

# Making Babies, No Sex Necessary

One professor claims that future humans will be made from skin cells and prescreened for things like hair color and sex.

[Emma Green](#) Jun 27, 2017

In the future, when a couple wants to reproduce, “they will not make a baby in a bed or in the backseat or a car, or under a ‘Keep Off the Grass’ sign,” says Henry Greely, the director of the Center for Law and the Biosciences at Stanford Law School.

Instead, they will go to a clinic. Using stem cells from the couple’s skin or other non-reproductive organs, scientists will be able to make eggs and sperm, which will be combined into embryos. “Each of those embryos will have its own gene sequence,” Greely says. “The parents will be asked: ‘What do you want to know about these embryos?’ And they’ll be told.”

Twenty or 30 years from now, parents will be able to screen their potential kids for genetic abnormalities, pre-disposal to disease, sex, and even cosmetic features like hair, eye, and skin color, Greely claims. The new way of baby-making will save women the pain of going through fertility treatments, he says, and it will prevent disease, save health-care costs, and give non-traditional families more chances to have children. If this reproductive future comes to pass, it will also come with a tangle of moral, legal, and medical questions—ones that won’t be easy to resolve, despite what Greely may think.

When Greely tells people about his theory—which is the subject of his 2016 book, *The End of Sex and the Future of Human Reproduction*—they tend to say, “‘This is *Gattica*,’ or ‘this is *Brave New World*,’” he said during an interview with the *New York Times* reporter Carl Zimmer on Monday at

the Aspen Ideas Festival, which is co-hosted by the Aspen Institute and *The Atlantic*. Greely is skeptical of this argument. “This is not designer babies. This is not super babies. This is selecting embryos,” he said.

Greely gets some of his confidence from the limits of science. Geneticists likely won't be able to predict kids' behavioral traits, he said, like their aptitude for math or agility on a sports field. But they may be able to anticipate some traits, [like intelligence](#), in broad strokes. Being able to tell parents that “this embryo has a 60 percent chance of being in the top half [of their school class], this embryo has a 13 percent chance of being in the top 10 percent—I think that's really possible,” he said.

Scientists have been screening embryos using a process called preimplantation genetic diagnosis, or PGD, for two and half decades, Greely said. This allows for the detection of some genetic diseases, as well as determining the sex of the embryo. Up until now, it has been expensive and arduous, but with new technology—including the expanded use of stem cells—it will become “easy,” he said. The people most likely to lead the way on “easy PGD” are those with fertility trouble, he argues, or those who can't have their own biological kids, including same-sex couples. For these people, the process seems to be a clear potential win: Once hopeless, they may soon be able to have biological children of their own.

But if the process does indeed advance in the way Greely predicts, it will come with big ethical challenges. “Safety is a big issue,” he said. “Coercion is a big issue: Will you be forced to do this?” No matter how “easy” PGD becomes, it will always be expensive, meaning that babies from rich families would gain even more advantages over other people before they leave the womb. The procedure also challenges the disability-rights movement, Greely pointed out: It implicitly suggests that some traits, and thus some people, are preferable to others.

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Some critics may also claim this process is “against God’s will,” Greely added. “I don’t have a lot of confidence in the intellectual strength of that argument, but I think it has a lot of visceral” support.

Despite Greely’s skepticism, this seems to be the greatest potential objection to a world of skin-cell babies and intensive genetic screening: It assumes that the creation of life is a matter of pipettes and petri dishes, not something greater. While the widespread use of contraceptives has largely divorced sex from procreation, this process would represent the final severing. As Greely pointed out, the very meaning of sex would change. “Most people ... have sex and it doesn’t result in a baby,” he said. “They do it because they like it. They do it as a token of love. They do it because they’re forced to. They do it to make money.” Pleasure, ultimately, will be a main driver of sex, he added.

For the many people—religious or not—who believe that life is not ultimately a matter of science, the world of “easy PGD” may seem disorienting, even morally disturbing. But Greely didn’t think religious or moral arguments could persuade someone like him, or society more broadly, that “easy PGD” isn’t a good idea.

“If you, coming from a Catholic background, try to convince me, coming from a non-Catholic background ... that wouldn’t work for me,” he said. “I need a more intellectual argument than one ‘based on my faith’ or ‘the tablets brought down from the mountain for me say this.’ ... There’s very little about our modern lives that’s natural or what a God from 3000 years ago would have expected or wanted, including all of modern medicine.”

As head-spinning as these theoretical ethical challenges are, perhaps “easy PGD” won’t be as common as Greely thinks. After all, he joked, “we’re never going to get rid of teenagers in the back seat of a car.”