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Sci-Fi Parenthood and the End of Love

Daniela Cutas

Medical Ethics, Lund University, Lund, Sweden

Correspondence: Daniela Cutas (daniela.cutas@med.lu.se)

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1 | Introduction

Over recent decades, ever more sophisticated reproductive technologies have raised concerns over the increasing medicalization of some of the most intimate forms of human interaction, as well as the decreased willingness to accept risks in human reproduction. Concerns have been formulated, among others, in terms of uptake of certain technologies—notably those that allow the selection between embryos or embryo modification—signaling defects in parental expectations and, ultimately, in parental love. While such concerns have been raised and rebutted before, they are worth revisiting for two reasons. First, they have recently been defended in two papers by Gheaus and so have not been put to rest. Second, and more interestingly, while some of the arguments that underpin them should be rejected, they may also lead us to a more plausible and pertinent account.

Contrary to recent claims in the philosophical literature, in this paper, I hope to show that the alleged threat that these technologies pose to interpersonal relationships, be it between parents or between parents and children, and, ultimately, to love and intimacy, is neither unprecedented nor fatal—nor even a threat at all—at least not in the ways in which these threats have been framed. While innovations in human reproduction may well be problematic—and not problematized enough so far—I will suggest that progress and uptake of such technologies need not express nor realize shortcomings in love nor, eventually, its demise.

The increasing capacity to detect and eliminate abnormalities in embryos, to "fix" them, or to simply select away the "imperfect" ones, creates expectations that parents pursue such technologies and make the "right," "responsible" choices. Innovations in technologies of human reproduction take us further and further from culturally entrenched ideals of romantic love between parents and unconditional love for children. Not only that, but they have triggered warnings in terms of "the end of men" (once women no longer need men's reproductive contributions) (see e.g., Cook 2009; Bindel 2016) or "the end of sex" (once it is no longer needed for reproduction) (see, e.g., Greely 2016; Prasad 2012). Journalists, filmmakers, and novelists have exploited these worries and evoked dystopic futures devoid of intimacy, individuality, and creativity. These bleak futures foretold baby factories such as in the 1932 novel Brave New World and societies in which adults are forbidden from touching each other, such as in the 1993 Sci-Fi action film Demolition Man.

What I mean by "Sci-Fi parenthood" in this paper is recourse to technology by prospective parents in order to select or shape their offspring according to specifications. The "end of love" is the expression I use, in line with similar "ends" cited above, to capture some of the ways in which love has been conceptualized in relation to emerging reproductive technologies.

2 | Can You Get the Baby You Want?

In this section, I will briefly summarize key recent scientific developments which are the background of the current philosophical debate. Ever since the first birth following in vitro fertilization in humans in 1978, embryo selection is a common practice in ARTs (assisted reproductive technologies). In its most basic form, it involves choosing, among several embryos, the one(s) most likely to implant and develop into a baby. This selection can be done by simply studying the embryos through a microscope: Do they develop well? Do some of them develop

better than others? Then those that seem to be developing better should be transferred. This is however not an exact science: a "perfect" looking embryo might not survive transfer to the uterus, or not develop into a baby, while an embryo evaluated as "low grade" might not only implant but result in a healthy baby (see e.g., Lai et al. 2020).

Embryos can also be tested for a variety of genetic conditions before they are transferred. This is done to avoid passing on certain genetic conditions from the parent(s) to the child, but also to avoid the birth of children with nonheritable conditions. Such choices have been criticized for reducing everything about future children to specific genetic traits that are alone seen as indicative of their expected quality of life (Asch 2003). Some ethicists have however argued that reproductive responsibility—in the form of the Principle of Procreative Beneficence—generates a moral obligation to select the embryos most likely to have a good life (Savulescu 2001). Objections to this principle highlight the risks and the costs that implementing it would generate for children, women, and health-care systems (Overall 2012), its reliance on an untenable notion of "genetic responsibility" (Dupras and Ravitsky 2016), and its failure to provide reasons for prospective parents to act in accordance with the principle (Herissone-Kelly 2017). In contrast, other ethicists have suggested that future children should be engineered as a way to adapt to changes in the environment and reduce carbon emissions (Liao et al. 2012).

In 2018, it was reported that, for the first time, babies were born who have undergone a gene editing procedure as embryos (Marchione 2018). The hope for the intervention was to make them immune to HIV. This news was met with international outrage and calls for a global moratorium on reproductive use of germline editing (Lander et al. 2019). While many of the reactions focused on the safety of the intervention—because it is too early to proceed responsibly with such technologies—it was argued that the incident has crossed the boundary into intentional genetic modification of human nature. Unlike genetic engineering of somatic cells, engineering the germline (reproductive cells such as gamete and embryonic cells) causes changes that can be inherited by the descendants of the person created in that process. For this reason, undertaking this procedure would have been illegal in many countries.

According to the Convention on Human Rights and Biomedicine, which has been ratified in most European countries, an "intervention seeking to modify the human genome may only be undertaken for preventive, diagnostic, or therapeutic purpose and only if its aim is not to introduce any modification in the genome of any descendants" (Art. 13). This provision is designed to prevent the use of such technologies "so as to produce individuals or entire groups endowed with particular characteristics and required qualities" (Council of Europe, Convention on Human Rights and Biomedicine 1997, 14). In an explanatory report of the Convention, random genetic recombination is deemed important for human beings' freedom, which is why "it is in the interest of all persons to keep the essentially random nature of the composition of their own genes" (para 3).

In contrast, in 2018, the Nuffield Council of Bioethics (a UK major bioethics advisory body) recommended that germline editing is permitted if it is compatible with the welfare of the resulting person and does not increase vulnerability in society. The Council notes that appeals to the inviolability of human nature (what in some legislatures has been called "genetic integrity") have prompted strong objections to gene editing: however, it states, these objections reveal an essentialist approach that is itself problematic (Nuffield Council 2018).

Both those who argue in favor of modifying humans to adapt to the environment and those who are against modification of human nature take for granted that human nature is genetically determined: both parties seem to believe that we can genetically manipulate traits such as those discussed here. However, researchers increasingly find that nature (genes) and nurture (the environment) are so intertwined, that the mere question of the exact causal role of specific genes may be unanswerable: there cannot be expression of a gene outside of an environment (Keller 2010, 6). If it was possible to insert an "intelligence gene" in an embryo, we just do not know what that gene would do, nor could we predict the "intelligent" outcome for the child that embryo will grow into.

While this is a broad ongoing debate, in this paper, I focus on one category of concerns raised in relation to embryo selection, enhancement, and other interventions: the objection from (parental) love.

3 | The Concerns

Several philosophers have objected to certain uses of reproductive technologies by raising concerns in terms of love. For Helen Watt, prospective parents who plan on using preimplantation genetic diagnosis (PGD) thereby do something "unparental" in failing to love and accept their children unconditionally (Watt 2004). For Daniel Maher, they are making the love of their children conditional upon selection (Maher 2001). Their arguments are discussed at length in Davis (2008). Gheaus (2014, 2017a) has also developed a love-based objection to "designer babies." In the following, I focus on the concerns raised by Gheaus.

According to Anca Gheaus,

> adequate parental love (...) includes several characteristics: parents should not make children feel they are loved conditionally, for features such as intelligence, looks or temperament; they should not burden children with parental expectations concerning particular achievements of the child; and parental love is often expressed in spontaneous enjoyment and discovery of children's features. This understanding of parental love provides a reason to question the legitimacy of parental use of selection and enhancement and to explain why parents should not engage on a quest for the "best child."
>
> (Gheaus 2014, 151)

According to this account, when parents select their future children on the basis of their attributes, they act in ways that

inflict psychological harms on them, as the children "are likely to feel (...) burdened with unfair parental expectations" (154). Although parents may not in fact fail to feel love toward their children, they nevertheless "fail to express unconditional love for their children" (159). By the selection alone, for Gheaus, the parents have forever made the conditionality of their love clear. However they feel about their children and whatever they do to demonstrate their love after the children are born, this message that they were wanted on the basis of expected traits cannot be undone.

Gheaus builds on work by Liao (2006) according to whom being loved is a fundamental condition for pursuing a good life. Because of this, argues Liao, children have a right to be loved. Liao's claim has been criticized on a variety of counts, including treating the emotional component of love as a duty (Cowden 2012) and conceptualizing parental love in a way that can threaten women's agency (Green 2018). Whether or not the right to be loved can be constructed—and whether or not being loved is fundamental in the way that Liao argues that it is—for the purpose of my argument, here I will assume that children do benefit from being loved and that it can be harmful to them if they are not. Arguably, children may benefit more from being respected and cared for adequately than from being loved, but again, this need not be settled here. We will come back to the matter of respect further on in this paper. Lastly, Liao defines love behaviorally, so if the parents' behavior is enough to satisfy the child's right, then what really matters is that they behave accordingly (lovingly). It is therefore not clear that selecting or enhancing embryos are threats to love from Liao's perspective.

Although, Gheaus says, love need not be completely unconditional, "adequate parents will not give reasons to their children to feel that their parents' love is conditional on features such as looks, intellectual abilities, and even temperament" (158). When parents have selected for or enhanced features like these in their children, they have given their children those reasons. Gheaus' idea of parental love is one that "requires parents to value their children independent from the children's non-moral characteristics" (152). In contrast, children who have been "engineered" will be burdened by their parents' expectations. Thus, parents should not select for or engineer the traits of their children. It is important here also to note that Gheaus specifically targets engineering aimed "to ensure medically and morally irrelevant features of their children" (153).

Gheaus has developed these ideas further, arguing that the shaping that parents have engaged in may make them unable to respond to their child's "unconditional and spontaneous affection towards and trust in her parents" (Gheaus 2017a, 272). According to Gheaus, "[t]he more procreators exercise their power to determine who the future child will be, the less they will have to discover about the individuality of the child—and, thereby, the more they will restrict how much spontaneous delight they can take in such discovery" (273). Even though the parent–child relationship cannot be scripted by behaviors as parental genetic or environmental shaping, it is problematic that it goes in that direction. The relationship itself is objectionable because the childrearer has chosen to genetically shape—or select—their child.

Interestingly, here is where Gheaus suggests a possible harm to the parents themselves: their own enjoyment of their children's individuality will be stunted as a result of their earlier choices.[1] This concern appears in both publications. The focus of Gheaus' arguments is on the children rather than the parents, and so this harm (insofar as it is a harm) is only of interest here if it results in or compounds a harm to the children. Later on, we will return to the degree to which it seems to be the case that there will be less to discover about the selected or enhanced child.

Referencing love in objections to reproductive technologies is not a recent development. In her work, Gheaus builds on the perspective developed by Leon Kass. According to Kass, the prospect of solo reproduction facilitated by the technology of human cloning disrupts a process that unites sexual pleasure, love between sexual partners, and the desire to have children. For Kass, this means that, "[w]hether we know it or not, the severing of procreation from sex, love and intimacy is inherently dehumanizing, no matter how good the product" (Kass 1997, 22). This criticism extends to other technologies of assisted reproduction as well, inasmuch as they sever the said connection. Reproduction with genetic material from only one person (whether by reproductive cloning or with the help of in vitro gametes) threatens to transgress maybe the last frontier in human reproduction: that it is essentially collaborative.

Kass refers to the cloned individual as the "product" of technology, thus underlining its artificiality: a "product" is by implication an object, a thing, and not a person. This interpretation is supported when further on the same page Kass expresses doubts that the individual obtained by human cloning

> will truly be a moral agent. For, as we shall see, in the very fact of cloning, and of rearing him as a clone, his makers subvert the cloned child's independence, beginning with the aspect that comes from knowing that one was an unbidden surprise, a gift, to the world, rather than the designed result of someone's artful project.

The terminology that Kass chooses here serves to emphasize his claims: not only is this child a product, but she has makers rather than parents, and she is the outcome of a project rather than a gift to the world. Should she have been conceived through natural reproduction,[2] she would have been a gift and not a project. However, one can object to both the project and the gift terminology: both are problematic if children have moral status, and even more so if they are moral agents. Holders of moral status, as well as moral agents (should these categories not overlap) are neither gifts nor projects: they are valuable in themselves, and their interests are important in their own right (Warren 1997).

Kass sees the separation of sex and procreation as dehumanizing and turning children into products. From a Kantian perspective, one could object to this by pointing out not only that

the separation between sex and procreation is not necessarily instrumentalizing, but that procreation can make individuals—and especially women—vulnerable to being instrumentalized for the good of the fetus (Smajdor 2018), of the family (Cutas and Smajdor 2017), or of society. It is important to note here that to say "from a Kantian perspective" is not the same as to say "from Kant's perspective," as Kant himself was concerned that sexual desire instrumentalizes oneself and one's sexual partner by reducing ourselves, and them, to objects of desire (Kant 1996). However, in line with Kantian philosophy, the problem of instrumentalization does not arise simply in our use of each other as means, but as mere means. And while one can use one's sexual partner as a mere means, this is not inherent in relating sexually to one another. (Kant himself may disagree here, as noted above, and his position on this has been criticized extensively, see e.g. Varden 2020). Moreover, having sex with someone in order to procreate may express more—rather than less—potential for instrumentalization, by treating this person (one's sex partner) as a means to an end (a baby).

For Kass, if procreation does not arise from sex and intimacy, then it does not arise from love either. Therefore, if the creation of a child lacks the first two ingredients, it also lacks the third. A child created through human cloning for a couple that could not procreate otherwise is not created out of love: and worse, she has thereby been dehumanized. Kass is not alone in using instrumental terminology. Gheaus borrows from Buchanan (2009, 146), the worry that children who have been selected or enhanced will see themselves as "their parents' manufactured items" (Gheaus 2014, 159). Again, we have an instrumentalizing (and even dehumanizing) term here: "manufactured items."

Let us look more closely at each of these concerns in turn. According to Gheaus, "parents should not make children feel they are loved conditionally, for features such as intelligence, looks or temperament." At the time of embryo selection or enhancement, however, there is not a child to love. That prospective parents ought to love their embryos might be an unreasonable expectation: parents may well love their children unconditionally (or aim to, at least), but love develops in a relationship. Children are brought into the world and the arms of their carers, parents, or others, and bonds are formed. Such bonds may also have started to form well before birth, for example during gestation (Gheaus 2012). However, to expect that they are formed before gestation or even conception seems to reduce rather than expand the scope of love: love would then seem to be not only unconditional, but impersonal, a love of a child, whoever that child will be. It has nothing to do with the specific child who exists. In natural reproduction, prospective parents are not even aware of the existence of their embryos until sometime after implantation: which is after the time at which embryos would be selected or enhanced in vitro.

Gheaus is concerned specifically with what the children those embryos become are likely to feel. They may not especially care about the attitude that their parents had toward embryos in general. They will care, Gheaus argues, about their parents having taken steps to select or otherwise alter these embryos on the basis of their characteristics. One paradox here is that, in the case of selection, the children in question might not have come into existence had their parents not made a particular selection. They may nevertheless have reason to resent the selection: first because they were made "winners" in a competition between potential siblings, and second, as Gheaus rightly points out, because of expectations that the parents may have formed following the selection process.

Interestingly, Gheaus also predicts that, should the use of selection or enhancement become more common, parents who choose not to avail themselves of such measures to favor their own children "might be perceived as less loving (by the media, by other parents, possibly by their own children)" (Gheaus 2014, 161). In this scenario, then, children are likely to be or feel or be perceived as less loved or unloved because they were selected or engineered, as well as because they were not.

Gheaus admits that excessive parental expectations are not specific to selection or enhancement. I would go further than this and point out that such expectations are not necessarily an element in parent–child relationships post-selection or enhancement. While prospective parents may select or enhance with a view to facilitate their children's start in life, they may at the same time be aware that there are no guarantees, and that they will have limited control over which traits their children will eventually appreciate and wish to cultivate. The parents may even have acted out of ambition or a misguided hope to have "better" children. If we—or the children—are to judge parents' motives at the time of conception, arguably many would be left wanting. Parents may not have been interested in parenting at all (especially those whose children were "unexpected gifts"). They may have wanted to become parents out of social conformism or because they saw parenting as a status symbol of adulthood, or in order to have an heir to the family fortune or business or a successor to the throne. We do not know how these kinds of motives (or lack of them)—by themselves—correlate with the quality of parent–child relationships.

If we are to assume that the children born from embryo selection or genetic modification are likely to worry about what their parents did or thought before they were born, then many other preparental behaviors might come into question. That a parent had previously had an abortion—or considered but decided against terminating the pregnancy that resulted in their child(ren)—will raise an alarm. Accidental reproduction because of neglect or ignorance of contraception may be seen as another terrible reason for someone to come into existence. For sure, children may care about some circumstances around their conception, and may indeed suffer because of these, but it is not clear that parental efforts to make them "better" feature among such circumstances. Empirical evidence suggests rather that what children turn out to care about may not at all coincide with what their parents may have worried that they would (see e.g., Indekeu and Hens 2018). Children may grow to resent their parents' "improvement work," or they may be grateful for it, or they may oscillate between the two attitudes, or may not care at all. Either way, we cannot tell in advance, at least not in a way that would ground a blanket condemnation of the practice of embryo selection or enhancement.

Lastly, Gheaus is concerned with the effects of selection or enhancement on the expected "spontaneous enjoyment and

discovery of children's features." Again, the fact that actions have been undertaken with certain expectations may transfer to the experience of parenthood. However, for the foreseeable future, there is no way to predict how a child's features will eventually develop. An intellectually very gifted child (assuming intellect could be predicted or manipulated at the embryonic stage) may not be interested in an intellectual career. A child greatly endowed physically may likewise not enjoy sports or the challenges of strenuous or demanding physical activities. Science cannot accurately predict how specific genes will be expressed and how they will be impacted by their environment. Gene expression is unpredictable and will—predictably—continue to be so. Having certain genes is correlated with certain outcomes, and not having certain genes with others. But beyond that, genes cannot ensure success and fortune. Parents—and scientists—can aim to optimize for, to take Gheaus' examples, "intelligence, looks, temperament," but ultimately, they cannot control the children's development or the world around them and so cannot ensure a certain outcome rather than another.

This unpredictability could result in parental disappointment and failure to have a return on their investment, which would perhaps have an impact on the children's wellbeing. However, this is speculative. The parents might just as well tell themselves that they did what they could at the outset, and they do what they can as parents, and go on to enjoy the children just as they are. The only way in which either the parents or others could expect gene expression to manifest itself exactly as intended, especially in areas such as those that Gheaus is concerned with (intelligence, looks, and temperament) would be by adhering to a very strict version of genetic essentialism. This would however be unrealistic and problematic for many other reasons, beyond the adequacy of the (prospective) parents' (prospective) love.

Prospective parents considering reproductive technologies seem to be held to expectations that are not extended to, for example, prospective adopters. If anything, if one is concerned about how the child will feel (e.g., conditionally loved), then we should be more concerned about the wellbeing of adopted children. Adopters may care about the age of the children they adopt (usually preferring younger ones), their ethnicity, their sex, or other characteristics. Once the adoption completed, they can change children's names and disregard their earlier connections: in one legislature, it was found that most adoptive parents chose to change the children's names (Muntean 2016). Intrafamilial adoptions may be encouraged because of expectations about children's potential: known (because already a part of the same kin) rather than unknown (the children of strangers) (Neaga and Nicolescu, forthcoming). In these ways, adoptive parents express and enforce their expectations about the children they adopt or override their established identities all the while being praised for their virtuous decision to adopt, well after the children are already born! My point here is not that we should not be talking about genetic enhancement nor that these authors should be writing about adoption instead. Adoption practices are coming under increasing scrutiny in recent years, and rightly so (Wills, Hübinette, and Willing 2020). However, we should always ask ourselves to what extent we employ the same standards for, for example, prospective parents considering their preconception options and others whose choices are permitted or even praised in our societies. Which takes us to the matter of the broader context within which these concerns are raised.

4 | Broader Context and Concerns

The context in which concerns are raised is relevant in many ways. Had contraception been available at the time and place of this author's conception, it is probable that she, and many others, would not have come into existence. During the last two decades of Ceaușescu's Romania, abortion was heavily regulated, and contraception was largely unavailable (Kligman 1998). This, in conjunction with a local patriarchal culture, generated pressure on women to, at the same time, (a) get married and honor their husbands' sexual desires and (b) make their bodies available to state control to produce the citizens of tomorrow. Sex was thus dangerous (deadly, in many cases, due to backstreet and improvised abortions), as well as expected. Such a social context does not fit comfortably with Kass' correlation between sex and love. State controlled reproduction may be sexual, but not necessarily loving—it may, on the contrary, be incompatible with love. At the same time, something unnatural, like contraception, can be what allows spontaneity and intimacy, and ultimately fosters love. These associations thus do not necessarily work in the ways in which Kass presents them.

Elsewhere, ethicists have explored the question of whether biochemical interventions, say in the form of "love pills," could save love, and maybe even save us from it where necessary (Earp and Savulescu 2020). The object of the discussion in Earp and Savulescu's work is romantic love, but some of the same arguments could be transferred to parental love[3]: pills could make parents more resilient, tolerant, or patient. This might be in line with Liao's concept of love as behavioral: if love pills can help parents behave lovingly, then they would be a welcome development in that sense.

One may protest the easy solution of the recourse to technology to solve problems that may perhaps much more effectively be solved in other, more analogue, ways. Instead of making ourselves more committed or loving by taking commitment or love pills, and instead of aiming to select or improve on our children's genetic endowments, one could argue that we should do the actual work of accepting ourselves and others for who we, and they, are, and of sticking to our commitments even when it is hard. But not no matter what: too high a level of commitment may be detrimental to individual flourishing or even one's own moral integrity (Gheaus 2017b).

But what of the mismatch between openness to a child's development and parents' manipulating their future children in ways that can probably not be reversed?

5 | Essential Inequality, Respect, and Self-Respect

Gheaus and Kass seem to share an intuition that something significant happens when prospective parents choose between embryos or manipulate their genetic make-up. In addition to

the love-based considerations discussed above, Gheaus points to the fact that "enhancement and selection introduce an additional, avoidable inequality to the already very unequal parent-child relationship" (Gheaus 2017a, 276). Jürgen Habermas identifies a similar problem when he argues that to enhance embryos is always instrumentalizing, regardless of its intentions and success. According to Habermas, the preparental act of enhancing embryos creates a type of interpersonal relationship for which there is no precedent. A prospective parent who makes choices that have irreversible effects on the genome of another person creates a type of relationship between these already unequal parties that jeopardizes a precondition for the moral self-understanding of autonomous actors (Habermas 2003, 195). While parenthood is ultimately an unequal relationship with or without genetic enhancement, parents can normally only determine their children's existence, whereas enhancement irreversibly changes their very essence. From this perspective, then, there is something inescapably unequal and incompatible with mutual respect between the parties in them having intervened (e.g., Habermas 2003, 33). This is the case even if parents understand that they cannot control the lives of their children, and they accept them just as they are even if nonconforming to the shaping undertaken. If respect is compromised from the outset, then insofar as love requires respect, love is also compromised.

Habermas seems to assume here that respect starts at the start and does not change. But parent–child relationships are unequal by definition. Anything can alter the offspring's essence, starting with the prospective parents' choice of who to reproduce with and ending with decisions about where to live, which will influence the ways in which children's genes will be expressed. Furthermore, we do treat embryos instrumentally, at least more so than we do children: we create more of them than we plan to use in reproduction, have them frozen, sometimes for decades, destroy them, donate them, do research on them, or transfer them to a uterus. Clearly, whatever we do to embryos to be transferred into a uterus, we have done to the child who they become. That alone could be a good reason to not experiment on those embryos. However, having done things that are fairly safe and that we believe will be beneficial to the child may be some of the least bad things people do in becoming and being parents.

Philosophical work on respect for children and the conditions for children's self-respect may also be helpful here. The idea that children have moral status and are moral agents whose interests count in their own right is a modern development in the Western world. The historical devaluing of children is increasingly discussed and challenged in recent decades by, for example, historians (De Mause 1974), psychologists (Clément and Koenig 2019), neuroscientists (Choudhury and Ferranti 2019), and philosophers (Gheaus, Calder, and de Wispelare 2019). As such, the work of translating "grown-up" (or "adultist," cf. Wiesemann 2016) concepts to make them applicable to children is ongoing. Nanette Ryan has worked on developing an account of self-respect for children that accounts for children's abilities as they are (rather than their potential as future adults) (see also Gheaus 2015). Building on work by Robin Dillon (1997), Ryan (2023, 63, 64) writes that for a person to have a basis for self-respect, they need to

> experience their value in the form of an implicit and unqualified confidence in their value as a person, independent of merit, performance, and character; they have, as Dillon puts it, an unquestionable assumption that "it is good that I am" an, "implicit confidence" and "an abiding faith" in their value as a person, in the very "rightness of [their] being."

The work that parents do for their children, argues Ryan, includes aiming for children to "conceive of themselves well" (Ryan 2023, 72). Although not written in the context of reproductive technology, this account is reminiscent of Gheaus' concerns. By taking active steps to improve on their "merit, performance, and character" (or intelligence, looks, and temperament), prospective parents may inadvertently communicate to their children that they were not right just as they were: they had to be tweaked a little, prenatally. Regardless of how much or how unconditionally parents may love them now, and how much they respect them just as they are, their actions tell a different story. Thus, prospective parents, in selecting or enhancing their future children, embark on a new kind of parent–child relationship (as Habermas suggests), fail to respect their future children, and maybe even compromise one component of their children's potential to respect themselves (as Ryan and Dillon suggest). Children may be harmed in being selected or enhanced, even if those interventions might be what allows them to exist or may make them better off in some regards. Their privacy will have been invaded before they were even born (Greely 2016, 228). Their parents will have already made substantial investments in one possible future rather than another (226). Parental expectations, whatever they are, can impinge on a child's freedom and push them one way rather than another (Cutas and Hens 2015). All these considerations are independent of whether the parents will love their children, and of whether the children will feel loved.

6 | Concluding Thoughts: Technology and the Ends of Things

In this paper, I have explored the claim that parental uptake of embryo selection or genetic enhancement is incompatible with the requirements of adequate (parental) love, as understood in recent philosophical literature. Although informed by different sets of considerations and oftentimes using different terminologies, a number of concerns exhibit certain shared intuitions. On the one side, we have love which is associated, for Gheaus, with acceptance of spontaneity, unconditionality, and reciprocity, and for Kass, with intimacy, being an unbidden surprise, "a gift, to the world," and with independence in one's development. On the other side, we have, for Gheaus, parental control, expectations, a quest for the "best child," and for Kass, products, projects, designed results, and dehumanization. Further, I have briefly reviewed another set of concerns raised by the prospect of genetically enhancing embryos: that it creates a new type of relationship between parents and children. Whereas parents have historically had significant scope to shape their children, they could never before "tweak" their very nature according to their own desired specifications, in this almost literal way. (Although parental choices of where

to live, which diet to provide, etc., do have an impact on the genetic expression of their children). Whether or not these endeavors obtain any of their desired effects, the fact that the parents have pursued them takes their making of their children to a whole new level.

Sci-Fi parenthood may demonstrate unwarranted expectations from genetics, but so do some of the objections raised in the name of love. To the best of today's knowledge, it is unlikely that prospective parents can use technology to circumscribe their children's development to such a degree that they will be controllable or predictable. Whether parents will fail to enjoy their children's unpredictability does not hinge on whether they took measures to shape them. Maybe love will be a lesser thing the more control we acquire or think we acquire about processes in our lives. The remedy for this may well consist in learning to accept the unpredictable interaction between our genetics, our environment, sheer chance, and all the other forces that may influence our development.

Does Sci-Fi parenthood, then, spell the end of love? It depends on what we mean by love. If we expect love to arise only in specific circumstances which are to unfold in a certain order, then presumably anything that disturbs that setting may incontrovertibly disturb—or compromise—love. Presumably, however, love is an unpredictable process in itself. Parents may fail to unconditionally love their prospective children, but turn out to love them come what may after they have met them. Their love for their children or others may fluctuate. Beloved children or adults may feel unloved; neglected or abused children or adults may take their neglect and abuse to mean tough love.

To go back to the dramatic title of this paper, Sci-Fi parenthood need not express or lead to the end of (parental) love.[4] Clearly, this does not mean that such practices are not problematic in other ways. In this paper, I have only hinted at what some of these other ways may be. While I hope to have shown that neither selection nor enhancement need demonstrate inadequate parental love, I am not suggesting that the prospects that have motivated these concerns should now be laid to rest. On the contrary: our relationship with technology—and expectations from it—cannot be prodded enough.

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Conflicts of Interest

The author declares no conflicts of interest.

Endnotes

[1] I thank an anonymous reviewer for pointing out this implication.

[2] It may be noted here that calling sexual reproduction "natural" can in itself signal its ethically preferrable status in relation to "assisted," "artificial," or "engineered" processes, if one imbues naturalness with value (see e.g. Smajdor, Cutas, and Takala 2018).

[3] I thank Maurizio Balistreri for suggesting this analogy.

[4] To be fair to the authors whose work I discuss in this paper, neither have used this expression. As indicated at the outset, this is this author's own dramatization of the concerns that have been raised.

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