

HUMAN AND ANIMAL CLONING

Part 1: meeting at the London ULT

on

Wednesday 21st August 2013

Part of the *Summer Wednesday programme* “Theosophy in 21st c. Society”

[The introductory devotional reading which was read at the start follows at the end.]

Danger of genetic engineering to human and animal health and the ecological environment

Cloning is a form of DNA (Deoxyribonucleic acid, a self-replicating material present in nearly all living organisms as the main constituent of chromosomes) Technology also known as Genetic engineering which is a set of techniques for isolating, modifying, multiplying, and recombining genes from different organisms. It uses viruses and other infectious agents to smuggle genes into cells that would otherwise reject them and enables genes to be transferred horizontally between species that would never interbreed in nature.

For instance, a fish gene can be transferred to tomatoes, and human genes can be transferred to sheep, pigs, or bacteria. The insertion of foreign genes into a host genome (the totality of the genetic material of a cell or an organism) has long been known to have harmful and even fatal effects, as the transferred genes can recombine with other genes to generate new combinations that may cause disease, including cancer.

There are two type of cloning: therapeutic cloning that involves cloning cells in order to find a way to make tissues and organs to treat diseases or replace faulty organs. This is an opportunity to create embryonic stem cell to be used for research or potential therapies. Stem cell research can be used to treat medical conditions including Parkinson's Disease, spinal cord injury, stroke, burns, heart disease, diabetes, osteoarthritis, and rheumatoid arthritis.

The other type is called reproductive cloning which is a genetic duplication or a genetic replica of an existing organism, this could help infertile individuals or couples have children!

The goal of therapeutic cloning research is not to make babies, but to make embryonic stem cells which can be harvested and used for cell-based therapies. To generate cells and tissues that could be used for cell-based therapies as the need for donated organs and tissues outweighs the supply.

Using human embryo or fertilized eggs leftover at fertility clinics is controversial because removing the stem cells destroys them. Questions of ethics arise because embryos are destroyed

as the cells are extracted, such as: When does human life begin? What is the moral status of the human embryo?

The mechanics of cloning:

To make a clone, scientists first take an egg and remove all of its genetic material. Then the nucleus of a cell -- any cell in the body -- is taken from the individual to be cloned and inserted into the egg. The cell is then given a jolt of electricity to activate cell division, basically tricking the cell into doing what a fertilized egg would normally do. Then the embryo is implanted into a surrogate who carries it to term.

Dolly the sheep -- hailed as the first mammal 'clone' -- was produced in 1997 by the technique of nuclear transplantation: basically, the nucleus of an egg from one adult sheep was removed and replaced with that of an egg from another sheep, and the developing egg was later transferred to the womb of a surrogate mother sheep. Strictly speaking, Dolly was not a real clone at all, as small and large changes in DNA are now known to occur both as part of normal development and in response to environmental factors. Furthermore, an inserted gene can inappropriately turn host genes off, scramble host genomes, or cause cancer. That is why such a large number of abnormal embryos result from transplanted nuclei. In the case of Dolly, nearly 300 embryos had to be manipulated to produce one success. This technique is not the best way to generate identical clones but to generate monstrous failures. It is irresponsible and unethical to claim otherwise.

Dolly the clone -- who was put to sleep in February 2003, at the age of 6 (barely 40 in human terms), as she was suffering from arthritis and lung disease.

*About 98% of cloning efforts fail.

*Cloned embryos usually die before birth.

*Most of the survivors have potentially fatal heart or lung problems or diseases like diabetes. (news.bbc.co.uk)

Cloning cattle has proven equally difficult.

"The biggest problem is maintaining the pregnancy," Mark Westhusin associate professor of veterinary science at Texas A&M University explained. About 90 percent of the embryos die in first trimester.

And calves that make it to term often become sick.

"Their livers, their lungs, their heart, the blood vessels, their placental vessels, and the placenta are often abnormal at birth," Hill said, a veterinarian and assistant professor of animal reproduction at Cornell University.

He suspects that the foetus may develop normally but the placenta does not, so the foetus is essentially starving. Problems with the placenta may also contribute to another feature of cloned mammals: They're huge.

Hill believes water retention under the skin is a result of poor placental development, resulting in calves being much larger than normal. Fluid retention can also affect the surrogate mother carrying a clone, with 30 to 40 gallons building up in a cow's belly, Hill said.

Researchers have seen similar problems in mice. Clones "may be up to four times bigger than normal animals and the placenta might be up to seven times bigger than in normal animals," Jaenisch said.

Other scientists have observed weight gain in cloned mice long after they are born. Ryuzo Yanagimachi, a biologist at the University of Hawaii, found that when he cloned a certain strain of mice prone to have diabetes, the clones would look normal at birth, but upon reaching puberty -- which, in mice, is after eight weeks -- they gained weight.

Yanagimachi said he doesn't know why the mice gained weight, since they have the same food intake and same amount of exercise as the non-cloned mice.

So far, scientists have successfully cloned sheep, cows, goats, pigs and mice. But the success rate is still very low. According to Yanagimachi, "over a hundred embryos may produce one baby -- and it can have problems -- we don't know why ... we must find this out first in animals."

Each species or organism in Nature has a natural genetic boundary that uniquely identifies that particular species similar to a Unique Identifier (ID). The same applies to every cell of every organ in every organism.

When artificially made or lab grown human/animal organs through genetic engineering are used to cross that natural genetic barrier, it greatly increase the potential for generating new viral or bacterial pathogens!

- "Indeed, every organ in our body has its own memory. For if it is endowed with a consciousness "of its own kind," every cell must of necessity have also a memory of its own kind, as likewise its own psychic and noetic action." [H.P. Blavatsky, "*Psychic and Noetic Action*"]

"Unless we hold to a purely materialistic view of life – that there is an occult, or unseen and metaphysical, side to the issue of organ transplants which would otherwise seem a merely physical and harmless process and one not worth thinking twice about. One person's uniquely Karmically fashioned organs, body parts, and cells are being surgically attached, inserted, and mixed with the uniquely Karmically fashioned body and system of another person."

<http://www.euronews.com/2013/06/26/lab-grown-human-organs/>

In this video we can see that in order to solve the shortage of organ transplant lab grown humans organs (a form of organ cloning) are being artificially developed by decellularising (removing the gene or the genetic material of the cell of a pig liver/kidney then inserting the patient's specific organ cell/genes) in order to grow it under the banner for cures and healing!

<http://www.youtube.com/watch?v=e1VL4XiC9nM> – YouTube video (2:39) "Cloning Animals: Woman Brings Cloned Dog, Discusses Pros and Cons..." (from "Good Morning America")

The history of animal cloning has shown total failure so far with a large amount of health risks. Why even consider human cloning when animal cloning is a failure?

<http://www.youtube.com/watch?v=7tbxN5uwaqA> –YouTube video (2:55) "Human Cloning" (from the Discovery Channel)

Cloning is based on genetic determinism, a belief that organisms are solely determined by their genetic makeup in ignorance of how fluidic, changing and dynamic genes can be, both within

themselves but also in their interaction with the whole genetic makeup of the organism but most importantly that an organ cell or gene works in an harmonious system with other organ cells within the entire organism as well as their respective ecological environment and therefore they are interactive and interdependent.

Genetic determinism isolates and separates each organ cell within the organism notwithstanding that each organ is in constant and dynamic interaction with each other as a whole Unit, as a unity!

Cloning refuses to see the reality of organisms as irreducible wholes within which genes (and genomes) are mutable and mobile as they respond to their cellular and physiological milieu, which is ultimately connected to the external ecological and social environment.

The theosophic tradition or perennial philosophy -- echoes of which are to be found in both western esotericism and eastern mysticism teaches that we are part of a septenary Life and therefore true healing or therapy must necessary be of a septenary nature taking into account in addition to the visible, physical constitution of man, the astral, mental and spiritual dimension of man and nature as all those different part are intertwined and work as a whole, a unit. Humans as the esoteric doctrine teaches us is made of a lower and higher self.

With the lower interacting with the higher which provides overall guidance and direction for the lower. According to this outlook, nature is alive and conscious throughout, guided from within outwards, in accordance with past evolutionary patterns and forms. And every physical organism possesses some kind of mind and memory as it is the outer vehicle of an evolving, re-embodiment consciousness.

On each level of the human constitution, we are the products of our past. A reincarnating soul is drawn to the parents who can provide it with a physical body and family environment that reflect its own former thoughts and deeds, for evolutionary growth depends on reaping what we have sown. In this sense, we inherit our genes as skandhas/karma not so much from our parents as through our parents -- from our own past. But even during a single lifetime, our genes are changeable to some extent rather than absolutely static; and this applies to our basic mental tendencies as well. However much our present freedom of choice and action is constrained by the habits we have built up in the course of many past lives, our self-conscious minds mean that we remain the ultimate arbiters of our destiny, both individually and collectively.

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See also collation on ORGAN TRANSPLANTS given at the same meeting

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The Voice of the Silence

“The Two Paths” pages 27-29

“Saith the pupil:

O Teacher, what shall I do to reach to Wisdom?

O Wise one, what, to gain perfection?

Search for the Paths. But, O Lanoo, be of clean heart before thou startest on thy journey. Before thou takest thy first step learn to discern the real from the false, the ever-fleeting from the everlasting. Learn above all to separate Head-learning from Soul-Wisdom, the "Eye" from the "Heart" doctrine.

Yea, ignorance is like unto a closed and airless vessel; the soul a bird shut up within. It warbles not, nor can it stir a feather; but the songster mute and torpid sits, and of exhaustion dies.

But even ignorance is better than Head-learning with no Soul-wisdom to illuminate and guide it.

The seeds of Wisdom cannot sprout and grow in airless space. To live and reap experience the mind needs breadth and depth and points to draw it towards the Diamond Soul. Seek not those points in Maya's realm; but soar beyond illusions, search the eternal and the changeless SAT, mistrusting fancy's false suggestions.

For mind is like a mirror; it gathers dust while it reflects. It needs the gentle breezes of Soul-Wisdom to brush away the dust of our illusions. Seek, O Beginner, to blend thy Mind and Soul.

Shun ignorance, and likewise shun illusion. Avert thy face from world deceptions; mistrust thy senses, they are false. But within thy body —the shrine of thy sensations—seek in the Impersonal for the "eternal man"; and having sought him out, look inward: thou art Buddha.

Shun praise, O Devotee. Praise leads to self-delusion. Thy body is not self, thy SELF is in itself without a body, and either praise or blame affects it not.

Self-gratulation, O disciple, is like unto a lofty tower, up which a haughty fool has climbed. Thereon he sits in prideful solitude and unperceived by any but himself.

False learning is rejected by the Wise, and scattered to the Winds by the good Law. Its wheel revolves for all, the humble and the proud. The "Doctrine of the Eye" is for the crowd, the "Doctrine of the Heart," for the elect. The first repeat in pride: "Behold, I know," the last, they who in humbleness have garnered, low confess, "thus have I heard".