

Acknowledgment

conference was that germline editing could become acceptable in the future if it is shown to be safe for the recipient and if these procedural safeguards are followed. What was alarming was that He Jiankui had ignored the agreed upon guidelines and that others might be doing so too.

This situation has caught the attention of Beijing health authorities who have discovered other gene-editing attempts in embryos and adults, attempts that have been pursued without following up on those so treated, including after recipient deaths. *The Wall Street Journal* reports (December 29, 2018, A1) that Beijing officials have stated now that implanting a gene-edited human embryo is illegal in China. In contrast, it is not illegal in the United States. In the USA, such an experiment would not be funded by the federal government, but there are no legal limitations on this being pursued in private labs with their own funding. The academies and conferences described above have been counting on self-regulation, particularly to avoid clumsy government regulation. It remains to be seen if He Jiankui is an outlier who can be quickly directed back on track, or if he is a harbinger of many cases that will eventually come to light.

So what might be a Christian perspective on gene editing? The basic intention to heal disease was central to the earthly ministry of Jesus and so has always been at the center of the Christian tradition. Jesus taught not only to love God, but also to love one's neighbor as much as oneself. We certainly care about our own suffering and seek to relieve it, just as we should seek to relieve the pain and suffering of all those whom we are able to help. Christians have established thousands of hospitals around the globe and have invested millions of dedicated lives,

in seeking to heal and prevent disease. To the degree that He Jiankui was pursuing the goal of preventing a devastating disease, there is good reason for a hearty amen from the Christian community. But the Christian tradition is also deeply aware of our human drives toward self-absorption, compounded by self-deception. The proffered safeguards are needed.

In particular, is there a challenge from the Christian community concerning making changes that are inheritable? It is the human condition that we make choices for our children. We decide for children what their birth citizenship will be, what food they will eat in their earliest years, and what language will be their native tongue; we vaccinate them against polio and whooping cough. We cannot help but make formative decisions on their behalf. Our choice is more in whether we will make such decisions well, not in whether we will make such decisions at all. If it comes to be shown that gene editing for the presenting patient, that is then inherited, is safe and efficacious to prevent a child and their children from getting HIV, then that seems a worthy use. For now, it has not been confirmed that gene editing is consistently safe for the presenting patients, let alone for the following generations. It will take time to be sure of that—much longer than for fruit flies or zebra fish. Hopefully, the quickly expanding group of people who can apply CRISPR-Cas techniques will follow consensus protocols to develop and implement it with care, or there will be a reaction of government regulation that could strangle much life-changing service before its full birth. ✧

Note

¹Full statement at http://www8.nationalacademies.org/onpinews/newsitem.aspx?recordid=11282018b&_ga=2.86916507.283298593.1546974499-1513591976.1546530576.

James C. Peterson, *Editor-in-Chief*

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