

To Have or Not to Have?

By: **Jo-Anne Jaen-Bernardo**,

Science Teacher
AE Memorial Science High School,
Zamboanga City, Philippines

Long before the concept of evolution has been partially accepted in the society, various questions have been raised. We know roughly how the sequence of life ran forward in time and that is because we are more open to possibilities in terms of science and technology.

Science has been growing fast and its advancement led us to coping up with the high demands of life....let us understand what has been blurry before.... And conquer the world of unknown. And because, we would like to prove, that we, humans are the sole conqueror of the apex of the pyramid....we tend to do things beyond imagination...

I would like to focus on the recent issues of cloning, probably, new questions will arise like, what life would be if we run science and technology by bringing back the dead? How would you feel about rewinding human evolution to a species that's almost like us, but not quite?

I would like to give short information of what or should I say “WHO” Neanderthals are, the subject of cloning, the subject of having or not having the human rights that we enjoy.

History reveals that long before we ever walked on earth, our ancestors, the Neanderthals lived as the rulers of the land sometime 350,000 years ago. They believed to have vanished on earth struggling for survival against their strongest enemies, us, the modern man. Technically, Neanderthals are also classified as our subspecies.

Neanderthals were believed to have lived their lives in a very much the same way we lived our lives long ago. Like us, they are also dependent on the environment for their food and shelter. Genes that are found in humans that are responsible for language are also found in their genome, which simply mean that they also have their own language that was used to state their opinions, expressed what they feel which may include, happiness, anger and even affection and love. They may have different scientific name from ours, but, the name also reveal that they and us came from the same family tree, the *hominid*.

Archeology and Paleontology revealed that they have done the simple way of living, struggling, mating and food hunting. To which we all have adopted and improved through the course of ever emerging demands of nature.

A simple analogy would be the different races we have. Others are American, English, Arabs, Filipinos, and even black or white or coppered-skin, but all, regardless of race and skin color are human. We may have been looking better and smarter than them, but the point is, they are still humans. It simply means cloning Neanderthals is one of the vast versions of human cloning. Yes, may it be another version, but the bottom line is, it is still human cloning.

Scientists, because of their cravings for the advancement of Science and Technology are of course into cloning and have presented different sides showing the benefits that we can get

from it. These are almost all emphasizing the medical benefits that we can enjoy, the human race would be benefiting, improving mankind and probably may bring the human race to immortality.

Rejuvenation or simply reversing the human ageing process occupies the number one spot in the list of benefits of the human cloning. Being vain is not only a battle among women, but also true to men. People are so conscious about how they look. Creams, laser and astringents were presented to at least help in the way we look, but nothing ever slows the ageing process. This is seen only to be achieved, by cloning cells of the young and injecting it to the body of the old.

Another would be addressing medical issues such as treatment of heart ailments. Healthy heart cells would be cloned to replace old and damaged ones. If this is so, then the resulting heart will be a healthy heart, then the risk of heart attack is addressed.

Correcting faulty genes would make Down's syndrome, Tay-Sacks and other degenerative diseases that are caused by mutated genes such as leukemia, liver disease, cystic fibrosis, and even cancer (the no. 2 killer of the world today)..... a history.

Furthermore, couples who are suffering from emotional and mental stress of knowing not able to conceive would be given the chance of conceiving a baby who may look like themselves or their departed loved ones.

Cloning has been a part of modern science that have presented various enhancements and improvements in the human kind (directly or indirectly) more specifically in the field of agriculture.

I am not against cloning itself, what I am disagreeing at are the risks of cloning and what or who will be cloned. Cloning may not only destroy a number of blastocytes (which are considered living) but could also put the mother's life at risk, may it be medical failure or death itself.

All organs that are failing or have failed to perform their functions could be replaced by a cloned organ. Meaning, a person, if given the chance and the resources could live a longer and better life. But what about for those who can't afford it? If this is so, then we will be creating the super being in few years time. Then again, survival of the fittest would be observed. But the term "fittest" this time, would not mean better genome, but better bank accounts that can afford to pay the thousands of dollars worth -cloned organs. In this, cloning lower forms of animals have faced ethical issues, what more if we clone humans?

Research cloning has presented several failures before they could achieve one successful subject. Let's take Dolly for example, the first cloned mammal. Scientists performed 247 pregnancies and only one (1) became successful. If we will be applying this to humans, how many human blastocytes- which are considered living, would be destroyed to make one successful human clone? Studies revealed that cloning one simple mammal resulted to 95-97% failure. What percentage would we read if we subject ourselves, the highest form complex mammals to cloning?

How would it be with Neanderthals?

Scientists are currently burning their candles to complete the Neanderthal genome and they successfully did. After which, these sequence would be copied. That is, since we, humans are the closest relatives of the Neanderthals, then, we are the most appropriate subject of gene manipulation. The completed sequence of the genome of the Neanderthals will just serve as the blue print or basis for scientists to copy. Altering the human Blastocyte's DNA sequence by following the sequence of the Neanderthal's genes will come in next. Then this would mean that our altered DNA sequence would be following the sequence of that of Neanderthals. Then, like a magic wand that works, a long –lost ancestor will be revived on earth.

Focusing on the issue above, the process is not yet done, after altering the DNA sequence of a human blastocyte, these has to be implanted to a surrogate mothers' womb to allow its development. Then, how will they (the surrogate moms) be selected? Probably, the pool for the choices would be those women who are poor and who will do anything (including being the surrogate mother of an altered human DNA sequence) in return of a pay. Where is justice here?

Although its proponent, Dr George Church, is proposing to choose the chimpanzees as the surrogate mothers (an attempt to drive away from the ethical issues of Neanderthal cloning) it will mean that the raised zygote with altered gene sequence will be a hybrid of the Neanderthals and a chimpanzee, then the main objective of cloning the human ancestors will not be met.

Studies show that comparing the genome of Neanderthals presents 1500 difference while only 200 when compared to humans. If scientists aim to clone our ancestors, then the cells that will house the DNA sequence will be that of the closest relative, and that will be us!

What is the point of bringing back the Neanderthals? Because we are the reason of their extinction, so then we do everything to bring them back? Of course we know that there is no success without failures, and scientists are faced with hundreds of failure in terms of stem cell cloning. This means, that hundreds of blastocytes will be destroyed before the successful embryo of altered gene will be produced. In the religion side, although these are blastocytes, they have life, then destroying blastocytes would mean killing, and therefore is a murder.

The proponent says, that their genes may have pointed out several immunity against disease, in that sense we will be able to copy that gene sequence so that we will be able to survive that particular disease. What's the point? We are claiming that we are the highest form of animals that have survived many environmental stresses because we are smarter. We have survived over the Neanderthals, meaning we are better fitted in the environment than them. Then what's the point of studying their sequence, if their genes did not even make it through the demands of the old and simple life and if they have not survived the demands of the early environment, how much more can they survive in our environment where the demands are much higher, are much tougher?

Overtime, it has been known that degenerative diseases such as HIV AIDS and others are a product of the smallest beings we have on earth. How come up to now no vaccines are being developed to prevent their spread? It's because, these very small deadly organisms are evolving themselves into stronger organisms that would help them carry on their usual labor. Then, if all disease-causing organism evolved in accordance to the demand of the environment, the ancient

compositions of the Neanderthal's genome which have been extinct for more than 30 000 years may not be able to cope up and fight the battle against these pathogenic organisms. Then how would immunity be possible? It is not a black hole to us, men, that it is our lifestyle and modern technologies may have caused and provided all the external factors that could have caused human gene mutation that resulted to degenerative diseases.

But let's set that worry aside and assume that scientists are able to produce healthy Neanderthal clones. What rights would they have? One way to approach the question is to ask if Neanderthals would be able to make and keep moral commitments. One significant clue that they might have this ability is the fact their genomes have the same version of the FOXP2 gene that we do. Our variant of that gene is necessary for articulate speech. The human (both modern and Neanderthal) FOXP2 gene differs from that found in chimps and most other primates by two changes in its genetic sequence. The fact that Neanderthals carried the same version means that it is possible that they could talk and might have been able to make and keep promises. If Neanderthals had this ability it strongly suggests that they would merit the same moral consideration that we give to our fellow human beings. If they can speak, there's a good chance that they can also demand rights. And since, their humans, then they deserve the rights we are all enjoying now.

Archaeological evidence also indicates that Neanderthals behaved in ways similar to modern humans. They controlled fire, wore clothing, made and used tools, and buried their dead. In addition, they physically developed in much the same way as we do. Like modern humans, Neanderthal infants were born with relatively large brains and took a long time to mature into adults. Some researchers believe that modern humans and Neanderthals could interbreed.

Less happily, what if meeting a Neanderthal evokes an "uncanny valley" experience? Many people experience unease or even revulsion in the presence of robots or other facsimiles that look and act almost, but not quite, human.

Higher primates such as chimpanzees and orangutans can also induce such uncanny feelings. We won't know if Neanderthals dwell in the uncanny valley until they have been cloned.

Unlike the characters portrayed in Jean Auel's novel *The Clan of the Cave Bear*, newly resurrected Neanderthals are unlikely to be in the grip of hereditary memories, but they might still have significant intellectual and behavioral differences from us. They might express a different range of emotions or lack mathematical reasoning skills and certainly very sure lack of Computer skills in this Computer era. The rights they would be accorded would depend on those differences.

If we, after all, limit the rights and responsibilities of children and of people whose intellectual deficits make it difficult for them to tell right from wrong, and if we also have a greater duty to take care of children and adults with diminished mental and moral capacities, so what if we bring back Neanderthals and it turns out that their intellectual capacities are so dissimilar from ours that they cannot cope successfully with modern life? Should we control their fertility so that they go extinct again? This comes uncomfortably close to the eugenic arguments used to justify sterilizing people who were deemed mentally defective in the 20th century. Or perhaps Neanderthals could be placed in reservations where they would be allowed

to develop without further interference from modern humans. Would this be akin to confining them to a zoo?

One science fiction trope says that it is impossible for two intelligent species to evolve simultaneously on the same planet since one would inevitably out-compete the other. This indeed happened and caused our cousins, the Neanderthals to leave the earth permanently.

New research suggests that our ancestors killed them off. Perhaps we should use modern science to resurrect Neanderthals in order to right an ancestral wrong. Then what now if we resurrected them, is this a matter of correcting what we did wrong in those early times? If modern man would raise them in the same way we were raised, let's look at the fact they may behave the way that we do and show feature similarity, and let us not also forget the fact that they do look different from us.

I would say that this may lead to racial hatred. Scientists claim that to clone one Neanderthal, calls for a 30M US dollars budget, and because of high price, this will result to few groups, the minority. Will they be given the chance to express and have the equal opportunities to modern people in the society? I stand, that it is not morally neutral to bring a dead species back to life or to recreate them. The morality of such act could only be judged on the basis of whether, if the resurrected Neanderthal is sentient, whether they will have a good life and whether they will contribute positively in the society. What if, everything will turn the other way around, what will they future be in a society so competitive like ours?

Though Church's claim, that bringing back the Neanderthals would add up to the pool of Science knowledge, it is morally wrong to create a human species for what is essentially of our own amusement. Of course, they will be presented to the world, that once again, human race proved its being the highest among the being, for it recreated a long lost species. Isn't it a selfish act? After which, where are we going to find them, confined in the laboratory for more experiments? Where is human right there? Isn't it, it will contradict to the most fundamental principle of medical ethics, that NO human life should be exploited nor extinguished for the benefit of another?

In summary, I say NO to bringing back the Neanderthals for the following reasons:

1. Health risk. Cloning or to bring back the Neanderthals to life means human cloning. It may induce abnormalities and death to both the clone and the surrogate mother. Since it will take hundreds of trials to achieve a successful clone, then it is multiple murders. Cloning would require the destruction of Nascent human life.
2. Emotional Risk. If you were in the shoes of the Neanderthals, how would you feel to realize that you live in the world of better looking people? They would be resulting to be seeking their identity to feel that sense of belongingness. How would you feel if you find out that your kind has long vanished from earth and that you are just a product of human manipulations?
3. Risk of Abuse of Technology. Let us face the fact, that powerful people and those that have the resources would utilize everything to stay in power. Neanderthals, our subspecies may be exploited. People would result to cloning to make themselves

immortal, more powerful and super species. This will also lead to the exploitation of women's bodies, the provider of the eggs for this nuclear transfer technology. They may claim that its advancement to science, that we would benefit from it, but in all point we'll see, that it is completely human selfishness, to advance in lieu of others of our kind.

4. I would like to quote US President George Bush who said, "Life is a creation of God, not a commodity. The result of human creation is a gift to be loved and protected, and NOT products to be designed and manufactured."

We have proven our intelligence, by modifying DNA sequence from merely using other sources, not humans, so what's the point of using our so called cousins. Let nature take its course, and I quote a wise men talk in the Red Book of Talgarth, "Hast though heard what the fish sang as he floundered among the stalks? Nature is stronger than education."

We are intelligent species, but is not just because we can do something doesn't mean that we should or that's it is even a good idea.