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Study guide

A moral imperative

What is the Lutheran response to "designer babies"?

By Robert C. Blezard

Genetic engineering, long the province of science fiction, is now a reality. Many of the everyday foods we eat are from genetically modified plants and animals. The science is not only helping to feed people but also holding promise for medicine and other beneficial applications. But the world still gasped when Chinese scientist He Jiankui announced in 2018 that he had helped bring to birth the first human beings, twin girls, whose genes had been edited to give them resistance to HIV. Did he cross a red line?

Exercise 1: Complex issue

Genetic engineering, genetic editing, genetic modification—these umbrella terms describe complicated technologies that are still evolving. As the article notes, the CRISPR gene-editing process He Jiankui said he used on the twins didn't exist in 2011 when the ELCA issued its social statement titled "Genetics, Faith and Responsibility" (elca.org/socialstatements).

At the same time, the technologies are becoming more widely used, especially in agriculture and medicine. The controversy over genetic modification and its commercial applications has not died down but only become more complex.

To become familiar with the latest developments and their implications, congregations may wish to invite a local expert in genetics, medicine, agriculture, biology or a related field to present on the latest developments.

Certainly a careful internet search of resources can help a study group find authoritative information from scientists and medical researchers, as well as advocates both opposed to and in favor of greater use of genetic modification.

"Genetics, Faith and Responsibility" is a heavy read—48 pages of information and nuance that is carefully researched and skillfully written. While celebrating the promise of enormous public good that genetic engineering may offer to the world, the statement is careful to raise cautions and concerns about the dangers that might arise from its unintended consequences or from those who might employ it carelessly or for malicious or immoral purposes.

The statement calls on God's people to be vigilant about developments in genetic engineering and its uses, and to demand that corporations and



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others who employ genetic engineering in the world do so responsibly, with high regard for the public good.

As you study genetic engineering and the ELCA social statement, here are some questions and thoughts to consider.

Whose good prevails? With any commercial application of genetic technology, there will be a private good and a public good. For businesses, the "good" will be in profitability that will reward investors, pay for workers and provide funds for new research. For the public, the "good" may be in a more plentiful and reliable food supply or new therapies to treat and cure illnesses.

- Just because genetic technology enables something to be done, should it be done?
- What factors should be taken into consideration when weighing the private good versus the public good of any genetic technology?
- Should the profit motive ever outweigh the public good? If so, when, and why? If not, why not?
- Should the public good always outweigh the private good? If so, when, and why? If not, why not?
- Who should make the decisions whether a genetic technology is appropriate for commercial use? The government? Business? A panel of experts?

What risks are acceptable? Introduction of any new technology carries risks and unintended consequences. Calling for science and industry to go slow, some detractors of genetic engineering argue that because the field is so new it is impossible to foresee all the risks and long-term consequences. Proponents may argue that the public good vastly outweighs the risks, and that the absence of immediate problems justifies going ahead with commercial application.

- How much testing should a genetic technology undergo before it is used commercially? Who should set the testing standards?
- When it comes to risk management of genetic technology, what are the dangers of going too slowly? What are the dangers of going too fast? How do you balance one against the other?
- How much risk is acceptable? When does a risk become unacceptable?
- Who should decide whether a process is safe enough to be used, or too unsafe to be employed? How would they make their decision?



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Who pays if problems occur? In the current economic model, many of the costs associated with technology and industry are absorbed by the public. For instance, polluted air from fossil fuel use may cause illness, but the public, not the fossil-fuel industry, pays for the costs. (By contrast, trucking companies are required to carry insurance on their drivers and vehicles in case of accidents.)

- Should the businesses that employ genetic engineering be responsible for the financial costs of problems and unintended consequences that arise? Why or why not?
- What mechanisms could help ensure that there is money to pay for accidents and unintended consequences?
- What legal structures would help?

Accessibility and justice.

- If a genetic technology results in a substantial good, how widely should that be shared? Who should benefit as a result?
- For instance, if a new therapy cures a chronic disease, should it be given only to those who can pay for it? Is it fair that the therapy should be withheld from the poor?
- Similarly, if a genetically modified crop could solve a hunger problem in a poor nation, should it be shared even if they cannot pay for it?
- What mechanisms could ensure that the benefits of genetic modification are shared widely?
- As Christians who are called to love our neighbor as ourselves, to feed the hungry and care for the sick, what is our responsibility?
- How do we weigh the pros and cons? Who would decide?

Decisions, decisions. Several dozen nations in the world have banned genetically modified crops from being grown on their soil or modified foods from being sold to their people. As a study group, research the issues that the nations considered and their reasons for coming to the conclusion they did. How can their decision-making help you understand the problems and issues involved? What can we learn from them?

Exercise 2: What's "too far"?

Many who support the genetic alteration of plants and animals draw the line at human beings.

• What do you think about genetic modification of plants? Animals? Human beings?



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- If your answers are different for the three groups, how would you explain it?
- What issues arise with people that don't arise with animals and plants?
- The Bible says human beings are made in God's image. What role does that play?

Exercise 3: Go to the movies!

Science fiction has anticipated and is still creatively prophesying some of the ethical and moral issues surrounding genetic engineering. Get a bowl of popcorn and watch these movies. Discuss what questions they raise and how they answer them!

An internet search may help you find other suitable titles to consider, but here are two to consider.

Gattica, a movie from 1997, envisions a future where science has divided the human race into a privileged class of genetically altered "haves" and conventionally born "have-nots."

The 1982 classic *Blade Runner* (and 2017's sequel, *Blade Runner 2049*) takes place in a future where genetic engineers have developed people and organisms from scratch.

A MORAL IMPERATIVE

What is the Lutheran response to "designer babies"?

By Steve Lundeberg



LAST fall, a Chinese scientist claimed that he had created the world's first genetically edited human babies. Yet nearly a decade earlier, the ELCA had already convened a task force to explore the church's stance on the promise and peril of genetic technology.

In August 2011, the church adopted the product of that exploration, the social statement "Genetics, Faith and Responsibility" (**elca.org/socialstatements**). Rather than condemn genetic engineering, the statement provides a structure to guide decision-making.

Meanwhile, He Jiankui, the researcher who decided to create the so-called "designer babies," has been widely criticized, including for not offering evidence to support his contention.

But no one is saying that what He purports to have done use the CRISPR-Cas9 gene-splicing method to produce twin sisters who are resistant to HIV infection—is impossible or even all that difficult. His purported breakthrough has renewed the debate over the ethics of genetic manipulation, particularly as it pertains to people.

"The golden rule here is: Seek to respect and promote the community of life, justice and wisdom."

Though the ELCA's social statement predates the Chinese twins by seven years—a particularly long time in the rapidly advancing field of genetic research—it was developed to stand the test of time, scholars and theologians say, at least as well as any such statement can.

"We are well situated as a church, with our social statement, to pivot toward these kinds of breakthroughs in science and technology with informed moral guidance," said Roger Willer, who directed the development process. "We lift up, in response to unprecedented human power, a moral imperative or contemporary golden rule. The golden rule here is: Seek to respect and promote the community of life, justice and wisdom."

As the ELCA's director of theological ethics and its churchwide liaison for faith and science, Willer leads the process of developing teaching documents that frame the church's position on social issues.

The initial impetus behind "Genetics, Faith and Responsibility," Willer said, was the inner turmoil of a Lutheran working as a researcher in the biological sciences.

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To learn more, visit elcafcu.org or call us at 877.715.1111. "The scientist would go home at night and pray, 'Dear God, look at the power we're discovering what should we do with it?'" he said.

"Our social teaching does not expect that every ELCA Lutheran is going to think every word of the statement is right-on. What we teach binds the church's leadership in what they express, but our teaching seeks to exercise persuasive authority for individual church members."

Managing a great gift

Kevin Powell, an ethicist, ELCA member and pediatric hospitalist in St. Louis, said that when genetic engineering is mentioned, most people envision gene splicing. "CRISPR has certainly been a major leap forward in our ability to do that, but genetics can be manipulated with simpler tools," he said. "Jacob in Genesis 30 was the first to do this, profiting from white sheep bearing speckled ones."

Steven Ullestad, bishop of the Northeastern Iowa Synod, served on the task force that developed the social statement. He calls advances in genetic manipulation a great gift that needs to be managed and monitored, like all great gifts.

"We formed this group, a remarkable collection of theologians and biologists and ethicists and farmers—one fear was that the ELCA was going to come out against genetically modified organisms for farming—and put together a great Lutheran document," he said. "It lives in the gray areas and not the black and white. We didn't have a lot of hard-andfast things to say, in part because of our theology, and also because we knew how rapidly everything with the science and technology [was] changing."

Task force member Aana Marie Vigen, who teaches ethics at Loyola University Chicago, is proud of the social statement she and her colleagues produced, in part because it recognizes that the use of genetic technology can't be simplified into "for" and "against" positions.

"A Lutheran perspective is much more thoughtful than that," she said. "On a case-by-case basis, what are the benefits? What are the potential problems?

"To those who would say genetic engineering means we won't have disease or will live forever, I'd counter with, 'Do we want to live forever?' Part of being human is being mortal. That's not to say disease is OK, but it's an awareness that these bodies we have were made in ways in which we become old and frail, and that's not a terrible thing. But how do we care for people and help and support them and maximize their quality of life? And how can we ensure genetic technology doesn't enlarge the divide between those who have access to state-of-the-art health care and those who don't?"

Ted Peters, a professor of systematic theology at Pacific Lutheran Theological Seminary, Tacoma, Wash., said that even though the social statement doesn't reference CRISPR-Cas9 specifically, it remains a healthy guide.

"I wish the general public would benefit more from its wisdom," said Peters, who has written extensively on genetics. "The task for churches, in partnership with universities, is to prepare people to make responsible choices."

Justice, stewardship, the common good

Paul Nelson, chair of the religion department at Wittenberg University in Springfield, Ohio, and a task force member, believes that the job of science is to further knowledge, and that "it is everyone's business to evaluate the uses to which that knowledge could be put. The social statement is a splendid resource for members of the ELCA who wish to do that within the context of their Christian faith.

"For believers, the recent rapid expansion of our understanding of genetics represents a remarkable stewardship of God's good gifts of curiosity and intellect."

Manipulating somatic cells for therapeutic purposes, Nelson noted, is similar to other medical interventions and, thus, should be subject only to the usual ethical constraints. "On the other hand," he said, "manipulation of germ cells that may be passed on to future generations—especially when aimed at enhancement—is, at best, ethically suspect in terms of justice, stewardship and the common good.

"The research recently reported from China has been widely and justly criticized by both scientists and bioethicists around the world as being wildly irresponsible, unethical. It may well trigger a backlash that will inhibit progress toward genuinely therapeutic applications of the CRISPR technology.

"As the social statement says, the human capacity for genetic manipulation should be understood, in principle, as one of God's gifts in the created order to be pursued for the good of all. As with any such gift, it must be used responsibly and tested for its contribution to justice and stewardship." L

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