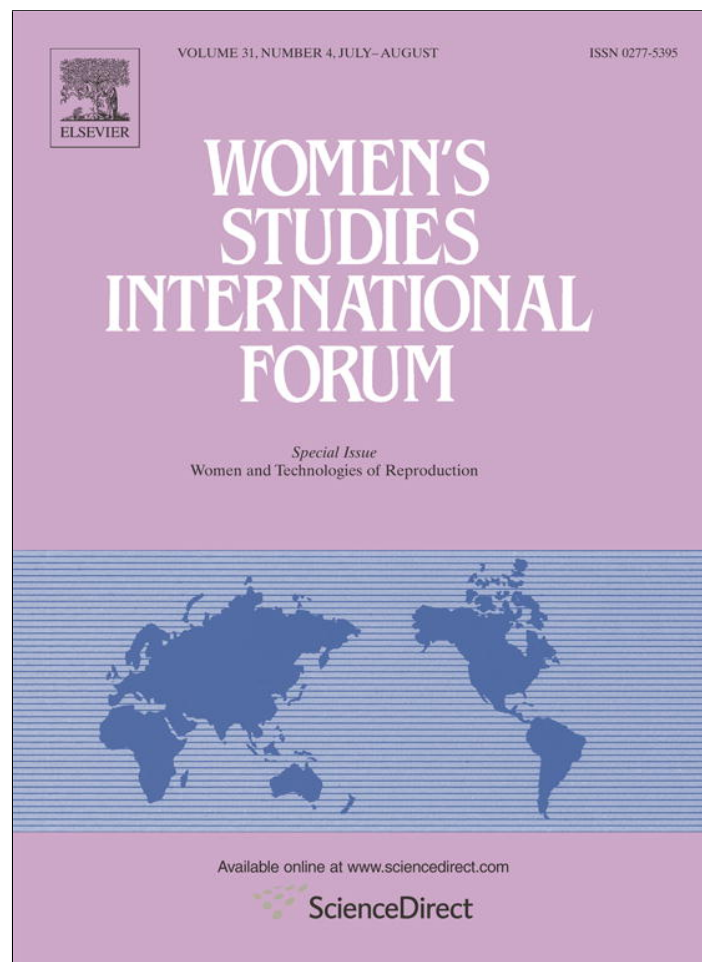


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# Women as collateral damage: A critique of egg harvesting for cloning research

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### SYNOPSIS

Public debate on human cloning fails to recognise the centrality of women and their bodies to this technology. Without a continuous supply of eggs cloning is impossible. I begin this article with an examination of the health risks associated with egg extraction. In a context of powerful social and economic forces with a vested interest in women's decisions about their eggs, I question the rhetoric of choice and the meaningfulness of informed consent. There are serious ethical and social policy implications for the status of women raised by egg supply proposals such as altruistic donation, surplus IVF eggs and commercial incentives. The risks to women are tolerated in the name of a technology whose therapeutic value is highly contested and which offers no health benefits to the supplier herself. This reflects a view of women as the collateral damage of a scientific imperative that must be privileged seemingly at any cost.

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Debate about stem cells and cloning research is dominated by arguments about therapies for patients, the promised biotech boom and competing claims about the moral status of the embryo. However, there is near silence about the interests of one stakeholder: women. Research cloning (sometimes called therapeutic cloning or somatic cell nuclear transfer) is unfeasible without a continuous supply of women's eggs. In this procedure, the nucleus of an unfertilized egg is removed and replaced with the genetic material from the nucleus of a somatic cell, such as a skin cell. An electric impulse is then applied, and theoretically an embryo results. Its stem cells can be removed and, in theory, used to generate patient-specific therapies in the treatment of disease and disability.

Cloning has been described as “a wildly inefficient process, often requiring hundreds of eggs to [merely attempt to] produce a single viable clone” (Dennis, 2006, p. 652). In South Korea, the now discredited Dr Hwang used 2061 eggs harvested from 169 women (including his research assistants) and failed to produce a single cloned embryo (Steinbrook, 2006).

However, in most discussions, the women from whom these eggs are extracted have disappeared. The ethical and policy implications of egg harvesting are treated largely as a side issue. This is not a new phenomenon; Robyn Rowland (1987) highlighted the invisibility of women in the 1980s' debate about research on fertilized embryos.

While eggs are the forgotten ingredient of the cloned embryo, for some scientists, in contrast, sperm are so central that, without them, the clone is not an embryo at all (Trounson, 2006; Williamson, 2005). Leaving aside the subterfuge (an embryo is an embryo, whatever its means of creation), this argument underlines the condescension in the stem cell debate: it is dismissive of the significance of women's eggs.

Since women and their bodies are central to cloning I contend that advocates of this research bear the onus of demonstrating that sufficient eggs can be sourced without harm to women. I argue that they have failed to discharge this onus. Egg harvesting has significant health, ethical and social policy repercussions for the status and treatment of women, yet it offers no health benefits to the supplier herself. The expectation is that the disproportionate burdens of contentious scientific research will be borne by women: collateral damage along the biotechnology superhighway.

### Short-term health risks of egg extraction

There is a tendency to downplay the health impacts of egg extraction. During the recent Australian debate about the legalisation of research cloning, Professor Bob Williamson, a Fellow of both the Australian Academy of Science and the Royal Society, is reported to have told parliamentarians that

egg extraction involved “an element of discomfort and a small element of risk” (Bunce, 2006).

For some women, that “element of discomfort” is considerable. In a study of 33 former egg donors most participants reported only minor side effects but nine women “reported a week or more of discomfort so significant that it kept them in bed, prevented them from working, or interfered with their ability to care for their children” (Kalfoglou & Gittelsohn, 2000, p. 801). The extraction process is always invasive, uncomfortable and time consuming, requiring multiple clinic visits, scans, and injections of hormones, first to induce chemical menopause and then to stimulate egg cell growth. Finally, the eggs—around 10 to 20, but sometimes many more—are retrieved by surgery under anaesthesia, using an aspirating needle through the wall of the vagina and into the ovary.

Feminist academics Diane Beeson and Abby Lippman (2006) have recently reviewed the health risks associated with the super-ovulation process. Between 0.3% and 10% of women who undergo the process experience ovarian hyperstimulation syndrome (OHSS) (Magnus & Cho, 2005, p. 1747/48) and studies cited therein. More serious symptoms of OHSS can require hospitalisation and include unintended pregnancy, renal failure, intrauterine polyps, ovarian cysts, thromboembolism, adult respiratory distress and haemorrhage from ovarian rupture and infertility (Beeson & Lippman, 2006; Demirel, Guven, & Gurgan, 2007; Magnus & Cho, 2005). OHSS can necessitate the removal of one or both of the ovaries (Steinbock, 2004). The American Society of Reproductive Medicine (2003, p. 1310) has said that the occurrence of these more severe symptoms is “by no means rare”.

Some scientists have pointed out that, because egg suppliers for research do not become pregnant, they are not at risk of the more severe form of secondary OHSS which can affect IVF patients who achieve pregnancy (Balen, 2005). However, the risks of primary OHSS should not be underestimated. According to media reports, it caused a 22-year-old Stanford, USA graduate, Calla Papademas, to suffer a massive stroke and brain damage after she had commenced egg extraction for a US \$15,000 fee (Hamilton, 2000), and Jacqueline Rushton died in 2003 after complications arising from IVF; it was asserted that she was not pregnant (BBC, 2005b). In 2005 it was reported that Temilola Akinbolagbe, 33, developed pelvic vein thrombosis which led to cardiac arrest and death just 2 days after commencing treatment for IVF (BBC, 2005a). The most recent death was unrelated to OHSS or pregnancy and was claimed to have occurred after a complication during egg retrieval, causing internal bleeding and renal failure (Boseley, 2006).

There are other serious risks for egg suppliers. A recent study reviews 34 cases of arterial thrombosis following fertility treatment, including three myocardial infarctions (heart attacks). Nineteen of the women were pregnant, but 15 were not and, in “a few cases, thrombotic phenomena were seen even in the absence of overt OHSS” (Girolami, Scandellari, Tezza, Paternoster, & Girolami, 2007, p. 173).

Fertility pioneer Robert Winston is reported to have said that super-ovulatory drugs can also lower the chance of achieving pregnancy, risking chromosomal damage to more than half the eggs in a woman's ovaries (Marsh, 2006).

The risks of ovarian hyperstimulation syndrome can be minimized by the application of strict criteria to women considering egg extraction. For example, women with poly-

cystic ovaries are vulnerable to OHSS and would usually be excluded as egg donors (Balen, 2005). However, there is an essential tension between the needs of researchers and the interests of some at-risk women who should be protected by inclusion criteria. Women under 30 years of age are at particular risk of developing OHSS (Balen, 2005), yet cloning researchers require young eggs. As Balen (2005) reported to the UK regulatory body, the Human Fertilisation and Embryology Authority (HFEA): “Women undergoing oocyte donation should be less than 35 years of age and may be even younger”. If women's health is the overriding concern, young women would be advised against inclusion in egg supply programs.

The health risks of OHSS can also be reduced by other strategies should women develop overstimulated ovaries, such as lowering the dosage of one drug, hCG, or withholding it altogether (Balen, 2005). Nevertheless, it is clear that, despite efforts to minimize risks to women, a not insignificant number of women will suffer damage to their health as a result of the egg extraction process.

### Long-term health risks

The most recent US assessment of the medical risks of egg extraction concluded that one of the “most striking facts ... is just how little is known with certainty about the long-term health outcomes for the women who undergo the procedure” (Committee on Assessing the Medical Risks of Human Oocyte Donation for Stem Cell Research [Committee], 2007, p. 4). The report also noted that there are no registries that track the health of women who undergo ovarian stimulation and that most studies regarding egg extraction have been anecdotal or have focused on relatively small groups of women.

Beeson and Lippman's (2006) review of the long-term health studies revealed conflicting evidence of any harm from infertility treatments, but they acknowledged that “many clinical reports associate infertility treatment with ovarian cancer, and two major studies suggest a link between ovarian cancer and ovarian stimulation” (Beeson & Lippman, 2006, p. 574). The US review conducted by the Institute of Medicine and the National Research Council (Committee, 2007, p. 26) pointed to one submission from a Dr Ness arguing that, with increased passage of time since exposure to clomiphene (a hormonal drug used to stimulate egg production), there was an increase in the incidence of ovarian, breast and endometrial cancers. Ness's concern was that “it raises the possibility that many studies have missed the increased cancer risk because they haven't followed their subjects for enough years”.

The same report suggested the possibility that fertility drugs might cause an increased risk of uterine cancer (Committee, 2007, p. 2). Further research, including longitudinal studies, is required. However, as Helen Pearson (2006, p. 608) comments: “it's unclear who will drive the effort, particularly when private fertility clinics may have little interest in finding out the potential risks of the drugs they use”. In the meantime, cloning research advances on the expectation that sufficient women will accept this uncertainty to their long-term well-being and their lives.

### Informed consent?

Too often these risks for women are dismissed in the name of informed consent, the duty of health professionals to disclose

and warn patients or research participants of risks to their health and well-being. Informed consent requires not only an understanding of material facts and the implications of a decision, but also voluntariness by the decision maker. Thus cloning advocates argue that, if women are informed about the risks of egg extraction for research, it should be their choice as to whether they assume those risks and provide their eggs. However, as fertility scientist [Rimington et al. \(2003, p. 279\)](#) contend, “The present uncertainty and the paucity of meaningful statistics dilutes ‘informed consent’.” Scientific investigation of the long-term risks is required before women can meaningfully consent to egg extraction for research.

Secondly, the practice of egg extraction in IVF and related technology has raised practical concerns about the level of informed consent experienced by women. The HFEA's report on the United Kingdom's fertility sector identified the greatest need for improvement as the provision of information to patients (women undergoing egg extraction as well as men), with 47% of clinics failing to meet the standards expected ([HFEA, 2006b, p. 8](#)). Access to counselling services to allow discussion of patients' options was also inadequate. In the 12-month period of review, the [HFEA \(2006b, p. 9\)](#) noted eight breaches of the law and 11 violations of the Code of Practice regarding consent.

In addition to information, valid consent also requires voluntariness, the freedom from controlling influences. This is expressed, for example, by one UK legal decision:

a man cannot be said to be truly ‘willing’ unless he is in a position to choose freely, and freedom of choice predicates, not only full knowledge of the circumstances on which the exercise of choice is conditional, so that he may be able to choose wisely, but the absence of any feeling of constraint so that nothing shall interfere with the freedom of his will. (*Bowater v Rowley Regis Corpn. (1944)* KB 476 at 479 *per* Scott LJ)

At the extreme, voluntariness of consent can be undermined by duress or coercion. However, I argue that we should focus on less overt influences on a woman's decision to supply her eggs. Consent does not occur within a vacuum. [Corrigan's \(2003, p. 787\)](#) qualitative study of drug trial volunteers warned against an absolutist account of informed consent “that strips the principle of consent away from its social context”. Her examination of the process of informed consent in practice revealed that “decisions are made in contexts where prevailing discourses and norms shape the field of freedom and choice” ([Corrigan, 2003, p. 771](#)). Similarly, women's decisions to provide eggs should be considered against the background of powerful social, political and economic forces which have vested interests in women's decisions about their eggs: the biotechnology industry, scientists, research advocates and patients themselves who may exercise influence—even if well meaning—in the hope of future treatments.

Whilst [Corrigan \(2003, p. 788\)](#) acknowledges that informed consent is “an important ethical tool that protects subjects from overt coercion”, she concludes that “we should be more cautious about the role of informed consent as an ethical panacea”. Thus I argue that concerns about the health risks of egg extraction must not be dismissed by a simple “women can still say ‘no’.” A commitment to informed

consent should demand, not preclude, scrutiny of the underlying influences on women's decisions to supply their eggs.

Moreover, informed consent is based on the assumption of an equitable doctor/patient relationship, but this is not universally attainable in practice. As [Beeson and Lippman \(2006, p. 575\)](#) have noted, some doctors who extract eggs are also involved in cloning research: “Seeking consent from women in these circumstances is problematic when clinicians have an interest in obtaining their eggs”. In the UK, IVF clinics can now offer women “cut-price” IVF on the condition that they donate eggs for research. This exchange of eggs for fertility services occurs in a relationship of asymmetrical power between patient and the doctor and IVF clinic that control access to their services. Patients with limited financial means will have restricted or nil access to fertility services unless they donate their eggs for research.

To highlight the context of choice and informed consent is not to assert that women are incapable of deciding within such a context. However, it does require us “to question how much real value, worth and power these so-called choices have. ... Choice can be conformity if women have little ability to determine the conditions of consent” ([Raymond, 1994, pp. 100, 103](#)).

### Serious risks, but who benefits?

Because women are permitted to undertake the risks of egg extraction for assisted reproduction, cloning supporters argue that they should be free to assume the same risks for cloning. The risks of egg harvesting for research are the same as the risks of harvesting for assisted reproduction and, like any medical procedure, the risks must be weighed against the benefits. However, [Diane Beeson and Abby Lippman \(2006, p. 575\)](#) point to an important difference: a woman who undergoes ovarian hyperstimulation for ART has a 10–40% chance of producing a baby for herself; but the risk–benefit ratio is very different for a woman who submits to the same risks for research cloning. She is part of a research project that has uncertain benefits and may never benefit directly from the risks she has assumed.

What model of consent is appropriate in these circumstances? [Magnus and Cho \(2005, pp. 1747–1748\)](#) delineate possibilities. If we consider egg suppliers to be clinical patients, then the doctor–patient relationship would seem to “counsel against undergoing such a procedure for no benefit” ([Magnus & Cho, 2005, pp. 1747–1748](#)) to themselves. Alternatively, egg suppliers could be viewed as research subjects, because “research often requires individuals to expose themselves to risk for the benefit of others” ([Magnus & Cho, 2005, pp. 1747–1748](#)). However, in contrast to other research, the risks to egg providers do not lie in the research itself but in the extraction of the materials necessary for the research. Donors of sperm for research are not exposed to similar risks.

Supporters of research cloning envisage ‘altruistic donation’ of eggs by non-patients, which the HFEA sanctioned in the UK in February 2007. [Magnus and Cho \(2005\)](#) thus suggest that a better model to describe egg donation by women could be altruistic organ donation by living donors (for example a kidney or liver lobe). Neither egg donors nor living organ donors are patients and any benefits of the donation will be to others, not to themselves. [Magnus and Cho \(2005, pp. 1748\)](#) point out that, in these circumstances, “taking the best interests of the donor into account, it is hard to justify organ donation”. The same can be said about women egg donors.

In Australia the [National Health and Medical Research Council \(2000, p. 10\)](#) also recognises the special ethical issues raised by organ donations: “There must be a very low risk of immediate or long-term harm to the donor’s physical or mental health ... there must be a very high chance that there will be a good outcome for the recipient”. Applying this model to women egg suppliers, the risks to women’s short and long-term health are significant. Additionally, it cannot be said that there is “a very high chance” of a good outcome for any potential recipient of a therapy derived from the use of women’s eggs. The benefits of cloning and embryonic stem cell research are, at best, speculative. I argue that the serious risks of egg harvesting for women cannot be justified.

#### *The false analogy with clinical trials*

Cloning advocates argue that egg suppliers are in a similar position to volunteers in clinical trials who are permitted to take on serious risks in an effort to advance science. However, such trials only proceed when there are clear benefits for the indicated patient population. Feminist academic [Donna Dickenson \(2006, p. 47\)](#) has questioned the comparison of egg suppliers with research volunteers; the latter have the advantage of “an entire apparatus of randomised clinical trials and meta-analyses in evidence-based medicine”. This includes the standard practice of animal trials before proceeding to human trials. Yet so far there has been inadequate evidence of the efficacy or safety of cloning in any animal model. During the recent Australian debate, even some supporters of embryonic stem cell research questioned the urgency to approve human cloning. Scientist [Silviu Itescu](#) was reported to have commented: “I don’t see why we don’t wait until we have the results of animal trials with embryonic stem cells for specific therapeutic applications before we have this debate” ([Davies, 2006](#)).

Thus I argue that the analogy between egg extraction and clinical trials is misleading and disguises the fact that women suppliers are being asked to assume definite health risks with no demonstrated clinical benefits. This is underscored by The Declaration of Helsinki which states that:

Every medical research project involving human subjects should be preceded by careful assessment of predictable risks and burdens in comparison with foreseeable benefits to the subject or to others. ... Physicians should abstain from engaging in research projects involving human subjects unless they are confident that the risks involved have been adequately assessed and can be satisfactorily managed. ([World Medical Association, 2004](#), paragraphs 16 and 17)

Egg extraction for research offends against these principles. There are significant short term risks and burdens on women and these are well documented. Importantly, there has been no “careful assessment” of the long term health risks of egg extraction. Moreover, there are no foreseeable benefits to the woman herself and the benefits to future generations are far from certain. Yet public debate on research cloning is dominated by talk of therapies, cures and a biotech ‘boom’, with scant scrutiny of the impact on women. This disparity flouts the Helsinki Declaration’s further statement that

“considerations related to the well-being of the human subject should take precedence over the interests of science and society” (paragraph 5).

#### **Where will all the eggs come from?**

The large number of eggs required for research cloning is a major obstacle and “a shortage of them could hold back the entire field” ([Dennis, 2006](#), p. 652). As the UK experience demonstrates, the “main limiting factor in the research is the availability of human eggs to practise on” ([Check, 2006](#), p. 606). Where will all the eggs come from? I argue that a number of proposed egg sources have practical limitations that undermine their viability. Moreover, some egg sources raise serious concerns about the exploitation of women in the name of scientific advance.

#### *Left-over frozen IVF eggs*

One suggested source of eggs is the frozen eggs that are surplus to assisted reproduction requirements. However, there are significant problems with this proposal. Left-over IVF eggs are usually aged and have failed to fertilize following fertility treatment. When used for cloning, these eggs typically fail to reprogramme, “probably for the same reasons they failed to fertilize,” according to a reported interview with scientist [Alison Murdoch \(Dennis, 2006, p. 653\)](#). This is confirmed by a recent study that compared the developmental “competence” of fresh ovulation-induced eggs with surplus, failed-to-fertilize human eggs as host cells for cloning. The study found that surplus eggs are a poor source of eggs for human cloning. Most of the surplus eggs could not support further development and there were chromosomal aberrations ([Hall et al., 2007](#), p. 58). The same authors concluded that:

Progression of human [cloning] is therefore dependent on alternate sources of [eggs]. ... The ethical implications in harvesting fresh [eggs] from fertile women will therefore be a critical factor for the development of human [cloning] and the generation of patient-specific stem cell lines. ([Hall et al., 2007](#), p. 61)

Similar conclusions were reached in a separate study ([Lavoit, Weier, Conaghan, & Pedersen, 2005](#)). The need for recently-collected eggs is also acknowledged by the [HFEA \(2006a\)](#). In sum, there is no question that research cloning requires freshly harvested eggs. Surplus IVF eggs are not a viable source.

#### *Fresh eggs from IVF patients*

Because women undergoing egg extraction for IVF assume the same health risks as those who provide eggs for cloning, it has been proposed that IVF patients donate some fresh eggs for research purposes. However, experience demonstrates that only a minority of IVF patients are willing to do this. In the UK the HFEA has granted permission for researchers to ask women to donate some of their IVF eggs for research, if the women have produced 12 or more during extraction. However, this strategy has not yielded sufficient eggs for their research needs. The researchers commented that this reflected “the psychological importance of the oocytes” and that the poor recruitment

through this strategy “will continue to be a major rate-limiting factor in the progress of the research” (Choudhary, Nesbitt, Leary, & Murdoch, 2006, p. 301).

The proposal is also contrary to developments in fertility technology that are moving towards natural cycle/minimal stimulation IVF where fewer eggs are extracted than with standard IVF. In these less harmful procedures low doses of hormones are administered for a few days causing fewer side effects. A recent study confirms that the minimal stimulation technique virtually eliminates the risk of ovarian hyperstimulation syndrome and is suitable for all types of patients (Pelinck et al., 2006).

Hyperstimulating IVF patients to produce extra eggs for research might benefit researchers but it is against the best interests of the women patients when less harmful techniques are now available. Josephine Quintavalle has been quoted as putting it succinctly: “The primary concern should be what is in the woman's best interests. That is to have the most minimally invasive treatment with the minimum use of drugs and the minimum harvesting of eggs” (Zenit, 2006).

#### Animal eggs

Some cloning advocates propose the use of animal eggs in order to alleviate the demands on women. However, the lack of scientific agreement on the efficacy of hybrid and chimera research is well known. There are doubts that mixing genetic material from different species will work (Dennis, 2006).

Moreover, even if animal eggs are used in the early research stages, women's eggs will be required in huge numbers if cells are ever to be transplanted to patients. Cells derived from animal eggs cannot be transplanted in to a human because of the mixing of inter-species DNA and the risk of infection with animal viruses. Even if cloning were to develop into a highly efficient technique where only one egg is required for each therapy, it is extremely unlikely that sufficient numbers of eggs could ever be obtained to make this a reality. Hundreds of thousands of eggs would be required to treat just some of the conditions identified by scientists. In Australia alone one million adults suffer from diabetes (Department of Health and Aging, 2007), 200,000 suffer from Alzheimer's (Department of Health and Aging, 2006), and 10,000 from spinal cord injuries (Spinal Cord Injuries Australia, 2006).

Advocates of the potential of embryonic cell transplants to treat these conditions must explain how these therapies can ever be achieved when plainly there will never be enough human eggs. The animal egg proposal is a dubious distraction from what is really at stake: the health and lives of thousands of women whose eggs are indispensable to cloning research.

#### 'Altruistic' donation

Cloning supporters argue that supplies of eggs will come from altruistic non-patient donors, as is now permitted in the UK. This expectation needs to be assessed against research which shows that very few women are willing to donate eggs and that altruism is not linked to willingness to donate (although this research relates to donation for infertility, not for research: Purewal & van den Akker, 2006). Australian IVF and stem cell scientist Alan Trounson has been quoted as saying

that “most eggs are likely to come from women who have family members with a disease and want to donate their eggs to advance research on that disease” (Dennis, 2006, p. 653). Bob Williamson is reported as having told Australian parliamentarians that women with diseases such as diabetes and cystic fibrosis should be encouraged to donate their eggs (Bunce, 2006), with no apparent consideration of the rigours of egg harvesting for these women who are already seriously debilitated and will never receive any health benefits personally from the research.

We must be alert to the danger that 'altruistic' donation and its attendant health risks might become a duty for women, undermining the language of 'choice'. Already such an ethic is apparent. Ethicist Julian Savulescu argues that we have an ethical and economic imperative to pursue cloning and stem cell research because of the potential benefits. Since women have so many eggs, very few of which will actually produce offspring, scientists should use the “spare eggs” for research (Savulescu, 2005, pp. 32–33). This is suggestive of Emily Martin's (1991) analysis of the gendered representations of reproductive biology which denigrate the female cycle as “wasteful”. Savulescu's proposal is also redolent of a “mechanistic conception” (Bordo, 2003, p. 73) of women's bodies as objects made up of transferable components, the repositories of “spare parts”.

Will it become the “ethical imperative” of women to donate eggs? There is evidence of social and cultural expectations of feminine self-sacrifice which impact on women. In her ground breaking work on gendered moral development Carol Gilligan (1982, p. 70) observed that:

while society might affirm publicly the woman's right to choose for herself, the exercise of such choice brings her privately into conflict with the conventions of femininity, particularly the moral equation of goodness with self-sacrifice ... it is ... in their care and concern for others that women have both judged themselves and been judged.

Another theorist Ngaine Naffine has characterised the stereotype of the “good woman” thus: “She is loyal and loving, compliant and altruistic ... good women can be distinguished by their abandonment of their own interests and their overriding concern for the interests of family members” (Naffine, 1990, p. 137).

Gilligan's analysis is not without its critics. However, even some of those who question her empirical rigour admit that the stereotype of female self-sacrifice resonates strongly: “It is clear that women have a greater reputation for altruism and empathy than do men, and that women accept its validity. Whether the reputation is deserved is a more complicated question” (Greeno & Maccoby, 1993, p. 196).

When cloning is promoted as an “ethical and economic imperative”, impossible without women's “spare” eggs, the risk is that women distressed by the sickness of a loved one will experience pressure to make the “responsible choice” and abandon their own interests to donate eggs. The critique of such an argument by other feminist philosophers is well known. They reject what is in their view a characterisation of women as passive victims of socio-cultural forces: “Feminist discourse that emphasizes the lack of authentic desire in women, or that allows women no free will beyond the will inculcated by patriarchal culture, itself permits women no

volition, no agency at all” (Sandelowski, 1990, p. 40). On this view, the decision to donate eggs for cloning research can be a woman's expression of autonomy and empowerment, an active contribution to scientific advance.

Cussins (1998, p. 187) argues that a woman might even participate actively and autonomously in her own objectification: “being a multiply objectified user entails neither being helpless nor being a victim ... the woman's objectification ... involve[s] her active participation, and [is] managed by herself as crucially as by the practitioners, procedures and instruments”.

However, a woman's active, even enthusiastic, participation in medical or scientific technologies can be consistent with the operation of oppressive social or cultural influences such as those described by Gilligan. Raymond (1994, p.105), in asserting the distinction between “social determinism” and “social constructionism,” argues that “to affirm that women's choices and consent can be constructed, influenced and pressured is not the same as to claim that women's choices are ruled by these social and political conditions”. Thus to expose the influence of the socio-cultural ideal of feminine self-sacrifice is simply to contextualise a woman's decision to donate eggs; it is not to argue that the decision is coerced by those forces. Seeking ‘altruistic’ donation from women, especially if they are the relatives of sick and suffering people, plays to this powerful stereotype of female self-sacrifice. The risk is that in the minds of some women this would create an expectation that they surrender their own interests and assume the health risks of egg extraction.

### Commercial payment

As long as biotechnology companies are profit-making ventures, commercial payment for the raw material necessary for their business may be the logical corollary. Lori Knowles (1999, p. 38) has highlighted the “tension between the altruism individuals are supposed to exhibit by donating their tissue for research and the current patent system, which encourages companies to stake lucrative property claims in that research”. Donna Dickenson (2002, pp. 61, 62) points to the emphasis on the “gift relationship” in guidelines that prohibit women donors from sharing in the profits of research. She contends that a “compulsory and one-way gift relationship is not gift, but exploitation; ... the semblance of gift masks and legitimises what is actually the extension of commodification”.

The question needs to be asked whether commercial payment relegates egg suppliers to marketable matter for research, rather than unique human beings. In Kalfoglou and Gittelsohn's (2000, pp. 802–803) study over half of the 33 former egg donors reported that they were satisfied with their medical care and none regretted their decision to donate. However, there were areas of discontent. Some women described feeling like a commodity and used metaphors such as farm animals, produce and meat to describe the experience. For example, ‘Chris’ said that “I just got the feeling ... you were second class. ... I wondered did they treat everybody that way, or is it ‘cause I'm a donor?” .. I'm just the produce stand ... like the cow at the market”. ‘Melanie’ likened the experience to prostitution: “I definitely wasn't in charge there. It was a little like what I would think prostitution would be like; ... you've rented your body out. ... You would be prepped and there would be none of the small talk that usually goes on to put the patient at ease. And it's

kind of like ‘Spread your legs, there we go.’... It was like you were some kind of prized heifer or something” (Kalfoglou & Gittelsohn, 2000, p. 802).

Treating women's eggs as sources of profit risks the further objectification of women. Yet with cloning research only in its infancy, there are already indications that this research might not be practicable without the commercial sale of eggs. As noted above, very few IVF patients will donate fresh eggs. The North East England Stem Cell Institute now offers women IVF at a reduced cost in return for their surplus eggs for research (Wallace, 2006). This is payment in kind for eggs and the money saved would be worth the equivalent of several thousand pounds.

A qualitative study of fertility patients who donated their eggs to fellow patients in return for ‘cut-price’ IVF has highlighted what I argue is the inherent exploitation of this practice. The survey concluded that the motivations of the egg donors were multi-dimensional, with the strong desire for motherhood the most predominant. Some donors were also motivated by financial necessity because of the expense of the procedure. Some reported reluctance to give the eggs but believed that they had little choice given their financial limitations (Rapport, 2003, pp. 32, 34). Whilst these findings are limited to egg donation for assisted reproduction, we should be alert to the risk that the same financial pressures could also affect fertility patients who donate eggs for research.

UK researchers are now at the forefront of demands for commercial payment over and beyond incentives such as egg sharing and payment of expenses, in order for cloning research “to achieve its full potential” (Choudhary et al., 2006, p. 301). In the US, one of the few countries to permit commercial trade in gametes for ART, payment for eggs has increased sharply because supply cannot keep up with demand (Lindheim et al., 2001). The shortage of egg supply would intensify with research cloning, increasing the market value of eggs. Research indicates that, as payment escalates, money becomes the dominant motivation, not altruism (Lindheim et al., 2001).

There is already evidence that the commercial trade in eggs leads to the exploitation of women, particularly the economically disadvantaged. In 2005 the European Parliament passed a resolution condemning what it characterised as “trade” in human eggs by the Global Arts Clinic in Romania which specialised in the donation of eggs to European Union nationals, particularly UK citizens, in return for financial compensation. It must be asked whether the high levels of payment that could be expected with research cloning would amount to an enticement that would undermine the voluntariness of the procedure. As the European Parliament (2005) noted: “despite the possibility of serious effects on women's life and health, the high price paid for egg cells incites and encourages donation, given the relative poverty of the donors”.

In Australia, this was the key reason for the expert committee which recommended in favour of research cloning to advise against commercial payment: “the healthiest eggs would be those from young women ... the potential exists for coercion of young women to donate eggs (such as through social disadvantage, family or workplace pressures)” (Australian Government, 2005, p. xviii). Despite the prohibition of commercial trade in countries like Australia, the UK experience suggests that the

green light to cloning creates a scientific imperative for a supply of eggs that must be augmented by commercial incentives. If the calls of some UK researchers are heeded, it might be just a matter of time before the next step of commercial payment becomes a reality. In circumstances of economic disadvantage, a woman's donation of eggs would be best characterised as necessity, challenging the rhetoric of choice.

## Conclusion

Advocates of research cloning have failed to demonstrate that it is possible to source sufficient eggs to make cloning viable without harm to women. Research cloning involves serious health risks to women egg suppliers including ovarian hyperstimulation syndrome and attendant risks of renal failure, infertility, and even death. There is a host of other suspected complications, including reproductive cancers in later life. Importantly, there are no health benefits to the woman supplier and benefits to future generations are at most speculative.

Yet, where cloning is legalised, ready access to women's bodies is taken for granted. The central issue for women, including some feminists, then becomes harm mitigation (see, for example, Thompson, 2007). It is a balancing act that would "have it both ways", seeking scientific advance but at the same time accepting that it is women who will bear the burdens of this research. A genuinely woman-centred ethic would contest this treatment of women as collateral damage and oppose egg extraction for cloning research. Thus faced with the risks to women's health and the commodification of women in the egg trade, the European Parliament (2005), for example, has resolved against the funding of human cloning, concentrating on alternatives, such as umbilical cord stem cell research, which do not require women's eggs.

Informed consent is not a panacea for the concerns that drive opposition to egg extraction for research. We need a nuanced assessment of the influences that might animate a woman's decision to supply her eggs for research: a public and academic debate focused not on women's health and well-being but on therapies and cures; researchers and a global biotechnology industry with vested interests in women's eggs; emotional appeals to 'altruistic' donation that play to gendered stereotypes of feminine self-sacrifice; and, where commercial incentives are offered, poverty. A belief in women's ability to exercise choice in their lives does not require us to abandon a critique that recognises the way in which those choices are sometimes socially, politically and economically constructed. To the contrary, that conviction demands that we expose those influences.

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