Darwin's theory of evolution and its links to eugenics

Abhi Agarwal (abhia@nyu.edu)

Eugenics was born out an interpretation of the theory of evolution. Francis Galton, who was a half-cousin to Charles Darwin, desired to apply Darwin's theory that explained the development of plants and animals to humans. Darwin's work showed that evolution takes place through natural selection, and operates on a variety of traits and characteristics that influence ones survival and propagation of their species.

Galton found the idea of questioning natural selection and variability in humans intriguing and in particular he was mostly interested in differences between individuals in their mental traits. He was interested in examining variation in mental traits, and mental ability or as Galton saw it their "genius". Galton evaluated his hypothesis of mental abilities being inherited in his book Hereditary Genius, which provided evidence by looking at frequencies of "genius" in families and concluded that mental abilities did in fact run in families. Darwin also had strong views on superior and inferior races as he mentioned in the Voyage of the Beagle, and also in his later books. It can be inferred that these superior and inferior races had different levels of intelligence, and this fact doesn't particularly link to the idea that "genius" is passed down through inheritance, but it gives the idea some merit. A inferior race would have less intelligent people who would pass down the same level of intelligence to their offspring while a superior race would have more intelligent people who would do the same. In his introductory paper, Inquiries into Human Faculty, he defines eugenics in a footnote as the "science of improving stock, which is by

no means confined to questions of judicious mating, but which, especially in the case of man, takes cognisance of all influences that tend in however remote a degree to give to the more suitable races or strains of blood a better chance of prevailing speedily over the less suitable than they otherwise would have had" ("Inquiries Into Human Faculty and Its Development", 24-25). In essence, Galton was interested in trying to improve the quality of our society by applying the principles of Darwinism to the human population.

Darwin's theory of evolution explains that species are altered by natural selection and it can be suggested that the same principles are applied to artificial selection, for example farmers select the best plants and the best animals to breed to get the best yield in the future. The natural thought leading that principle that Galton had is if artificial selection in plants and animals is being done then the same principles can be applied to humans. Eugenics in its purest form is improving the genetic quality of the human population by strictly allowing only a select portion of humans with the best traits to breed.

A couple passages from The Descent of Man can be interpreted as Darwin's acknowledgement of concepts similar to eugenics. Darwin suggests that "weak members of civilized societies propagate their kind" ("Descent of Man", 159), and it establishes that Darwin does believe in a society where the weaker members create weaker offspring. He follows with the idea that "hardly any one is so ignorant as to allow his worst animals to breed" ("Descent of Man", 159), which amplify the view that selection is important and it's our responsibility to always improve traits of our animals and plants and by extension our own race. In addition, in my opinion the most relevant opinion that Darwin expresses is "if we were intentionally to neglect the weak and helpless, it could only be for a contingent benefit, with a certain and great present evil" ("Descent of Man", 159). This resonates with eugenics in a sense that the weak are neglected, and left childless in order to not pass on their genetic material, and there is opposition that occurs because of this decision which

presents itself as the evil as well as the act of leaving someone to die. Additionally, Darwin could be referring to the human population when he makes this statement as previously he refers to a surgeon operating on a patient right before the quotation. I don't think that he's particularly referring to selectively breeding individuals in this statement, but he's referring to intentionally neglecting people who are diseased or are prisoned. People who are diseased (quarantine) or prisoned (prison) are generally removed from society until they fit into society again, which temporarily or permanently does not allow them to pass on their genetic material or if they have had children then further pass on their genetic material.

Moreover, the three quotations above do not particularly suggest Darwin's opinions on eugenics itself, but the ideas he suggested could have been used to inspire the idea or could have been used to initially spark the eugenics mentality. There is a likelihood that this along with The Origin of Species inspired Galton, and the timeline also reflects that Galton would have read both works before he published his paper. Darwin's tone in the Origin of Species implies this sense of competition, and that competition is necessary in order for the human race to improve. It's a competition in a sense that there is a struggle to survive, and over time species that aren't able to adapt become extinct. One of the key takeaways from Darwin's theory in relation to eugenics is that man is still evolving, and there isn't an end to his evolution. In the Origin of Species he writes that "[he is] fully convinced that species are not immutable" ("On the Origin of Species", 15). This is important in relation to competition as it implies that we are able to mould and adapt our species, and that we as a race are able to make these changes ourselves rather than leaving them to natural selection. Linking this to eugenics, it's clear from Galton's essay on Eugenics in 1904 that his views on eugenics were to speed up the process, and he writes "[what] nature does blindly, slowly, and ruthlessly, man may do providently, quickly, and

kindly" ("Inquiries Into Human Faculty and Its Development", 24-25).

My opinion is that Galton could have thought about speeding up this process to improve the chances of survival, and he saw eugenics as a way that the human population could maximize its chances of survival. Referencing back, Galton strongly believed that human characteristics and traits were inherited and passed down, characteristics and traits such as the mental strength, physical strength, and sense of morality.

In addition, we should also note that Galton was not a biologist, but a statistician and so he looked at this idea or this problem from a mathematical point of view. His approach was different to Darwin's, Galton perceived things in a more mathematical sense and this is seen in his study of genius, and greatness and his passion to try and quantify these results. If we think about the idea of humanity's survival or improvement in terms of probabilities or numerical values then it's easy to derive to a concept such as eugenics as mathematicians and statisticians usually want to figure out the optimal way of improving the human genes. In my opinion, Darwin viewed it as a natural law that these things occurred rather than something we can modify, but at the same time he did mention artificial selection.

My thesis is that the eugenics theory is very much an application of the theory of evolution, and somewhat an extension of Darwin's writing. Galton had similar ideologies as Darwin and was influenced in his theories as shown by the links between their work, but eugenics was also heavily influenced by Galton's own personal views. The relationship works one way where the eugenics theory is an extension of Darwin's writing. This derives to my definition of eugenics as a self direction or self guidance of human evolution.

Darwin's influence on the elite shaped the way research, development, and progress was made in major nations such as the United States. The majority of individuals in the United States rejected Darwinism, however some of the leaders, intellectuals, scientists, and biologists believed in the theory and so it was applied in many scientific, economic,

and intellectual discussions and proposals in the United States.

In conclusion,

References

[1] Darwin, Charles, and W. F. Bynum. *On the Origin of Species: By Means of Natural Selection or the Preservation of Favored Races in the Struggle for Life.* London: Penguin Classics, 2009. Print.

[2] Galton, Francis. *Eugenics: Its Definition, Scope, and Aims.* The American Journal of Sociology 10.1 (1904): 1-25. The University of Chicago Press. Web. 11 Nov. 2014.

[3] Galton, Francis. *Inquiries Into Human Faculty and Its Development.* Inquiries into Human Faculty and Its Development (1883): 24-25. Web.