this term to signify more than a simple move from one state to another, but 'to describe the shape-shifting categories by which new hybrid entities ... blast widely understood notions of natural limits or kind'.⁶³ To this, Franklin adds that the label 'trans' also connotes 'the *transwork* of embryo transfer, and the translation of embryology into stem cell derivation and redirection'.⁶⁴ These, of course, are the very transbiologies invoked to justify the creation of trans-embryos, and which, as Franklin observes, could never have been imagined without the extra corporeal embryo.⁶⁵ Building on their insights I would add that the label 'trans' also signals the queer status of trans-embryos and we have seen them play a role in the task of queering prior categories, as envisaged by Bernhardt House.⁶⁶ These tasks include Haraway's critical 'human/nonhuman sorting

⁵⁸Bruno Latour, *We Have Never Been Modern* (Harvard University Press, 1993).

⁵⁹See Marie Fox and Sheelagh McGuinness, 'The Politics of Muddling Through: Categorizing Embryos' in C Stanton et al (eds), *Pioneering Healthcare Law: Essays in Honour of the Work of Margaret Brazier* (Routledge, 199–210).

⁶⁰Sarah Franklin, 'Response to Marie Fox and Therese Murphy' (2010) 19 *Social and Legal Studies* 505.

⁶¹Braidotti (n 26) 74.

⁶²*ibid.*

⁶³Franklin (n 25) 169–70.

⁶⁴*ibid* 171.

⁶⁵*ibid* 174.

⁶⁶See Bernhardt-House (n 5).

operation' noted above.⁶⁷ Certainly, the process of legislating to govern the creation and use of trans-embryos reveals much of the arbitrariness which attends such sorting manoeuvres, thereby calling its legitimacy into question.

In serving to undo the category of human, I would suggest that even those of us concerned about the potential of technoscience to materially harm non-humans, by, inter alia, dreaming up ever more ingenious ways to consume animal bodies and animal bodily products, should acknowledge that the creation of trans-embryos carries a progressive potential. In the remainder of this paper, I seek to show how their power to transgress can be co-opted in positive ways to problematise human exceptionalism and the exploitation of non-human others, which such exceptionalism facilitates.

4. Challenging human exceptionalism

The capacity of trans-embryos for transgression and queering was evident in the HFE Act 2008. As we have seen, attempts to regulate them effectively unravelled the clear distinction between them and the 'human embryo', which in the earlier HFE Act 1990 had been decisively marked off from any embryos containing animal material. A key platform of pro-life arguments as regards embryos is that membership of the community of humanity mandates ethical regard for human embryos.⁶⁸ Interestingly, as Franklin has observed of the debates preceding the HFE Act 1990, a foundational assumption agreed by all sides in the UK Parliamentary debates was that the embryo was human and a being and, as such, the law must respect its status.⁶⁹ Such arguments and assumptions demonstrate the ideological power that the status 'human' carries. As Diana Fuss argues of this linguistic, cultural and socio-political construct:

In the past, 'the human' has functioned as a powerful judicial trope to disenfranchise slaves, immigrants, women, children and the poor ... 'The human' continues to be deployed as weapon of potent ideological force, its unstable boundaries perpetually challenged and redrawn to exclude entire groups of socially disempowered subjects: the homeless, mothers on welfare, blacks in prison, people with HIV/AIDS, illegal 'aliens'.⁷⁰

Because of this exclusionary logic, 'the human' has never has been an inclusive category, but has necessitated continual redrafting of the dividing lines between humans and 'non-humans'.⁷¹ Indeed, as recently as 2006, Catherine

⁶⁷See Haraway (n 6) xxiv.

⁶⁸Helen Watt, 'Potential and the Early Human' (1996) 22 *Journal of Medical Ethics* 222.

⁶⁹Sarah Franklin, 'Making Representations: The Parliamentary Debate on the Human Fertilisation and Embryology Act' in Jeanette Edwards et al, *Technologies of Procreation: Kinship in the Age of Assisted Conception* (Manchester University Press, 1993) 96–131.

⁷⁰Diana Fuss, 'Introduction' in Diana Fuss (ed) *Human All Too Human* (Routledge 1996) 2.

⁷¹See also Donna Haraway, *Primate Visions: Gender, Race and Nature in the World of Modern Science* (Verso, 1989–92) 7.

MacKinnon concluded that women continue to be confronted with denial of their humanity, and have yet to fully accomplish the process of becoming human:

Becoming human is a social, legal and political process. It requires prohibiting or otherwise deligitimating all acts by which human beings as such are violated, guaranteeing people what they need for a fully human existence ... But ... seeing what subordinated groups are distinctively deprived of, subjected to, and deligitimated by, requires first that they be real to power: that they first be seen as human ... The status and treatment of men still tacitly but authoritatively defines the human universal.⁷²

Yet while the human status of women is still judged wanting in comparison to men, I would argue that it is ultimately animals who function to define the human – quite simply the human is that which the animal is not. Thus, Joanna Zylinka posits that:

the question of the animal is fundamental to any enquiry into culture, politics and ethics today because of the animal's role as a 'constitutive outside' in the dominant Western conceptions of moral and political philosophy. The generic animality of the animal has served as a fault line against which the humanity and superiority of the human – including the ability of humans to order the world according to their own categories of preferences and pleasure – have been ascertained.⁷³

For Zylinka and other theorists, human and animals are embedded and mutually constitutive categories, and Jacques Derrida suggests that we maintain the status of the 'human' only by a violent abjection, destruction and disavowal of the 'animal'.⁷⁴ Similarly, for Giorgio Agamben the conceptual separation of animal from human constituted a form of 'originary ban' – an exercise of biopower which enabled the human animal to exclude other animals from the life of the polis.⁷⁵ Thus, Anne Schillmoller argues, the continued existence of the human depends to a significant extent on the sacrifice of the animal and humanism and the ideal of the human have been constructed through processes of exclusion, foreclosures and radical erasures.⁷⁶ These exclusionary processes and criteria have been well documented, as

⁷²Catherine MacKinnon, *Are Women Human?* (Harvard University Press, 2006) 1–3; see also Joanna Burke, *What It Means to be Human* (Virago, 2011). Interestingly MacKinnon's conception of human status as an accomplishment echoes Woolgar and Lezaun's argument problematising the taken for granted status of the human and arguing that is has to be achieved: see (n 42) 324.

⁷³Joanna Zylinka, *Bioethics in the Age of New Media* (MIT Press, 2009) 116.

⁷⁴Jacques Derrida, 'Eating Well or The Calculation of the Subject: An Interview with Jacques Derrida' in Eduardo Cadava, Peter Connor and Jean-Luc Nancy (eds), *Who Comes After the Subject?* (Routledge, 1991), 96–119.

⁷⁵Giorgio Agamben, *Homo Sacer, On Sovereign Power and Naked Life* (Stanford University Press, 1995) 7.

⁷⁶Anne Schillmoller, 'Gaining Ground: Towards a Discourse of Posthuman Animality: A Geophilosophical Journey' (2011) 14 *Southern Cross University Law Review* 41, 55.

has the manner in which those markers traditionally invoked to separate humans from animals (such as self-consciousness, rationality, language use, tool-making capacity, the possession of culture etc.) are fallible. Various animal behaviouralists have contested such criteria by proving that certain animals do possess these capacities, at least to a limited extent. For instance, primates, dolphins, elephants and parrots have all been taught rudimentary (human) language skills.⁷⁷ Consequently, growing knowledge of animal behaviour itself contributes to shifting notions of what it means to be human, and exposes the contingency of these boundaries.

Yet, as philosopher Stephen Clark contends,⁷⁸ once animals are shown to possess any of the qualities we have hitherto designated as a mark of humanness, such as speech,⁷⁹ we immediately refine our notion of what *does* constitute human qualities and revise that account upwards. In any event, since humans select the criteria upon which other animals will be judged, any tests devised are bound to be anthropocentric. As Barbara Noske observes, '[i]n having to pass *our* tests, as measured by *our* yardsticks, they will always come out second best, namely, as reduced humans'.⁸⁰ And here again there are clearly resonances between the treatment of women and animals, with Cynthia Willetts arguing that like animals 'women too have been associated with inferior moral status by the *phallogocentric* pairing of maleness with reason'.⁸¹

Of course, in the case of embryos, questions of rationality, language etc. do not, at least while they remain in embryonic form, come into play. Furthermore, the HFE Act 1990 had, by casting human embryos as essentially research material, made it easier to countenance the blurring of boundaries between them and embryos containing animal material. Indeed, and reflecting the tensions about casting them as human that we noted above, Brown has observed that paradoxically the HFE Act 1990 seemed to afford greater protection to hybrid embryos than it did to human ones:

It is a cause for concern throughout the debate that the transspecies hybrid is framed as more distinctive, more special, and singled out for exceptional protection by being banned. The ban reinforces the hierarchical structure that places humans over other species by protecting the human from the pollution posed by the incorporation of another species. And yet, at the same time, places humans in the morally awkward position of being experimental subjects in a way that transspecies (less than human) embryos are not.⁸²

⁷⁷Steven Wise, *Drawing the Line: Science and the Case of Animal Rights* (Perseus, 2002) chs 6, 9, 10.

⁷⁸Stephen Clark, *The Moral Status of Animals* (Oxford University Press, 1984) x.

⁷⁹Language ability has played a key role in demarcating humans and animals: see Cary Wolf, *What is Post-humanism?* (University of Minnesota Press, 2010) ch 2.

⁸⁰Barbara Noske, *Beyond Boundaries: Humans and Animals* (Black Rose Books, 1997) 143–4.

⁸¹Cynthia Willetts, *Interspecies Ethics* (Columbia University Press, 2014) 11.

⁸²Brown (n 43) 12.

Of course, the later HFE Act 2008 removed the paradox identified by Brown, but only by raising the spectre of the new trans-embryonic research subject which law now sanctions. Isabel Karpin has argued that, even though legislation in various jurisdictions has prohibited, or in the case of the UK sought to contain, the transgressive potential of trans-embryos, such efforts fail to quell speculation about what the status of a gestated embryo would be:

If the prohibited embryo is brought to life through gestation and birth, one might ask, how would law adjudicate its value if called upon to do so? Would its proscription in embryonic form have any impact on its status as a human person before the law?⁸³

Given law's investment in maintaining the animal-human boundary it seems probable that the taint of the animal would rule out claims to personhood and legal subjectivity for such beings. Even legal strategies, which have carefully couched their political challenges to this boundary, such as the Great Ape Project, have made few tangible gains. That project seeks to *shift* the boundaries of who/what counts as human by extending certain human rights (life, individual liberty and freedom from torture) to certain primates⁸⁴ rather than dismantling the boundary. However, Karpin's provocative and troubling question about the rights of a trans-embryo if birthed resonates with other critiques of the narrowness of the rights-bearing subject of conventional human rights law. As Braidotti observes, 'we assert our attachment to the species as if it were a given ... [and] construct a fundamental notion of Rights around the Human'.⁸⁵ John Harris too has criticised the insertion of the 'human' into this especially valorised form of rights. He contends that this process of according human rights:

has occurred ... thoughtlessly and with ... little attention to the prejudice of which this is an expression and to the extent to which this terminology makes future generations of beings like us hostages to fortune.⁸⁶

In consequence, Harris suggests that it is necessary to 'take the "human" out of human rights'. His proposal usefully advances the more limited extension of human rights envisaged by the Great Ape Project, and there is much to welcome in a broader conception of rights and rights holders. Nevertheless, I would suggest that something more radical is needed than strategies designed to extend the discourse of rights to accommodate either privileged animal species or enhanced humans, as commentators like Singer and

⁸³Isabel Karpin, 'The Uncanny Embryos: Legal Limits to the Human and Reproduction without Women' (2006) 28 *Sydney Law Review* 599, 611.

⁸⁴Paola Cavalieri and Peter Singer (eds), *The Great Ape Project: Equality Beyond Humanity* (Fourth Estate, 1993).

⁸⁵Braidotti (n 26) 1.

⁸⁶John Harris, 'Taking the "Human" out of Human Rights' (2010) 20(1) *Cambridge Quarterly of Healthcare Ethics* 9.

Cavalieri and Harris envisage. In formulating a different vision, Braidotti's starting place is her embodied kinship with technologically modified animals:

In the universe I inhabit as a post-industrial subject of so-called advanced capitalism there is great deal of familiarity and much in common in the way of embodied and embedded locations between female humans, oncomouse and the cloned sheep Dolly.⁸⁷

Clearly, this argument resonates with MacKinnon's assertions of women's fragile claims to the status 'human' and the exclusionary criteria that are deployed to define women and animals as lacking in relevant human characteristics. Significantly, given our technoscience context, Braidotti highlights how as a woman she is 'structurally serviceable and thus closer to the organisms that are willing or unwilling providers of organs or cells than to any notion of the inviolability and integrity of the human species'.⁸⁸ Her allusion to organisms that unwillingly provide organs or cells recalls the two applications submitted to the HFEA for licences for cybrid research, which provided the impetus for legal reform.⁸⁹ A range of species was proposed as the source of the required animal gametes, but it was envisaged that most would be derived from cows killed in an abattoir or from rabbits. In the case of animals reducible to meat, it is scarcely surprising that their bodies and reproductive products are seen as human resources to be harvested, and consequently as not giving rise to any significant ethical issues. As Carol Adams has noted of meat-eating patriarchal cultures:

[W]e assimilate into our lives ... the expectation that people should eat animals ... As a result the rendering of animals as consumable bodies is one of these presumptions that undergirds our attitudes.⁹⁰

In much the same way that feminist scholars have highlighted the devaluing of women's embodied and reproductive labour in practices such as egg donation and cord blood banking,⁹¹ the source of animal eggs are even more readily disregarded given their constitution as meat. In this regard it is noteworthy that in the course of her empirical work on stem cell research, Thompson records that two researchers recounted to her how the use of animal eggs to create cybrids could be regarded as 'feminist' given its potential to relieve the pressure on women to donate eggs.⁹² Clearly their vision of feminism admits no space for considering the ways in which the bodies of female

⁸⁷Braidotti (n 26) 80.

⁸⁸*Ibid.*

⁸⁹Mark Henderson, 'British Scientists Plan Work on Human-Rabbit Embryos' *The Times* (London, 13 January 2006). <http://www.thetimes.co.uk/tto/news/uk/article1950831.ece> (accessed 3 November 2015)

⁹⁰Carol Adams, *The Sexual Politics of Meat* (Polity Press, 1990) 14.

⁹¹Donna Dickenson, *Property in the Body: Feminist Perspectives* (Cambridge University Press, 2007) ch 2. See also Anne Phillips, *Our Bodies, Whose Property?* (Princeton University Press, 2013).

⁹²Thompson (n 1) xx.

humans and non-human animals alike are consumed.⁹³ Yet, as Braidotti notes:

In advanced capital, animals of all categories and species have been turned into tradable, disposable bodies, inscribed in a global market of post-anthropocentric exploitation.⁹⁴

Trying to think beyond the ways in which animals are simply substituted for female bodies and reproductive products that have hitherto been used in embryo and stem cell research helps to reveal continuities in how the bodies of female humans and animals are vulnerable to commodification and exploitation. I would argue that the value of exploring our shared corporeality with animals is one reason why feminist scholars, who have only just succeeded in bringing bodies into the frame of health law, should resist an influential transhumanist movement which advocates transcending or moving beyond bodies, and in some variants discarding the concept of the human.⁹⁵ While I am less worried about jettisoning notions of the human, I do have concerns about how '[t]ranshumanism challenges the corporeal approach itself'.⁹⁶ In its emphasis on the power of technology to overcome bodily limitations, the material body itself becomes a casualty, as evidenced in Katherine Hayles' assertion that 'embodiment in a biological substrate is seen as an accident of history rather than an inevitability of life'.⁹⁷ Cary Wolf has rightly accused her of opposing embodiment to the posthuman, and associating the latter 'with a kind of triumphalist disembodiment'.⁹⁸

For health lawyers, I argue that a more productive course is to engage with strands of posthumanist discourse which emphasise our shared corporeality – and associated vulnerabilities – with the non-human. Accounts of the posthuman like those offered by Wolf and Braidotti serve to more effectively call the borders of the human into question and are attentive to questions of subjectivity, including who gets to count as a legal subject. Tracking legal responses to trans-embryos highlights law's resistance to according legal subjectivity and protection to at least certain kinds of posthuman beings, suggesting that the issue of legal subjectivity needs to be rethought to better accommodate the

⁹³Elsewhere I have pointed to the curious reluctance within feminist legal scholarship to acknowledge such human-animal continuity, and how the fact that this binary remains unchallenged even within scholarship dedicated to dismantling such boundaries testifies to its entrenchment: see Fox (n 44).

⁹⁴Braidotti (n 26) 70.

⁹⁵For an overview of transhumanism see Max More and Natasha Vita-More, *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology and Philosophy of the Future* (Wiley-Blackwell, 2013). Key texts include Harold W Baillie and Timothy K Casey (eds), *Is Human Nature Obsolete? Genetics, Bioengineering and the Future of the Human Condition* (MIT Press, 2004); Joel Garreau, *Radical Evolution: The Promise and Peril of Enhancing Our Minds, Our Bodies – and What It Means to Be Human* (Random House, 2005); John Harris, *Enhancing Evolution: The Ethical Case for Making Better People* (Princeton University Press, 2007).

⁹⁶Ikemota (n 16) 1109.

⁹⁷N Katherine Hayles, *How We Became Posthuman* (University of Chicago Press, 1999) 2.

⁹⁸Wolf (n 79) xv.

beings that technoscience is now capable of producing, and to think through our ethical responsibility to them. Moreover I would add that a value to thinking more carefully about our ethical approach to nonhumans is the potential this carries to foster a more caring and nuanced approach towards our obligations to humans.

5. Containing and re-thinking the trans-embryo

As we have seen, notwithstanding the efforts of the Great Ape Project and other initiatives,⁹⁹ law has proven resistant to the idea of conferring personhood or subjectivity on entities that do not fit established humanist norms. As Braidotti has argued, all modes of embodiment other than the idealised masculine body are cast out of the subject position.¹⁰⁰ Even when boundaries are redrawn in the face of technological change and scientific imperatives and thereby disrupt such norms, as in the case of the HFE Act 2008, law can still serve to contain the transgressive potential of such developments. Hence, although the Act sanctioned the creation of trans-embryos, in a further exercise in boundary work it simultaneously required their destruction – in common with all other research embryos – at the 14-day stage. Doing so limited the havoc that the trans-embryo would otherwise have wreaked by ensuring that UK law would not be faced by Karpin's hypothetical question of how she/it would be legally classified should she/it be gestated and birthed. In so doing, law tapped into an anxiety that that had not been assuaged between 1990 and 2008, which is the horror evoked by the prospect of *birthing* prohibited embryos. Sharpe is surely correct in observing that natality plays a key role in understanding monsters. Indeed it is largely the fact that those who receive xenografts or other animal tissues or cells have been born human which renders them less threatening to legal categories:

Unlike the human/animal admixed embryo, the xenotransplant recipient is a subject of the law, and any breach of the law and/or nature associated with xenotransplantation occurs after birth when already incorporated into the legal order.¹⁰¹

By contrast, the prospect that the HFEA could at some point legally license the creation of a true hybrid by fusing gametes derived from an animal species sufficiently proximate to the human to make a viable birth plausible would pose a completely different order of challenge to the human/animal, person/property paradigms that are foundational to law. Given this, the legal prohibition on gestating and birthing monstrous embryos, by requiring

⁹⁹See, for instance, Steven Wise's The Nonhuman Rights Project www.nonhumanrightsproject.org/steve-wise/ (accessed 15 February 2015).

¹⁰⁰Braidotti (n 26) 69.

¹⁰¹Sharpe (n 30).

them to be destroyed at the 14-day point, was significant in rendering them legally permissible. This provision serves to contain our cultural fascination with and fear of interspecies reproduction,¹⁰² and to rule out the prospect of trans-embryos being candidates for legal subjectivity, personhood or human rights. Ultimately then, and notwithstanding the progressive potential of the trans-embryo to wreak havoc on species boundaries, the legislation which regulates it can be read as 'a constitutional reformation of traditional species hierarchies'.¹⁰³ The HFE Act 2008 thus functions to reinforce 'proper' or normative forms of corporeality and their connections to the ideal of the legal person that have been traced in other contexts.¹⁰⁴

Yet, I would argue that the nagging hypothetical question posed by Karpin does suggest that meddling with received understandings of the human nevertheless requires us to rethink the underlying models of subjectivity in law. To do so we need to formulate new ways of thinking that are not grounded in an unreflective vision of human exceptionalism.¹⁰⁵ In this regard I would argue that it is important to embed the trans-embryo within the network of bodies which serve to bring it into being, and specifically to connect her/it to the animal (m)others from whom the eggs that generate trans-embryos are harvested.¹⁰⁶ Focusing on the experiences which we share with non-human animals as a result of living as embodied and gendered beings who are vulnerable to harm and suffering and at times dependent on others offers a starting point for new visions of subjectivity. These seem to me likely to be more productive than querying who is the subject of human rights or who gets to count as law's persons, important though those questions are.¹⁰⁷ Starting with embodiment and embeddedness would emphasise notions of hybridity and relationality that it seems to me are denied by the exclusionary fictions of the 'person' and the 'human'. As Anne Phillips has argued: 'Bodies alert us to reciprocity and what we have in common, because all bodies need nourishment, all bodies feel pain and all bodies are potentially vulnerable.'¹⁰⁸

Such an approach also resonates with recent efforts to interrogate the concept of embodiment within health law.¹⁰⁹ Emphasising embodiment rather than the body shifts attention from the singular body, or even multiple

¹⁰²Squier (n 35) ch 23.

¹⁰³Brown (n 43) 162.

¹⁰⁴See Travis (n 9).

¹⁰⁵Wolf (n 79) 9.

¹⁰⁶For an account of the transfer of reproductive technologies between animal and human bodies, see Gena Corea, *The Mother Machine: Reproductive Technologies from Artificial Insemination to Artificial Wombs* (Harper Collins, 1986); Greta Gaard, 'Feminist Animal Studies in the US: Bodies Matter' (2012) 20 *Deportate, esuli, profughe*. http://www.unive.it/media/allegato/dep/n20-2012/Ricerche/Riflessione/3_Gaard_Feminist_Animal_Studies.pdf.

¹⁰⁷Harris, 'Taking' (n 86); Ngaire Naffine, 'Who Are Law's Persons? From Cheshire Cats To Responsible Subjects' (2003) 66 *Modern Law Review* 346.

¹⁰⁸Phillips (n 91) 37.

¹⁰⁹See e.g. Fletcher et al (n 8).

bodies, as the objects of analysis by mandating a broader focus on lived experience and the question of how we inhabit and experience the world through our bodies. It also contests representations of legal subjectivity as universal and disembodied. Applying such concepts to embryos allows us to think of them as connected both to the human and nonhuman animals to whom they are biologically related,¹¹⁰ and to the technoscientific worlds in which they are created. As Simon Bateman Novaes and Tanya Salem have argued, embryos always exist in a context and it is important to address how they might be reconceptualised within the complex web of medical and familial relationships that biotechnology had spawned.¹¹¹ For humans it is easier to reconceptualise reproductive embryos, which, like us, are already enmeshed within familiar familial networks. Karpin has explored issues of embeddedness and relationality in the context of those embryos she terms 'preconceived', demonstrating how in attributing meaning and value to reproductive embryos law bypasses the 'otherwise constitutive role of women's embodiment'.¹¹² She argues that law ought to reflect instead '(pre) maternal agency and women's embodied accounts of the value of their embryos'.¹¹³ Clearly those embryos destined for research are regarded differently from the 'pre-conceived embryo'. Consequently, a greater imaginative leap is required to see trans-embryos and other extra-corporeal research embryos as kinship entities. Yet notwithstanding legal attempts to differentiate and sort embryos into distinct categories¹¹⁴ the preconceived embryo has much in common with the trans-embryo, notwithstanding how such continuities are downplayed by current regulatory regimes.

Thus, both types of embryos 'exist precariously on the borderland of the here and the not-here'¹¹⁵ requiring significant boundary work to regulate them. Both have a material presence in the world and both are the product of embodied labour performed not only by the scientists who create them,¹¹⁶ but by the reproductive labour of the animals (human and non-human) from which/whom they are derived. The investment of human and non-human females in reproductive labour and in their reproductive and bodily products clearly differs. Yet, as, we have seen, both human and non-human females exist in a transbiological context where their corporeality and their bodily products are taken for granted as resources to be used.

¹¹⁰Sarah Franklin, *Biological Relatives: IVF Stems Cells, and the Future of Kinship* (Duke University Press, 2013).

¹¹¹Simone Bateman Novaes and Tanya Salem, 'Embedding the Embryo' in John Harris and Soren Holm (eds), *The Future of Human Reproduction* (Clarendon, 1998).

¹¹²Isabel Karpin, 'The Legal and Relational Identity of the Not-Yet Generation' (2012) 4 *Law, Innovation and Technology* 122, 123.

¹¹³*ibid.*

¹¹⁴Fox and McGuinness (n 59).

¹¹⁵*ibid.*

¹¹⁶Franklin, *Biological Relatives* (n 110) 168.

Recognising these shared embodied experiences and the vulnerability that they entail might therefore offer an alternative means to think through the question of what bodily products and forms we attribute value to and why. In turn this serves to problematise reductionist understandings of the legal subject, limited to the rational thinking male.

Of course, recognising the shared embodied experience of women and animals is not without pitfalls for those who seek to bring animal studies and feminist inquiries together. For instance, to regard embryos as embodied and relational products of reproductive labour (whether of humans or animals) raises uncomfortable questions about how such embryos are valued, particularly as many feminist perspectives would contest any ascription of subjectivity to them. I would argue that they should be constituted as more than raw materials to be exploited; but resist attempts in some recent scholarship to depict embryos and fetuses as the most vulnerable and dependent forms of embodied life.¹¹⁷ Thus, in seeking to defend pro-choice politics, and laws which value women, while simultaneously according some form of value to the embryo (or limiting what may be done to them) we tread an admittedly fine line.¹¹⁸

Yet, notwithstanding such perils I would argue it is important to address the challenge posed by the creation of hybrid embryos – intended as simply a biological ‘solution’ or pragmatic regulatory response to a perceived human reproductive failure and to a shortage of human eggs available for research purposes. By exposing ruptures and gaps in our regulatory process I hope to have shown how law requires a re-thinking of human/animal continuity and calls into question the singularity or ‘specialness’ of the ‘human’.¹¹⁹ Thinking about embryos in this way emphasises that the embodied, embedded and material nature of the trans-embryo offers a productive starting point for thinking through our ethical response to the trans-embryo and associated non-human ‘others’ and how we legally regulate new and hybrid products of the technological revolution.

6. Conclusion

In this article I have argued that in recent years we have witnessed a necessary insertion of questions of corporeality into health law. This has prompted the discipline to engage with a diverse range of marginalised bodies, and thus contribute to a feminist project of embodying and broadening notions of legal subjectivity. While acknowledging the importance of this

¹¹⁷Eliza Bachiochi, ‘Embodied Equality: Debunking Equal Protection Arguments for Abortion Rights’ (2011) 44 *Harvard Journal of Law and Public Policy* 889.

¹¹⁸As Maneesha Dechka has argued, ‘Feminists need to provide more responses to reproductive rights and regulation that examine the intersectional aspects of various reproductive issues’: ‘(Not) Reproducing the Cultural, Racial and Embodied Other: A Feminist Response to Canada’s Partial Ban on Sex Selection’ (2007) 16 *UCLA Women’s Law Journal* 1, 2.

¹¹⁹Gill Haddow et al, ‘Not “Human” Enough to Be Human, but Not “Animal” Enough to Be Animal: The Case of the HFEA, Cybrids and Xenotransplantation in the UK’ (2010) 29 *New Genetics and Society* 3.

development, I have argued that an uncritical acceptance – even within feminism – of the pervasiveness and naturalness of the human/animal boundary has meant that the bodies addressed in and by law continue to be almost exclusively human. To remedy the anthropocentrism of health law I agree with Cary Wolf that we need to comprehend a new reality according to which ‘the human’ occupies a new place in a universe populated by what he calls ‘nonhuman subjects’.¹²⁰ In my view, in its propensity to generate new nonhuman others, such as the trans-embryo, technoscience has played a key part in constituting this new reality. It is therefore imperative for health law to redress its privileging of the human body and to consider the need for a new form of interspecies or ahuman ethics, which would take exploitation of animal bodies seriously.¹²¹ This new reality in which the human is only one type of subjectivity requires us to unpack the binaries that structure liberalism. In turn we need to rethink core concepts such as bodily integrity, agency, knowing, and ‘the human’ itself which underpin contemporary health law, and to consider more hybrid regulatory structures which can encompass the non-human.¹²²

In this article, I have suggested that as liminal and queer figures, trans-embryos are useful subjects to consider when we think about questions of the human, since they help to problematise or ‘queer’ the notion of the human as special. They confront us with the issue of whether other bodies, and how they are brought into existence, or stopped from existing at certain points, matter. I suggest that in their potential to confuse, trouble, or unravel concepts such as the ‘person’, the ‘embryo’ and the ‘human’, and expose both the exclusionary and entwined histories of these concepts and the boundary work in which law engages, trans-embryos highlight the need for new categories or understandings of legal subjectivity. At the very least I argue that there is a need to move beyond anthropocentrism and human exceptionalism in law and bioethics which cast the human as special. We also need to resist a fixation on destructive boundary metaphors which erase the significance of embodiment in defining law’s persons and limit our ability to recognise commonalities in how animals and some humans become reduced to the ‘merely’ corporeal.

Acknowledgements

I would like to thank Sarah Chan, Isabel Karpin, Sheelagh McGuinness, Michael Thomson and the editors and reviewers of this special issue for their insightful

¹²⁰Wolf (n 79) 47.

¹²¹Willets (n 81); Patricia MacCormack, *The Animal Catalyst: Towards Ahuman Theory* (Bloomsbury, 2014).

¹²²I begin to sketch how such regulatory structures might be framed in Marie Fox, ‘Legal Regulation of New Technologies: Rethinking Xenotechnologies in the Twenty-first Century’ in Pamela Ferguson and Graeme Laurie (eds), *Inspiring a Medico-legal Revolution: Essays in Honour of Sheila McLean* (Ashgate, 2015) 201–14.

feedback on earlier drafts of this article. The article was also shaped by feedback from the participants at the Gender and Law at Durham (GLAD) Seminar hosted by Durham Law School in March 2014 and at the Translational Bodies conference held at Monash Prato Centre, Italy in April 2014.

Disclosure statement

No potential conflict of interest was reported by the author.

Notes on contributor

Marie Fox is Professor of Socio-legal Studies at the School of Law, University of Birmingham. Her research focuses on legal regulation of human and animal bodies.

Copyright of Law, Innovation & Technology is the property of © Hart Publishing, Oxford and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.