Speciation of Superions from Humans: Is Species Cleansing the Ultimate Form of Terror and Genocide?

Lucas Alexander Haley Commons-Miller · Michael Lamport Commons

Published online: 24 October 2007

© Springer Science+Business Media, LLC 2007

Abstract Using ideas from evolution, and what is known about higher stages of development, we examine a hypothetical scenario, in which new humanoid species, called Superions, are produced. What would then happen with current humans? Recent genetic engineering advances have led to creating life forms with particular characteristics. Scientists are already genetically engineering human beings. Some changes are to improve health. Engineering of traits such as intelligence, higher stage reasoning or less neuroticism is also very likely. This is seen as the ultimate terrorist act because it is genocide, not against a culture, but against an entire species. The article will also discuss how Homo Sapiens could defend themselves against this. Relating two species (systems), the Homo Sapiens and Superions constitutes metasystematic operations. Developing a system of discourse that would not destroy the Homo-sapiens requires paradigmatic operations (Sonnert and Commons, Individ Soc 4:31–35, 1994).

 $\begin{tabular}{ll} \textbf{Keywords} & Speciation \cdot Superions \cdot Species-cleansing \cdot \\ Terror \cdot Genocide \end{tabular}$

The purpose of this article is to examine the effects for humans if a new species were genetically created from current humans. Creating life forms with particular

L. A. H. Commons-Miller (⋈)
Department of Cognitive Science, University of California at Irvine, 31 Cornell, Irvine, CA 92612-2680, USA e-mail: lcommons@uci.edu

M. L. Commons
Department of Psychiatry, Harvard Medical School,
Beth Israel Deaconess Medical, 234 Huron Avenue, Cambridge,
MA 02138-1328, USA
e-mail: commons@tiac.net



characteristics is already taking place. As a result, it seems as if in the near future some scientists will begin to genetically engineer human beings. The new beings that would be created, we will refer to in this article as Superions.

The Superions may not deliberately wipe out Humans, but we would predict that would be a very likely end result of their creation. This is because Superions would better occupy the niche that humans currently occupy. This paper will use ideas from evolutionary psychology (Buss 1999) and what is known about higher stages of development (Commons and Richards 2002; Marchand 2001), to examine a hypothetical scenario, in which a new humanoid species, we call Superions, are produced and current humans die out.

First, why would such an occurrence be characterized as terrorism? The United Nations (2002) defines terrorism as the "peacetime equivalent of war crimes." One specific type of terrorism is genocide, or "the deliberate and systematic destruction of a religious or political group" (Becker 2002). In the case to be discussed here, the genocide would be carried out against an entire species, therefore, it would be the ultimate form of terrorism.

How the Superions may Come About

People want children who are as perfect as possible, and are already selecting certain characteristics in their children, primarily the child's gender (Fugger et al. 1998) and absence of certain genetic defects (Baker 1999).

Genetic selection would most likely be funded by wealthy people or groups. These people would hire scientists and pay for research in genetic selection. This might even take place at fertility clinics where parents are already undergoing in vitro fertilization.

In the future, instead of implanting unselected embryos, parents could select traits they desire for their child-to-be. Engineering of specific traits is possible because any gene or genes could be inserted. This idea is not unique to this article, for example Silver (in Danovsky 2000), predicts that "upscale baby making" will soon begin to take place in fertility clinics, and Stock (2002) also predicts that human "germline engineering" is inevitable.

The Biology of Genetic Engineering

The first step toward re-engineering the human genome has been made possible by the fact that the Human Genome Project ("About the Human Genome Project" 2002) has created an approximate map of the genes representing our human genetic text. The human genome itself consists of something like 30,000–40,000 genes. The fact that the genome is transcribed, means that a growing database documenting locations and characteristics of individual genes exists. This means that modifications and engineering can happen more quickly, as people can just search the databases. The old way of finding out about a gene, PCR (Polymorase Chain Reaction) generally would take about 6 h; checking for information about a gene in a database takes minutes.

Nonetheless, once the original human genome was described, it also became quickly obvious that there was a great deal of additional information, not specifically inside genes. An even larger portion of human DNA is not genes, but rather instructions on when genes should be activated (e.g., Plomin and Colledge 2001). Furthermore, heritability of behavioral traits is very complex (McGuffin et al. 2001). While we understand it to some degree, we do not understand it well enough to control or engineer it yet.

Even though right now our understanding of the engineering of behavioral traits is limited, it is expanding at such a rapid rate that it will actually happen relatively soon. Much of the current research is taking place with other animals, although some is also taking place with humans. Johnson and Harding (2001), announced that the first genetically modified non-human primate was born. This rhesus monkey had a jellyfish gene (that controls the jellyfish's ability to fluoresce) inserted into his DNA. Barritt et al. (2001) have transferred a small amount of genetic material from a fertile woman into the egg cells of infertile women in order to correct their infertility. This material can then be detected in the cells of the infertile women's offspring; they are nevertheless healthy. Blaese et al. (1995) initiated some of the first human gene therapy. This therapy, involving two children, was designed to treat severe combined immunodeficiency resulting from a mutation in the adenosine deaminase gene. While the therapy did not produce a perfect outcome, it was nevertheless shown that this kind of gene therapy could be carried out.

In our theory, the new race does not develop slowly. Instead, it could be engineered by one or more groups of scientists. Scientists and their sponsors could select a whole complex of beneficial genetic traits, from a variety of cultures. This would allow Superions to be extremely smart (smarter than humans by at least three Standard Deviations), healthy (healthier than humans), longer lived (30–60 more years), attractive, emotionally stable, creative, and still genetically diverse. Scientists could also use gene splicing and other acceleration techniques to evolve an entire species in 20 years.

Finally, the scientists and their sponsors who would be engaged in this work would also be aware that changing genes alone would not be enough to create Superions. In addition, they would have to apply what is known about environmental influences in order to fully implement their plan.

Why Banning Genetic Engineering Would not Work

There are several reasons why banning genetic engineering would not work. There is too much genetic engineering going on right now for governments to be able to stop it, and there is so much demand for some of the beneficial effects, that even if the funding stopped, the work would continue. So many people find the possible benefits so desirable that at this point, even if governments outlawed it, it would also continue.

Genetic engineering of humans is just part of evolution. People think of it as artificial selection, but since we were created through natural selection, anything we do to genetically engineer ourselves is part of natural selection. Extracting and modifying DNA is just another mechanism of adapting to one's environment. Humans have already been engaging in this type of engineering with other species; the change is that they are applying it to themselves.

The Effects of the Separation of Superions from Homo Sapiens

A possible goal of creators of Superions would be to make them a separate species, unable to breed with humans. To create a new species, they would insert or delete a gene or genes that makes reproducing with humans impossible. For example, they might make Superion women allergic to human sperm, or make Human/Superion crosses infertile.

What would be the effect on humans if this new species were to be created? This effect would depend on the



characteristics of Superions. If militant low-stage functioning Superions were in power, they might just kill the humans off. In this article, we are considering the most beneficent case, and even in that case, the future for humans may not be positive. Superions would be genetically superior, and they would compete more effectively for the resources that humans currently control. Superions would occupy the niche of the humans much better than any humans. They would not have to be violent, or unethical, just more successful.

To understand the transition from current humans to a more advanced form, we will look at the evolution of Homo Sapiens. The history of the evolution of Homo Sapiens is such that at present there is only one hominid species, but for the six or so million years of human evolution, this was not the case. There were many hominid species throughout early human development. Even as recently as 35 thousand years ago, the Neanderthal still coexisted with Homo Sapiens (Brown 2001). At some point, only one species remained, although there is no agreement as to what exactly happened.

The dying out of Homo Sapiens might happen in different ways. For example, during hard times competition between humans and Superions for food would intensify. Superions, being evolutionarily superior, would win out in the end causing humans to die off. The wiping out of humans might also be inadvertent. For example Superions might be resistant to diseases that could wipe humans out (Leal and Zanotto 2000). Scientists could even purposefully create these diseases and give Superions resistance to them. Finally, humans might still die out even if Superions responded to the humans dying off in a humane way. The more benevolent Superions might want to save the humans, but the problem would be that there might be no role for humans.

One way to consider how the Superions would act is by using the model of hierarchical complexity to attempt to predict their actions depending on their stage of development. The average stage of development attained by humans is probably formal operations, but this would be the lowest stage of Superions. Genetic engineering could allow Superions to function at higher, postformal stages of development such as metasystematic, paradigmatic, or higher. Development would be in all domains: problem solving, moral reasoning, beneficence, and so on. The more *complex* reasoning would help Superions deal with the dying off of humans better than we have with the dying off of other species.

At the formal operational stage, responses to other species, and what should happen to them may only be considered in terms of simple, one variable causal systems. Superions, if they solved this dilemma at the formal operational level, might try and set up a situation for humans that they (the Superions) considered to be a beneficent solution. This might involve placing humans

into some kind of a protected or controlled environment (a reserve or a zoo-like situation). They might employ humans in personal service and manual labor positions as the rich already do.

It seems unlikely, however, that Superions would address this dilemma at the formal operational stage. At the systematic stage, Superions would still not consider humans and Superions as having the same kinds of rights; they would not act as if there was continuity. Therefore, solutions for humans would still involve coming up with solutions without real consultation with the humans. There would be multiple considerations that would be used to form a system. There might be elections for the humans separate from the Superions. There might be separate due process. The Superions would afford themselves more rights because of their inherent superiority (Colby and Kohlberg 1987).

At the metasystematic stage, Superions would begin to take the rights of the humans seriously. They would definitely consider the value of organisms other than their own species, looking at it in much the same way that modern societies do. Such societies do not kill retarded people, for example whereas earlier, less morally developed societies did. The reason for this is that people begin to feel that they must treat others as they themselves would like to be treated in the same situation (Rawles 1971). They would not know which position they would be born into, being a human or being a Superion. There would still be a hierarchy of species: Superions, humans, and apes. There would still be a preference toward choosing one's own family, one's own species.

Finally, a number of Superions (about 14% if each stage is one standard deviation) would function at the paradigmatic stage. They would usually be able to influence the process of how humans would be dealt with. At the paradigmatic stage (Sonnert and Commons 1994), there would be a discussion with the humans as to how co-construct a framework or a metasystem for considering the issue. Such a framework would allow the humans to continue to exist. A whole discussion of apartheid and majority rule, and related issues would be a part of this. A large part of this discussion would involve the question of what role humans would occupy. Some might argue that it might be useful to keep humans around to engage in manual labor or personal service. The issue with this solution would be the size of the world population and what the earth would be able to sustain. This might result in Superions turning increasingly to machines for manual labor.

Conclusion

While from the perspective of current humans, the development of Superions might seem negative, in the end there



might also be a number of positive implications of having a race of Superions. Wiping out most diseases and genetic defects would be of great benefit, and could be applied to humans as well. If the individuals living in this world were mostly functioning at the Metasystematic stage, with some at even higher stages, progress in solving many difficult problems would be so much more rapid.

References

- About the Human Genome Project, site maintained by the Human Genome Management Information System (HGMIS) at Oak Ridge National Laboratory for the U.S. Department of Energy Human Genome Program. Retrieved September 10, 2002, from http://www.ornl.gov/hgmis/project/about.html.
- Baker, C. (1999). *Your genes, your choices*. Washington: American Association for the Advancement of Science.
- Barritt, J. A., Brenner, C. A., Malter, H. E., & Cohen, J. (2001). Mitocondria in human offspring derived from ooplasmic transplantation: Brief communication. *Human Reproduction*, 16(3), 513–516.
- Becker, K. (2002) Genocide and Ethnic Cleansing. Retrieved August 12, 2002, from the Model United Nations web site at http://www.munfw.org/archive/50th/4th1.htm.
- Blaese, R. M., Culver, K. W., Miller, A. D., Carter, C. S., Fleisher, T., Clerici, M., Shearer, G., Chang, L., Chiang, Y., Tolstoshev, P., Greenblatt, J. J., Rosenberg, S. A., Klein, H., Berger, M., Mullen, C. A., Ramsey, W. J., Muul, L, Morgan, R. A., & Anderson W. F. (1995). T lymphocyte-directed gene therapy for ADA SCID: Initial trial results after 4 years. Science, 270(5235), 475–480.
- Brown, S. J. (2001). Genetic evidence (Introduction). Neanderthals and modern humans: A regional guide. [Retrieved June 16, 2001, from http://neanderthalmodern.com/genetic1.htm.]

- Buss, M. (1999). Evolutionary psychology: The new science of the mind. Boston: Allyn & Bacon.
- Colby, A., & Kohlberg, L. (1987). The measurement of moral judgement: Theoretical foundations and research validation (Vol. 1). New York: Cambridge.
- Commons, M. L., & Richards, F. A. (2002). Four postformal stages. In J. Demick (Ed.), *Handbook of adult development*, (pp. 199–219). New York: Plenum.
- Danovsky, M. (2000). The new eugenics: The case against genetically engineered humans. Different Takes, No. 4 (Spring).
- Definitions of terrorism from the United Nations Office for Drug Control and Crime Prevention. Retrieved August 12, 2002 from http://www.undcp.org/terrorism_definitions.html
- Fugger, E. F., Black, S. H., Keyvanfar, K., & Schulman, J. D. (1998). Births of normal daughters after MicroSort sperm separation and medical insemination, IVF, or ICSI. *Human Reproduction*, 13, 308–312.
- Johnson, D., & Harding, T. (2001). Is ANDi a miracle or a monster? The telegraph Newspaper, Issue 2068.
- Leal, E. de Souza, & Zanotto, P. M. (2000). Viral diseases and human evolution. Memories from the Insitute Osvaldo Cruz, Rio de Janeiro, 95 (Suppl. 1), 193–200. [Retrieved June 16, 2001, from http://memorias.ioc.fiocruz.br/95sup1/index.html#1]
- Marchand H. (2001). Some reflections on post-formal thought. *The Genetic Epistemologist*, 29(3), 2–9.
- McGuffin P., Riley B. & Plomin, R. (2001). Genomics and behavior. Toward behavioral genomics. Science, 291, 1232–1249.
- Plomin, R., & Colledge, E. (2001). Genetics and psychology: Beyond heritability. *European Psychologist: Special issue: The contribution of genetics to psychology, 6*(4), 229–240.
- Rawls, J. (1971). A theory of justice. Cambridge: Harvard University Press
- Sonnert, G., & Commons, M. L. (1994). Society and the highest stages of moral development. *The Individual and Society*, 4(1), 31–55.



Copyright of Journal of Adult Development is the property of Springer Science & Business Media B.V. and its content may not be copied or emailed to multiple sites or posted to a listsery without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.