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### Freezing fertility: Oocyte cryopreservation and the gender politics of ageing

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**Publication date**

2015

**Document Version**

Final published version

[Link to publication](#)

**Citation for published version (APA):**

van de Wiel, L. (2015). *Freezing fertility: Oocyte cryopreservation and the gender politics of ageing*. [Thesis, fully internal, Universiteit van Amsterdam].

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## Conclusion

As IVF has become normalised almost four decades after the birth of Louise Brown in 1978, procedures like egg freezing—essentially a variation of IVF with a period of cryostorage—continue to capture the public imagination and raise controversy. Since its 21<sup>st</sup>-century advent, OC has proven to be a rapidly evolving practice, in which the relation between ageing and reproductivity, between cells and bodies, has been repeatedly reconstructed. In this study, I have analysed the relation between reproductivity and ageing at each stage of the OC procedure by following the journey of the egg from its *in vivo* existence into the freezer, the incubator, the womb and across the world. This approach has allowed me to discuss representations of egg freezing and age-related infertility in popular media like newspapers and documentaries, but also to highlight developments emerging with OC that may have received less widespread public attention, such as new possibilities of becoming a mother posthumously, sharing pictures of one's frozen eggs in online social networks, and donating or receiving eggs from women across the world. These various developments are indicative of the complexity of the gender politics of ageing emerging from egg freezing. I have drawn attention to, for example, the disciplinary effects of anticipating age-related infertility, the appeal to chrononormativity in celebrating or challenging the use of OC, the cultural specificity of situating (reproductive) life's origin and finitude at various points in the lifespan and the age-specific interpellation of women to freeze their eggs, whether for their own or another's use. With egg freezing emerge novel modes of plastic and distributed ageing, which may be reflected in visual mediations of the frozen egg. It is also the condition of possibility for the appearance of new forms of older motherhood and pre-emptive intended kinship negotiations. With the founding of egg banks and the emergence of global flows of eggs, egg freezing is no longer exclusively a technology for "fertility preservation," but also a tool for extending the infrastructure for the exchange of eggs between bodies and institutions.

As a new technology that gained in clinical and cultural importance in the early 21<sup>st</sup> century, it is important to draw attention to the historical specificity of this moment in which a widespread trend towards later reproduction is met with this particular intervention. The development of vitrification techniques for cryopreservation and the improvement of slow-freezing protocols led to higher egg survival rates that made the use of OC for prospective age-related infertility more feasible. Both these technological developments and OC's subsequent clinical and cultural popularity should be positioned within the context of existing practices, industries and regulations of assisted reproduction, including the worldwide adoption of IVF, widespread application of embryo and sperm cryopreservation and the prevalent use of gamete donation—

particularly egg donation—to enable later reproduction. I have read the advent of OC in the first post-millennial decades in relation to the age and gender ideologies, technological developments, demographic trends, institutional and national regulations that coincide at this particular moment in history. As egg freezing is taken up by an increasing number of fertility clinics, a shift in any one or more of these factors could transform or marginalise egg freezing practices in the foreseeable and distant future.

### Future Technologies

The current popularity of OC, then, reflects a particular historically specific reality in which there are few alternatives to circumventing female age-related infertility. This may change as research is ongoing into other approaches of decoupling bodily ageing and reproductive ability. One possible alternative to oocyte cryopreservation is ovarian cryopreservation: the freezing of (part of) the ovaries, which contain a much greater number of immature eggs than are typically extracted in an egg freezing cycle. Although this involves more invasive surgery than OC, ovarian cryopreservation does not require hormonal stimulation to mature the eggs prior to their extraction. Instead, the ovarian tissue, and the large number of eggs it holds, may be frozen and autotransplanted back into the body at a later date—a technique called “autografting” (The Practice Committee of the American Society for Reproductive Medicine 2004, 994).<sup>159</sup> As the cryopreserved ovarian tissue is reintroduced and reintegrated into the body, it can yield its “younger” eggs and allow a woman to become pregnant without IVF. Although this method is still in development, the orthotopic autotransplantation of cryopreserved ovarian tissue has led to over 40 human births (Donnez and Dolmans 2014). Alternatively, immature eggs could be matured *in vitro*, frozen and used at a later point for reproductive purposes (Huang et al. 2008; Chian et al. 2009). If *in vitro* maturation (IVM) success rates were to approximate those of *in vivo* matured eggs, hormonal stimulation, with its side effects and risks of ovarian hyperstimulation syndrome, could be adjusted or avoided altogether in OC and IVF practices (Suikkari and Söderström-Anttila 2007).<sup>160</sup>

Artificial gametes present an entirely different approach to decoupling age and reproductive ability. Instead of freezing them, eggs could be generated from other cells

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<sup>159</sup> In orthotopic transplantation, the ovarian tissue is implanted on the remaining ovary, close to it or near the uterus (Donnez and Dolmans 2014). Alternatively, in heterotopic transplantation, the ovary may be reimplanted at a site that would require less invasive surgery and could be monitored more easily, such as the forearm or lower abdominal wall (Oktay et al. 2000; Kondapalli 2012, 67). In this way, the organs would be rearranged in the body to facilitate the visibility and the extractability of *in vivo* eggs.

<sup>160</sup> IVM live birth rates are currently lower than those of conventional IVF. Over 300 children have been born from IVM eggs. Although their health appears to be within the normal range, this number is too small and the children are too young to determine whether IVM significantly raises health risks for the children born after the use of this technology (Suikkari and Söderström-Anttila 2007).

in the body at any point in the life cycle, thereby rendering the need to preserve existing eggs redundant. Although this is a highly complicated process, in theory, somatic cells could be taken from an intended parent and treated to become an egg containing a set of genes derived from this person.<sup>161</sup> One approach is to take stem cells—whether embryonic (ESCs) or induced pluripotent ones (iPSCs)—which can still develop into any cell type and differentiate them into gametes. Molecular biologists Hayashi and Saitou did something along these lines by manipulating mice stem cells into germline cells *in vitro*, which produced oocytes when transplanted back into the mouse. From these oocytes, viable baby mice were born (2013). The imagined clinical application of this method would be that women with limited or absent ovarian reserves for age- or disease-related reasons could donate cells from which oocytes could be generated that would allow them to have genetically related children. Hayashi expects that the translation of this technique to humans could take another “10 to 50 years” (Cyranski 2013b, 394).<sup>162</sup>

Another alternative approach to fertility preservation that is currently being researched relies on the presence of stem cells in the ovarian lining, which could play a role in the production of eggs in the ovary. The question of the existence of egg-producing stem cells in the ovaries of mammals has been researched for over half a century. Since Zuckerman’s 1951 extensive review of studies into oogenesis, his conclusion that ovaries can only generate eggs before birth has been a largely unchallenged biological doctrine, which underlies OC’s logic of egg preservation (Hanna and Hennebold 2014, 24).<sup>163</sup> A 2004 study counters this long-standing notion that women are born with all the eggs they will ever have. It identifies active germline stem cells in the ovaries (OSCs) that have the continued capacity to produce eggs, also long after birth (Johnson et al. 2004).<sup>164</sup> Since its publication, a lively debate has emerged around the question of whether the cells characterised as OSCs are indeed stem cells, whether they could produce eggs and whether these eggs could be fertilised and result in offspring. Suggesting that the answer to these questions is affirmative, Zou et al. isolated mice OSCs, which proliferated *in vitro* and spontaneously generated eggs that fertilised and resulted in offspring after being reintroduced into the ovaries (2009). White et al.

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<sup>161</sup> This process is more difficult for eggs than it is for sperm. A reprogrammed haploid cell could function as a male gamete in fertilising an egg with ICSI. The intricate and complex egg cytoplasm, which is an integral part of the egg, is challenging to create from stem cells.

<sup>162</sup> Alternatively, somatic cells could be made to differentiate directly into eggs without the extra step of creating stem cells in the process, as shown in several studies in which human cells taken from the amniotic fluid and the liver differentiated into artificial “oocyte-like cells” (Cheng et al. 2012; Ma et al. 2013; Hendriks et al. 2015, 291–292).

<sup>163</sup> In this way, female gamete generation is understood to contrast with its male counterpart, as sperm can be produced by germ cells in the testes throughout the life cycle.

<sup>164</sup> These female germline cells were called oogonial stem cells (OSCs) because they are hypothesised to generate oocytes in a way analogous to the male spermatogonial germ cells, which produce sperm throughout adult life (White et al. 2012, 413).

isolated these stem cells from human ovaries and observed the formation of eggs (2012). In spite of these studies' claims, scepticism from the scientific community remains and lively debates continue with all sides providing "compelling evidence" (Hanna and Hennebold 2014, 28). Should future studies affirm that the female ovarian lining does indeed contain active stem cells that could be stimulated to produce eggs *in vivo* or *in vitro*, they could provide an additional, autologous source of eggs to replenish oocyte reserves of women with age-related infertility (Tilly and Telfer 2009, 393; Hendriks et al. 2015, 292). This approach would provide alternative ways of generating eggs and, in doing so, shift the relation between physical age and reproductivity. A future clinical application of these technologies could compromise the need for egg freezing as it exists today.

Although this research remains controversial, one of the researchers of the original 2004 study into OSCs, Jonathan Tilly, founded OvaScience to begin its clinical application. This stock market-listed biotechnology company is currently introducing new clinical approaches to counteract (age-related) subfertility using the abovementioned OSCs, renamed egg precursor (EggPC) cells, found in the lining of the ovary. It is developing treatments using these EggPC cells to provide alternative approaches to having genetically-related children in spite of female age-related infertility.<sup>165</sup> Rather than OC's approach of preserving eggs to prevent them from ageing, OvaScience proposes that EggPCs present an additional source of eggs that can become available if the eggs in the ovaries are no longer sufficient. Notwithstanding the as yet limited evidence of their efficacy or safety, these treatments are significant for publicly introducing new approaches to fertility preservation that divert from a model in which egg quality and quantity are irreversibly lost over time and instead propose to use women's own EggPC cells to increase the number of viable eggs available to them.

Another treatment, which was clinically introduced by OvaScience in 2014, takes the mitochondria, the energy-producing organelles in cells, of the EggPC cells and injects them into an extracted egg. The underlying hypothesis is that cellular ageing entails a decline in "both the number and activity of mitochondria" and that therefore the "impaired bioenergetics capacity in oocytes is a primary contributor to declining egg and embryo quality with advancing maternal age" (Tilly and Sinclair 2013, 841). By supplementing the ageing egg with extra mitochondria to provide energy to the cell, it is

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<sup>165</sup> OvaScience is developing two procedures that may increase the quantity of available eggs with the EggPC cells from the ovarian lining. In the treatment named OvaPrime, which is due to be clinically introduced in late 2015, a part of the ovarian lining is surgically removed from the woman, from which the EggPC cells are isolated *in vitro* and retransplanted into her ovaries. Through an IVF procedure, these transplanted EggPC cells could start to produce mature eggs and lead to a pregnancy and birth. Alternatively, in a treatment called OvaTure, the EggPCs can be removed and matured *in vitro* with IVM techniques. The resultant mature eggs can then be fertilised and transplanted back into the womb. OvaScience markets these technologies as methods to supplement the ovarian reserve.

thought to have better chances at successful fertilisation and embryo development (Tilly and Sinclair 2013, 843). This treatment, as its name Augment suggests, seeks to “augment” age-related “egg health” by introducing more mitochondria into its cytoplasm (OvaScience 2015). It thereby proposes a bioenergetics model of reproductive ageing, in which the cellular mitochondrial losses over time may be resupplemented and rejuvenated through an intervention in the egg itself. Although more research is required to determine the efficacy of this approach, it has already been introduced in clinics in Canada, Turkey and Abu Dhabi. It is marketed to potential patients who have “compromised egg health” with a dedicated website, a promotional video and the slogan “your eggs, revitalised” (OvaScience 2015).<sup>166</sup> Zain Rajani, the first baby conceived with mitochondria-injected eggs was born in April 2015 in Toronto. His birth was extensively covered in TIME magazine with a 5-page article titled “The Incredible, Surprising, Controversial New Way to Make a Baby” (Park 2015).

Following developments in germ cell biology and stem cell research over the last 20 years, cell biology appears much more plastic than was previously assumed. This has created several radical future scenarios for providing alternative sources of eggs and treating age-related infertility. However, given the complexity of the processes involved and requirements for high safety standards given the stakes for the child-to-be, the successful use of stem cells in human reproduction is unlikely to provide a viable alternative to OC in the foreseeable future. Although still controversial, clinical treatments using OSCs are announced and the first child after the Augment treatment, Zain Rajani, has joined Louise Brown, Emily Perry and Baby Eva as the next miracle baby.

### To Begin Again: Fertility and Finitude

These alternative, future technologies position the 21<sup>st</sup>-century advent of egg freezing within an ongoing development of technologising reproduction and its relation to ageing. Yet OC also follows a long history of medicalising reproductive ageing, which I touched on in my discussion of 19<sup>th</sup> century menopause. Through a reading of the first British medical treatises dedicated to menopause, I distilled three mechanisms as points of reference for analysing later developments, such as egg freezing. The first mechanism historicises the way in which gender-specific norms of life course progression become lodged in conceptualisations of the female reproductive body. The second concerns the discursive construction of corporeal and cellular temporality through medical imaging techniques. The third pertains to the disciplinary and subversive potential of

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<sup>166</sup> The OvaScience Augment treatment costs between \$15,000 and \$25,000 in Canadian clinics (Park 2015). The FDA has not yet approved its use in the United States.

contemporary surgical, hormonal, and discursive anticipations of the age-related infertility that render women's bodies into sites of futurity.<sup>167</sup>

The first mechanism of the interrelation between normative ideas about ageing and conceptualisations of the female reproductive body was a central element in the public discourses of OC. The possibility of egg freezing triggered the articulation of existing chrononormative status quo pertaining to timing reproduction. Offering the possibility for older motherhood, IVF debates on late reproduction were revived as the question of when women should have children was discussed by medics, politicians and members of the public. This is indicative of how OC prompted public expressions of what age ranges for having children were deemed culturally acceptable or desirable by naturalising them as “normal” limits of the ageing body, as opposed to those that became attainable through egg cryopreservation. Although older debates resurfaced, the timing of motherhood with egg freezing was novel for its willful transgression of both a nonreproductive norm in later life courses and a reproductive norm in earlier life courses. In newspaper coverage, this reproductive chrononormativity was affirmed through oppositions of medical versus social and single versus lifestyle freezers, which framed OC as either legitimate because it was the only option for sick or single women to meet the reproductive will during their fertile years, or as transgressive because it indicated a willful postponement or deprioritisation of motherhood during this part of life.

The public discourses of OC also affirmed a particular understanding of female reproductive ageing as cellular in nature—as characterised by egg quality, quantity and their loss over time. In the newspaper coverage, blogs, websites and documentaries I discussed, the centrality of eggs was established through fertility statistics, photomicrography, online egg donor profiles or by the direct reference of “a couple of good eggs,” which may be lodged in the body or in the freezer. The goodness and (anticipated) loss of these eggs played a key role in conceptualising bodily reproductive ageing as heterogeneous and in decline. In motivating her decision to freeze her eggs, Schellart characterised her experience of embodied ageing by a discrepancy between the age of the eggs in “that belly” and the lived age of the body. Eggfreezer contrasted her ageing body with the timeless freezer, characterising the former as unsuitable for her cryopreserved eggs as a place where they would have just “died off.” Echoing the ubiquitous decline narratives of female reproductive ageing, Eggfreezer's reflection on the image contrasted her ageing body with the timeless freezer, considering it an unsuitable host for eggs as an environment in which they just “die off.” Reminiscent of

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<sup>167</sup> The phrase “to begin again” in this section's title is a reference to Layne Redmond's scholarly and artistic work on rhythms and reproduction.

Tilt's epochal shifts, particular ages became associated with anxious or urgent awareness of the dying off of eggs. With reference to the "ticking biological clock" trope, the discussed public discourses of OC linked specific ages in the 30s to cultural expectations of a life course transition from a youthful carelessness to an adult orientation towards a (future) family, during which childlessness could begin to signify postponement or "missing out" on reproduction. These moments were framed as biological facts of egg decline, but became meaningful through narratives and affects of ageing and politicised through the possibility of counteracting it with OC.

In keeping with this cellular framing of reproductive ageing, the egg comes—both visually and conceptually—into view as the locus of fertility. This points to the second mechanism, which pertains to the work of visual cultures of medicine in the conceptualisation of the body in time. Foucault addresses this visual work through his concept of the medical gaze, which he develops in the analysis of autopsy as a method for bringing the body's invisible interior layers into view and thereby shifting "the relation between the visible and the invisible" (1973, viii). In 21<sup>st</sup>-century assisted reproduction, the tension between the visible and the invisible also frequently recurs in the complex relation between the inner and the outer body, in the differences of scale between the observable and cellular body and in the mediation of the (in-)discernible temporalities of bodily, embryonic and cellular ageing. With the advent of technologies like IVF, OC and time-lapse embryo imaging, cellular reproductive processes in the depths of the body have become visible through their externalisation, magnification and, in the latter case, acceleration. Images of *in vitro* reproductive cells visualise the tissue culturing and cryopreservation apparatus as an alternative environment in which the cells may develop as an alternative to the body (Landecker 2007). Yet these images also represent what Franklin has called "model systems" that both imitate and substitute *in vivo* body and, in doing so, "both reveal[ly] how it works and chang[e] this process into something else" (2013a, 306).

In OC practices, the extracorporeal egg can be visualised in cellular portraits, such as the one Eggfreezer shares on her Blogspot, which present the egg to the patient while the cell itself remains cryopreserved in the freezer. The photographed egg functions as both a model of and exception to the eggs that remained inside the body. Yet the "something else" that the egg's photograph presents is a particular technologisation of ageing, in which the relation between bodily and cellular time may be decoupled through cryopreservation. In this cellular portrait, the "frozen moment" of the photograph mimics the "frozen time" of cellular cryopreservation. In doing so, the depicted egg visualises OC's promise of continued aliveness in arrested time, and ongoing reproductive potential in spite of the continued ageing of the body from which it originates. While the egg remains frozen, the egg's photograph is not simply a recording

of a past moment, but becomes a “live” image, representing the present time of cryopreservation. In a reflection on cellular existence that Landecker terms “becoming biological,” the temporal manipulation of the frozen egg depicted in the photograph offers the occasion to reconceptualise reproductive ageing as a plastic phenomenon over which agency may be exerted, rather than an inevitable process.

When reproductive ageing gains a (extracorporeal) cellular component, it moreover becomes a distributed phenomenon occurring both within and without the body. Eggfreezer observed the distribution of reproductive ageing between the cryopreserved egg in the image and her lived body. In Eggfreezer’s autologous donation, this distributed reproductive ageing created the situation in which reproductivity could be preserved over time. In heterologous egg donation, the temporal difference between the age of the donated egg and the age the body of the woman receiving is not particularly novel, but a function of the age difference between the donor and recipient. Rather, the primary shift in heterologous egg donation that emerges with OC is spatial, as it allows the emergence of transnational flows of frozen eggs enlist donors and recipients in age-specific ways across the globe. With the global distribution of reproductive youth through frozen eggs, and the greater geographical separation of the people involved, discursive construction of the clinics and donors through their online presence plays a key role in mediating this distance.

In time-lapse embryo imaging the technologisation of ageing pertains not to reproductive youth, but to the temporality of embryonic development and its instrumentalisation in embryo selection. In this new approach to embryo selection, the cellular ageing process is visualised in time-lapse videos of embryonic divisions and instrumentalised as a tool to decide which embryo to implant into the womb. These time-lapse videos represent embryonic ageing as at once a visible, culturally-significant process in an individual’s origin story, an added financial and ethical consideration for intended parents undergoing IVF and a phenomenon to which parties, like biotech company Auxogyn, may lay claim as patentable property.

Besides these various possible reconceptualisations and reconfigurations of reproductive ageing, a final aspect of egg freezing and ageing that I would like to draw attention to is the function of the perspectival temporalities of anticipation and retrospection in discourses of OC. Tilt vividly upheld the spectre of the future body and its possible ailments in his treatises on menopause, which fulfilled a disciplinary function earlier in life. By meeting age- and gender-specific cultural norms as well as medical advice, a better chance at future health could be ensured. As a result, responsibility for future health and successful ageing could become more individualised, while the influence of (preventative) medicine increased. From this dynamic I distilled the third mechanism, characterised by the use of futurity to promote both the need for medical

management and individual responsibility for ageing. In the 21<sup>st</sup> century, the individualised and medicalised responsibility for future health becomes evident in egg freezing practices as they emerge within broader developments of the rise of anti-ageing industries and ideologies as well as the neoliberalisation of health care.

Foucault described how the corpse, as embodiment of the future of death, became a reference point for imagining the living body; for Tilt, the menopausal “change” was the transitional state in relation to which both pre- and post-menopausal health could be understood. The prospect of reproductive finitude is the future moment towards which contemporary conceptualisations of the female reproductive system tend in discourses of OC. As future age-related infertility becomes curable, I argued that the assumption of fertility becomes tenuous at culturally-specific ages, during which age-related infertility becomes a condition that should be considered, and possibly treated. In the discussed public discourses of OC, the understanding of female fertility as characterised by continual egg loss became ubiquitous, while suggested ages of counteracting this decline with OC varied from mid 30s to as early as 20. These discourses presented this transition from assumed fertility to anticipated infertility through cultural narratives that variably emphasised individual responsibility for future fertility, framed ageing and nonreproductivity in terms of loss or referenced the “biological clock” trope to naturalise a gendered life course transition from youthful carelessness to concern with reproductive ability. As anticipation of the impending fertility loss became expressed in affective terms as a feeling of “no exit,” “running out of time” or “hearing the ticking of the biological clock” at various culturally-specific moments, OC becomes meaningful through and with these affects of reproductive ageing. By freezing eggs women may not only increase chances for later reproduction, but OC may also function to mitigate anticipatory anxieties associated with ageing and reproductive finitude.

The notion of individual responsibility for future reproductive health and the possibility of egg freezing emerge at a neoliberal historical moment in which, as Wendy Brown has noted, citizens are produced “as individual entrepreneurs and consumers whose moral autonomy is measured by [...] their ability to provide for their own needs and service their own ambitions” (2006, 694). In a neoliberal approach to health care, “individuals are expected to take responsibility for their own health” and “health is defined as a personal responsibility or lifestyle choice” (Oudshoorn 2011, 15). When OC brings reproductive ageing into the realm of individual responsibility, the financialised language of “fertility insurance” and “egg banking” is indicative of a neoliberal transposition of market rationality onto the conceptualisation of reproductive potential

as freezable, transferable and quantifiable through the disembodied eggs.<sup>168</sup>

In OC practices the responsibility for health pertains not only to the body at present, but also to anticipated bodily futures. Consequently, the group of female potential patients for technologically-assisted reproduction could then be expanded from the 10-15% of women who may experience “some form of infertility” to a potentially much larger group who are concerned with future infertility (D. L. Spar 2013, 31). When anticipated infertility is framed as a health concern, OC becomes a method for taking responsibility and being prepared for one’s bodily future. Instead of treating diagnosed infertility, OC treats this state of “anticipated infertility” and replaces it with what can be conceptualised as “bioprepared fertility,” in which the frozen eggs symbolise an embodiment of continued reproductive ability. Not only the body, but also the extracted reproductive cells become meaningful with reference to an anticipated (non-)reproductive future or a retrospective reflection on an ordinary past. Eggfreezer’s anticipatory approach to the frozen egg framed it as a “building block” for a future child, much like the embryos in the time-lapse machine signified reproductive potential and the eggs sold through the online donor profiles of the World Egg Bank invited an anticipation of the child that could be born from the cells.

Besides future (in-)fertility, the prospect of life’s finitude is a further anticipatory reference point in egg freezing. The procedure of informed consent requires a reflection on one’s own mortality in relation to the possibility of the eggs’ continued existence after one’s death. This brings the possibility of posthumous conception and motherhood into discourses of OC, suggesting that the end of life does not equal the end of reproductivity. The continued existence of the egg after the intended mother’s death moreover allows the possibility of establishing intended posthumous kinship relations with those who may fertilise, gestate or parent the eggs and the children born from it.

In these anticipatory orientations towards the egg, implicit importance is ascribed to the cell’s genetic content that allows for the continued possibility of having genetically related children at some future moment. However, in considering the relation between eggs and ageing, the cytoplasm—rather than the nucleus containing its DNA—is equally, if not more, significant. The 2013 breakthrough in the use of SCNT to produce human embryos illustrates the importance of the egg’s cytoplasm as the cellular component that has the unique ability to reset a somatic cell’s nucleus to embryonic youth under highly specific culturing conditions. In this context of regenerative medicine research, the egg is once more the material-semiotic entity for reconceptualising what it means to age—both in anticipation of the future therapeutic

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<sup>168</sup> For the effects of the banking metaphor on conceptualising the body and the exchange of body parts, see Swanson (2014).

potential of regenerative medicine and for women whose bodies are, or will become, enlisted in this enquiry.

The egg that, having been vitrified *in vitro*, remains viable bears a complex and contradictory relation to ageing. The possibility of freezing eggs both affirmed and shifted chrononormative ideas about when fertility may be assumed, when infertility should be anticipated, when nonreproduction turns into postponement, when women should have children and who is entitled to pass public judgment on the basis of these questions. The frozen egg has been described as defying the biological clock, yet in OC's public representations this very notion, its naturalising effects and anxious affects, are actively produced and abundantly reiterated. Paradoxically, the extraction of eggs brings their embodiment into discourse. Their frozen stasis renders them globally mobile. The egg, seen to embody the promise of new human life and reproductive futurity, is frozen in a practice that also entails a confrontation with finality. These complex counterpoints of OC, of fertility and finitude, meet in the figure of the egg. The egg, frozen, its age suspended, has become the locus for grappling with the beginning and end of life, and the mortal passage from one to the other.