



Cloning and Penal Limitations of Scientific Experiment

Rustin-Petru CIASC¹

Abstract: Human cloning is one of the matters that have been broadly discussed at a scientific and legal level. In this article, I will present the worldwide relevant aspects as regards this. The bioethical substantiation of forbidding human cloning is made, first, by the fact that the artificial cloning of a human being is a threat to the human identity because it endangers the protection against predetermining the human genetic constitution by a third party; the human dignity is thus endangered by transforming the human being into an object by artificial cloning. Given the insufficient coverage that the national legislation provides to this topic, according to the legislative experience belonging to other countries, this article presents some legislative proposals in order to fill in at least partially such gaps.

Keywords: human cloning; bioethical; stem cells; reproduction; therapeutic

Cloning human beings is seen as representing not just one of the great problems the modern science is facing, but also as a controversial aspect from legislative and political decisions point of view. It is deemed by some authors that the phenomenon is the basis of a new scientific revolution, *“a revolution that takes place at the molecular biology and genetics level that will allow the deviation and control of human evolution in an unprecedented manner. This revolution will give the possibility to develop some new life forms that will order all existing life forms...being necessary to introduce some changes at the human being level, with the reserve that there is the risk for the future result to be worse than it should be.”* (Harris, 2003, p. 14).

Human cloning is creating a human being starting with the entire genetic material of an individual that has been already conceived. Such a concept could be

¹ Judge, President of the Cara -Severin Court, PhD Candidate, Faculty of Law and Administrative Sciences, West University of Timisoara, Romania, Plautius Andronescu Str., Timisoara. Tel.: +40256 592 111. Corresponding author: rustin.ciasc@just.ro.

compared to that of a late twin relation, which twin appeared following a legal or administrative decision. Practically, to clone means to produce an identical genetic copy of a person.

From a scientific point of view, in order to proceed to cloning, it is necessary to take DNA from an organ belonging to a person. The DNA will be then injected in an ovum whose DNA has been previously removed. Then, that ovum will receive a low intensity electrical discharge that will allow it to divide and form, after several days, an embryo genetically similar to that of the person from whom the DNA has been taken. Therefore, cloning is another procedure for obtaining therapeutic stem cells, some experts preferring this alternative due to the fact a cloned embryo is a genetic copy of a living person. On the other hand, an embryo preserved in the freezer of a medical facility is the result of a spermatozoid fertilizing an ovum, which fertilization represents practically one contact that cannot be replicated in full because it generated a new gene combination, able to create an absolutely unique individual.

Considering the scientific approach, it must be said that performing experiments on human beings has always existed, under various forms, there being numerous scientists that studied this matter. Thus, in 1767 James Hunter inoculated himself with the gonorrhea bacilli from a sick person in order to prove that the disease was transmittable. Later on, in 1910, Pierre Curie wore on his arm a bandage soaked in radium for the exclusive purpose of demonstrating that this chemical element caused some severe burns (Pappworth, 1967, p. 78). In the modern era, the progress of biomedical sciences made for the experiments on human beings to become gradually more necessary, the humankind's fight against cancer and cardiovascular diseases, together with the scientific researches on genetics being impossible to develop while some experiments organized in connection the cancer radiation therapy or chemotherapy, heart surgery or human genetic code decoding lack.

The majority of scientists do not attempt to produce human clones; their goal is to use some extremely young embryos as source of cloned human cells able to treat diseases. It is true that cloning allows a broad range of medical possibilities, such as replacing a vital organ hit during the war by an organ belonging to a clone. Another example would be the assumption that an individual would become sick with a disease that slowly destroys certain parts of his brain, the present day treatments representing only palliatives (they diminish the symptoms but do not hinder the advancement of the disease and the brain damage). In such a case,

cloning would leave the hope of a cure that would genuinely repair the affected tissues.

In other words, the clone might be used as a “living organs bank”. Still, this possibility led to a fierce debate on the subject of the possibility to create some clones that would be then sacrificed thus that they would allow the life of other individuals to continue.

In January 2008, a company from California named “Stemagen” stated in the pages of *Stem Cell* magazine that it succeeded to create for the first time five human embryos by cloning, using for this purpose cells from the skin of two adults. After verifications, it was succeeded to confirm fully only that three of the five embryos were clones of the two adults. However, the embryos were destroyed during the verification process. The technique used by Stemagen was that of cloning by transferring the nucleus of a somatic cell represented by introducing the core of an adult cell in an oocyte without a nucleus, the ovum thus created being led to adulthood. This technique has been used with success in animals and gave birth to two viable clones, these being Dolly the sheep (cloned in 1996) and Snuppy the dog (cloned in 2005).

In its turn, the Dalhousie University recently announced to have cloned an insect, more precisely a *Drosophila Melanogaster*, the leader of the scientific team who developed that project, Dr. Vett Lloyd, declaring that it was not just about creating a new insect, but understanding the reason for which cloning some mammals is more difficult as against cloning insects. Cloning was also made by introducing the nucleus of an adult cell in a reproductive cell, after its own cell nucleus had been removed or destroyed. Thus, the new nucleus took over the control of cell reproduction, although the largest part of clones did not survive birth and died immediately. For this, the researchers made over eight hundred trials. Finally, it was reached the conclusion that, probably, it was necessary to reprogram the nucleus coming from an adult cell in order for a normal embryo to develop. On the other hand, the Russian researchers within the Federal Northeast University having its office in Yakutsk succeeded to decipher mostly the genetic code of the woolly mammoth that became extinct approximately 10,000 years ago. The recent discovery (in 2013) of a perfectly preserved body of such an animal in the Russian archipelagos Lyakhovsky (it was found sunk in pure ice, at very low temperatures, its blood being still liquid) substantiates their hopes of cloning a mammoth.

In humans, as indicated above, the purpose of cloning is not to acquire a viable body but an embryo whose stem cells to be used for therapeutic purposes. It is true, such stem cells are able to differentiate themselves and become any cell of the human body (placed on bone, they come bone cells, in the liver they become liver cells, and in the brain – neurons). There is no risk of that organ rejecting the stem cells because they are completely identical to those of the receiver. Thus, the interest of the scientific community is represented by the therapeutic human cloning, which was described above as being the transfer of the nucleus of somatic cells, thus a technique of producing the living material used as medicine, in general for a graft and for replacing a destroyed or damaged organ. The end goal of this technique is to acquire the genetic compatibility with the sick person.

Cloning can be define as a voluntary doubling of a human being, that is the artificial provoking of forming a human embryo carrying the same genetic information as another embryo, fetus, or human being. It is the severe violation of the human dignity, considering that each person is entitled to be a single entity and not a copy of another person (Moldovan, 2002, p. 265). In its turn, the reproductive human cloning is a cloning meant to reproduce a clone in order to perpetuate the memory of a person. The reproductive cloning might be used by an infertile couple or by spouses affected by a genetic disorder in order to conceive a child without being necessary to go through sexual reproduction. As consequence, the child would only be the descendent of one of the two parents.

Given that the results of researches on human and animal cloning have been published, being accessible to everybody, it would have been unavoidable for at some time someone to abuse this knowledge. Thus, in many countries of the world, the so-called physicians have already announced their intention to clone a baby. Those physicians do not work for any university, hospital or other acknowledged institution and the entire scientific community opposes such a cloning. Most public researches indicate that “cloning mammals ends often with the death or mutilation of the clone” according to the statements of a researcher, John Kilner, within the US Center for Bioethics and Human Dignity.

It is unknown to what extent the attempts to clone a newborn baby have been carried out. In April 2002, an Italian scientist, doctor Severino Antinori serenely declared during a press conference that three women were already pregnant with a cloned embryo. He then left the public eye and never confirmed or denied his statement. Even if his attempt failed, it is obvious that at least he carried researches in order to clone a child in the near future.

The medical community believes that the risks connected to human cloning are considerable, the same researcher John Kilner stating that “*exposing human beings to cloning is not a known risk, but a sure manner to hurt people*”. The greatest part of the scientists share this opinion, in a huge majority of cases the attempts of animal cloning leading to the occurrence of some malformed embryos or false fetuses. The scientists remind that the rare cloned animals that were born suffered abnormalities that could not be detected during in utero examinations, such as malformations of the breathing epithelium. As mentioned earlier, Dolly the sheep was cloned in 1996, being the first cloned animal beginning with a DNA taken from an adult sheep. Even if Dolly seemed to be in good health, there were doubts as regards its potential premature aging. More, in order to acquire this viable clone, there were needed 277 failed attempts. Thus, it is obvious that achieving experiments on human beings as hazardous as this one cannot be acceptable. Nevertheless, there are persons that would accept cloning for having a baby, for example, those parents that lost a baby and would like to replace him or the infertile couples. It must be mentioned that on March 8, 2005 the General Assembly of the United National Organization decided to forbid cloning, even for therapeutic purposes. As regards this, the United Nations Declaration on Human Cloning was adopted with 84 votes for, 34 votes against and 37 abstentions. Among the countries that opposed the Declaration are France, India, Canada, United Kingdom, Japan, Norway, and China.

Considering the perspective of the international regulations concerning the relevant scientific aspects, I believe it is relevant the licensing, in 2004, on the territory of United Kingdom, by the Human Fertilization and Embryology Authority (HFEA), of Professor Miodrag Stojkovic (within the Newcastle University) to clone human embryos in order to perform therapeutic researches on stem cells. Another license was granted in 2005 to Professor Ian Wilmut within Roslin Institute of Edinburgh. In May 2005, the medical team led by Professors Miodrag Stojkovic and Alison Murdoch announced to have succeeded the cloning of a human embryo. In South Korea, the team led by Professor Hwang Woo-Suk was the first to succeed in cloning a human embryo for scientific research purposes, in 2004. These results have been partially contested at the end of 2005 by an independent survey due to the fact some of them had been forged. On their turn, the United States of America licensed in 2008 the selling of products coming from cloned animals (milk, eggs, and meat).

In Belgium, there is no current specific regulation concerning the researches on human embryos, but a Royal Decree from 1999 set out the acceptability conditions for the specialized medical facilities as regards this. Thus, creating embryos is only allowed within the accepted facilities. For the time being, the scientists in charge with research projects involving human embryos must develop their works in a licensed medical facility, and the research protocol must be mandatory licensed by the Ethics Committee within each competent institution (university or another organization). However, the Government subsequently drafting a draft law concerning the embryo research was meant to define the conditions in which the research on several embryos might take place and even considered, in certain cases, the creation of embryos for research purpose without stating for that time which would be the manner for creating them. Nevertheless, it is certain that all researches are subject matter of some controls at local and federal level in order to ensure a full responsibility in developing such investigations.

On the contrary, in Italy the Penal Code provisions that cloning is punishable by imprisonment from 10 to 20 years, stating also the future interdiction to practice his profession for the cloning author. On its turn, the French legislation concerning the cloning is one of the most severe, article 16-4 of the French Civil Code forbidding any cloning no matter its eugenics, therapeutic, or reproductive purpose. The former minister of research, Doctor Roger-Gerard Schwartzenberg submitted in 2005 to the permanent office of the National Assembly a law proposal that referred to rescinding the article concerning bioethics, which forbade therapeutic cloning. For supporting this proposal, a petition signed by several top scientists of this area has been submitted.

Towards the end of 2007, when the Institute for Advanced Study within the United National University released its report on cloning, it became public knowledge that a team within the US National Primate Research Center of the State of Oregon succeeded in creating ape embryos by means of cloning. These two events brought the controversial and discussed matter of human cloning back into the heart of scientific debate, reminding the international community of the imperious need to act as regards this topic.

The debates concerning cloning date back to 1952, during the works led in Philadelphia by biologists Robert Briggs and Thomas King. If a plain definition of cloning would be given, thus that the general understanding of this matter would be facilitated, one might say that cloning is a technique referring to asexual production, beginning with a cell or an organism, of biological entities, which are

genetically identical to the original cell or organism. Thus, according to the report, it is a reproductive technique and not of procreation, which refers, at cell level, to the essence of the feminine element of the two random halves of DNA, each being specific of one of the members of a couple. Very simple, this scientific procedure tends to produce and designate a viable human being or animal beginning with only one parent. Thus, cloning would mean any artificial copy genetically identical to an existing life form.

The ethic stakes of cloning, mainly of reproductive cloning, seem to defy all limits.

One of the main ethic questions brought by cloning performed for research purposes and the researches on embryo stem cells are connected to the moral status granted to the embryo. Using it has led to objections from those that oppose abortion due to moral, ethical or religious reasons, as well as those that oppose any research that involves the destruction of a human embryo. The moral argument is that according to which the embryos must be protected since the time of conception, this being the moment when a new human entity is born which, given favorable circumstances, will become a unique human being. Being set out the forbidding of sacrificing human beings no matter the purpose, destroying embryos for research seems to have no substantiation. The fundamental notions of life, the values and rules that refer to reproduction were developed in each human society and are profoundly connected to the culture, tradition and religious principles of the human groups or species. As regards the research on embryo stem cells, there are several opinions, all accepted from an ethical point of view and susceptible to some deeper discussions: the opinion according to which using human embryos for deriving embryo stem cells is not ethical, and then another considering that this technique is acceptable from an ethical point of view only for certain medical purposes and under strict supervision, and lastly the perspective stating that, considering the numerous risks involved by this type of research and the possible ethical implications, the research on embryo stem cells should be forbidden (McCall Smith and Revel, 2001).

There are several years since the international community, by the voice of the United Nations Organization, began debating the topic concerning the cloning phenomenon. The United Nations Organization, by the UNESCO, set out for this certain ethic rules, by the Universal Declaration on the Human Genome and Human Rights, which was adopted in 1997. France and Germany then requested, in 2001, to the General Assembly of UN to draft an international convention on forbidding the human being cloning for reproductive purposes. The result of this

French-German initiative was seen only in 2005, when a document representing the reference instrument of international law was adopted. This is the UN Declaration on cloning human beings, which is believed today to be insufficient, the international community being in charge with setting out an international ethical and legal framework for regulating this matter. That report provokes the UN to more action and interventionism, there being several reasons that substantiated its adoption.

From a procedural point of view, its basis was the resolution no. 56/93 of the General Assembly of the United Nations Organization, issued in 2001, which created a Special Committee having preliminary tasks in order to draft an international convention against human being cloning for reproductive purposes. In their report of February 25 – March 1, 2002, the members of that committee reached an agreement on the need to adopt a convention against human being cloning for reproductive purposes for avoiding the compromising of the entire human society, the creation of practices contrary to equality, as well as witnessing an unequal dissemination of scientific results that could damage the developing countries. Although the great majority of the member state voted for, the international community did not succeed in adopting an international convention condemning human cloning for reproducing purposes. The UN abandoned the idea of issuing such a convention and adopted in exchange a political declaration. Actually, in March 2005 the General Assembly adopted the UN Declaration on human beings cloning, thus ending a four-year period that preceded the negotiations.

This declaration urged the member states to forbid all forms of human being cloning, including that of human embryos for therapeutic purposes. It also invited the countries to adopt all desired measures for protecting the human life. More, the same declaration asked the states to forbid equally all forms of human cloning that were proven incompatible with the human dignity and life protection. As regards its legal value, the Declaration of 2005 is only stating a principle or a norm that must be fulfilled. It does not generate legal obligations for the countries, not being mandatory within the international law; however, it has a highly significant moral and political value.

After the relevant matter has been included on the agenda of the General Assembly discussions, the debates took place without cessation and emphasized the opposition on human cloning. There still are disagreements because there are sufficient countries that wish a total forbidding of any cloning form, believing that

the absence of forbidding the human cloning for therapeutic purposes would create a legal insecurity, thus that for this a clandestine market could develop. In 2005, the governments of Spain, United States of America and many countries in South America supported a complete forbidding of human cloning; they believed that partially forbidding it would encourage the creation of a black market for human embryos. States such as Belgium, France and Germany proposed, for them, a gradual approach, that is setting out a series of conventions. For this, it would be necessary to set out first a convention whose objective would be to forbid cloning for reproductive purposes, which would be followed by a second convention that would regulate other forms of cloning.

Finally, there is the Islamic countries group (from Africa and Asia) that wishes for a consensus to be reached as regards this matter. These different options determined the General Assembly of the United Nations Organization to choose the declaration adopted in 2005. Right now, according to the Institute for Advanced Study within the United Nations University, it is necessary for the document born from the strategies proposed by the member states to be left behind.

The researchers within this Institute were profoundly dissatisfied as regards the effectiveness of the Declaration because, from their point of view, if one regulation tool would remain in force, it would be a formal statement that enough countries would be able to ignore. They believe that, right now the rapid progress of genetics and biotechnology easily surpasses the national borders and sometimes defies all ethics notions. In fact, in its present stage the absence of an imperative international agreement allows the researchers that want to take advantage of the lack of legislation in certain countries to proceed to human cloning. Faced with this risk, considering also its intention in certain situations, the international community would have to accept its responsibilities and to ensure to each cloned individual the same rights as to the other human beings. It would also have to supervise the treatment of clones with respect and to protecting them against any abuse and discriminations.

Although until now the member states missed the opportunity to adopt clear measures concerning this, which would converge in the meaning of forbidding the human cloning, experts believe that they must be accelerated. It is necessary to reach a harmonization and international regulation in the area of human cloning. In order to reach these objectives, the UN Institute proposed five possible scenarios concerning this matter. There is the possibility either to forbid totally any research on cloning or to forbid only the cloning for reproductive purposes. As well, the

reproductive cloning could be introduced, authorizing researches on cloning or its forbidding, but with authorizing the researches for a period of ten years. This term is proposed in view of deepen and verify the manners in which this scientific procedure might help humankind fight the epidemics that exist now. Finally, the experts propose setting out a moratorium on any researches concerning the cloning. Even if such a suggestion seems late, it would bring the advantage of launching a powerful warning to all international actors, allowing new discussions in a quieter context.

Thus, the experts provided to the United Nations a range of eclectic proposals in order to determine the Organization to prove once more its ability to answer the questions of the present society, which questions become gradually more complex. As regards this, it is important the fact that an American poll revealed that 7% of the adults would want to be cloned. Their motivation varies, beginning with creating an organs base for the case when they would need a graft and ending with perpetuating their existence beyond death. Others suggested cloning some persons that have certain gene combinations, such as top scientists or athletes, being also proposed to clone some dear ones that passed away. Behind all these dreams, the wish for uniformity (infinitely replicating the public persons) and the wish for immortality (refusing one's own death or that of a loved one) can be seen. Obviously, these dreams cannot be turned into reality because the technology has not advanced to such a degree.

It is certain that a clone has the same genetic patrimony as the donor of the somatic cell, contrary to other individuals that are the result of a gene conglomerate resulting from both parents. The matter of a clone's identity occurs as it is an identical copy of its donor, such identity not existing at biological and psychological level, because it is not the only consequence of the genome. On a biological level, the differences between the two are not only in the chromosomes, but also in the cytoplasm (as it is the case of mitochondrial DNA). As regards the identity of a complex being, it is represented by more than a simple consequence of a biological identity; it is also the result of a memory or experience.

Conclusions and Legislative Proposals

From my standpoint, I believe it is mandatory to observe the rules proposed by Steven Muller as regards the human embryo cloning. That is, any research should be performed only on additional embryos, acquired by in vitro fertilization, and for

therapeutic purpose (mainly for the infertile couples), stopping any experiment at the time when the neural tube appears, as well as forbidding the selection of embryos according to their gender and their manipulation from one species to another.

The interests of the human being must prevail before those of the science or society, there being regulated a series of aspects that the Recommendations of Europe Council have approached previously, in order to ensure an efficient genetic protection, such as medical research, human genome, person's consent, right to information and observance of private life, organs transplant, and forbidding that the human body parts become a source of gain. As regard all these, the Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine, named in short the Convention on Human Rights and Biomedicine (adopted in Oviedo on April 7, 1997) provisions a fundamental general rule introduced in article 18 according to which, in the cases when the law authorizes the researches with in vitro embryos, it must ensure adequate protection to the embryo. Creating human embryos for research purposes is forbidden, two cases of genetic modifications being then authorized (they are regulated by articles 13 and 14).

Although Romania ratified the European Convention forbidding the cloning of living or dead beings because of signing in 1998 the Protocol to the European Convention on Human Rights with regard to the applications of biology and medicine, there are still reserves on drafting a national legislation concerning this. Beginning with some comparative law aspects that I believe relevant, mainly the provisions included in the Spanish and French Penal Codes, my opinion is that the Romanian legislation should include some penal punishments, according to their model, that would double the protection provided by the stipulations of the New Civil Code in this domain. For this, article 63 of the New Civil Code that bears the additional name "*Interventions on genetic characters*" states "*any medical interventions on the genetic characters that are meant to alter the descendance of the person are forbidden, except for those that concern preventing and treating the genetic disorders. Any intervention that has the goal of creating human embryos for research purposes is forbidden. Using the assisted reproductive technology is not allowed for choosing the gender of the future child, but only for avoiding severe hereditary diseases connected to his gender.*"

Getting back to those proposed above, one can find that Title V of the Spanish Penal Code regulates the felonies concerning genetic manipulation in the articles

159, 160, 161, and 162. Article 159 paragraph 1 actually refers to punishing the perpetrators that manipulate human genes in a manner leading to the alteration of the human genome. The next paragraph refers to punishing the same deed in the case when it was committed without premeditation, the punishment being smaller.

Next, article 160 incriminates and punishes the felony of using genetic engineering for producing biological weapons or of those meant to exterminate the human species, and article 161 paragraph 1 provisions the punishment of those that fecundate human ova for other purposes than human procreation. In its turn, article 161 paragraph 2 provisions punishing with the same punishment the deed of creating some identical human beings by cloning or other procedures meant for racial selection. Finally, article 162 paragraph 1 of the Spanish Penal Code provisions punishing the person that would practice assisted reproductive technology on a woman without her consent, while the next paragraph refers to procedural aspects in the case when the victim is underage or crippled.

On its turn, article 223-8 within the Forth Section of the French Penal Code, altered by Law no. 2004-806 of August 9, 2004, incriminates the deed of practicing biomedical research on a person without acquiring the free, clear and express consent of the concerned person, his parents or guardians or other persons, authorities or bodies designated to allow the research or to authorize it, in the limited cases stipulated by the Public Health Code. The punishment provisioned for this felony applies also in the case when the biomedical research is practiced after the initial consent has been withdrawn. It must be stated that those provisions do not apply in the case when the genetic traits of a person are examined or when he is identified based on his DNA profile, which examination or identification is made for scientific research purposes.

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