The Poly-Parent Households Are Coming

We're on the cusp of a technological revolution in baby making. What it means to be a family could be next.

By Debora L. Spar Aug. 12, 2020

Consider the following scenario: Anna and Nicole, 36 and 39 years old, have been close friends since college. They each dated various men throughout their 20s and 30s, and had a smattering of romantic relationships that didn't quite work out. But now, as they approach midlife, both women have grown weary of the merry-go-round of online dating and of searching for men who might — or might not — make appropriate fathers for the babies they don't yet have. Both Anna and Nicole want children. They want to raise those children in a stable, nurturing environment, and to continue the legacy of their own parents and grandparents. And so they decide to have a baby — a baby that is genetically their own — together.

Such an idea may sound fantastical. But technologies that could enable two women (or two men, or four unrelated people of any sex) to conceive a child together are already under development. If these technologies move eventually from the laboratory into clinical use, and the history of assisted fertility suggests they can and they will, then couples — or rather, co-parents — like Anna and Nicole are likely to reshape some of our most fundamental ideas about what it takes to make a baby, and a family.

To date, most major advances in assisted reproduction have been tweaks on the basic process of sexual reproduction. Artificial insemination brought sperm toward egg through a different, nonsexual channel. I.V.F. mixed them together outside the woman's body. Little things, really, in the broader

sweep of life.

And yet even these have had profound consequences. Humans are reproducing in ways that would have been truly unimaginable just several decades ago: Two men and a surrogate. Two women and a sperm donor. An older woman using genetic material from a much younger egg.

Each turn of the technological screw has been generated by the same profound impulse — to allow people to conceive babies they desperately want, and to build families with those they love. Each development has, in many ways, been deeply conservative, intended to extend or re-create life's most basic process of production. But as these technologies have expanded and evolved, their impact has become far more revolutionary; they've forced us to reconceptualize just what a family means, and what it can be.

For most of human history, after all, families across the Western world were defined in largely biblical terms: one man, one woman, with children conceived through sex and sanctified by marriage. Everyone else was just a bastard.

Things first began to change in the 1960s, as a combination of shifting mores, accurate paternity tests and greater access to contraception prodded courts in the United States and elsewhere to expand the legal definition of parenting to include a genetic relationship, regardless of marital status.

Then, in the 1990s, as reproductive technologies became better and more widely available, the legal norms shifted again, allowing parents to be defined in many cases as those who had *desired* to create a child, regardless of either their marital status or the child's genetic origins. In the infamous case of Baby M, a New Jersey judge ruled that a married couple who had employed a surrogate to carry their child had full parental rights to the baby, even though the surrogate was the child's genetic mother and had

gone to extreme lengths to retain custody. Subsequent cases upheld and expanded this precedent, increasingly paying less attention to the underlying biology of a child's conception — whose eggs, whose sperm, whose womb — and more to the contractual terms that had initiated their birth.

The most recent shift — and arguably the most crucial — occurred in 2015, when the U.S. Supreme Court famously extended the right of marriage to same-sex couples. The implications of this decision are well known, as is the long history of activism that prompted and preceded it.

What's less well known is the role assisted reproductive technologies played in the fight for marriage equality. Because much of what drove the court's decision in the landmark case of Obergefell v. Hodges was the right of the plaintiffs to give their children the benefits of being raised in a "loving and nurturing home." Or as the California Supreme Court similarly stated in striking down that state's ban on same-sex marriage: "[A] stable two-parent family relationship ... is equally as important for the numerous children in California who are being raised by same-sex couples as for those children being raised by opposite-sex couples." What the Court didn't say was that the vast majority of these children had been conceived via assisted reproduction. They were the children of technology, and it was the circumstances of their births that helped propel their parents' marriages.

Urged by technology, therefore, we have already changed how we procreate, and with whom. We have separated sex from reproduction, and multiplied the various pairings that can together produce a child. And soon, a technology known as I.V.G. (in vitro gametogenesis) could push this process even further along. In theory, I.V.G. could allow individuals like our fictional Anna and Nicole to manufacture their own eggs and sperm, mixing and matching between genders and genes, and enabling more than two people to create a child together. And in the process, our basic notion of families is liable to get upended as well.

Here's how I.V.G. works. Under natural conditions, the body produces gametes — eggs and sperm — at puberty, taking nondifferentiated stem cells (with 46 chromosomes) and instructing them to split into more specialized cells, each containing just 23 chromosomes. In young men, the process occurs in the testicles and these specialized cells become sperm. In women, it takes place in the ovaries and the cells become eggs. Both these processes are known as gametogenesis. In vitro gametogenesis, therefore, is precisely that: creating gametes outside the body, and in the laboratory instead. More specifically, over the past decade scientists have begun to find ways of coaxing human stem cells to produce eggs and sperm. To put it more bluntly: I.V.G. can theoretically allow anyone to manufacture an egg or sperm cell from a tiny sliver of their own skin.

Thus far, I.V.G. has worked only in mice. And making the leap to humans will not be easy or straightforward. Human cells are more complicated, and researchers are understandably wary of the ethical complexities. Under current U.S. law, such research might even be deemed illegal.

But, with very few exceptions, recent history suggests that advances in reproductive technologies nearly always jump eventually from the animal world to humans. If we can figure out how to make babies, and to configure their creation in more precise ways, we do it. We did it with I.V. F., despite howls of biothethical criticism; we've pressed on even when things have gotten messy — when we've discovered sperm donors who have fathered hundreds of children, for instance; and we are likely to do the same again with I.V.G.

If the techniques of I.V.G. prove feasible, therefore, would-be families could theoretically begin by creating their own gametes. A single woman, for example, might mix her egg with sperm fashioned from the genetic material of her two best male friends; the resulting child would have three genetic parents. Or, she might mate her egg with a carefully selected donor sperm, using genetic testing to eliminate any risk of the cystic fibrosis that runs in

her own family. Stem cells derived from the resulting embryo could then yield a next generation egg to be paired with her best friends' similarly well-conceived sperm, yielding a child with four parents. And so on. The implications are enormous.

Taken individually, each case of assisted reproduction is its own tiny marvel — a child born to parents who could not have otherwise conceived them. Taken together, though, the impact is far wider and more profound. Because once we no longer need the traditional family structure to create children, our need for that traditional family is likely to fade as well.

If the revolution of I.V.F. was to liberate reproduction from sex, then the even bigger revolution of I.V.G. is to dismantle completely the reproductive structure of heterosexuality. Once upon a time, defenders of heterosexual marriage could argue that marriage was intrinsically a sexual union of husband and wife, because those were the only unions that could produce a new life. If I.V.G. comes to pass, that will no longer be true. Instead, two men could make a baby. Four sexually unconnected housemates could make a baby. And that changes everything we've ever known about sex and babies and marriage.

In the early days of I.V.G.'s adoption, the most obvious users of the technology are likely to be same-sex couples who, for the first time in history, could conceive children who are wholly and genetically "theirs."

But single women could also choose to employ it, creating eggs to match with sperm derived from friends or family members. Platonic friends might become parents together, sharing lives and families that are not linked to sex. Older couples could conceive and raise their own grandchildren.

I.V.G. will never replace sexual reproduction of course. And poly parenting, as I like to call it, will never become the norm for most families. But once we start imagining, and then living in, a world of fluid parenting, it becomes increasingly likely that we will also undo or at least revise our centuries' old

conviction that procreative unions — like Noah's animals — come only in pairs. Maybe our species' new ark is composed of a motlier crew; of threesomes and foursomes, old and young, men and women and those across the spectrum of gender identity, reproducing with whomever they choose and loving as they desire.

I.V.G. alone, of course, can't create that world. And it will take a long time to dismantle norms of marriage and parenting that have been around for millenniums. But the history of assisted reproduction is powerful and clear: Once we create new technologies for conception, we embrace them. Yes, we go through some stages along the way: We worry about mucking with nature. We fret about designer babies or the possibility of some madman hatching Frankenstein in his backyard.

Then we discover that it's just the nice couple next door, using an increasingly common technology to create children they love; children who become far less scary as they move out of the world of scientific abstraction and into the realm of the real. Over a remarkably short period of time, we have grown accustomed to those nice parents in our neighborhood being a couple of men, or women, or a single one of any sex. We will get used to them being a threesome or foursome as well. And then we'll see the new normal as simply the real, and we'll forget that it was technology that changed this world.

Debora L. Spar is a professor and senior associate dean at Harvard Business School, and the former president of Barnard College. She is the author of the forthcoming "Work Mate Marry Love: How Machines Shape Our Human Destiny," from which this essay is excerpted.

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