

## Reproductive Technologies and family ties

In vitro fertilization (IVF) revolutionized procreation and family-making in the late 1970s by making possible the separation of *conception* from *sex*. Since the birth of the first “IVF baby” Louise Brown in 1978, techniques like IVF have routinized rapidly, against initial predictions: it is estimated that at least 12 million babies have been born with the help of IVF and other assisted reproductive technologies (ART).<sup>1</sup> Furthermore, ART-related births are projected to reach at least 167 million people by the year 2100—if not much more.<sup>2</sup> On the surface, it seems that everybody’s reproductive autonomy is expanding in virtue of these developments: aspiring parents can potentially procreate with the help of third parties, as with innovations like gestational surrogacy and uterus transplantation (UTx), and even those not actively trying to procreate have options to cryopreserve their own gametes for later use. Given that people nowadays delay childbearing for various reasons<sup>3</sup> and one in six people are reported to experience infertility worldwide,<sup>4</sup> it seems plausible to assume that aspiring parents will continue to turn to reproductive technologies in the hopes of attaining biogenetic procreation where “natural” conception is not an option.

Despite this apparent normalization of ART as a mode of family-making, however, it would be naïve as bioethicists to assume that the only effect of such technologies is that of medically “solving” people’s infertility problems and expanding reproductive autonomy.<sup>5</sup> The narrative that the aim of ART is to treat infertility obscures and simplifies its far-reaching (and perhaps unintended) social implications and side effects, including for example, the gendered burdens and costs it can exacerbate for would-be gestators,<sup>6</sup> and also disputes over parental rights.<sup>7</sup> Bioethicists have shown that ART may be a useful lens through which to probe the normative boundaries of kinship,<sup>8</sup> and

even the legitimacy of the desire for biogenetically related children.<sup>9</sup> At the same time, it is clear that the differentiated (un)availability of ART at the global level reflect pre-existing inequalities in the social sphere, such as socioeconomic disparities<sup>10</sup> and sexual and racial discrimination in reproductive medicine.<sup>11</sup> As such, the myriad functions, usage, and implementation of ART can be unpredictable, morally ambivalent, and unique to the social settings under which they are deployed. Uncertainties about the social construction of reproduction and family ties therefore gives rise to a need for continued scholarship in bioethics. Providing practitioners, third parties, and service users with actionable and up-to-date insights on how best to operationalize reproductive technologies in the name of family ties, while also promoting awareness about their current limitations, is an ethically important task.

Many of the open-ended questions one might ask in this field invite philosophical considerations. Who does ART (dis)service, and in which ways? What does social uptake of reproductive technologies reveal about the enduring or shifting nature of bioheteronormativity? How can the risk of entrenching social oppression and injustice through reproductive medicine be addressed? As we draw closer to the 50th anniversary of Louise Brown’s birth, this special issue collects both theoretical and empirically informed articles which aptly demonstrate the ethical ambivalences that continue to accompany ART practices. We are pleased to showcase herein a diverse set of eight recent contributions from bioethical experts based in Asia, Australia, Europe, and North America, who write about a range of pressing challenges—both general and context-specific—for our thematic special issue. While our selection of papers do not exhaust all the ethical themes and perspectives associated with reproductive technologies and family ties, we hope they will nevertheless pique renewed interest in the topic of ART and family-making as an ever-relevant and universal locus of ethical contestation and negotiation.

In the first article of this issue, Yolinaliztlí Pérez-Hernández and Michiel De Proost<sup>12</sup> present a binational qualitative study from Belgium and France on the reasons why women pursue egg freezing. Contrary to

<sup>1</sup>eClinicalMedicine. (2023). The current status of IVF: are we putting the needs of the individual first? *EClinicalMedicine*, 65:102343. <https://doi.org/10.1016/j.eclim.2023.102343>

<sup>2</sup>Faddy, M. J., Gosden, M. D., & Gosden R. G. (2018). A demographic projection of the contribution of assisted reproductive technologies to world population growth. *Reproductive BioMedicine Online*, 36(4), 455–458.

<sup>3</sup>Mills, M., Rindfuss, R. R., McDonald, P., & te Velde, E., on behalf of the ESHRE Reproduction and Society Task Force. (2011). Why do people postpone parenthood? Reasons and social policy incentives. *Human Reproduction Update* Volume, 17(6), 848–860. <https://doi.org/10.1093/humupd/dmr026>

<sup>4</sup>World Health Organization (2023). 1 in 6 people globally affected by infertility. WHO. <https://www.who.int/news/item/04-04-2023-1-in-6-people-globally-affected-by-infertility>

<sup>5</sup>Lee, J. Y. (2022). The limitations of liberal reproductive autonomy. *Medicine, Health Care and Philosophy*, 25, 523–529. <https://doi.org/10.1007/s11019-022-10097-w>

<sup>6</sup>Brezina, P. R., & Zhao, Y. (2012). The ethical, legal, and social issues impacted by modern assisted reproductive technologies. *Obstetrics and Gynecology International*, 2012, 686253. <https://doi.org/10.1155/2012/686253>

<sup>7</sup>Ciccarelli, J., & Ciccarelli, J. (2005). The legal aspects of parental rights in assisted reproductive technology. *Journal of Social Issues*, 61(1), 127–137.

<sup>8</sup>Cutas, D., & Smajdor, A. (2024). Keeping it in the family: Reproduction beyond genetic parenthood. *Journal of Medical Ethics* Advance online publication. <https://doi.org/10.1136/jme-2023-109814>

<sup>9</sup>Di Nucci, E. (2018). I love my children: Am I racist? On the wish to be biologically related to one’s children. *Journal of Medical Ethics*, 44, 814–816.

<sup>10</sup>Lass, A., & Lass, G. (2023). Inequalities in assisted reproduction technology utilisation between the G20 countries. *Human Fertility*, 26(5), 1374–1379. <https://doi.org/10.1080/14647273.2021.2017025>

<sup>11</sup>Tam, M. W. (2021). Queering reproductive access: Reproductive justice in assisted reproductive technologies. *Reproductive Health*, 18, 164. <https://doi.org/10.1186/s12978-021-01214-8>

<sup>12</sup>Pérez-Hernández, Y., & De Proost, M. (2023). Egg freezing, genetic relatedness, and motherhood: A binational empirical bioethical investigation of women’s views. *Bioethics*, 38, 592–599. <https://doi.org/10.1111/bioe.13163>

the assumption that the main reason for egg-freezing is the pursuit of motherhood as a relationship and experience primarily defined in terms of genetic relatedness, Pérez-Hernández and De Proost argue that egg freezers adopt a “compromising and reformulating” attitude toward parenting ideals. On the basis of interview studies, the authors point to three themes requiring more attention in bioethical approaches to egg freezing: the importance ascribed to family building, the centrality of gestational experience as part of motherhood, and ambivalent attitudes toward adoption. From a social-anthropological and moral scientific perspective, Pérez-Hernández and De Proost aim to ground moral philosophical analyses of reproductive decision-making in the “messy reality” by which such decisions are structured.

Questions about the moral valence of reproductive projects that center on genetic relatedness between parent and child are also thematized in Giulia Cavaliere's<sup>13</sup> article, with a focus on sociopolitical and cultural norms. Cavaliere's argument responds to two objections that have been levelled at state-funded fertility treatment: the so-called “one good among many” objection and the “norm legitimation” objection. Her account resonates with so-called “intermediate needs”<sup>14</sup> approaches, though it takes a slightly different angle by focusing on the desires that underpin valuable life projects, and less on the general categories of activities and experiences that make a central contribution to achieving a reasonably valuable life. Cavaliere's critique of the ‘norm legitimation’ objection, in turn, centers on the argument that oppressive (parenting and reproductive) norms should not be resolved by putting the brunt on those who are already disadvantaged due to their fertility status.

Next, Teresa Baron's<sup>15</sup> article centers on moral philosophical questions about moral parental rights, genetic parental links, and how intentions figure in this equation. Baron's analysis focuses on “total surrogacy” or “double-donor surrogacy” (DDS) arrangements; that is: reproductive practices where none of the intended parents are genetically related to the would-be child. Baron critically explores the intentionalist justification to treat DDS separately from planned private adoption and concludes that appeal to intention fails as a ground to distinguish both practices. Consequently, “private adoption” and “total surrogacy” should be interpreted as denoting morally, socially, and practically equivalent arrangements. Recalling Alice's interrogation of Humpty Dumpty whether one can make words mean so many different things, Baron's conclusions point to broader normative issues concerning the emotive and performative potential of concepts to denote parts of reality and how this naming can affect moral understanding of them.

In the next article, Mayli Mertens and Heidi Mertes<sup>16</sup> offer a critical re-evaluation of the typical outcome measure in infertility

treatment, namely, the cumulative healthy live birth rate (HLBR) per patient or per cycle. The authors argue that adopting the HLBR standard enacts an interpretative self-fulfilling prophecy: those who walk out of treatment with a healthy baby consider themselves “successful,” and those who do not consider themselves to have failed. However, there are many ways to alleviate suffering related to infertility, which might even include stopping IVF treatment. Mertens and Mertes therefore offer an alternative outcome measure which is more neutral with respect to whether patients walk out with or without a baby after treatment. In their view, a successful treatment is defined as one in which people can leave the clinic alleviated of the suffering which accompanied their “infertile” status relative to when they first entered the clinic. This does not require the user to walk out with a baby to be considered “successful,” even though walking out with a baby remains a positive outcome on their account.

Huixian Fu and Yue Zhao<sup>17</sup> explicate reproductive limitations for lesbian couples in China, whose relationships are not protected by law due to same-sex marriages being forbidden. Their analysis exemplifies the moral ramifications of a disconnect between, on the one hand, legislation as a normative framework, and, on the other hand, the moral reality of people pursuing what they care about, facing up against traditionalist family conceptions and patriarchal ideology restricting reproductive freedom on the basis of sexual orientation. The article explores different accounts for determining parenthood and seeks possible ways for lesbian couples to obtain better protections in reproduction and parenting in Chinese society.

The relationship between reproductive technologies and kinship is the focus of Evie Kendal's<sup>18</sup> contribution. Using fictional vignettes, Kendal illustrates how reproductive technologies can complicate parenthood attributions. Particularly, it is shown that the typical strategies used for attributing parenthood (e.g., genetic, gestational) are inadequate in cases where there are many potential “parent” candidates, thanks to the use of reproductive technologies and parent-like social arrangements. For Kendal, these complexities are not a reason to reject reproductive technologies altogether or to reify traditional family structures, but to reimagine family-making in gender, sexuality, and culture-inclusive ways. She proposes therefore to understand parenthood as a “fuzzy set,” in which relevant candidates may possess certain relational properties which confer degrees of parenthood membership. Her account anticipates the need for a more flexible way to make attributions of moral and legal parenthood, in light of dynamic technologies and relationships.

Susan Kennedy<sup>19</sup> discusses the worry that ectogestative technology might prevent opportunities to form gestational ties in the case of full ectogestation. Kennedy claims that, despite ongoing hopes that the option for full ectogestation might enhance the reproductive autonomy of gestators, ectogestation may instead

<sup>13</sup>Cavaliere, G. (2023). Fertility treatment, valuable life projects and social norms: In defence of defending (reproductive) preferences. *Bioethics*, 38, 600–608. <https://doi.org/10.1111/bioe.13194>

<sup>14</sup>Segers, S., Pennings, G., & Mertes, H. (2019). Getting what you desire: The normative significance of genetic relatedness in parent–child relationships. *Medicine, Health Care and Philosophy*, 22, 487–495. <https://doi.org/10.1007/s11019-019-09889-4>; Segers, S., Pennings, G., and Mertes, H. (2022). Assessing the normative significance of desire satisfaction. *Metaphilosophy*, 53, 475–485. <https://doi.org/10.1111/meta.12574>

<sup>15</sup>Baron, T. (2023). Double-donor surrogacy and the intention to parent. *Bioethics*, 38, 609–615. <https://doi.org/10.1111/bioe.13204>

<sup>16</sup>Mertens, M., & Mertes, H. (2023). Deconstructing self-fulfilling outcome measures in infertility treatment. *Bioethics*, 38, 616–623. <https://doi.org/10.1111/bioe.13226>

<sup>17</sup>Fu, H., & Zhao, Y. (2023). Reproduction and parenthood among lesbian couples in China: Legal and ethical perspectives. *Bioethics*, 38, 624–631. <https://doi.org/10.1111/bioe.13235>

<sup>18</sup>Kendal, E. (2023). Whose (germ)line is it anyway? Reproductive technologies and kinship. *Bioethics*, 38, 632–642. <https://doi.org/10.1111/bioe.13254>

<sup>19</sup>Kennedy, S. (2024). Ectogenesis and the value of gestational ties. *Bioethics*, 38, 643–649. <https://doi.org/10.1111/bioe.13260>

amplify patriarchal perspectives of the family, where gestational ties are instrumentalized and relegated to an inferior role in family-making. Thus, we ought to remain skeptical of the disruptive potential of full ectogestation, as it may threaten rather than promote the reproductive autonomy of would-be gestators. In view of these worries, Kennedy proposes to establish a *right to gestate* as a way of safeguarding the option of pregnancy for those who wish to experience it, focusing especially on the value of gestation as a unique form of intimacy conducive to flourishing.

In the final article included in this special issue, Ryan Lam<sup>20</sup> illustrates that the concept of “family” needs conceptual amelioration. Lam uses the theoretical tool of “conceptual engineering” as a lens through which to scrutinize prevailing conceptions of the family. He argues that the social construction of the “family” in the Anglo-American context has been unduly influenced by genetic essentialism and an idealization of the bionormative nuclear family structure as superior to other family structures. This bias, as he points out, is manifest in linguistic practices, which tend to uphold the value of the nuclear family whilst excluding that of other, so-called “alternative” families. Mitigation of such linguistic practices and genetic essentialism, therefore, is necessary to remove underlying assumptions that the “family” entails fixed relational dimensions. Instead, it may be better to specify families in a purely descriptive sense, for example, by qualifying “family” with terms such as “adoptive,” “blended,” and so forth.

What does it mean, and what would it take, to enhance or improve practices of utilizing technology to “create” or “make” families? To make progress in this realm, on our view, does not merely consist of pioneering reproductive technologies which enable new modes of family-making; it is to reflect deeply on their meaning-making possibilities, and their ethical and social implications. This special issue therefore serves as an open invitation for readers to think critically and creatively about the ways in which the relationship

between reproductive technologies and family ties is far from settled, despite the seeming popularity and routinization of ART. We encourage interested readers to reflect on and engage with the perspectives represented herein, as we endeavor to move the field forward.

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<sup>20</sup>Lam, R. X.-H. (2024). Rethinking ‘family’: A call for conceptual amelioration. *Bioethics*, 38, 650–658. <https://doi.org/10.1111/bioe.13333>