Jenni Millbank’s incisive article, ‘Reflecting the “human nature” of IVF embryos: disappearing women in ethics, law and fertility practice’, takes issue with the prevailing concentration on ‘respect for the embryo’ in guidelines and statutes concerning embryo storage. She argues that there is insufficient regard for the specific significance of embryos to the women who underwent complex and difficult IVF procedures to create them. Such a fixation, she asserts, effectively makes these women ‘disappear’, failing to show respect for their effort, dignity, and agency. Here she cites the argument by Isabel Karpin that:

> The embryo is only connected with its potential for personhood by female embodiment. Those who wish to make the argument that all embryos have equivalent value do so only by rendering the female body irrelevant. In order to do this, a complex process of disappearing has to take place.\(^2\)

Millbank concentrates on storage and destruction of embryos in IVF practice, as is perfectly right and proper. There is an urgent need to do so, she writes, because ‘decisions about storage and destruction are critical conflict points that have triggered expressions of dismay by IVF participants… These are not the only areas in which ART law and policy prioritize a universalized and disembodied respect for the embryo over and above the feelings and wishes of those who created them, but they are the most acute and, particularly in the case of destruction, the most painfully paradoxical’.\(^3\)

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\(^1\) Jenni Millbank, *Reflecting the ‘Human Nature’ of IVF Embryos: Disappearing Women in Ethics, Law and Fertility Practice*, J. L. & Biosci. (2016) DOI: 10.1093/jlb/lsw058.

\(^2\) Isabel Karpin, *The Uncanny Embryos: Legal Limits to the Human and Reproduction Without Women*, 28 *Sydney L. Rev.* 600, 603 (2006).

\(^3\) Millbank, *supra* note 1, at 23.
However, the phenomenon of the disappearing woman is much more general: part and parcel of the way in which ‘the lady vanishes’ in bioethics debate. I first identified this worrying tendency more than 10 years ago, in relation to somatic cell nuclear transfer (SCNT) stem cell research. It has resurfaced recently in the debate about so-called mitochondrial transfer or three-parent IVF, but it never really went away. In much public policy and academic discussion about biomedicine, the lady has vanished and is still missing.

The new reproductive biotechnologies have largely failed to recognize either women’s labor in creating ‘biovalue’ or women’s related rights of ownership over the products of their ‘clinical labor.’ Popular misconceptions to the contrary, we do not necessarily own our bodies, because we have not generally labored to create them. In the view of property as deriving from labor, on which those unlikely bedfellows Locke and Marx concur, we may own objects resulting from the labor of our bodies, but not our bodies as such. This interpretation is consistent with the view of the subject as embodied, to which Millbank refers, and with the desire to avoid objectification or commodification of the body, which opens up as a possibility once we admit the notion that bodies can be owned.

However, women do labor to produce ova used for IVF and research, for example, in some stem cell technologies and in so-called mitochondrial transfer. These ova are not mere waste or abandoned tissue: they are extracted, in multiple and unnatural quantities, through laborious and risky procedures. Similar processes are also involved in the creation of embryos for IVF, although, as Millbank argues, they are insufficiently recognized when only the moral status of the embryo is said to count. Instead, she writes, ‘It is [the woman’s] embodied effort, pain, and sacrifice in IVF processes that call for regard to be given to [embryos].’

Likewise, in a prominent case of research, academics and media commentators virtually ignored the contribution of the women who had produced the necessary ova. In SCNT stem cell research, an adult somatic cell is transferred into an egg that has had its nucleus removed. The remaining cytoplasm within the egg ‘reprogrammes’ the transferred nucleus, creating a blastocyst (a very early-stage embryo) that can theoretically be transformed into a stem cell line tissue matched to the donor of the somatic cell. The ostensible SCNT pioneer Hwang Woo Suk used over 2,200 eggs from 129 women (some of them his own junior researchers, others paid ‘donors’) in what was later revealed to be fraudulent research.

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4 Donna Dickenson, *The Lady Vanishes: What’s Missing from the Stem Cell Debate*, 3 J. BIOETHICAL INQUIRY 43 (2006); DONNA DICKENSON, PROPERTY IN THE BODY: FEMINIST PERSPECTIVES (2nd ed. 2017).
5 Donna Dickenson, *The Commercialization of Human Eggs in Mitochondrial Replacement Research*, 19 NEW BIOETHICS 18 (2013).
6 MELINDA COOPER & CATHERINE WALDBY, CLINICAL LABOR: TISSUE DONORS AND RESEARCH SUBJECTS IN THE GLOBAL BIOECONOMY (2014).
7 DONNA DICKENSON, PROPERTY IN THE BODY; JEREMY WALDRON, THE RIGHT TO PRIVATE PROPERTY (1988).
8 DONNA DICKENSON, BODY SHOPPING: CONVERTING BODY PARTS TO PROFIT (2009).
9 For an assessment of the clinical risks involved in ova donation, see LINDA GIUDICE, EILEEN SANTA & ROBERT POOL, ASSESSING THE MEDICAL RISKS OF HUMAN OOCYTE DONATION FOR STEM CELL RESEARCH, INSTITUTE OF MEDICINE AND NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES WORKSHOP REPORT (2007).
10 Millbank, supra note 1, at 18.
11 Francoise Baylis, *For Love or Money: The Saga of the Korean Women Who Provided Eggs for Stem Cell Research*, 30 THEOR. MED. BIOETHICS 385 (2009).
The relevant point is not that the findings were bogus, but that very few commentators asked where all these eggs had come from and whether the labor of the women who produced them had been valued properly. When Hwang announced his supposed new technology involving cloned blastocysts, followed by a later announcement of successful development of patient-specific embryonic stem cells that could serve as virtual ‘spare parts kits’ for patients, debate instead revolved almost entirely around the implications for the moral status of the embryo. Here is a clear parallel to Millbank’s argument that women’s labor in creating IVF embryos is insufficiently recognized, when the only ethical issue is seen as respect for the embryo.

On the one hand, the recalcitrance of opponents of embryonic and SCNT stem cell technologies was generally grounded in the assertions that the embryo is either a human being or a potential human being, and that it is wrong to destroy an existing or potential human being in order to produce stem cell lines. Proponents’ justifications of such research were more disparate, but not varied enough to escape the charge of obsession with the status of the embryo. What united the two contending sides in the stem cell wars was that the women from whom the necessary eggs would have to be taken were equally invisible to both.

Only after critical investigations by the journalist David Cyranoski and the feminist activist group Korean Womenlink was it revealed that some of Hwang’s ‘volunteers’ were actually his junior researchers, and that Hwang had grossly understated both the number of women from whom he took eggs and the quantity he took. Hwang declared in his first article that he had used a total of 242 eggs from 16 women, while his second article admitted to taking 185 eggs from 18 women. In fact the figures that eventually emerged were almost 10 times as high: 2,221 ova from 119 women. To get this huge number of eggs would require intense hormone stimulation; unsurprisingly but shockingly, the incidence of ovarian hyperstimulation syndrome (OHSS) among Hwang’s donors was over 17 per cent. One woman who had to be hospitalized for OHSS was then subjected to a second cycle of donation. A high proportion of eggs were purchased outright in an international trade, contravening Korean law and obviously commodifying the ova.

Nearly a decade later, the debate around permitting research into three-parent IVF once again demonstrated the phenomenon of ‘disappearing women’. Like SCNT research, this process requires an enucleated egg from a healthy donor, into which a

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12 Hwang Woo Suk et al., Evidence of a Pluripotent Human Embryonic Stem Cell Line Derived from a Cloned Blastocyst, 303 SCIENCE 1669 (2004).
13 Hwang Woo-Suk et al., Patient-Specific Embryonic Stem Cells Derived from Human SCNT Blastocysts, 308 SCIENCE 1777 (2005).
14 See, for example, Emily Jackson, Fraudulent Stem Cell Research and Respect for the Embryo, 1 BIOSCIENCES 349 (2006). For an international comparative survey of ethical issues perceived as relevant in stem cell research, see Herbert Gottweis & Barbara Prainsack, Emotion in Political Discourse: Approaches to Stem Cell Governance in the USA, UK, Israel and Germany, 6 REPROD. MED. 823 (2006).
15 David Cyranoski, Korea’s Stem-Cell Stars Dagged by Suspcion of Ethical Breach, 429 NATURE 3 (2004). DOI:10.1038/429003a.
16 All figures are taken from Baylis, supra note 11. Similar figures are cited in Robert Steinbrook, Egg Donation and Human Embryonic Stem-Cell Research, 354 NEW ENG. J. MED 324 (2006).
somatic cell from a woman with mitochondrial disease is inserted. Proponents of the techniques, however, camouflaged that requirement by using the inaccurate term ‘mitochondrial transfer’, ignoring the fact that mitochondria only come ready-packaged in eggs.

The term is also inaccurate because it is actually the nucleus that is being transferred, not the mitochondria. As David Albert Jones wrote, ‘It is not the mitochondria that are “donated” or “replaced”...It is the healthy egg from the egg donor that is “modified”, and it is modified by replacement of its nuclear DNA.’ Jones went on to remark on the way in which the vanishing lady was still missing: ‘The contemporary situation is just as it was in 2006 when Donna Dickenson remarked that ‘the women from whom the ova are taken have virtually disappeared from view’ or in 2008 when Francoise Baylis observed that ‘their eggs are regarded as mere receptacles and their reproductive labour is taken for granted’.

Millbank writes: ‘I suggest that we still do not ask, as we ought to, “What is the respect due to the woman undertaking treatment?”’ In the debates around both SCNT research and ‘mitochondrial transfer’, very little respect was paid to the women undertaking the treatment necessary for ova provision. The very terminology of ‘mitochondrial transfer’ ignores the need for eggs, and therefore the existence of the women who provide them. Defenders of the technology dismiss the term ‘three-parent IVF’ as sensationalistic—although it is actually more accurate—by denying that the donor of the egg with the healthy mitochondria is a parent, because there are fewer genes in mitochondria than in the somatic nucleus. This, too, demonstrates a profound lack of respect for what women undergo in the laborious and risk-laden process of egg donation, and more broadly, for their altruism, agency, and dignity.

How can we rectify this neglect of women’s contribution and make the lady reappear? That is, of course, a huge question, but in the particular instance of fertility practice studied by Millbank, one way to give women more say might be through a modified property model. When clinics destroy embryos after a specified time period, against the wishes of the women whose ova were used to create them, they are acting as if they and not those women have property rights in the embryos. That assumption is sanctioned in legislation and clinical guidelines, but it is only a presumption: one with which many women are deeply uncomfortable. The women Millbank interviewed typically want to have the right to dispose of their embryos as they see fit. As she notes, ‘Many of these interviewees expressed intense distress and dismay when faced with the operation of legal rules or clinical policies that they experienced as intruding upon their decision making.’

In light of recent case law, clinics’ property in embryos also looks like an increasingly dubious presumption. Although the ‘no-property’ rule about the body has generally

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17 Here I describe the particular form of ‘mitochondrial transfer’ known as maternal spindle technique, which involves modifying eggs prior to fertilization. A second technique, pronuclear transfer, involves modification of embryos. Both methods require eggs from an egg donor with healthy mitochondria.

18 David Albert Jones, The Other Woman: Evaluating the Language of “Three Parent” Embryos, 10 CLIN. ETHICS 98 (2015).

19 Jones, supra note 18, at 103, citing Dickenson, The Lady Vanishes, and Francoise Baylis, Animal Eggs for Stem Cell Research: A Path Not Worth Taking, 8 AM. J. BIOETHICS 18 (2008).

20 See, for example, UK Department of Health, Mitochondrial Donation, section 1.25 (2014).

21 Millbank, supra note 1, at 5.
prevailed in the common law, meaning that patients lack ongoing rights in their extracted tissue, a leading case in England, Yearworth, held that men retained sufficiently property-like rights in their stored tissue to ground an action in bailment against the hospital that had negligently destroyed their sperm. Given that women’s entitlements in their persons and bodies have traditionally been fewer than men’s, however, we should not necessarily assume that female tissue will be brought under the same rubric. The law has so far failed to consider that women put greater labor into extraction of eggs, and thus into the creation of embryos, than men undergo in the collection of sperm.

This omission is highly relevant in cases that have upheld men’s rights against women’s entitlements over the usage of stored IVF embryos. One such case, Evans v Amicus Healthcare Trust, concerned a woman diagnosed with ovarian cancer, who had produced embryos with her then partner as a precaution against sterility following her operation. (Note the strong resemblance to Yearworth, in which men likewise diagnosed with cancer had produced sperm as insurance against infertility following their operations.) The male partner’s right to withdraw consent to implantation of the embryos was upheld by the court over any property right that Evans had in the embryos. Apparently the court prioritized the HFEA’s statutory liability to ensure consent of both partners, while in Yearworth property remedies were sought.

Prioritizing the claims and liabilities of clinics and regulatory agencies, however, rests on the prior assumption that clinics do have property rights in stored embryos, whereas women undergoing treatment do not. Otherwise clinics would have no entitlement to destroy embryos after a given period of time or to make other decisions about their disposal. When a clinic allows a woman to take embryos home for storage, as occurred in the case of one woman interviewed by Millbank, it is not surrendering its general property entitlement to manage the disposal of the embryos, but only allowing a change of storage location. (Presumably embryos stored under home conditions would become clinically unviable, so the effect is the same to the clinic as destruction, although very different to the woman.)

Whether or not a court would uphold the presumption that clinics have property rights in stored embryos, which women lack, I would argue that such a presumption should not hold. Instead, we need to implement a modified property rights model to recognize women’s labor, intentionality and agency in producing embryos. Common-law jurisprudence typically views property as a set of relationships between persons, not as a thing in itself. This emphasis on property as relationship is entirely

22 Moore v. Regents of the University of California, 51 Cal. 3d 120, 793 P. 2d, 271 Cal. Rptr. 146 (1990); Jesse Wall, Being and Owning: The Body, Bodily Material, and the Law (2015).
23 Yearworth and Others v. North Bristol NHS Trust, EWCACiv37; [2010] QB 1 (2009). For analysis of the case, see inter alia: Muireann Quigley, Property: The Future of Human Tissue? (2009) 17 MED. L. REV. 457; James Lee, The Fertile Imagination of the Common Law: Yearworth v. North Bristol NHS Trust (2009) 17 TORTS L. J. 130; and Shawn H.E. Harmon & Graeme Laurie, Yearworth v. North Bristol NHS Trust: Property, Principles and Paradigms, 69 CAMBRIDGE L. J. 476–93 (2010).
24 Carole Pateman, The Sexual Contract (1988); Donna Dickenson, Property, Women and Politics: Subjects or Objects? (1997).
25 Evans v. Amicus Healthcare Ltd., E.W.C.A. Civ. 727 (2004); Additionally, in Yearworth there was no conflict between male and female gamete donors; only the men were claimants.
26 Jesse Wall, The Legal Status of Body Parts: A Framework, 31 OXFORD J. LEGAL STUD. 783 (2011)
27 Wesley Newcomb Hohfeld, Fundamental Legal Conceptions As Applied in Judicial Reasoning (1919). For a schematic analysis of how particular combinations of rights from the ‘bundle’ might be applied to bio-
consistent with feminist theory, which has frequently foregrounded relationships and relatedness, as does Millbank herself.\textsuperscript{28} Properly understood, property is a concept that can empower women, although it is frequently misunderstood as subjugating them. As the legal theorist Carol Rose points out, there has been far more feminist interest in women as objects of property than as subjects, who, I would add, might hold and benefit from property rights relevant to their own bodies.\textsuperscript{29}

A modified property model for embryo storage emphatically does not mean commodifying embryos. The limited property rights that women would probably seek—judging from Millbank’s interviews—have nothing to do with sale, income, or profit. Rather, they have to do with those sticks in the differentiated property ‘bundle’\textsuperscript{30} that concern management of the object of property, and the right to exclude others from taking decisions over it with which I do not concur. In Yearworth, the hospital contended that the men had no property in their sperm because they could not direct its use without the assistance of the hospital. However, the court rejected that unitary conception of property, denying that this limitation meant the men had no property rights whatsoever.\textsuperscript{31} One need not have every ‘stick’ in the property bundle to have some meaningful rights. When women’s agency and views about the disposal of their embryos are overridden, and the discussion centers almost entirely on the status of the embryo, a modified property regime in embryos could provide the recognition and control that women need and deserve.

Here is a familiar example of a modified property regime: to the extent that I have a property in my vote, it does not encompass any right to sell my vote, or even to give my vote away; but it does include the right to prevent any unauthorized person from voting in my name, and more generally the right to use my vote as I see fit. Likewise, the women interviewed by Millbank want to have the right to dispose of their embryos as they see fit: nothing more earth shattering than that.

\begin{itemize}
\item \textsuperscript{28} See, for example, Mary Jeanne Larrabee (ed.), An Ethic of Care (1993); Hilde Lindemann Nelson & James Lindemann Nelson, The Patient in the Family (1995); Virginia Held, Feminist Morality (1993); and Peta Bowden, CarinG: Gender-Sensitive Ethics (1997).
\item \textsuperscript{29} Carol M. Rose, Property and Persuasion: Essays on the History, Theory and Rhetoric of Ownership (1994).
\item \textsuperscript{30} A. M. Honoré, Ownership, originally published in Oxford Essays in Jurisprudence (Anthony G. Guest ed., 1961), reprinted in A. M. Honoré, Making Law Bind: Essays Legal and Philosophical 161 (1987); Dickenson, supra note 4, ch. 1.
\item \textsuperscript{31} Muireann Quigley, supra note 23.
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