

## **New perspectives on bioentities in human reproductive lives: Oocytes, urine, and placentas**

**Waldby, Catherine. 2019. *The Oocyte Economy. The Changing Meaning of Human Eggs*. Durham, London: Duke University Press. 248 pp. Pb.: \$24.95. ISBN: 9781478004721.**

**Kroløkke, Charlotte. 2018. *Global Fluids. The Cultural Politics of Reproductive Waste and Value*. Oxford, New York: Berghahn Books. 206 pp. Hb.: \$110.00/£78.00. ISBN: 9781785338922.**

Book review essay by

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### **Introduction**

Human reproduction is the most profoundly changing aspect of human existence today. *The Oocyte Economy* (OE) and *Global Fluids* (GF) are two ethnographies concerned with emerging patterns of human reproduction enabled by modern reproductive technologies. Both ethnographies are specifically interested in “female” reproductive bio-entities. OE focuses on oocytes and “fertility management,” whereas GF explores oocytes, urine (as a source of pregnant women’s hormones in medical fertility treatments), and placentas (mainly used for non-reproductive purposes).

These two books present the results of multi-sited fieldwork actions conducted over several years (OE between 2008 and 2014, GF from 2011 to 2016) in the “privileged” part of the global reproductive market, that is, the global North/West. OE’s fieldwork encompasses the United Kingdom, the United States, and Australia. GF consists of three case studies of “reproductive flows and substances” in the Netherlands, Spain, and

Denmark, including some additional sources from Japan, the United Kingdom, and the United States.

OE is based on transactionalism and phenomenology, while GF draws primarily on feminist cultural analysis. Both works offer complementary anthropological perspectives on the social, cultural, economic, and bioethical aspects of technology-driven reproductive practices and their implications for the future of kinship, parenthood, and other identities (race, ethnicity). Interestingly, neither mentions the concepts and theories that might be relevant for the anthropology of new reproductive technologies, such as “biosociality” (Rabinow, 1992), biosemiotics (Uexküll, 1982) or Latour’s “actor-network” approach and conceptualization of the body (Latour, 2004; 2005). We shall present short overviews of these two books and then look for some converging and diverging points.

### **The oocyte economy: Between gene centrism and oocyte centrism**

OE explores fertility management through oocyte donation, private oocyte cryopreservation, and mitochondrial donation. The story of oocytes is presented as a historical or evolutionary leap into the capacity to manipulate reproductive cells and tissues within experimental conditions outside the body. The empirical material consists of interviews with IVF patients (women), oocyte donors, clinicians, and focus group interviews with young women on their attitudes towards mitochondrial donation. The book has seven chapters.

*Chapter one* briefly introduces the molecular biology of human reproduction and changing paradigms from gene centrism to “oocyte centrism.” The chapter addresses the role of oocytes and “female” aspects of sex differences in reproduction. *Chapter two* discusses the history of experimentation, objectification, and marketization of oocytes. In addressing these fundamental issues, the author mentioned Canguilhem as a rarely cited French author who draws on Merleau-Ponty’s phenomenology (Canguilhem, 2008). Over the long history of humanity, oocytes have been ‘an integrate experience of reproductive physiology as an everyday bodily gestalt’ (Canguilhem, 2008, as cited in Waldby, OE, p. 42). Today, they are offered on the market (or quasi-market) outside the original “owner.”

*Chapter three* starts with an anthropological explanation of the history of common knowledge of fertility, notably the translation of medical knowledge into popular representations and “wisdom” of female fertility (the “fertility cliff”). There has been a significant historical change in the ontological transformation of fertility and maternity (“re-

distribution of maternity”). The interviewed donors rationalized their situation through re-evaluation and redistribution of oocyte ‘identity’ by detaching from oocytes personally and ontologically.

*Chapter four* provides an overview of the emerging global oocyte market through the experiences of nine oocyte recipients from Australia and Britain. The chapter discusses the geopolitics of the oocyte economy and subtle relations between ethnic, national, and racial identities and the invented motherhood identity. All women are ambivalent about the “third party” element in their anticipated motherhood: they want to know the donor’s origin, but at the same time, they want to erase their “trace” by opposing donor registries.

*Chapter five* addresses the implications of the cryopreservation technique for the anthropology of human reproduction: ‘it changes what it means to be biological’, enabling us to ‘think differently about the relations between biology and time’ (OE, pp. 121-122). The chapter presents interviews with egg bank representatives from the two opposed regulatory models: the US model as market-oriented, liberal, consumer-oriented, and profit-oriented, on the one hand, and the British and Australian models as altruistic, personalized, non-profit, and highly regulated, on the other. The author also analyzed a hybrid model in which the US egg banks provided services to Australian clients.

*Chapter six* continues with the private (“social”) egg freezing, reporting on interviews with two groups of informants: women who had banked their eggs and the staff from fertility clinics. The chapter focuses on “social” or elective egg freezing as part of fertility management over the life course, prompted by common idioms of “fertility cliff” and “biological clock” that render women highly anxious about their diminishing capacities to conceive after a certain age. OE focuses on egg freezing for social reasons, neglecting another group of women who use this technique for medical reasons. New technologies have brought unprecedented manageability of the “flow of fertility time.” However, they are imposing new challenges, such as uncertainty about whether eggs will be viable in the future or even ontological issues (“the division of self into frozen and non-frozen parts,” OE, p. 151).

*Chapter seven* discusses therapeutic cloning and mitochondrial donation as somewhat more experimental than standard medical techniques. This part of the oocyte economy is explored through focus group interviews with non-IVF participants (young women) and IVF patients. The chapter points to a significant difference between altruistic donation for reproductive purposes and donation for potentially commercial purposes beyond the sector of assisted reproduction.

As mentioned before, the primary analytical framework of OE is a transactional approach combined with phenomenology (Canguilhem, 2008). The concept of experience is used as the pivotal phenomenological tool to understand the “thick time” (OE, p. 24) and grasp the experienced time and fertility without pre-defined coordinates. Also, interdisciplinarity is embraced in the introductory part, primarily at the intersection of economic anthropology (fertility as a market phenomenon) and political anthropology (bioethical issues are entangled with regulation and body politics). However, OE lacks an articulated gender perspective. For example, the issue of feminine generosity (OE, p. 179) counters the evident ego-centric orientation of IVF patients, who are reluctant to donate oocytes for reproductive and other purposes because “every egg counts.” A gender perspective is necessary for understanding the equity and fairness issues raised among potential donors for non-reproductive purposes. The interviewed women agreed to donate their eggs for commercial medical purposes (drugs) if donors were entitled to fair compensation for their efforts and tissues. Both issues reveal gendered sociocultural scripts of female fertility.

Considering that OE focuses on female reproductive cells, why men were excluded from the analysis (as male patients and partners of the interviewed women) is understandable, and the limits of the study design justified this strategy. However, “female reproduction” lacks nuance. Oocyte donors are lumped together with IVF patients despite substantial differences among them. Also, women patients with children and women without children have different perspectives. “Identity work” differs in women who already have had children with their genetic material (OE, pp. 129-130). Finally, the interaction between the hormonal drug regime schedule and personal experiences of physical aspects of IVF treatment could have been more detailed. However, OE contributes significantly to the anthropology of kinship and family through an interesting discussion on modern negotiated mothering practices and emotional labour in shaping the identities of intending mothers and their imagined future offspring.

### **Global fluids: “Gift markets” beyond gift and commodity**

As the author states, GF has two “agendas”: to understand how reproductive fluids are transformed from waste to value and to conduct a feminist cultural analysis of the politics of reproduction (GF, pp. 158-159). Three case studies of reproductive fluids (urine, oocytes, and placentas) are presented in the book.

The empirical material consists of interviews with “reproductive actors” (patients, clinical directors, fertility clinic coordinators, marketing, and CEOs of pharmaceutical and

cosmetic companies) and field observations (the fertility clinics), and different textual sources (internet sources, legal documents). Assemblage ethnography is used both as a methodological strategy and theoretical framework to describe “analytical and empirical tracking strategies”: “In each case study, I unfold how particular reproductive fluid comes into existence in an assemblage of images, commercials, texts, field observations, interviews, photos, and public and ethical debates” (GF, p. 10).

The book has four chapters. *Chapter one* discusses feminist, economic, and anthropological perspectives on how reproductive waste is transformed into bioproducts. The pivotal concept is Waldby’s notion of biovalue and the interplay between (economic) value and waste. Human tissue is “neither a gift nor exclusively a commodity” (Waldby & Mitchell, 2006, as cited in GF, p.37). The author explores how bodily waste is constructed and exchanged at a transnational level relying on a case study of three Copenhagen fertility campaigns for promoting having children at an earlier age (“Have you counted your eggs today?” and “Do it for Denmark,” “Do it for Mom”). This chapter is based on a feminist cultural analysis that reveals how emotions are used as a rhetorical tool for materializing bodies. Affectively charged rhetoric tools stress individual responsibility for reproduction (GF, pp. 23, 28).

*Chapter two* presents the “trajectory” of urine, its different paths from body waste to biological value as an alternative medical treatment (drinking urine), fertilizer of rooftop gardens, and hormone therapy in medical treatments (assisted reproductive technologies). The chapter presents a case study of a Dutch company (MvM) dedicated to urine collection from pregnant women in collaboration with the pharmaceutical industry. The author identifies three narratives on urine: maternal-sisterly solidarity, reproductive management, and eco-friendly flow. Dissonant moments are incorporated into these narratives (physical repulsiveness of urine odor). Notably, the author emphasizes the hidden aspects of female reproductive work and disciplining of the female body. Critical feminists claim that altruism is used to justify the naturalization of women’s solidarity and impose requests for providing urine to the pharmaceutical industry and producers of eco-friendly gardening fertilizers.

*Chapter three* discusses “how oocytes come to matter in concrete entanglements and in cultural imaginations” (GF, p. 81), relying on the fieldwork conducted in the fertility clinic in Spain. The assemblage ethnography included interviews with oocyte providers (donors), documents, and observation of the “choreography” of implantation procedures in the operating theatre (GF, p. 82). Like *Chapter two*, this chapter offers three “analytical incisions” with inherent ambiguities: egg as waste/investments, egg as gift/

commodity, and egg as tiny cells/own babies. These three aspects also have an individual perspective (preserving one's fertility via egg freezing) and an interpersonal, relational perspective (provider-recipient).

*Chapter four* explores the placenta as a liminal tissue pointing at the fact that it is not clear if it is part of the mother's or baby's body or both. This chapter is an extensive anthropological essay of legal, medical, and popular understandings and cultural meanings attributed to the placenta, drawing on empirical data from Denmark, the UK, the USA, and Japan. Placentas have different purposes: medical waste, "new food," and a potent elixir ("magic bullet"), and finally, as part of bioinvestment in the family's health for contingent regenerative purposes. Placenta banking, performed by collecting stem cells, symbolizes "good mothering."

GF relies on feminist bioethics, critical approaches to neoliberalism, discourse-oriented paradigms, and some elements of transactionalism or exchange theory. In addition, two concepts based on the anthropological tradition have significant explanatory power. First, the concept of waste draws on the definition of dirt as "matter out of place" (GF, p.35; Douglas, 1988). The author develops an innovative matrix (waste as discarded matter, lost investment, and recyclable matter). Second, the concept of the "gift market" is based on Strathern's emphasis on the tension between the gift and the commodity (GF, p.143–144; Strathern, 1988). Reproductive fluids are neither gifts nor commodities. The analysis moves along the continuum (gift-commodity) to explain them as gendered and stratified entities from the feminist perspective.

There are at least two streams of feminist thought in the book. Feminist cultural analysis shows reproduction is constructed through rhetorical practices and communication ("materializing of performativity"). Hence, "reproductive fluids and organs do not have innate biological meanings ... meaning[s] are acquired in social interactions" (GF, p. 25). It is the process of creating reproductive value from strictly reproductive tissues and urine as a source of reproductive hormones. Another feminist position is "transnational feminism," which focuses on the stratification of reproductive markets and power inequalities between the Global North and the developing countries. There are some converging points with Waldby's (OE) earlier works on reproductive waste (GF, p. 136) and the shared feminist interpretation of the Marxist concept of labour (GF, p. 156).

GF is a valuable piece of anthropological research on reproductive and non-reproductive transformations of bodily fluids. The book's scope (three types of fluids) is both an advantage and a limitation. The author develops "a wide-angle analytical perspective" (GF, p. 31), using a plethora of neologisms from this field: reproductive bodies, repro-

ductive matter, reproductive labour, reproductive agents (GF, p. 7), reproscapes, repreneurs (GF, p. 41, 155), and Waldby's notion of regenerative labour (GF, p. 155). The plurality of notions makes the main line of argumentation challenging to follow. For example, performativity is created through discourses, narratives, and rhetorical tools. In some places, the author departs from discourse-based performativity, attaching discursive layers to materiality in a deterministic way.

The reader might notice a peculiar absence of breastmilk among "female reproductive fluids." The author does not explain why breastmilk is not included in the analysis, considering its cultural relevance for "good mothering" and the globalisation of breastmilk-sharing practices. From an anthropological perspective, current "breastfeeding wars" are much more prominent in public policy debates than urine and placentas (Ignjatović & Buturović, 2018). Interestingly, the author mentioned urine as a new "liquid gold" (GF, p. 53) but missed drawing a parallel with the same metaphor used to describe breastmilk (especially colostrum). Another minor shortcoming of the book is a lack of a nuanced feminist perspective. For example, it would be interesting to address women's solidarity beyond the neoliberal ideology of imposed impersonal altruism and repreneurship. Also, to understand the manifestations of female reproductive labour, we should differentiate between other-oriented practices (oocyte donation) and self-oriented practices (placentas). In the first case, women donate oocytes to other women. In contrast, in the second case, the woman uses the placenta for her own children's health benefits (regenerative medicine) and marginally for commercial purposes (the cosmetic industry). Globalisation is the common feature of both, but their moral substance is different.

### **OE and GF: Towards an evolutionary turn in female reproduction?**

These two books illustrate complementary but also partly opposing views of women's reproductive choices enhanced by new reproductive technologies. GF follows the traditional image of oocytes as static, fragile entities, in contrast to sperm which is depicted as a mobile, dynamic, and flexible entity. In the Copenhagen campaign, it is emphasized that women have fewer options over their life course due to their limited reproductive capacities. The author does not mention that male fertility is also addressed as a potential issue in the campaign ("Are they swimming too slow?," GF, p. 23). On the contrary, OE presents oocytes as mobile and transferable entities, picturing women as proactive reproductive agents. These two views are also epitomized in terminology. Whereas

Kroløkke (OE) embraced the term “oocytes” both in the title and throughout the book, Waldby (GF) used the term “eggs” more often than “oocytes.” Interestingly, Kroløkke (OE) use the terms from Waldby’s previous works (regenerative labour, reproductive waste), whereas Waldby departs from her conceptual legacy in OE.

However, OE and GF share common ground in addressing human reproduction. First, both books capture the globalization trends of medically assisted human reproduction. GF focuses on “globalized reproduction” as the central theoretical and analytical concept. At the same time, OE is interested in transnational forms of reproductive agency and the stratification of opportunities in the globalized reproductive market. The globalization of reproductive service is depicted as a dualism between the Global North and underprivileged parts of the world (reproductive neoliberalism and neocolonialism). However, some differences within the “privileged” regions have been neglected. For example, different neoliberal models or “repro-politics” impose different regulations that have an impact on “the availability of provider bodies” (GF, pp. 43, 158). In drawing the trajectory from donors to recipients, one should address the fact that regulatory frameworks have significant implications on the procedures. The UK’s NHS provides access to IVF and donation, but the altruistic model of donation causes scarcity. It differs from the other “North” model: in the USA, oocyte selection comes before extraction. Other systems first extract and then look for recipients.

Countries with less rigid regulations have attracted patients from other countries, but the division line is not strictly “income-based.” It is manifested as “moral framing” through altruism as the only acceptable discourse. Both studies have highlighted the ambiguities of “reproductive matter” (commodity vs gift). It is explicitly said that women who only want to do it for money are undesirable and deselected by the clinic in Spain (GF, p. 89). The focus must be on the emotional rewards of donation (“The donation process made me a better person,” GF, p. 90) and discounting any other than moral reasons, except for an innocent motive to ‘get the experience of traveling to such a far-away and cultural space as Cyprus’ (GF, p. 90). This position has bioethical implications for the future: is it possible to provide successful fertility services within the narrow scope of altruism with increased options in reproduction technology?

The global economy of reproduction is one of the central topics of both books. However, the authors focused on the Western markets and only marginally discussed the underprivileged countries as ‘egg providers’ in the global fertility markets. Disregarding this methodological caveat, OE and GF identified all relevant aspects of reproduction and globalization. Both have confirmed that anthropological concepts of race and ethnicity

play a significant role in medically and pharmaceutically mediated human reproduction. Culturally interpreted physical features are addressed as “aesthetic categories” in the reproductive market (GF, p. 92). Choosing a hypothetical child’s features by browsing through the ‘catalogues’ of donors is a regular practice in commercial reproductive markets. This practice enters the area of enhancement, far beyond the justifiable practice of matching cultural background and the physical resemblance of a child and intended parents (as in the case of adoption, which is motivated by the child’s interest). In this case, intended parents and fertility clinics select the best combination of potential characteristics of intended parents and donors.

The practice of selecting phenotypes and physical characteristics is detached from political implications and societal taboos (racism and eugenics). Genetic traits are significant in gamete donation and, consequently, biological coordinates of parenthood. Many issues of a soft “eugenic design” of imagined future babies have been raised. In addition to avoiding unfavorable genetic predispositions related to cell metabolism and diseases, there are favorable features such as intelligence or physical attractiveness. The selection of donor eggs includes the physical features of the donor but also her racial, ethnic, cultural, and even religious background (for example, consumers from Ireland have a preference for Spanish donors) (GF, p. 100). The process of recreating identity is performed through the selected preferences for Latin music, similar looks, and imagined lifestyle, creating a procreation story, and invoking stereotypes (GF, p. 101). However, some elements of benign reproductive cosmopolitanism emerge along with this “eugenic design,” driven by imaginary social interactions between oocyte recipients and providers. Both parties imagine and idealize each other and see ‘transnational fertility treatments as a rightful and pan-humanitarian act’ (GF, p. 98, 104). Recipients are imagined as “deserving,” and donors are pictured as “altruistic.”

Body cells and tissues are no more embedded as integral parts of the body but are removed and replaced in laboratories and tissue banks. New motherhood modalities can “disaggregate motherhood into an array of maternal agents” (OE, p. 192). Hence, new motherhood identity work has emerged. For example, denaturalizing motherhood means focusing on the pregnancy of intended mothers who receive another woman’s genetic egg (GF, p. 94). The personalization of frozen eggs is a mechanism to preserve control over the burden of declining fertility, regain control over the life course, and lead to late motherhood (50+). A comprehensive picture of “disaggregated motherhood” should include surrogacy based on the gametes of intending parents.

Although OE and GF deal with female reproductive choices, there are some relevant broader implications for the understanding of modern parenthood. OE has identified a resistant cultural pattern of “gene centrism” in human reproduction (OE, p. 35). Regulatory practices guarantee the right to information about the genetic origin of children born from donated gametes/embryos. Genetic familism or “DNA centrism” is the cultural norm even in highly developed technological cultures. Gene centrism is evident in the cryopreservation of their women’s oocytes to preserve their genetic heritage (“generational time”). The concepts of generational time and generations as genetic markers have been re-examined in recent debates about mitochondrial replacement techniques. There is an intense ambivalence about genetic heritage among recipients. They “select” genes and favorable characteristics but then try to “erase” the genetic background. For example, going “overseas,” for regulatory reasons (mandatory registries) or scarce eggs (poor egg quality from shared practice in the UK) can be seen as a psychological mechanism to make a radical disjuncture, to “separate” the identity of the child from its genetic origin.

New scientific facts about human reproduction (the role of mitochondria in female cells) and medical options for oocyte manipulation (donation, cryopreservation) have introduced *oocyte-centrism* in human reproduction. Oocyte centrism is evident in selecting genetic material, where the focus is on the genetic mother, even in the case of double donation (egg and sperm) (OE, p. 106). Will oocyte-centrism lead to matrifocality in social relations? Evolutionary sex(gender)-based inequalities in fertility seem to be decreasing thanks to assisted reproductive technology (ART), which legitimized medical and social reasons in fertility management. Fertility options have expanded in recent decades. For example, women can freeze their eggs and postpone the timing of child-bearing. Some women can donate their eggs, embracing more reproductive power. Finally, women struggling with medical issues can use other women’s eggs and overcome the static, pre-given destiny of female fertility. In sum, ARTs have brought unprecedented empowerment to women. Just like men, women are more capable of taking (some) control over their fertility: “The ability to bank oocytes means that fertility can be accumulated, organized through material inventories, retained through time, and shipped through space” (OE, p. 144).

However, new technological options are not cost-free and risk-free, as shown in these books. It remains to be seen how the new oocyte-centrism will affect the known cultural idioms of female fertility. “Delayed motherhood” issues do not disappear for women who have their oocytes cryopreserved. Namely, if eggs are within the body, they slowly

deteriorate, which is not in our control, but we can act upon this known fact. Once oocytes are outside the body, someone else is taking care of the future, which imposes other risks (viability of frozen oocytes). Both authors of OE and GF have pointed out these negative aspects of reproductive “alienation” and technology-dependent reproduction. OE and GF have mapped out emerging trends related to body identity, gender, kinship, family, generation, and life course.

Assisted reproductive technology will undoubtedly have far-reaching implications for human reproductive lives in general. Ongoing trends will pose an immense challenge to anthropology. Should we address human reproduction as an ecosystem (focusing on a flow and replacing parts) or as a market exchange? Should we establish new anthropology of sub-human reproductive entities and “biological communities”? OE and GF have provided valuable insights into the future of human reproduction and fertility with sound methods and theoretical concepts. They reveal “a whole other substrate of inhuman and prehuman life’ (OE, p. 25), confirming that fertility is ‘highly meaningful for all cultures” (OE, p. 2).

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