

SHOULD CANADA BE ALLOWED TO CONTINUE WITH GENETIC ENGINEERING
WITHOUT FEDERAL GUIDELINES?

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Should Canada be allowed to continue with genetic engineering without federal guidelines?

In the past ten years there has been a rise in a relatively new science, a science that raises a lot of controversial questions with very few answers. This science is called Genetic Engineering. In its simplest terms it is the reordering of a genetic DNA sequence. It is a very controversial science because it leads into moral and ethical issues, as to what can be done with it and what cannot.

Canada is one of the few countries without nationwide, federally legislated guidelines to deal with genetic engineering and experimenting.

Within the last six months (as of this paper being written) there was a baby born in the Calgary hospital with a disease commonly referred to as Boy In The Bubble Disease. The child would have become violently ill within two weeks of its birth and would have died before it reached one year old. However the parents of this child were told about a highly unprecedented technique that could quite possibly change the baby's future of life or death, they were warned that this method had not been tested on small children, but only laboratory animals. The parents agreed to try it. They allowed Doctor Tom Bowen of the Calgary children's hospital to remove blood from the child 4 hours after birth, the blood was then promptly flown to Los Angeles California where the blood testing was done and a new gene introduced into the specimen blood. From there the blood was flown back to

Calgary and then reintroduced into the child's blood stream. Today child leads the life of an average 6 month old.

Dr. Bowen states ³We have the potential to do alot of harm, and an incredible amount of good. Let's harness the good, keep some control to it, and get our heads out of the sand.²

Developments have come a long way since genetic engineering was first discovered. Right now scientists are working on a bacteria that will break down crude oil and could be used to master the giant marine oil slicks caused by tanker accidents. (Taking Sides: Clashing views on controversial bioethical issues, 1989.) Another great thing they can do is the farming of bacteria which can provide medicines such as; insulin, the human growth hormone, the blood clotting agent, and the rare

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interferon for immunity. (Taking Sides, 1989)

One of the newer things that scientists have been working on only recently is a cure for HIV or the AIDS virus, what basically would be done is, reintroduce the DNA sequence that deals with the immune system. (New York Times,1993)

One thing that environmentalists have already tried to stop is, the testing of bacillus causing ice crystals to form on the potato plant : the genetic lowering of it's temperature threshold is to delay the seasonal onset of frost damage, with obvious advantages to agriculture. (TAKING SIDES, 1989.)

But what would become of the bacteria and medicine? Would they emancipate from the confines of their task, strike out on their own environmental and mutational careers, and drastically disturb an ecological equilibrium unprepared for them? Is it permissible to play such games of chance with the environment? (Taking Sides, 1989) When scientists created these medicines, bacteria and genes they wanted to be able to allow themselves to intervene with the experiments and let the old master take over again at any time and command, ³In the closet/broom! broom! / As you were,² and there they would stand motionless. (³The Sorcerer's Apprentice.²) But at times things do not go quite as planned and you get what is called the ³Malcolm Effect² which is basically this- no matter how you calculate and try to figure something out you cannot totally predict what will happen with it. (e.g.) There is pool table set up, on it is one ball and your shooter, you calculate that if you knock the shooter with just the right force at the side wall it will ricochet and land in the opposite pocket. However you do not calculate the fact that the ball is not perfectly smooth and that the side of the table is not exactly straight thus the ball just misses and does not go in the hole as you had calculated that it would. (Jurassic Park, Michael Crichton)

The new developments that were stated earlier also have great downfalls, for example the growth hormone is excellent for people who have the corresponding gene deficiency, but what if someone wished to be taller because, as alot of people are told ³Tall Is Beautiful² the gene then would be greatly desired. Unfortunately however if it burns right down to the issue of money, the abuse of this for people who simply have familial or ethnic shortness and who have the money will receive it, legally or otherwise.

What if they created a gene to prolong the biological clock, allowing women to have

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babies at a later age in life. Or maybe one that would prolong the sexual and reproductive capacities into higher ages, for which male demand would be extremely keen. Imagine it, and ask yourself whether it is good and wise, with respect to the individual or the group, to meddle for ephameral-hedonistic reasons with the ways of nature, who here has set her own times by the long trial of evolution. (Genethics: the ethics of engineering life, 1988)

In answer to all this one might say that any drug, even the most beneficial, prescription or otherwise, can be abused, thus the responsibility lies not with the

manufacturer, but with the patients and doctors with their responsibilities as middle-men.

In Goethe's play Faust II, (act 2 Scene ³Laboratory²) Wagner chastises Mephistopheles for thinking that he would create a man in the ³old fashioned² way, rather than in a new and unattempted way. There is one line I would like to quote ³Yet in the future we will laugh at chance² . Is it not chance that brings us to the joy of knowing that if I were to give birth to a child I could not have one identical to it by natural means? And is it not chance that surprises us with what is ever new and what has never been? but if we were to replace chance with science we would assumedly calculate what would be and we would never be surprised. Wouldn't that be a boring life? An extremely boring world to live in? Isn't it chance that allows us our mistakes and our successes?

In my opinion I believe that there should be some staunch guidelines which would protect us from scientists going to such an extreme. The guidelines should not however, make the scientists feel as though they were under the leadership of a benevolent dictator. They should allow the scientists the freedom to explore in the medical field to save human lives and and cure diseases but not allow them to research for their own personal gain. One thing that needs to be changed is the fact that cures and antidotes can be patented, I believe that if this were to remain in effect scientists could eventually patent their own super humans.

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