

Advances in biomedical science and technology science essay



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Due to the advances in biomedical science and technology, mammalian cloning has, in the last 13 years, become feasible. This first came to the public's attention with the publicity surrounding the creation of Dolly the sheep in 1997. Through the process of HSCNT (Human Somatic Cell Nuclear Transfer), hundreds of mammalian organisms have been cloned and carried to term. However, the process is by no means 'perfect' as not only do numerous embryos fail, but many of those born have significant birth defects, some of which only come to light later in development.

To this date, no successful human reproductive cloning has occurred. None the less, rapid advances in technology suggest that human cloning will be reliable in the foreseeable future. This realization has led to an unprecedented debate about ethical and human rights issues which must be balanced against the more broadly beneficial aspects of scientific advancement.

An immense amount of people believe that cloning completely interferes with ethical and human rights. This is somewhat due to the fact that cloning in animals has not been 100% effective. Animals have been cloned before but many of them have had birth defects and short life spans. " Dolly the sheep became a scientific sensation when her birth was announced in 1997. Her relatively early death in February 2003 fuels the debate about the ethics of cloning research and the long-term health of clones." [Science Museum. org; no name reference] Although Dolly lived to be an adult, she was one of 227 attempts to survive this long. This showed the inefficiency and complications of cloning.

" Hundreds, if not thousands, of attempts are necessary to produce just one viable clone. On average, just 3% of attempts succeed." (Vergoff: 2001) The fact that many of the clones (produced in an attempt to produce just one clone) do not live reflects the reason that people believe cloning is cruel. Another reason that they might think cloning is inappropriate is because when comparing nuclear generated embryos and embryos produced during sexual reproduction, a significant number of the 'cloned' embryos fail where as not so many 'natural' embryos do. Because of this fact, mainstream scientists agree that " due to the very low success rates of reproductive cloning in animals, this technology is not appropriate for application to humans."

The side of the public that feels human cloning is wrong is also against it for reasons other than the clones not being reliably functional. According to them, cloning humans is 'unethical, inhumane and immoral.' [Students for students: 2010] The process is seen as just copying the identical genes, which means it will decrease the diversity of genes. To put it simply, as a human one is meant to see the differences in others and cloning would eliminate this. People would not be completely unique.

These people also question the opinion of some parents. They understand that if a parent has a child whose kidney's fail, that they would be willing to clone their child as to donate one of their newly cloned child's kidney's to their own child. However, one could then question whether it would not be strange to suddenly have two identical children.

This is where personality is brought to attention. Although " human cloning is the process by which an exact genetic replica is made of an individual, this does not, necessarily, mean the same personality, or person, would develop."(Cadena: 2007) The question that stands is whether the clone is inferior and different to the general public or not. Most do not like the idea of cloning as it will separate us into two different groups: humans and clones.

Aldous Huxley reflects his point of view in his book, *Brave New World* in a satirical sense. He shows his view of the future with human cloning in a negative way. The novel is set in London in the years that Huxley calls 'A. F.' which stands for 'after Ford'. Henry Ford is the developer of the assembly line technique of mass production and the mass production implies 'cloning' in this sense. At the beginning of the novel, the director of a centre called 'Hatcheries and Conditioning' is taking a group of young students on a tour around one of the labs. He shows them how human beings are 'custom made' and placed into different social castes which were almost like different cultural groups(minus the culture). He then leads them to a special room where the humans are brain-washed. A common phrase that the brain-washed characters say throughout the novel is " Put your arms around me... Hug me till you drug me, honey... Kiss me till I'm in a coma. Hug me honey, snuggly..." [Lenina, Chapter 13, pg. 194]

His novel relates to the debate of cloning as it reflects his idea of a future with human cloning. Although it is satirical and far-fetched, it makes one question cloning as it displays cloning in a negative way (all humans being the same and put into categories). The anti-human cloning groups see the future of cloning in a similar manner: 'dark and once again, inhumane.'

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Taking the above concerns into consideration, many people still believe that human cloning is entirely beneficial. This is because there are an incredible number of positive outcomes of human reproductive cloning. On the lighter, appearance side: " Dr. Richard Seed, one of the leading proponents of human cloning technology, suggests that it may someday be possible to reverse the aging process because of what is learnt from cloning." Plus, cloning could better cosmetic procedures such as breast implants. This is because with the new technology, doctors will be able to produce things such as fat, bone and cartilage that matches the patients exactly. On the more serious side, scientists may one day be able to treat people that have had heart attacks by cloning their normal heart cells and placing them in the damaged areas of their heart, give victims of accidents which cause any parts of their body to become deformed their original face features back through cloning (limbs for amputees may be regenerated) and even give women looking for breast augmentations implants the same as their normal tissues in order to prevent them from becoming ill.

" On average, one carries 8 defective genes inside of them which cause them to become sick when they would otherwise remain healthy. With human cloning and its technology it may be possible to ensure that we no longer suffer because of our defective genes." [Smith, S] Many life threatening illnesses such as cancer, leukemia, kidney failure and liver failure could be taken away due to cloning. On top of this, cloning technology can test for and possibly even cure genetic diseases. Proponents of cloning also suggest " it may serve as a treatment for infertility, allowing those who cannot/can no longer reproduce to pass on genes to future generations."

[Kolehmainen, Sophie] A lot of parents think of human reproductive cloning as a way of saving children's lives.

There are plenty of examples of what could happen in the future after human reproductive cloning begins: If a couple becomes infertile after having one child, they would be able to clone their child to have a second one. Parents also state that they would find human cloning beneficial as "if they lost their child in an accident, they could get their perfect baby back." (Smith, S) The general attitude of this group of people is "why not?" If a person can be saved from leukemia, why would anyone feel the need to stop this from happening?

Despite this question there is still a debate in which many other factors contribute. An example of one of these is religion. Many in the Western nations wonder whether clones would have a soul. They also question whether it is playing God or not if humans create rather than naturally conceive. Many groups have publicly disapproved of human reproductive and human therapeutic cloning. These include religious organisations, such as the Catholic Church, who disapprove of these technologies. [Werts, D, C: 2002]

Go on about regulation.(can't be extended globally) Many groups have publicly disapproved of human reproductive and human therapeutic cloning.

Ask dad

Although there are many negatives to do with human reproductive cloning, it is expected that it will occur in the future. This is because there are so many benefits of this cloning surrounding medical purposes. Personally, I worry <https://assignbuster.com/advances-in-biomedical-science-and-technology-science-essay/>

about what a future with human reproductive cloning will hold. In my opinion, I think it would be ideal if, in the future, cell cloning could be used for medical purposes only and not human reproductive cloning for reasons such as infertility as this would be immoral. However, there is a chance that cloning will not happen in the future and this would probably be best. We are humans and we cannot change the fact that some of us cannot have children or predict the day we are going to die. This is the way of life and to me, cloning humans in this way does not seem right.

All in all, the topic holds a debate that will continue for a long period of time before any decisions are made. etc