Please read the attached article and extract and express the critical argument presented.

http://www.geneticsandsociety.org/article.php?id=8999

In November 2015, amid building controversy over proposals for "editing" the human germline, the Center for Genetics and Society organized this sign-on letter calling for strengthened prohibitions against using genetically engineered human embryos or gametes for reproduction.

purposes only.

Open Letter on Reproductive Human Germline Modification

Organized by Center for Genetics and Society, November 2015

Recent developments in gene editing have generated worldwide attention. Like so many powerful new technologies, gene editing holds potential for both great benefit and great harm.

Those signing this letter represent a broad spectrum of scholars, scientists, health practitioners, public interest advocates, and others, with a wide range of opinions on many questions involving the uses of gene editing. All of us agree, however, about one of its potential applications: We must not engineer the genes we pass on to our descendants.

The implementation of heritable human genetic modification – often referred to as the creation of “genetically modified humans” or “designer babies” – could irrevocably alter the nature of the human species and society.

Gene editing may hold some promise for somatic gene therapy (aimed at treating impaired tissues in a fully formed person). However, there is no medical justification for modifying human embryos or gametes in an effort to alter the genes of a future child. Parents who wish to have children unaffected by genetic diseases can almost always accomplish this through other methods, including conventional embryo screening and selection procedures. While screening future children also raises significant ethical implications, it is far safer than experimentally manipulating the DNA of germ cells to produce genetically modified babies, and has less potential for widespread societal disruption.

Experiments with human germline intervention could lead to miscarriage, maternal injury, and stillbirth. Genetically modified children who seem healthy at birth could develop serious problems later in life, some perhaps introduced by purported enhancements. Other harmful consequences of germline modification might only present themselves in subsequent generations. Such outcomes would represent individual tragedies; they could also trigger social backlash against beneficial uses of genetic technologies.

Some suggest that germline modification be allowed for therapeutic purposes but not for “enhancement.” But the distinction between these applications is subjective and would be difficult or impossible to implement as policy. Permitting germline intervention for any intended purpose would open the door to an era of high-tech consumer eugenics in which affluent parents seek to choose socially preferred qualities for their children. At a time when economic inequality is surging worldwide, heritable genetic modification could inscribe new forms of inequality and discrimination onto the human genome.

For these reasons, several dozen countries, including most of those with highly developed biotechnology sectors, have explicitly banned human germline modification. The Council of Europe’s binding 1997 Convention on Human Rights and Biomedicine also prohibits it. Numerous opinion surveys show that the great majority of Americans and others worldwide believe that heritable genetic modification should be prohibited.

While we are encouraged by efforts on the part of scientific bodies to move the process of deliberation about acceptable uses of gene editing forward, we are concerned that much of the focus has been on technical issues of safety (implying that if it were safe it would be acceptable), rather than on broader ethical and social implications. We strongly believe that the National Academies’ initiative and international meeting should be considered a very early step of a broadly inclusive program of public discussion. Any recommendations emerging from the meeting or the initiative should make this clear.

In sum, there is no justification for, and many arguments against, human germline modification for reproductive purposes. We call for a prohibition on such germline modification and a robust and broadly inclusive discussion on the socially responsible uses of this and other emerging genetic technologies.

Sincerely,

[An asterisk indicates an institutional endorsement; organizational affiliations are otherwise shown for identification purposes only.]

Initiating Signatories