What is the relationship between the United States and the issue of cloning and what questions can we ask ourselves about the ethics of cloning?

(Axes fiction et réalité, innovation scientifique et responsabilité)

I) Animal cloning in the US

1st cloned animal in the world:

Dolly, born on 5 July 1996 in Roslin (UK) (Roslin Institute) and died on 14 February 2003 in the same place, is a sheep famous for being the first mammal cloned in history from an adult somatic cell nucleus by the team of Keith Campbell and Ian Wilmut at PPL Therapeutics, in association with the Roslin Institute in Edinburgh, Scotland. The cloning technique used to obtain Dolly involves removing the nucleus of a 'recipient' egg cell and replacing it with the nucleus of an adult 'donor' cell. After some manipulations to help reprogram the genome, the egg is implanted in a surrogate mother. Gestation is closely monitored, and the birth is eagerly awaited.

Cases of cloned pets in the world:

- American singer Barbra Streisand has announced that she has cloned her dog, reopening the debate on a controversial practice. From the United States to South Korea, the cloning of farm animals and pets is alive and well. After her dog Samantha died in 2017, American singer Barbra Streisand says she collected cells from her mouth and stomach so she could find an exact replica of her companion. Two clones of Samantha have been created, but each has a different personality. Barbara hopes that one of the clones will have the same character as Samantha

- After the death of their dog Marley, a Californian couple decided to have their beloved pet cloned. For $50,000, the company ViaGen Pets took the DNA of the Labrador who died of cancer five years ago and inserted it into the egg of a donor dog, reports CNN. The resulting embryo was implanted into the uterus of another dog, which gave birth to Marley's clone, named Ziggy. According to ViaGen Pets, the dog has the same genes as Marley. "They have the same personality, they play the same, they have the same toy preferences," says the owner.
- In the United States, cloning is also used in the agricultural sector. Cloning is used to reproduce animals with a high genetic value, such as cows that produce a lot of milk, but also sheep and pigs with a high genetic potential. However, cloning is still expensive as it costs €10,000 per animal, and the success rate is only about 15% to 30%. These practices are especially done in several American countries. Europe is still in a state of flux on this subject.

II) Human cloning in the USA

The situation of cloning in the United States:

In the United States, the issue is complex, since in certain areas, each federal state has its own law, independently of the other states. Thus, only six states in the US have an explicit law prohibiting human cloning. These are California, Iowa, Louisiana, Michigan, Rhode Island, and Virginia. For these states, reproductive technologies are subject to mandatory reporting under the Fertility Clinic Success Rate and Certification Act of 1992. However, animal cloning is still allowed in specialised companies. These companies have a flourishing business because cloning cases are multiplying even if the clients remain specific people because cloning requires a lot of money but above all it is not 100% reliable.

III) The ethical question concerning cloning

The use of cloning to reproduce human beings "is not ethically acceptable because it would violate some of the fundamental principles of medically assisted reproduction", according to the Director General of the World Health Organisation, Dr Hiroshi Nakajima. However, he added: "Opposition to human cloning should not lead to an indiscriminate ban on all forms of cloning and research". He recalls that in 1992, the Special Programme on Human Reproductive Research (HRP) had studied the technical aspects of medically assisted reproduction and the ethical issues involved. Human cloning would be of no use, but organ cloning would be a great medical advance because it would limit organ shortages and limit organ rejection because they would be identical to defective organs.

Many people are afraid of cloning, especially because of apocalyptic films about clones rebelling against humans. The case of clones is like the case of robots, they are new things and contain a lot of risks which scare most people.

Some important dates in the development of cloning:

- 1903 appearance of the word clone
- 1952 cloning of the first frog
- 1979 first attempt at human cloning
- 1981 attempt to clone a mouse
- 1996 cloning of a sheep (Dolly)
- 1997 birth of a rhesus monkey
- 1998 birth of Marguerite, the first French cow to be cloned
- 1999 new essays on human
- 2002 first cat clone
- 2003 revision of bioethics laws due to the advance of cloning

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