

# New Pitchforks and Furtive Nature



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Naturam expelles furca, tamen usque recurret, et mala perumpet furtim fastidia victrix.

You may throw nature out with a pitchfork, and yet she will come back, and she will furtively break through your evil contempt, the victress. Horace, *Epistles*, 1.x.24–25 (Kirkland 1893)<sup>1</sup>

My title references a somewhat famous quotation from the Roman poet Horace: “You may throw nature out with a pitchfork, and yet she will come back, and she will furtively break through your evil contempt, the victress.” In less contentious terms, Aristotle grants nature a similar priority by saying that art imitates nature and tends to complete what nature fails to finish. In his view, the art of medicine itself arises in order to compensate for nature’s inability to produce or maintain health without intervention. If nature always achieved its end, there would be no need for such art. In our attempts to complete what nature begins, we presuppose that we know adequately what nature is doing and where we stand as deliberate agents in relation to sub-rational natural processes. In reproductive medicine in particular, artful innovations affect people in aspects of human life that are somehow natural and familiar: sexual attraction, the disposition to bond in pairs, the desire for and attachment to children who come to be from our own bodies, and, pervading these other dimensions, human mortality. All of this is both natural and familiar and, simultaneously, elusive and not completely understood by us. Familiarity permits us to overlook what nature really is and to think about innovations only or primarily with reference to how they expand our power or eliminate some risk. We take for granted the goal of extending our control over the generation of new human life, and we tend to forget about nature as we, in some cases, supplant it rather than complete it.

I am not claiming we should not do this, but only that understanding the meaning of what we are doing requires us to think again about the nature that

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<sup>1</sup>My translation.

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precedes our interventions. This proves harder than it looks because nature is furtive, or, as Heraclitus put it, “Nature loves to hide.” In fact, thinking about reproductive innovations illuminates what is hidden in plain sight and easily overlooked in nature. For example, the prospects of a child arising from a single “parent” through cloning or from three parents through mitochondrial donation<sup>2</sup> might lead us to ask for the first time what it means for human beings to arise naturally from two. In ordinary circumstances, people take for granted that we do not appear by parthenogenesis, but they do not question whether that means anything humanly significant. Again, the possibilities for mixing DNA from different species, decried by some as unnatural, invite us to think about whether nature as a whole has not been rather promiscuous in its readiness to shuffle DNA through the course of evolution. Nature is not unambiguous—I underline this because I say it only once—but our innovations in our own nature and its manner of preserving itself for the past several thousand years presuppose nature’s priority. This does not mean that we understand nature first in time, before we understand art and other human innovations. In this paper, I am concerned only with the hermeneutic or epistemological priority of nature, which derives from the fact that nature got here first. We can innovate only in a context established beforehand. The *primum non nocere* injunction urges us to avoid harming the existing order, and I am arguing that before we determine whether an innovation harms, we need to understand what it means by considering how it alters what is already present. On its own, nature can be rather quiet, and even silent or secretive. Our attention to nature is heightened and perhaps awakened for the first time, when we entertain a proposed innovation. Finally, I am not making claims that nature serves as a moral standard for our artful interventions. To the contrary, any attempt to make such an argument must come fully to terms with the furtiveness of nature.

## Preliminary Distinctions

At the outset, we should note a superficial connection between the new and the old. We call things *new* in relation to something already present. The new is new by virtue of its difference from what came first and had once been new until, by virtue of the arrival of the new new, the once-new becomes old. To be new requires contrast with what came before. To speak of new ideas and innovations, then, as does this conference, is to speak with a time stamp and with reference to the immediate past. All of this is analytically true and not particularly noteworthy, except insofar as we tend to overlook it. There is a backward-looking temporal reference in everything called *new*.

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<sup>2</sup>I use this short formula (despite its imprecision) to name maternal spindle transfer and pronuclear transfer.

Beyond this relatively trivial attachment of the new to the old, we should note, secondly, that when we try to understand the meaning of something new, we appeal to what came before. Innovations are naturally understood in relation to what preceded, and this is true whether we generally regard the new and unfamiliar with suspicion or we eagerly embrace it as fresh and enlivening. We no longer call automobiles *horseless carriages*, but the formula expresses my point. We cannot but think that a new mode of doing something is a modified version of the old way. The old way has priority in our understanding because calling something *new* implicitly tethers it to something correlatively old and acknowledges the primacy of what got there first. This is no less true in the context of medical innovations. In an introductory comment about reproductive ethics, Carson Strong (1997) notes, “Feminist writers are concerned about whether advances in reproductive technology will increase or decrease the control that women have over their bodies and lives.” Here we understand innovations in view of their impact on existing relations of power. Moreover, although Strong asserted this at a particular time and with reference to a particular context, it remains true in our context, and it will be so in tomorrow’s context. Each successive advance stands in an analogous relation to its circumstances.

At this point, I turn more specifically to reproductive innovations and to my main concern. Artificial insemination (AI) was first attempted around 1860.<sup>3</sup> AI, as its name expresses, is the artificial version of something natural. At an elementary level, AI replaces a human action between Jack and Jill with an action performed by medical personnel. Today, it might involve freezing, washing, and other techniques that, in various ways, alter AI further, but even now its essential meaning comes from its contrast with natural insemination. About 20 years after the first attempts at AI, a significant innovation appeared in the form of artificial insemination by donor (AID). This is not a technical innovation, but an innovation in what the medical procedure means in the lives of people who undergo it. When we consider this innovation, the artificiality of things may be taken more or less for granted and emphasis then falls on what is new in it, namely, use of semen from a man who is not the woman’s husband. Unsurprisingly, some early critics spoke of AID as a form of adultery. Fatherhood is implicitly attributed to the donor rather than the husband; almost nobody thinks the technician performing the insemination deserves to be called a parent. This ignores the technician’s indispensable agency and focuses instead on the biological contribution of the donor, and yet the goal of AID is to make the couple parents. AID is more complex than AI.

Roughly a century later, Edwards and Steptoe gave us IVF and embryo transfer, and the meaning of this, again, appears with reference to what is new in it, namely, fertilization *ex vivo*. We might frame the question by asking whether the technician’s fertilizing an ovum in glass is significantly different from his fertilizing an ovum in the body. Does that difference make a difference?

I do not intend to try to give a complete answer to that question, but I would like to draw it out a little bit. In the celebrated case of Louise Brown, fertilization took

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<sup>3</sup>For the historical facts relating to AI and IVF in these paragraphs, I rely on Jonsen (1998).

place in vitro because it was not happening naturally. Whether we speak of infertility as pertaining to a couple or to an individual, IVF does not so much treat or resolve infertility as it compensates for infertility or bypasses it. The fallopian tube defect in Louise Brown's mother persisted even after she gave birth, and so we might say she remained, in a meaningful sense, infertile even though she gave birth. Having a second child would require again the services of her physicians.

## **The Priority of Nature**

With this I come to my main point, which is that every new innovation in reproductive medicine should be understood not only in relation to earlier innovations but primarily in relation to the natural means of generating human life. This does not deny that today's innovations are necessarily related to yesterday's. In fact, one could envision a museum of assisted reproductive technologies displaying the genealogy of today's techniques arrayed in relation to less sophisticated and now obsolete interventions. And one would understand a great deal in this way. Nevertheless, I claim, the primary reference point for understanding each innovation remains the natural method for generating human life.

The clearest demonstration of this comes from the fact that those who innovate do not act exclusively upon the existing technology; they act primarily within the otherwise natural relation between Jack and Jill. Any innovative technique stands somewhere in the sequential or evolutionary development of reproductive technologies, but the family served does not stand within that sequence. In other words, even if we customarily think of reproductive medicine as a progressive enlargement of power to shape and control human fertility and as now far removed from the first, clumsy attempts at artificial insemination, Jack and Jill come to medicine almost directly from the state of nature, so to speak. They go from 0 to 60 in one office visit, and whatever contemporary techniques they encounter constitute innovations in their previously non-technological reproductive lives. In the case of a same-sex couple or even a single person seeking medical assistance to produce a child, the therapeutic options begin from the biological condition of the parties involved. While there may be no question of any organic infertility, generating a child will nevertheless require joining gametes and gestation in utero. Each person's circumstances permit involvement in this process in various ways. At an extreme remove, it would be technically possible for a single man to rely on donor semen, a donor egg, and a surrogate; even in this case, the technology manipulates the natural processes of other people's bodies and compensates for the natural infertility of a single man. A person or couple may desire a child, but, given their social circumstances, their bodies may not permit them to act on that desire without medical assistance. When they turn to medicine rather than to adoption agencies for a remedy, they involve themselves with the biology of reproduction. In each case, innovative reproductive technology takes the place of the natural way to generate babies, not the place of some outmoded technology. And so, the significance of each innovation

lies not in its degree of departure from that older technology, but in its degree of departure from nature, that is, in the manner in which that innovation assists, replaces, or otherwise adjusts nature.

In making this assertion, I do not imagine I am discovering something unknown or endorsing something controversial. I am instead drawing attention to what is sometimes explicitly acknowledged but not, I think, sufficiently explored. In a widely reprinted article, Carson Strong (2004) considers the argument that cloning is not procreation because it does not involve uniting gametes. He writes, "To assess whether cloning in the infertility cases is procreation, we should compare it to the paradigm of procreation—what I shall call 'ordinary procreation'. I refer to the type of procreation in which a couple begets, by sexual intercourse, a child whom they then rear." Strong seems to regard this approach as obvious and not in need of any defense. I claim that Strong's approach, which recognizes nature's priority in establishing meaning, is necessary. For his part, Strong concludes that reproductive cloning is reasonably regarded as procreation, even though it involves some departures from the paradigm. Even after concluding this, we could still question whether reproductive cloning is good. We might even dispute whether Strong has understood the paradigm adequately while still agreeing that one needs to raise the question in this way. In other words, even if we agree to interpret new technologies in light of nature, we have not yet committed ourselves to any particular conclusion about the technology. That is, thinking about cloning in its likeness and unlikeness to nature as a paradigm does not determine one's answer to either question: Is it procreation? Is it something we should do?

Innovations in reproductive medicine have both a clinical and a technical side. For each patient or couple, the clinical significance of the innovation and its ability to provide relief are more important than the technical specifics of how this or that innovation may alter medical practice for physicians themselves. I take it for granted that medicine's immediate interest in technical innovation is essentially subordinated to the ultimate goal of responding to ordinary people who have no part in the history of medical innovation but who do have some trouble with their primitive means of generating babies. For those who are professionally involved in innovative reproductive medicine, there must be a strong temptation to think of one's work as consisting in modifying existing technology by making it more efficient or more powerful, as if one's primary goal were to produce something new for display in the museum I imagined. To take one's bearings instead by the natural relations of family life creates more problems and obscurity than it removes, for it is notoriously difficult to understand these natural relations and the sources from which they spring. Attempting to understand these dimensions of human life leads one to literature, philosophy, theology, and political theory as well as to biology, psychology, sociology, and anthropology. And there remains always the fact that we have no direct view of a pure human nature. Just as we cannot see human language without its being a particular, conventional language (such as English, French, Farsi, or what have you), so we never see human nature in its maturity except as it has been influenced and formed by a determinate cultural tradition, each of which includes elements that are nonnatural. Even if nature has one kind of temporal priority to

convention, nature is not temporally first in our understanding. We must try to discover nature beneath the layers of custom and convention that shape and determine it for us. For this reason, any attempt to speak about what is natural for human families runs the risk of wrongly privileging as *natural* some particular conventional arrangement.

## The Desire for Children

While acknowledging the obstacles to our understanding, I think we can clarify one important dimension of innovations in reproductive medicine by returning to Steptoe and Edwards. Unable to remedy the physical problem interfering with the Browns' fertility, Steptoe and Edwards managed instead to satisfy their desire for a child. When physicians act in this way, unless they understand themselves as in the business of using their knowledge of the body to satisfy whatever desires people bring them, the physicians must have some judgment that the desire they are satisfying is a good desire, that is, one that deserves to be satisfied through this or that medical intervention. And this raises some very difficult questions about what the desire for children is and in what circumstances it is good to satisfy that desire.

Surveys reveal a wide range of opinion among physicians on the questions of whether it is good to help, say, a single parent have a child or same-sex couples or couples past ordinary childbearing ages (Gurmankin et al. 2005). I want to argue that we inform and strengthen our opinions by examining them in light of an appeal to the natural order between parents and children. Obviously, again, opinions vary on how we ought to understand the natural order. To consider two views that lie at opposite poles, I note that some people see the division between the sexes as divinely ordained, while others consider it to be the unintended outcome of a long sequence of biochemical reactions governed only by a mixture of chance and necessity. On the first understanding, some interventions are understood to support the divine command to be fruitful and multiply, whereas others are understood to be nearly sacrilegious violations of our proper role in procreation. On the second understanding, the existing order has no particular claim to deserve to be conserved, and its goodness or badness might seem to be a function of the degree to which it matches our preferences. Given the vast differences between these two understandings and the conclusions to which they can be expected to lead, it may seem hopeless to begin here.

Instead of trying to identify at the outset, then, the ontological source of our sexual diversity and mechanism of generating new life, perhaps we can begin with the widespread and powerful desire for children as a recognizable aspect of our nature, whatever its source may be. People tend not to desire a child in general, but rather their own child, that is to say, a child generated from their own bodies. What this desire means is rather elusive. People sometimes interpret it as a wish that some subset of their DNA recur in the next generation. At best this could explain how human beings have understood themselves for the last couple of generations, but people desired children centuries before the discovery of DNA. Even today, most people know nothing specific about their DNA, and so it is rather silly to suppose that the real meaning of their desire

for a child is a powerful urge to have half of their genes deposited in a younger human being. We do not love our genes, but the life we have through them. If we were after the proliferation of our genes, increasing body mass would seem to yield a more direct satisfaction. The desire to generate a new life has a human significance and not simply a genetic one. The meaning of reproductive medicine, in turn, depends on what it means to want children generated from one's own body with a complementary other. The pervasiveness and the strength of this desire, which seems to be constant (albeit not perfectly universal) despite many differences across cultures and times, make it possible for there to be careers in reproductive medicine, as distinct from careers in adoption services and kidnapping, which are also ways of acquiring children, although they are often thought to be less desirable methods in part because they lack the bodily connection.

In order to say something definite about what it means to generate children in the natural mode and still keep within manageable limits, I would like to concentrate on this notion of how children belong to parents. I have to say some things that everybody already knows, but I do so in order to draw attention to what is strange in the familiar. What exactly makes the child I father mine, and how does this relate to innovations in reproductive medicine? By nature, my child is not exactly *mine*, but rather *ours*. No human being is naturally fertile in isolation but only in combination with a complementary human being. And our possession of that fertility even in partnership with a second person remains tenuous in the sense that nature limits us to engaging in an action that might result in conception. We do not *make* a child in any ordinary sense; rather, we do something and accept the child we may happen to get. No child comes to be naturally as an individual isolated from others; each human being comes to be in a biologically determinate relation to two parents and, by extension, is located in relation to ancestors, siblings, and cousins. My child is less genetically like me than is my identical twin, and yet only my child is mine or, again, ours.

In becoming parents, there is naturally an enormous disproportion between our control over what we do and our lack of control over its possible consequence. In the ordinary case, Jack and Jill have the ability to select one another out from the crowd, and thus they exercise a certain indirect control over what traits might be found in any child they give rise to, but once they have selected each other, their capacity to control naturally the biological makeup of any child substantially ends. We do not normally require them to establish why the child is theirs, but we might need to give this some thought in light of two variations on this story in which we give answers that stand in tension with one another. A deadbeat dad is held to have failed in his moral and often legal responsibility toward *his* child despite the fact that he may never have had any voluntary intention of becoming a father. By contrast, a semen donor has intentionally acted so as to contribute to the generation of a child, and yet he often or normally has no parental responsibilities or rights.<sup>4</sup> In the one case we do and in the other we do not allow the man to construct by choice the

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<sup>4</sup>Due to natural differences, potential variations for women are more complex. A woman might be an egg donor, a genetic surrogate, or a gestational surrogate and yet not be expected or allowed to be a parent to the resulting child. For some recent studies of how family relations develop in these circumstances, see Imrie and Jadvá (2014), Blake et al. (2016), and Carone et al. (2016).

meaning of his natural and biological relation to the child. The tension here suggests we may not have a consistent understanding of the relationship between the responsibility and right to parent, the scope of human choice, and the significance of genetic connection.

To illustrate this further, I cite a recent study (Lingiardi et al. 2016) that reported on interviews with 24 lesbian mothers about their understanding of parenthood and of the role of the sperm donor. “None of the mothers considered the donor to be their child’s father.”<sup>5</sup> In summarizing the attitudes of participants, the authors write: “When lesbian mothers planned to become parents there was no space for a third party involved in a parental role. . . . [H]is donation turned parenthood into double motherhood.”<sup>6</sup> The study reports various ways in which the mothers tended to depersonalize the donor who is nonetheless essential to their motherhood. “The extent to which the donor was devalued and depersonalised was that he was just a genetic instrument to realise the mothers’ will to have a child deriving from their union.” Remarks like these express versions of attempting to throw out nature. The authors also report some ways in which the mothers’ views shifted toward the donor and included gratitude, esteem, and acknowledgment that the donor had not only donated a body part but had made “the donation of life.” They recognized also that the children, as they age, might reasonably want some more direct connection with that half of their biological ancestry. “It is like they put aside their fears and uncertainties and took into account the meaning to their child of being a donor’s offspring.” Remarks like these show nature working its way back in. The authors conclude:

The present study promotes rethinking family configurations in the face of medically assisted procreation, shedding light on the complex interplay between parents’ desire for their own child, fantasies about his or her entry into the world and the necessity of resorting to a third-party. . . . [F]emale-partnered mothers redefine the meaning of kinship and parenthood by foregrounding the intention to parent whilst reducing the importance of genetic linkages.

What they call “rethinking family configurations in the face of medically assisted procreation” is what I call acknowledging the priority of nature in relation to innovations in reproductive medicine. Our innovations require us to rethink the family. This kind of study illustrates how reproductive medicine leads us back to question again whether we know what it means to want and to have children.

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<sup>5</sup>On this issue Carone et al. (2016) report a similar attitude of gay men who are becoming parents through surrogate mothers: “When defining the surrogate’s relation to the surrogacy child, no fathers intended her to be the mother, but all were aware that she would always be part of their lives.” According to the studies mentioned in this and the previous note, those involved define that “part” variously, but the surrogates (or donors) are not construed as mothers or parents.

<sup>6</sup>In support of the basic thesis of this essay, I draw attention to the word *turned* in this sentence. By *donating* semen, the father has transformed himself into a nonparent and transformed the partner of the woman who carries the child into a mother. That is, the natural meaning that would otherwise obtain is transformed by human choice.



## Innovations for Today and Tomorrow

The resistance to the notion of a three-parent family reported in that study raises the question of the significance of two parents. That is what we have by nature, but does it deserve to be preserved? I consider briefly two possible departures. First, let us consider mitochondrial donation, which is popularly described as yielding a three-parent child. The father of such a child is genetically related just as he would be to any child produced through IVF, but the mother has less genetic sameness with the child than occurs normally. Is the woman who supplies the healthy mitochondria more like a bone marrow donor than a gamete donor? Is that woman a parent? Whether we accept this procedure might be decided in terms of its safety, risks, and benefits, but what exactly does it mean to involve a third person who does not belong to the couple who desires to generate children together? I mentioned above how AID introduced a third party into AI as a substitute for one partner, but this innovation involves a third person in a completely new way. My argument here is that efforts to answer the question of what this innovation means must begin by considering what it normally means to belong to two parents.

And, second, what is the significance of replacing a child's connection to two ancestral lines with a connection to only one, such as would happen with reproductive cloning? This seems to be a much more disorienting action because the relationship between the clone source and the clone copy becomes completely opaque. The two might appear to be most similar to twins arising from a single fertilized ovum, which would make them like siblings. But if the source were an adult, say, a genome donor, would the clone copy belong as a child not to the donor's parents and not to the donor but to the person or persons who sought to have that genome cloned? One of the interesting things here is the complete separation of the generation of a living organism from any semblance of sexual activity between two parents. Having thrown that element of nature out, we seem to be able to define the relation between the clone source and the new life in any way we find convenient: sibling, child, or none at all. Does the clone copy stand in any natural relation of belonging to anyone else, or does the clone copy belong to anyone to whom he or she is assigned? Much of nature is thrown out here, but nature also breaks back in, for the clone copy will be fertile in the natural way as belonging to one of two complementary sexes.

Two things become unmistakable at this point. First, the person who would acquire and raise such a clone copy does something akin to adoption as distinct from generating a child out of his or her own body. Consequently, the meaning of this innovation, were it to occur, would be somewhat different from those interventions that aim to satisfy more familiar forms of the desire for children. Second, the person who acquires a clone to raise is rather far removed from accepting a child as constituted by nature and further along the road to choosing a child because it is expected to have specific traits. To be sure, other forms of selection based upon known qualities of embryos or gametes already occur in some existing forms of reproductive technology. One might argue that techniques for embryo screening and prenatal genetic diagnosis alter the relation between parents and children for the better pre-

cisely because they eliminate our passivity and our vulnerability to chance. My point here is only that these selection processes do in fact alter that natural relation and that we may not have recognized quite exactly what that means.

Having argued that we ought to examine our innovations with reference to what came before, I now look in the other direction and mention two authors who anticipate great innovations in the near future. Robert Sparrow (2013) published an article describing in vitro gametogenesis in which he raised the prospect of producing human embryos from gametes themselves produced in the laboratory. He refers to the elimination of the distinction between somatic and germ cells and the possibility of proceeding through several generations of embryos within the lab. To whom would such embryos belong? In other contexts, that degree of manipulation of biological material would probably qualify as patentable, and so one wonders whether the researchers themselves would not be best entitled to claim parenthood. Not that they would be likely to want it, but that wish is not enough to get the deadbeat dad off the hook. And that makes me wonder why we so readily discount the role of medical technicians in and, consequently, their responsibility for the generation of human life through existing technologies. There is a significant difference between someone who becomes a parent in the ordinary way and a technician who assists someone to become a parent, but we need to think more deeply about what that difference is and whether or how it is to be preserved.

Henry Greely's *The End of Sex and the Future of Human Reproduction* (2016) predicted that nature's union of sexual activity and the generation of human life is soon to end in technological divorce. Sex is to become purely recreational, and new life is to be produced in the labs. Perhaps he is right. I do not issue Brave New World-ish predictions or dystopian warnings. My point is rather more modest. However far our technological mastery takes us away from the natural way of making babies, that technology remains an alternative to or a substitute for nature's way. The primary reference point for understanding even tomorrow's innovations is not the once-new technology on which the latest new technology is the most recent variation; the primary reference point is ordinary human generation.

## Conclusion

I have shown Carson Strong acknowledging this explicitly and others doing so implicitly. I have also argued that it is necessary for our thinking to proceed in this way, but that we do not do this seriously enough. In some cases, it seems that only some actual innovation (like CRISPR) or the anticipation that great innovation is imminent (like reproductive cloning) leads us to recognize the need to understand natural procreation. And our difficulty in cracking open such investigations often leaves us at first with little more to say than hackneyed clichés, such as “playing God” and “designer babies,” which are somehow supposed to substitute for argument. And so we find ourselves surrounded by technological options that, I argue, we are not well-positioned to understand. Sometimes we proceed as if any

procedure that results in a live birth were simply equivalent to nature's way of making babies, as if there were nothing to it other than mechanical combination of gametes, and as if we were free to construct the meanings of the relationships established however we find convenient. In some circumstances, we assume that genetic and bodily relationships matter more than human choice. We pay precious little attention to the desire at the heart of all of this, a desire so widespread and so powerful that it seems to deserve to be called a natural human desire, namely, the desire to generate new life out of one's own body.

Nature grants a way to satisfy this desire, and art supplements where nature fails. People will always disagree about what innovations are appropriate, but it seems incumbent upon medical professionals and those who set public policy to find a consistent approach. Before we evaluate innovations as good or bad, we ought to understand what they mean for beings like us. In order to see that, we must make the effort to understand what we are and do by nature, which is inescapably prior to what art accomplishes. Nature is prior always, or at least as long as our nature remains what it is. If the beings produced through future innovations retain within themselves the power to generate human life through a complementary other, a central part of our nature will be preserved in them no matter how we have generated them. If, by contrast, we produce beings who cannot generate life except through the lab, I am not sure what that would mean, but art would be prior to their nature in at least one sense. To consider how far different their nature would be from our own, we would have to try to know what place the power to generate life as we naturally do occupies in our nature. I do not think we understand that well enough even to deal with the real questions that confront us already.

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