Parsing the Postmenopausal Pregnancy: a Case Study in the New Eugenics

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In January 1984, the *New York Times* reported that a woman in Australia had given birth to a healthy baby boy two months earlier.[1] The reason this seemingly ordinary event made news 10,000 miles away was that the baby had been conceived with a donor egg. The mother, in her twenties, was infertile because of premature menopause; another woman donated the egg, which was fertilized in a laboratory dish and then implanted into the uterus of the sterile woman (whose husband had provided the sperm). Although the first 'test tube' baby had been born in England in 1978 using a mother's own egg, and researchers in the United States had experimented with donor egg fertilization, this Australian pregnancy was the first of its kind to successfully come to term.

Ten years later, another birth made international headlines. This time, twins were born to a 59-year-old Englishwoman, who went to a clinic in Rome to have donor eggs (fertilized by her 45-year-old husband) implanted in her uterus.[2] The novelty was no longer the use of donor eggs, but rather the age of the mother. A wide variety of commentators - physicians, bio-ethicists, feminists, politicians, and pundits - weighed in on the medical, social and ethical implications of postmenopausal pregnancy.

Another ten years later, an American company called Extend Fertility announced its brand-new service: storage of frozen eggs for women who want to postpone motherhood.[3] In 1997, the first successful use of frozen eggs had been reported with the birth of twins in the United States.[4] By 2004, about a hundred babies - mostly in Italy - had been born using frozen eggs. The entrepreneurial founder of Extend Fertility, a 34-year-old woman, recognized the potential appeal of this latest development in reproductive technology for women of the twenty-first century. Although the intention was not for all clients to delay childbearing until after menopause, the *possibility* of postmenopausal pregnancy became more feasible with oocyte cryopreservation. Even more significantly, the ability to conceive with frozen eggs allowed older women the possibility of giving birth to children produced from their own genetic material.

The use of both donated eggs and an individual's own previously frozen eggs invites the consideration of eugenic motivations. This article will analyse the significance of technology that enables postmenopausal women - women who are no longer fertile - to become parents by creating a child from their own genes (as opposed to, say, adopting a baby) from the perspective of twenty-first-century eugenics. This technology is currently available only

1. Harold M. Schmeck, Jr, 'Birth is Reported in New Technique', *New York Times*, 13/01/1984, A10.

2. Susan Chira, 'Of a Certain Age, and in a Family Way', *New York Times*, 2/01/1994, E5.

3. Sally Wadyka, 'For Women Worried About Fertility, Egg Bank Is a New Option', *New York Times*, 21/09/2004. See also Sally Wadyka, 'Can You Wait to Have a Baby?' *Cosmopolitan*, January 2005, pp115-117, and Claudia Kalb, 'Fertility and the Freezer', *Newsweek*, 2/08/2005, for coverage of Extend Fertility in popular magazines. The company maintains a website at <www.extendfertility.com>.

4. Gina Kolata, 'Successful Births Reported With Frozen Human Eggs', *New York Times*, 17/10/1997, A1.

to those who can afford it; thus, access to postmenopausal pregnancy is limited to the affluent, a group encouraged to reproduce by the first wave of eugenicists in the early twentieth century. In this way, the new eugenics recapitulates the population-based emphasis of the old eugenics. The new eugenics also operates within a changed medical and cultural climate, one that increasingly locates human traits in the genome.

In the late twentieth century, the pendulum swung away from 'nurture' toward 'nature,' as scientists mapped and sequenced genes that seemed to account for individual predisposition to specific diseases and even to certain behaviours. Furthermore, the concept of 'nurture' was subsumed within 'nature,' as embryologists and neonatologists demonstrated that the uterine environment played a key role in foetal development. The centrality of the mother as womb, along with the revived culture of heredity, led to a new form of eugenics, one distinctly more personal and private than earlier iterations. This version deals not with populations, but with individuals; the goal is to control, insofar as possible, the genetic substrate from which the child will develop. Given this revived interest in genetic heritage, the phenomenon of postmenopausal pregnancy, using specially selected eggs, will be investigated as a case study in the new eugenics.

EUGENICS IN HISTORICAL PERSPECTIVE

To understand the evolution of this new version of eugenics in the early twenty-first century, we must go back a hundred years to its initial theory and practice.[5] Coined by Francis Galton in 1883, the term 'eugenics' had made its way into popular culture in both Britain and the United States by the first decade of the twentieth century. This so-called 'science' of improving humankind by giving 'the more suitable races or strains of blood a better chance of prevailing speedily over the less suitable' combined Darwinian notions of natural selection and survival of the fittest with simplistic assumptions about inheritance and, after 1900, reductive applications of Mendelian genetics. In practice, eugenic theory engendered two related but distinctly different strategies: 'negative eugenics,' to discourage or even prevent the 'less fit' from reproducing, and 'positive eugenics,' to encourage and exhort the 'more fit' to produce lots of offspring. It is this latter approach, the promotion of procreation, with which we shall concern ourselves in this essay.

5. An excellent history of the eugenics movement in the United States and Britain is Daniel J. Kevles, *In the Name of Eugenics: Genetics and the Uses of Human Heredity*, Cambridge, MA, Harvard University Press, 1995. Galton's quote can be found on page xiii.

The reproductive call to arms was taken up in 1911 by no less a public figure than former US President Theodore Roosevelt who chastised middle- and upper-class American women for committing 'race suicide' by controlling their fertility. 'In our civilization to-day,' he warned, 'the great danger is that there will be failure to have enough children of the marriages that ought to take place'.[6] In the 1920s, state fairs across America held 'Fitter Families' contests in which the eugenic qualities of families were judged in much the same way as livestock were. In addition to rewarding those families deemed eugenically superior, the contests spread the gospel of selective breeding to

6. Theodore Roosevelt, 'Race Decadence', *The Outlook*, 8/04/1911, reproduced in Andrea Tone (ed), *Controlling Reproduction: An American History*, Wilmington, DE, Scholarly Resources, 1997, pp161-162.

a wide audience. High school and university students were also taught about the benefits of eugenic marriage and parenthood; by 1928, eugenics appeared in 90 percent of high school biology textbooks and in courses offered by 376 American colleges and universities.[7]

Even though the organized eugenics movement weakened in the 1930s and especially after the Nazi atrocities of World War II, positive eugenics survived in the United States under the new guise of pronatalism. Proponents toned down the rhetoric of race and biology, but they were no less strident about the importance of environmental and cultural factors in determining parental fitness. Historian Wendy Kline observed that 'the baby boom of the 1950s represented the triumph eugenicists had been looking for,' as marriage and motherhood were institutionalised as the primary social role for women.[8] Of course, this development was merely the latest revival of the nineteenth-century motif that consecrated women's roles in the home.[9] This reincarnation of the cult of domesticity would beleaguer American women for the next 60 years. Women's desires to become mothers, whether formulated independently or imposed by outside forces such as the media, were shaped by exposure to this pronatalist inclination in American culture.

7. Diane B. Paul, *Controlling Human Heredity, 1865 to the Present*, Atlantic Highlands, NJ, Humanities Press, 1995, pp10-11.

8. Wendy Kline, *Building a Better Race: Gender, Sexuality, and Eugenics from the Turn of the Century to the Baby Boom*, Berkeley, University of California Press, 2001, p156.

9. See Angelique Richardson, *Love and Eugenics in the Late Nineteenth Century*, Oxford, Oxford University Press, 2003.

CHANGES IN TREATMENTS FOR INFERTILITY[10]

Pronatalism also influenced women's and men's attitudes toward and experiences of infertility. The cultural expectation that married couples would have children brought many of the involuntarily childless into doctor's offices in search of a cure, starting in the mid-1800s. Prior to this time, the 'barren,' as they were then known, waited for God to send them children or took in orphaned children to raise as their own. While this strategy suited the more communal society of colonial America, it became less tenable as the nuclear family became the basic unit of society. Initially, medical treatment took the form of surgical intervention, but radical gynaecological surgery declined by the late 1800s. About this time, doctors began to realize that men could also be infertile. Although artificial insemination dated from the 1700s, it did not come into popular use until the 1930s. Even so, women underwent infertility treatment far more often than men in this era, taking preparations of the newly discovered sex hormones in hopes of achieving conception. If these efforts proved unfruitful, couples could turn to adoption, which became formalized with the passage of state laws in the late 1800s. By the 1940s, an estimated 16,000 babies were adopted each year in the United States, through private charities, public social service agencies, and the black market.

10. I am indebted to Margaret Marsh and Wanda Ronner, *The Empty Cradle: Infertility in America from Colonial Times to the Present*, Baltimore, Johns Hopkins University Press, 1996 for this discussion of infertility and its treatments.

Those who sought medical help in the mid-twentieth century found few options; the only real innovations were technological improvements in procedures for artificial insemination and for surgery to open the Fallopian tubes. In the 1960s, the first fertility drugs became available; these synthetic hormonal treatments acted by inducing ovulation. And then, in 1978, in vitro fertilization resulted in the birth of a child for the first time. By the late

1990s, assisted reproductive technology (defined as any procedure in which both eggs and sperm are handled outside the body, which includes in vitro fertilization, gamete intrafallopian transfer, and zygote intrafallopian transfer, but excludes artificial insemination) was responsible for producing 40,000 babies in Europe and almost 30,000 in the United States each year.[11]

The availability and increasing popularity of assisted reproductive technologies (ART) increased the expectation that infertile couples would try to have their own children. Although adoption rates have thus far remained stable in the United States from the 1980s into the 2000s,[12] many couples may have turned to adoption only after attempts with ART failed. Although these technologies were developed to be used by infertile women of childbearing age - and indeed these women form the vast majority of ART users - some older women took advantage of ART to bear children after they had already passed through menopause. This unintended and unanticipated consequence of the development and increasing availability of new reproductive technologies - namely, their use by postmenopausal women - has stimulated both commentary and criticism, particularly among feminist scholars.

ARGUMENTS FOR AND AGAINST POSTMENOPAUSAL USE OF ASSISTED REPRODUCTIVE TECHNOLOGIES

The first question about technologically-assisted postmenopausal pregnancy extends a concern that has occupied feminists for decades: the medicalization of reproduction.[13] There has been disagreement about whether ART is liberating or oppressive for older women. Proponents have claimed that it 'rescues' women from the biological constraints of age, enabling them to fulfil their desires for pregnancy and motherhood. Critics have charged that facilitating postmenopausal pregnancy is both ageist and sexist, because it forces women to aspire to the narrow role of motherhood. As the feminist Betty Friedan noted, 'It still assumes that the major defining value for women is the having of children. If we are going to have, as the statistics indicate, a good 80-year-life span, is the only thing to do with those new years of life the things you did when you were younger?'[14]

The charge of sexism was also used by *advocates* of ART for older women. They posited that reproductive technologies allowed women to achieve gender equity with men; just as men were not bound by age in the timing of when to sire a child, now women could also be released from the limitations of the biological clock. It would be sexist, these proponents noted, to prevent women from achieving the same goals as men. They hailed ART as a benefit for career women who wanted to establish themselves professionally before entering into motherhood. Socially conservative critics were appalled by this rationale; for them, motherhood should take precedence over careers for women. This criticism was anathema to feminists who disputed the notion that women ought to define themselves in terms of motherhood. Both feminists and anti-

11. 'Use of Assisted Reproductive Technology – United States, 1996 and 1998', *Morbidity and Mortality Weekly Report*, Centers for Disease Control and Prevention, 51, 8 February 2002, 97-101, <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5105a2.htm>; European Society for Human Reproduction & Embryology, ART (assisted reproductive technology) Fact Sheet (2002), <http://www.eshre.com/emc.asp?pageId=439>.

12. National Adoption Information Clearinghouse, 'How Many Children Were Adopted in 2000 and 2001?' (2004), <http://naic.acf.hhs.gov/pubs/s_adopted/s_adoptedf.cfm>.

13. Jennifer A. Parks, 'On the Use of IVF by Post-menopausal Women' *Hypatia*, 14 (Winter 1999): 89-90.

14. Betty Friedan, quoted in Sheryl Gay Stolberg, 'Buying Years for Women on the Biological Clock', *New York Times*, 3/10/1999, WK1.

feminists, liberals and conservatives could be found arguing on the same side of the debate (here, against the use of ART by postmenopausal women), but employing very different lines of reasoning to make their cases.

Critics of all stripes worried about the ability of women to parent effectively at an older age. They wondered if postmenopausal mothers placed an undue burden on their children; some went even further and argued that children should have the right not to be orphaned. Defenders of ART for older women rejected these claims as ageist, sexist, and completely unjustified. First, the charge that older women cannot be good parents ignores the success of generations of grandmothers who raised their grandchildren when the parents were unable or unwilling to do so themselves. Second, they read the notion that older women unfairly burdened their young children as sexist, since that charge was rarely levelled against elderly new fathers. Third, age is not the only cause of death; as feminist author Jennifer A. Parks wrote, 'For the right not to be an orphan to have any force, children must have the right that their parents not smoke, drink, or eat poorly so as to cause heart attack or cancer, and that they generally not engage in any activities that might endanger their longevity'.[15]

15. Parks, op. cit., 81-85, quote on p84.

Opponents have also expressed reservations about older women's use of scarce resources for assisted reproduction. The resources in question differ in different national contexts. In Canada, for example, in vitro fertilization is a very expensive procedure that is allocated on a restricted basis. In the United States, where individuals can pay for their own procedures, the scarce resource is the supply of donor eggs. Either way, critics contend that women of reproductive age ought to have priority over women in their post-reproductive years; this argument can effectively be reduced to the belief that older women already had their chance. The counterargument rejects this line of reasoning as ageist. As Parks has written, 'A prohibition of post-menopausal access to IVF is no more fair than a policy that … refuses young women in their reproductive years access to contraceptives because they *ought* to be reproducing'.[16]

16. Ibid., 79-80, quote on p91.

Finally, older women have been both criticised and pitied for using pregnancy as a way to 'pass' as youthful.[17] Feminists blame our youth-obsessed society for making women feel bad about growing older; non-feminists interpret postmenopausal pregnancy as a selfish and pathetic effort to reclaim one's youth. Either way, these critics despair of a technology that enables women to escape their chronological and biological age.

17. Abby Lippman, '"Never Too Late": Biotechnology, Women and Reproduction' *McGill Law Journal*, 40 (1995): p888.

The arguments presented thus far tend to focus on the social and economic ramifications for mothers and children. The one issue that has not yet been addressed is the biological, or genetic, consequence of assisted postmenopausal pregnancy. What is the significance of the origin of the gametes, or building blocks, so to speak, used in assisted reproduction? To evaluate the implications inherent in choosing the eggs and sperm to be used in creating an embryo, we must turn to a consideration of the shifting relationship between genes and environment in scientific and popular

thought, or what historian Dorothy Porter has called 'the rise of the genoist society'.[18]

18. Dorothy Porter, 'Biological Determinism, Evolutionary Fundamentalism and the Rise of the Genoist Society' *Critical Quarterly*, 42 (2000): 67-84.

PRIVILEGING GENES OVER ENVIRONMENT

Although biological determinism went into remission in the mid-twentieth century, it was revived by the scientific research program in molecular genetics, which reached its apotheosis in the Human Genome Project. This international effort began to take shape in the 1980s, as scientists sought to map and sequence human DNA in order to study human biology and inheritance at the molecular level. Implicit in the undertaking of this massive research effort was the assumption that the genome encrypted what it meant to be human. The 1987 Report on the Human Genome Initiative to the US Department of Energy proclaimed, 'The human genome has been called the book of man; it contains the instructions that describe each human. It is time to obtain a copy of the book to begin to understand what the text means'.[19] By the time the project was formally inaugurated in 1990, genes had re-established their predominance over environment in the biological paradigm.[20]

19. Subcommittee on Human Genome of the Health and Environmental Research Advisory Committee for the US Department of Energy, 'Report on the Human Genome Initiative for the Office of Health and Environmental Research', April 1987, <http://www.ornl.gov/sci/techresources/Human_Genome/project/herac2.shtml>.

The theory of the primacy of genes spilled from the pages of scientific journals into popular culture, as journalists and pundits popularised what sociologist Dorothy Nelkin and historian M. Susan Lindee called 'the DNA mystique'.[21] Public interest in psychology in the 1950s and 1960s (and the possibilities that nurture and environment could actuate human potential) was replaced 30 years later with a fascination with genetics (and the notion that human nature was more rigidly fixed by the genes with which one was born). References to the role of genes in disease, intelligence, and all kinds of behaviours could be found in magazines, parenting guides, comic books, advertisements, television shows, cartoons, and movies.

20. Evelyn Fox Keller, 'Nature, Nurture, and the Human Genome Project', in Daniel J. Kevles and Leroy Hood, *The Code of Codes: Scientific and Social Issues in the Human Genome Project*, Cambridge, MA, Harvard University Press, 1992, p282.

This preoccupation with the power of genes was expressed most vividly in shifting interpretations of familial relationships. In spite of more diversity in living arrangements toward the end of the twentieth century, triggered by factors such as the rising divorce rate and the gay rights movement, the notion of family was increasingly defined by the genetic bond between parent and child. The desire to know one's genetic heritage fuelled a growth spurt in the popular pastime of genealogy research. It also stimulated interest among adoptees in locating their biological parents. While many adopted individuals had longed to meet their 'real' parents long before genoism took over society, their quest took on additional meaning when the genetic relationship was understood to shape more than just one's medical history.

21. Dorothy Nelkin and M. Susan Lindee, *The DNA Mystique: The Gene as Cultural Icon*, New York, W.H. Freeman, 1995.

The privileging of the genetic relationship between parent and child occurred in parallel with the increase in availability of assisted reproductive technologies. In the late twentieth century, technology had made it possible for more people to become biological parents. The ability to reproduce became a mandate to reproduce, as parenthood was bound up with selfhood

in pro-natalist societies. The last section of this essay identifies the cultural mandate of biological procreation as an example of a turn taken by the new eugenics.

POSTMENOPAUSAL PREGNANCY AND THE NEW EUGENICS

I want to argue that the new eugenics of the late twentieth and early twenty-first centuries is a more personal version of selective breeding. This interpretation builds on the articulation by molecular biologist Robert Sinsheimer in 1969 of the concept of 'a new eugenics … that could … be implemented on a quite individual basis'.[22] That is, molecular genetics had opened up the possibility of manipulating nature to 'permit in principle the conversion of all the unfit to the highest genetic level'.[23] While Sinsheimer's definition presumed manipulation of the genetic material to ensure that babies would be 'well-born', I am interested in the eugenic inspiration that understands 'well-born' to mean 'having my genes'. In this scenario, the emphasis is not on creating the 'perfect' child, but rather on the establishment of a genetic relationship between parent and child.

22. Robert Sinsheimer, 'The Prospect of Designed Genetic Change', *Engineering and Science*, 32 (1969): 8-13, quoted in Evelyn Fox Keller, 'Nature, Nurture, and the Human Genome Project', op. cit., p289.

23. Ibid.

The desire to have one's own biological children is, of course, nothing new. It has motivated human reproduction throughout the history of the species. What is new is both the ability and the inspiration for postmenopausal women to act on this desire. Moreover, the possibility of having a genetically related child is complemented by the inclination to experience pregnancy, both for one's own sense of self and to ensure the best possible foetal environment for one's offspring. This imperative to experience pregnancy has been extended to women past the age of menopause, thanks to the availability of assisted reproductive technologies. Contrary to the call of feminists in the 1970s to use technology to separate reproduction from the body - think of Shulamith Firestone's celebration of the potential of the artificial womb[24] - biology and society have instead collaborated in establishing the importance of nature, namely, the mother's womb in foetal development. Technology is used not to replace, but to enhance nature, to allow for biologically 'natural' gestation.

24. Shulamith Firestone, *The Dialectic of Sex*, 1970.

Technology now also facilitates the use of one's own genetic material, so that there can be both a biological *and* a genetic connection to the child in spite of infertility. The recent innovation in the cryopreservation of oocytes affords young women today the opportunity to plan ahead for tomorrow, to have their own genetically related children on their own timetable. For women already past the age of menopause who did not freeze their eggs, they may resort to the use of a donor egg (another woman's genetic material) which can be fertilized by her male partner's sperm (and thus allowing for a genetic connection between father and child). Some prospective parents seeking to purchase eggs from donors who meet certain criteria have placed advertisements in college newspapers offering large sums of money (from $15,000 to $50,000) for women with certain physical and mental attributes. While height and eye colour are largely determined by genetics, the same

cannot be said for creativity, athleticism, and high SAT scores.[25] The effort to select a genotype based on the parents' phenotype harks back to the old eugenics of simplistic genetic determinism. If, however, the primacy of an individual's personal genes - the hallmark of the new eugenics - continues to hold sway, then we might expect to see more pregnancies using one's own frozen eggs rather than eggs donated by another.

This application of the new eugenics also comprises an element of the old eugenics in that access to assisted reproductive technologies for postmenopausal women is limited to those who can afford to pay for these medical services. In the United States, only affluent women are able to take advantage of the choice to reproduce after menopause, unless Medicaid (and Medicare?) extends coverage to ART, which seems unlikely. Disparities in access to assisted reproductive technologies inversely mirror the differential use of reproductive control technologies. Put bluntly, low-income women are deterred from reproducing, while affluent women are encouraged to have children. For example, government policies in the 1990s strongly encouraged poor women to choose Norplant, the five-year contraceptive implant, over other methods of birth control. Medicaid covered the cost of Norplant insertion, and as a result, at least half of the women in America who used Norplant were Medicaid recipients.[26] The pronatalist imperative to bear one's own genetically related children has been in large part restricted to the middle and upper classes - in effect, to the already economically well-born.

To return to the new eugenics, what we have is a privileging of the genes of the privileged. Until Sinsheimer's prophesy of actual genetic manipulation comes to pass, a scenario still very much in the future, parents can choose only whether to use their own or someone else's gametes in reproduction. The situation described here is easily applied to any technologically-assisted pregnancy, not just those of postmenopausal women. I am arguing, however, that what is novel is this linking of selfhood to biological and genetic parenthood in older childless women, made viable by a combination of technological and social factors. That the mandate to reproduce has been extended well past the age of fertility is the unintended and unanticipated consequence of the development and use of assisted reproductive technologies. That this mandate is even considered by women later in life is reflective of the pronatalism and genoism inherent in American society. And counted among the many reasons for and implications of seeking to bear children after menopause is the fulfilment of a personal eugenic desire, to pass on the best available genes - one's own - to the next generation.

I would like to thank Dorothy Porter for her sage counsel and helpful comments in the preparation of this article.

25. An ad in the *Harvard Crimson* in 1998 offered $50,000 for an 'Intelligent, Athletic Egg Donor … at least 5'10' … a 1400+ SAT score'. In 2003, an ad in the *Carnegie Mellon Tartan* offered $15,000: 'Loving, warm Ivy-league educated couple searching for terrific egg donor. Jewish would be great, but not essential (if you meet the other criteria, we'll settle for you having seen Fiddler on the Roof), attractive, excellent academics/SATs, brown hair, light complexion, slender, 5'3' and above, creative (except with your resume), outgoing, healthy, happy'.

26. See Dorothy Roberts, *Killing the Black Body: Race, Reproduction, and the Meaning of Liberty*, New York, Vintage, 1997.