

# The Ethical and Rational Effect of Human Cloning Technology

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**Abstract:** When scientists cloned sheep Dolly and other animals, the attitude toward human cloning technology was not clear. Human reproductive cloning involves making an entire cloned human instead of only cells or organs. This type of cloning may cause ethical problems – how to define their identity between real and cloned human beings; how do human beings treat artificial creatures in real society? Plus, it may also cause societal issues; for instance, whether this technology may be taken advantage of by capitalism for class solidification. Reproductive cloning is strictly prohibited in some countries. In recent years, some scientists have been encouraged to lose the restrictions on this research; however, the public has quite different attitudes toward cloning. This paper justifies that human cloning technology needs development with reasonable government restrictions.

**Keywords:** Human reproductive cloning; Biotechnology; Humanitarianism

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## 1. Introduction

Cloning refers to the asexual reproduction of living organisms through somatic cells (Berg, 2012). Since the birth of the first successful cloned lamb Dolly on July 5, 1996, genetics and cloning technology are booming. Science institutions around the world have reproduced other species of animals using this technology (Cibelli, 2002). In January 2019, Chinese scientists cloned a genetically modified monkey (Zhao, 2019). However, the development of the cloning technology does not resolve the ethical concerns it raises. In the book *Never Let Me Go* written by Kazuo Ishiguro (2006), when cloning is created by human beings, the mission of the cloned human beings is to donate their organs to real human beings and wait for their doomed destiny. It inspires people to think about many ethical questions including the most important and controversial question of whether reproductive cloning should be accepted (Elsner, 2006).

Although most countries ban cloning humans, some approve limited research on the cloning of human embryos, and some countries could amend their legislation to lose the restriction on the use of cloning technology (Francisco, 2015). If in the future, when it becomes legal to generate cloned human to take order for humans, it will cause new issues. For instance, the restriction of cloned humans' freedom is not ethical; even if clones received their rights, real humans cannot accept the artificial creatures to be more intelligent and stronger than ourselves; some are afraid that the technology of cloning may be used by capitalism as a tool. This article explores whether the human cloning technology should be completely prohibited.

## 2. Analysis

### 2.1. The attitude and regulation of cloning in the public and in each country

Some are afraid of the result of reproductive cloning since this technology can make humans redundant, replaceable, or even extinct (Pearson, 2006). Others who support liberal values cite reproductive freedom and hope cloning will provide a new treatment for infertility (Francisco, 2015). However, it is still questionable whether it is feasible. As an example, according to Berg (2012), scientists wanted to use somatic cell nuclear transfer (SCNT) technology to clone other mammals after the birth of Dolly, but because this rate of success is too low, it is not desirable to use cloning technology on human beings. Considering Dolly's life span is only half of the average, even if human clones can be created, what should we do about clones born with defects? Their quality of life will be lower than the standard, which is quite unfair for them (Berg, 2012). Robert Lanza, who is a member of the scientific team that cloned the world's first human embryo claim that "reproductive cloning carries potential risks for both mother and fetus", which makes it groundless (2002). Lanza (2002) and his colleagues support restrictions on cloning for reproductive purposes until related safety and ethics are solved. In addition, therapeutic cloning can be adopted in the law of cloning technology to only generate the organs instead of the entire human (Lanza, 2002). Dutch, for example, legislates against the procedures adopted to create human individuals with the same genes (Pattinson, 2004). Similarly, Pattinson (2004) pointed out that Israel, New Zealand, Russia, and most countries pass the relevant regulations to prohibit cloning technology, particularly reproductive cloning due to the fact that this technology will be against human dignity.

### 2.2. The social and ethical issues for the human cloning

The existence of cloning makes it difficult to distinguish each person. Failure to identify individuals who may have the same gene may lead to anarchy and legal difficulties (Morales, 2009). For instance, criminals might have their clones go to jail for them. When some dangerous people are cloned, they are extremely destructive and dangerous to society and human civilization. It may also complicate family relations and dynamics. A cloned child only has one biological parent, and more importantly, has all the features of the clone source. If a couple used their child's DNA and cloned a second child, should the second child be the couple's child or grandchild?

Moreover, among all the ethical problems, discrimination against clones is an important one (Kass, 1998). According to Kass, when human clones live in real society, the superiority of species may also exist. Real humans may treat cloned humans unequally, which is similar to the situation caused by racial bias. Violation of cloned humans' rights would bring difficulties to their lives and could arise a set of social problems similar to issues caused by racial discrimination (Kass, 1998).

At different times throughout history, discrimination has appeared for the reason that they are different from other groups, such as skin color and region. Therefore, when cloning happens in society, they need to face the psychological effect of being discriminated against, whether they can accept the fact as a duplicate of other human beings or not, which has a devastating effect on their bodies and minds. And it is unfair that human cloning has not received the respect they deserve for being an independent entity.

#### 2.2.1 The impacts of cloning technology on the society in different aspects

In his book *Who's Afraid of Human Cloning?*, Gregory Pence (1998), a theologian and bioethicist, believes that human cloning might be the worst event we could thought of in the maltreatment of species. Because the existence of cloned humans may become more instrumental as a tool, it is possible that they would be a kind of slave class. Therefore, for humane purposes, cloned humans should not be created.

#### 2.2.2. Organ transplantation

Organ transplantation may be the main reason for cloning, but if cloned humans do not want to contribute their organs for organ transplantation, forcing them to do so is a violation of human rights. Some people think that there is no difference between identical twins and cloned two human beings. If a twin can donate an organ to the other twin, why cannot the cloned individual do the same? However, the twins can be regarded as two individual persons who have their own personalities, choices, and judgment, whereas cloned humans were created by humans for the organ transplantation purposes although they should enjoy the same rights as ordinary people instead of a medical tool.

### 2.2.3. Unfair competition

Similar to the question discussed in the Bakdash's article "Is It Ethical for Patients with Renal Disease to Purchase Kidneys from the World's Poor?" (2006), the existence of human cloning may also cause unfair competition in society. When the reproductive cloning technology develops to a level that the cloned individuals has little defects, people who have mental, social, or financial superiority, could use the cloning technology to duplicate multiple copies of themselves to help them remain at the elite social status and create more wealth to increase the gap between the rich and the poor. This will cause more severe social class solidification and even forge a new slavery relationship which might be led to an increase in crime rate.

## 2.3. The advocates of cloning technology

Some scholars are convinced that banning cloning is a hindrance to the development of science. It can be used to duplicate creatures, which means cloning technology can make contributions to production. Instead of cloning individuals, therapeutic cloning is a good way of using medical machinery. According to Dr. Yvette Pearson (2006), co-director of the Institute for Ethics and Public Affairs in the Department of Philosophy and Religious Studies at Old Dominion University, our focus should be on the obligation of the people we create, not how they are created. In addition, Pearson has argued that the governments cannot limit people's own decisions or how they choose to procreate as well as the freedom in the layer of moral interest (2006).

### 2.3.1. The application and future direction of cloning technology

There is no denying that cloning technology can be applied to other aspects, which can be very effective and has great potential. As an example, in their article *Wildlife Conservation and Reproductive Cloning*, Holt, Pickard, and Prather (2004) argued although it is true that natural breeding is the primary method of reproducing populations, as the number of endangered animals is increasing, the more we can reverse this situation, cloning or artificial breeding is also a method despite the loss of genetic diversity. The theory of this approach is not in practice, and progress is being made in establishing breeding programs around the world, this function of the Genetic Resource Bank (GRB) provides the additional genetic benefit that genetically important males can be used in breeding programs long after their death, such as koalas in Australia, cheetahs in Namibia, and several international organizations have established frozen tissue and cell line banks. Hence, most biologists still have to be cautious when studying cloning, and they believe that endangered animals are protected and created by cloning technology, so using it wisely is more effective than banning this technology outright (Holt, 2004).

Another implication of cloning technology is in genome editing (Petersen, 2017) to removing the genes cause certain diseases to enhance human beings' health and wellbeing, improve the agricultural production, etc. Cloning technology, particularly somatic cell nuclear transfer (SCNT), enables scientists to create livestock with genetically identical parental cells. Although SCNT has promoted the development of transgenic livestock research since the late 1990s, this research field still faces many challenges (Petersen, 2017).

As mentioned earlier, organ transplantation is one controversial application of cloning technology. Unlike the situation in the book *Never Let Me Go* (Ishiguro, 2006), in real life, cloning of embryonic cells (stem cells) instead of an individual can be applied for organ transplantation and treating other diseases. “The objective is to obtain pluripotent stem cells that have the potential to differentiate in any of the three germ layers characteristic of humans and other animals: endoderm (lungs and interior lining of stomach and gastrointestinal tract), ectoderm (nervous systems and epidermal tissues), and mesoderm (muscle, blood, bone, and urogenital tissues).” (Francisco, 2015) Then for regenerative medicine, cloning technology also has some achievements due to safety and ethical issues, as well as for the effectiveness and safety of human allogeneic organ transplantation need to be considered, cloning organs in the clinical requires in-depth research. Undeniable, cloning technology can play a great role in human disease modeling or regenerative medicine or even agriculture.

### 3. Conclusion

Many academics and the public have diverging views, but governments of countries should not be vague about the future of cloning technology. For human cloning, this technology has a strong prospect for development, but the first problem is how to make laws to regulate human cloning research and guarantee human rights and dignity reliably and reasonably. Some of the restrictions on human cloning are ethical problems and safety concerns. Many issues have not been resolved in a timely manner because of technical issues, the human rights and prejudices of human cloning, and personal biases; however, there is no denying that the new era of cloning technology and bionics has opened a completely new era of scientific research, which pushes a huge development of the society.

From my personal perspective, bionic and cloning technology will be a new target for sustainable growth to make a big breakthrough, but it has also exposed more problems following the advance, including the techniques, society, and so on. In conclusion, how to maintain and balance and resolve contradictions between people of different views is the real question, to which the answers rely significantly on the governments’ regulation and guidance (Pattinson, 2004).

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