

DemoKino - Virtual Biopolitical Agora

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Therapeutic Cloning

A project by Davide Grassi

Screenwriter: Antonio Caronia

Production and distribution:



Aksioma – Institute for Contemporary Arts, Ljubljana, 2003

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I just can't get this cloning business off my mind. Radiohead have made an entire CD on the theme. It's rather nice. It is a hot theme.

From what I understand, the human cloning dilemma is the most sensational but not the most recent and not even the most disturbing one from the ethical point of view. Maybe a human being will never be cloned but therapeutical cloning is already being studied in a very concrete way. This type of cloning has got to do with those strange things called "staminal cells".

I have kept an article in which there is an accurate explanation of what staminal cells really are. What seems to be the problem is this: the most promising development of scientific research is the creation of embryos by cloning the somatic cell of a patient with the aim of extracting the staminal cells at any time in the future, in order to cure a disease of that patient.

It reminds me of a novel I have read, *Spare*, by Marshall Smith. It is a rather terrifying science-fiction story in which rich people have themselves cloned and keep the clones amassed behind bars like wild beasts only to take their organs and

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replace a bad liver or a kidney or any other rotten organ. The clones are used as a stock of spare parts; how scary is that?

It is fiction, of course, and I hope badly the situation never comes that far but the thing with the staminal cells works in a shockingly similar way. The staminal cells never actually evolve to form a human being, not even a foetus, because the intervention is performed on the embryo at a very early stage. Yet, these cells, too, have the function of “spare cells”.

Check this out: *“the staminal cells are in fact cells that, on one hand, have a capacity for a long sequence of reproduction without differentiation, that is, without becoming specialized cells - of the nervous, muscular, blood or other systems - but on the other hand, they evolve to specialized cell lines - nerve-cell, muscle-cell, etc. - under certain conditions.”*

These are the cells that can be used to treat particular diseases arising from genetic malformations because these cells are produced artificially and their genetic code can therefore be reprogrammed. When introduced into the organism, they can replace the sick cells.

It says here, for example, that one of the diseases that could be cured in this way is lateral amyotrophic sclerosis, which damages only those neurons controlling movement and leads to death in 3 to 5 years from its onset. There are more than 350,000 persons in the world suffering from this disease and approximately 100,000 die of it every year. It also seems to be the way to cure other diseases like diabetes, Parkinson’s and Alzheimer’s.

To throw some more light on the subject: there are adult staminal cells, that are found in bone marrow, brain and blood and have been known to scientists for about three decades, then there are the embryonic staminal cells, that have only been discovered more recently and are found in embryos. The experiments carried out on embryonic stem cells are more recent and it is not yet sure how these cells function, but many scientists are eager to test their usefulness.

This is where the problem lies:

in order to produce these cells, it would be necessary either to produce a human embryo with one of the cloning techniques available today or to use extra unneeded embryos derived from artificial insemination. This embryo would have to grow to the stage of a blastocyst (that means from around 14 to 18 days of life) and finally, the

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staminal cells could be isolated from the internal cellular mass. This last intervention would, of course, destroy the embryo.

So those who claim that the embryo must be regarded as a human being from the moment when the spermatozoon and the ovule meet or when the nucleus of another cell replaces the egg's nucleus, are usually opposed to any research on embryonic staminal cells and thereby to any kind of cloning for therapeutic reasons. These people believe there is essentially no difference between therapeutic and reproductive cloning because both result in creating a living being.

To the contrary, therapeutic cloning is even more atrocious because it implies destruction of the embryo.

Other people maintain that at least up to the 18th day of life the embryo is not a human being because not even its nervous system is developed at that time. These persons therefore think that no harm is done by carrying on research on embryonic stem cells since this research could in future help to find cures for serious diseases and is thus in the general interest of humanity. What's more, a country that bans such research is bound to be left behind in scientific and even humane progress.

There are two different concepts of life, society and freedom at stake here. So the question whether it is right or not to allow therapeutic cloning and research on embryonic staminal cells will have to be answered by each one of us according to personal moral and social beliefs, as usual.

Therapeutic cloning yes or no?

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