

Bioethics: stop to think, but don't stop thinking

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The year 2018 saw the advent of what has long been considered the ultimate taboo: the birth of gene-edited human babies. The two Chinese girls are supposed to be resistant to human immunodeficiency virus (HIV) – a feature their offspring would inherit. The international reaction was remarkably homogeneous in pointing to the pending confirmation of the scientific achievement, in condemning the experiment as premature at the least and in calling for an ethical debate before further advances are undertaken.

Since then, the scientist who gene-edited the twins has been sent to jail. Doubts have been raised not only about the risks but also about the intended medical benefits. But even if the experiment may have failed at many levels – scientifically, clinically and ethically – the aftershock is still noticeable. It is no exaggeration to say that the world has become a slightly different place: Editing our own species is no longer a distant possibility, it is just around the corner.

Around the time when the birth of the twins was announced, we were discussing a paper in our PhD student seminar, a surprisingly simple polemic by a popular psychologist [1]. The primary moral goal for today's bioethics, it stated, could be summarised in a single sentence: "Get out of the way." Bioethics was depicted as a nuisance that should not be allowed to impede the dynamic advances of the new technological wonderworks that will make us happy and rich. Imagine how much money will go to waste with every day a technology is not yet available, how much avoidable misery a day of moral deliberation will cost!

The paper is neither particularly innovative nor convincing, but it is useful for teaching and it did make some waves [2–4]. And the message that we should not bother to stop and think is as tempting as it is dangerous – particularly in times of major technological breakthroughs like Crispr – so it is worthwhile engaging. Our students were quick to identify the limits of the claim that technology is best left alone:

- As serious researchers are first to acknowledge, not everything is perfect in the world of science and technology. Abuse does happen, and we would like to have a shared understanding of what constitutes abuse and how it should be sanctioned.
- Secondly, the fact that we are using technologies in beneficial ways cannot serve as proof that all is fine as long as you keep bioethics out of the game. On the contrary,

it speaks to our ability to define ethical rules that serve us well.

- And finally, it is sometimes not obvious what would constitute a benefit rather than a threat. Offering well-reasoned distinctions of what is acceptable and what is not and helping translate them into policy is a core task of bioethics.

Just like in science, there may be different views on where the line should be drawn, and positions may evolve over time. But this does not render the exercise futile or incredible. Bioethics is not about claiming to know what is right and wrong and to impose this on others. It is not about saying no for no reason. Rather, it is about producing and probing arguments in the light of empirical information.

This task of continuously figuring out what to do with our technological possibilities cannot be left to scientists or to consumers alone. The gene-editing experiments are a case in point that we cannot simply rely on research participants' more or less informed consent. Rather, defining how we choose to employ technologies towards our ends is a societal responsibility, to which bioethicists can contribute as catalysts. Ideally, this discourse would not be about hierarchies, dominance and exclusive access to knowledge. It would be about a multilateral exchange of arguments at eye level, and about the force of the better argument [5].

We need to mature along with our scientific discoveries, defining in what way we wish to use them. In our pluralist societies this process takes time and effort. It is laborious and messy. But only then can we claim to master technologies rather than being overwhelmed by them. In order to support this process, bioethics should not get out of the way – on the contrary, it should get viral. In order to approach fundamental questions such as the permissibility of germline editing, we need conversations involving not only scientists and other experts but citizens around the globe. There is no simple way to figure out what the right thing is to do. It is an effort, and it needs to be a joint effort as the consequences may well affect the future of humanity.

Taking the time to stop and think about where we want to go is not a nuisance, it is a necessity.

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