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Extracorporeal Pregnancy as a Feminist Issue

Abstract: *Extracorporeal pregnancy (ectogenesis)* presents perhaps the culmination of reproductive technology (NRT). Second wave feminism welcomed the use of NRT (including *extracorporeal pregnancy*) as a means of women's liberation. Later on, theories belonging to the third wave pointed out the negative implications of NRT and reclaimed the power of unassisted reproduction. This paper will try to point out some remaining productive potentials of NRT and extracorporeal pregnancy. The author wishes to explore the changes in the conceptualisation of the integrity of the individual in the context of the feminist critique of *ectogenesis*.

Key words: *extracorporeal pregnancy, ectogenesis, new reproductive technologies, motherhood, feminism*

The symbiosis between the human body and its technological extensions, by way of reproductive technologies, initiates previously unimaginable subjectivities. Reproductive technologies (NRT) aim at facilitating the fulfillment of culturally-based needs, while at the same time their development influences a change in the cultural context and the rise of new identities.

Extracorporeal pregnancy represents perhaps the culmination of reproductive technology (NRT); it is yet to be fully operationalized, but has been provoking intense fear and hope for almost a century. Extracorporeal pregnancy is sometimes also referred to as *ectogenesis*, a term coined in 1924 by the British scientist Haldane, who believed in the possibility that by the end of the 21st century most human births will be motherless births.¹

The very concept of pregnancy displaced from the female body is actually ancient. We can find it in myths, such as the divine birth of Athena, Parthenos from the head of Zeus, or the birth of Dionysus from Zeus's thigh. In the 16th century, Paracelsus fantasised about creating a homunculus using an artificial womb.

¹ Paula Mejia, "Fetuses in Artificial Wombs: Medical Marvel or Misogynist Malpractice?", *Newsweek*, <http://www.newsweek.com/>, ac. 16. 06. 2015.

The progress of reproductive technologies in the 20th century had a crucial influence on both the scientific advances towards the technology of *ectogenesis* and the development of the conceptual framework necessary for analysing the consequences of its potential use in the fields of literature, law, philosophy and (bio)ethics.

There are a number of reasons that contemporary scientists justified further exploration of such technology: to help save miscarried fetuses; to help infertile people; to find an alternative to surrogacy; to use the embryo to harvest organs; to reduce the risks to the embryo caused by environmental factors (including the female body); as an alternative to abortion in cases of unwanted pregnancies.

The debate on *ectogenesis* raises a lot of ethical and practical questions: who would control such technology; how would the concept of the human, and especially the female body, be changed; would the fetus grown in an artificial womb, thus lacking a dose of the human interaction that is perhaps necessary for healthy physical development?

The debate on *ectogenesis* is inseparable from the social and political tendencies of the age. For example, literature from the thirties reveals that extracorporeal pregnancy was, without exception, thought of as connected to eugenics, and interpreted depending on the author's attitude towards eugenics, which was openly and naively ambiguous in the pre-Holocaust Europe. Today the fear that medicine could be instrumentalized for the purpose of eugenics has spread in particular to NRT, while *ectogenesis* itself became the cause of fear (and hope) for the achievement of typical contemporary tendencies, such as the fragmentation of the female identity or the disembodiment of women.

Given the fact that *ectogenesis* would allow the function of gestation to be dislocated (displaced) from the female body, thus separating biological reproduction (and its positive and negative consequences) from the female subject, interpretations and evaluations of *ectogenesis* have been a particularly important topic for feminism – or, better said, feminisms of the 20th century. Some of the second wave's most prominent authors embraced the promise of relieving the burden of motherhood that *ectogenesis* could bring. However, most of the third wave feminists discarded such a view on motherhood together with the optimistic interpretation of NRT, pointing out the ways in which NRT and *ectogenesis* can in fact be used in favour of the patriarchal system. This paper will try to point out some of the remaining productive potentials of NRT and extracorporeal pregnancy.

How close are we to *ectogenesis* anyway? An *artificial womb* would be a device that could support a human embryo for nine months of gestation – basically a tank filled with artificial amniotic fluid, connected to a series of devices for monitoring and the provision of nutrients. There are two key technologies needed for the completion of the artificial womb: the development of an artificial, amniotic fluid-filled environment and embryo transfer. The success of such an apparatus would depend upon the most precise scientific knowledge about the requirements of the human fetus and the ability to artificially replicate the optimal conditions for its development. Although Haldane's precise prediction does not seem probable, the technology is constantly developing towards the possibility of extracorporeal gestation. Science is approaching *ectogenesis* from both ends, and partial *ectogenesis* has in fact been reached, given the fact that the care of fertilized embryos in laboratories can be considered the first stage of *ectogenesis*, while the care of prematurely-born babies in neonatal intensive care units can be regarded as its concluding phase.

Dr. Helen Hung-Ching Liu, Director of Cornell University's Reproductive Endocrine Laboratory at the Center for Reproductive Medicine and Infertility, grew embryos in an artificial

uterus made of: “(S)caffolds of biodegradable material, which had been modeled into shapes mirroring the interior of the uterus” in 2011.² Existing United States laws limit the duration of similar experiments to 14 days, which led the team to terminate the experiment after six days. However, other mammals (mice) were grown to almost full term in 2003, which is why Hung-Ching Lio’s team is optimistic about the future development of their technology.

In a more famous experiment in 1997, Yoshinori Kuwabara from Juntendo University in Tokyo grew goat fetuses for 10 days in clear plastic tanks filled with amniotic fluid.³

During the last 80 years feminist authors have shown different approaches to the problem of NRT in general and *ectogenesis* in particular, which largely depended on the contemporary social and political context, the tendencies in humanities, and the preferred political project. Or, more precisely – on the way that particular feminist authors and development paths chose to define the female subject, the role of motherhood and technology in the context of female oppression and/or empowerment, and their role in achieving bodily and psychological integrity.

Second-wave feminism welcomed the use of reproductive technologies (including *extra-corporeal pregnancy*) as a means for women’s liberation from the threat and burden of child-bearing and child-rearing. Shulamith Firestone, one of the key theoreticians on the questions of *ectogenesis*, demanded its development, claiming the biological difference between the sexes to be the cornerstone of women’s oppression and the development of sex classes.

Firestone’s attitude, published in the book *The Dialectics of Sex* (1970), is marked by universal premises and modernistic techno-optimism.⁴ Her views are influenced by de Beauvoir’s notion that the female reproductive function sets limits to a woman’s capacity for individuation: “She considered motherhood as the main feature which caused women to be seen as ‘others’ and to tie them to immanence.”⁵ De Beauvoir thought motherhood to be an instrument of oppression which women accept because they previously fell victim to patriarchal ideology.

Firestone also wrote with the intention of expanding the Marxist view on history, claiming that we should regard the differences between sexes as class differences: “(T)he natural reproductive difference between the sexes led directly to the first division of labour as the origins of class.”⁶ She considered the pressure of reproductive function and infant dependence on the mother to be catastrophic for women’s social position. Relying on a specific reading of Freud, Firestone interprets the categories (later to be defined as biological and social motherhood) negatively. Her attitude was that motherhood as such should be universally rejected. While claiming so, she used a universal category of woman, later to be challenged by feminist theory. Advocating the annihilation of the fundamental difference between sexes and the social relations represented by the nuclear family, Firestone advocated for a society of equal individuals whose social and biological reproduction is mediated by technology.

In the following decades the theories with universal premises came to be regarded as naïve at best and totalitarian at worst. Different groups of women and different feminisms, standing

² Robin McKie, “Men redundant? Now we don’t need women either”, *The Guardian*, <http://www.theguardian.com/world/2002/feb/10/medicalsceince.research>, ac. 13. 06. 2015.

³ Ibid.

⁴ Shulamith Firestone, *The Dialectics of Sex: The case for feminist revolution*, New York, Bantam Book, 1970.

⁵ Gerda Neyer and Laura Bernardi, “Feminist perspectives on motherhood and reproduction”, *Historical Social Research*, 2011, 36.

⁶ Shulamith Firestone, op. cit., 26.

for their rights, were acknowledged. The pluralisation of the feminine subject allowed the liberals to stand for individual female rights, accentuating identity and desire, while the Marxist and colonial feminists turned towards the rights of the working women and, more recently, the women of the global south. Interestingly enough, both standpoints provided arguments against NRT and *ectogenesis*.

A reinterpretation and revalorisation of corporeality and nature took place, in line with the rejection of modernist techno-optimism, and the premises of Western civilization concerning the lower value of corporeality, femininity and nature (as well as of their immanent connection), were deconstructed – at least in theory. In that context, the desired social individualisation present in the work of De Beauvoir and Firestone has been observed as a sign of *fallogocentric* discourse. The corporeality was re-evaluated in the context of rising pressures: the threatening global ecological disaster, and, more recently, the virtualisation of the subject and the tendency for its fragmentation and *commodification*. Technology became regarded as threatening and immanently masculine.

Third-wave feminism no longer regarded the most obvious attribute of the feminine corporeality – the biological motherhood – exclusively as a burden that women need to be freed from using different means, including NRT/*ectogenesis*, but also as an attribute to a woman's freely-chosen identity and the way of fulfilling particular needs and desires. In this spirit, biological motherhood was reinterpreted as potentially empowering, as a possibility for agency, and as flexibly defined: “The emotional, intellectual and often spiritual rewards of motherhood are stressed and the desire for caring and mothering is seen as a strength which women should try to relegitimize in their life rather than deny it.”⁷

Feminism of the late 20th century understood the earlier feminist attempts to reject the natural processes of the female body as a sign of compliance with the patriarchal worldview. Since the early eighties technology increasingly came to be regarded as an intrusive tool used by men to control women through the control of their reproductive functions (Ruzek 1979, Gordon 1977, Ehrenreich and English 1978): “Controlling women, especially their bodies, mainly means controlling their reproductive power which any kind of authority needed, needs and will need.”⁸ As such, the Feminist International Network of Resistance to Reproductive and Genetic Engineering (FINNRAGE) was founded in 1984, with the aim of resisting the pressure placed upon women to use NRT and the development of the technology needed for extracorporeal pregnancy.⁹

Some of the arguments in favour of the thesis that technology is an instrument of oppression against women seem a bit far-fetched, like the notion that *ectogenesis* might be used to choose the sex of the infants with more efficiency than today, possibly resulting in the total disappearance of newborn women in a misogynistic society such as ours. Still, some are quite credible. For instance, if *ectogenesis* proves to be a safe and reliable method of procreation, women might be stigmatized for choosing traditional pregnancy and labor. Policymakers and employees in the future might refuse to acknowledge the need for medical care and maternal leave, which would result in a major step back in the fight for women's reproductive and social rights.

While the plurality of possible identities (including motherhood) was recognized as

⁷ Gerda Neyer and Laura Bernardi, *op. cit.*

⁸ Jennifer Strickler, “The new reproductive technology: problem or solution?,” *Sociology of Health & Illness*, 1992, Vol. 14, No. 1.

⁹ *Ibid.*

liberating, the fragmentation of the female body and the 'divorce' of different aspects of motherhood, which are already possible by NRT and would be brought to an extreme by *ectogenesis*, are seen as disempowering. Thanks to the use of reproductive technologies a mother is no longer perceived as a person who provides genetic material, carries out the pregnancy, gives birth and cares for the child all at once. Motherhood can now be deconstructed into separate roles - not just into biological and social mother, which was traditionally possible through adoption, but also into the roles of 'ovarian mother', 'uterine mother', and 'social mother'. Some of the main objections against the use of NRT are that this fragmentation is in line with the fragmentation of production demanded by globalized capitalism – that it *commodifies* and dehumanizes women, disintegrating their bodies into spare parts offered on the market and diminishing their lived experience. Women as a potential collective experience the same destiny as the rest of the global society in contemporary capitalism – they are a part of a hierarchical structure with 'clients' (who buy eggs, pay for surrogacy and IVF) on the top of the pyramid, and the rest of the workforce, in this case women treated as factories of spare parts, occupying the lower places in such a hierarchy.

Also, a tendency towards disembodiment has become one of the key features of the contemporary *risk society*: "(G)lobalized citizens are meant to be independent from any kind of relationship with their physical bodies, too. They are continuously involved in getting rid of their limited, material, imperfect and mortal bodies with the final aim of completely subjugating nature."¹⁰

Still, there are ways to interpret the mutual connection between the developments in NRT, motherhood and the construction of gender identities from a more positive perspective.

Changes in the global economy and general technological progress contributed to the development of the virtual sphere. The brunt of social activities is shifting towards the virtual, which inspires new methods of socialization and new ways to form identity – and also new types of feminism, such as cyber-feminism. Cyber-feminism advises a productive use of the emerging advantages of the informatics society, refusing to look at them as exclusively repressive and masculine.

From the perspective of cyber-feminism, disembodiment is not just a state that people are forced into, in the circumstances when their lives are permeated by new technologies and a psychological scatteredness in hyperspace, but also a chance for a radical reinvention of one's own identity. In this context, cyber-feminism advises a symbiosis between the (wo)man and the machine that could serve to broaden the field of the human. These premises lead to a plausible assumption that the goals of cyber-feminism can be used for the defense of positive aspects of *ectogenesis*, as a mechanism for translation of the desired and imagined identities, which integrate the role of motherhood into the material sphere via technologically-mediated gestation.

This study has analysed the consequences of *ectogenesis* on the forming of feminine subjectivity. The development of this technology could have positive effects on the identity formation of biological man from the perspective of queer theory. If we acknowledge the attitudes of certain types of feminism about the positive aspects of social motherhood, we can ask ourselves why the space of motherhood, as a field of expressing a psychological need for taking care of another being, could not be expanded to parenthood, including the possibility that biological men can connect to the infant in the same way. As previously noted, *ectogenesis* annihilates

¹⁰ Tamar Pitch, *Pervasive Prevention: A Feminist Reading of the Rise of the Security Society*, Farnham, Ashgate Publishing Limited, 2010, 158.

the priority of access to (biological) motherhood previously belonging to women together with the implications of the said priority of the identification of one of the parents as a social mother, or the primary caregiver. The existence of the possibility that subjects in heterosexual partnerships gain equal “starting positions” in respect to the development of an infant could have an influence on the way in which their parental and gender identities are formed, and also a broader influence on the ways in which these identities are interpreted in contemporary culture, thus it could loosen the entrenched binary oppositions of father/mother and their connection to the binary oppositions of men/women.

Ectogenesis could also extend the possibilities for gay men to gain progeny. Literature acknowledges the positive effect of this technology in the context of avoiding the multiple positive practice of surrogacy. However, this futuristic notion hides a conservative approach to the concept of progeny, which implies the necessary genetic relation to the infants taken care of by such couples.

The attitude of feminist authors, as shown, depends upon their interpretation of *ectogenesis* as an instrument of patriarchal oppression, or as a means of empowerment. This interpretation itself depends upon the evaluation of the female body and its specificity – the function of biological reproduction – as a source of strength or weakness in the context of individual or collective female achievement; and upon the evaluation of biological and social motherhood in that same context, as a coercion or a potential for agency. Also, it depends upon the understanding of technology and the technologically-driven worldview as a typically masculine (oppressive) structure, or as an assemblage of techniques potentially accessible to all mankind.

By shedding light on the tensions between the feminist discourses involved in the debate about NRT and EP, this study aimed to reveal the hidden connections and mutual dependencies of these theoretical approaches by exploring the changes in the *conceptualisation of the integrity* of the individual that occurred due to the change in modern/postmodern reality. “While feminists have been unified in support of the methods that enable women to control their own fertility, there is a disagreement among feminists about new reproductive techniques designed to treat infertility and induce pregnancy, such as in vitro fertilization, embryo transfer, and research for *ectogenesis*.”¹¹

The arguments which are used to justify or negate the need for the development of extra-corporeal pregnancy techniques depend on the types of feminism which produce them and their specific political goals.

¹¹ Gelfand, Scott and Shook R. John (eds.), *Ectogenesis: Artificial womb technology and the future of reproduction*, 2006, New York, VIBS, 27.