

## CHARLES DARWIN AND WORLD WAR II: AN EVOLUTION TOWARDS DARKNESS

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*Charles Darwin, after returning from his voyage in Beagle proposed the most powerful explanation of adaptive dynamics of the living world. The world judged the theory over 150 years and authorized it as the obvious natural rule. But Darwin when applied it to explain human society and its evolution, made some erroneous comments. A school of his supporters interpreted and implied his theory to establish selective superior inheritance and racial supremacy. That yielded Eugenics Movement and gradually fueled the Nazi fascism. In the present article that ill-development of the glorious triumph of Darwinian idea has been drafted to remind the darker side of that glory. It also tells us how the irresponsible explanation and implementation of any idea of that influence may threaten our existence.*

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We are now at the 200<sup>th</sup> years of Charles Darwin's birth and 150<sup>th</sup> years of the birth of his great idea, which explained our living world in the light of evolution. These 150 years of critical analysis, dissections of the idea of his 'natural selection', debates on the process of evolution, its extension beyond the field of biology made him and his idea truly outstanding to the mankind. The development of the idea of evolution and origin of species by means of natural selection sounds so easy and obvious today that the revolutionary importance of it is simply overlooked by our contemporary minds. There lies the success of Darwinian thought. When we look backward, the journey of the idea was eventful and dangerous, explained from different directions, re-explained and reshaped to thrive and flourish. The process is still very active. Even the comment would not be superfluous that Darwinism was more influential scientific idea than Einstein's  $E = mc^2$  in the devastating Second World War. That dark phase of one of the most powerful scientific ideas of the time is uttered here when politics used 'natural selection' to assassinate the mass.

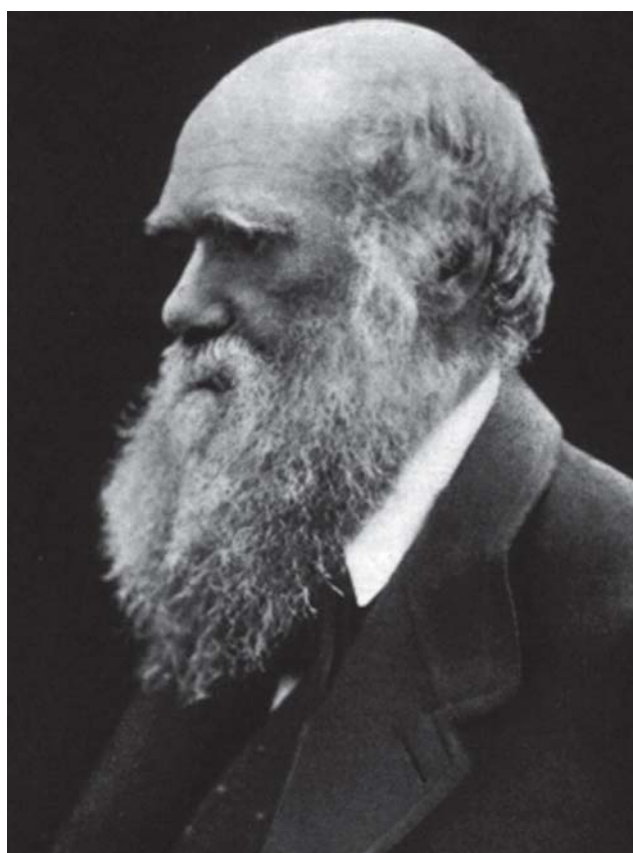


Fig. 1. Charles Darwin at his late ages (Source: Julia Margaret Cameron).

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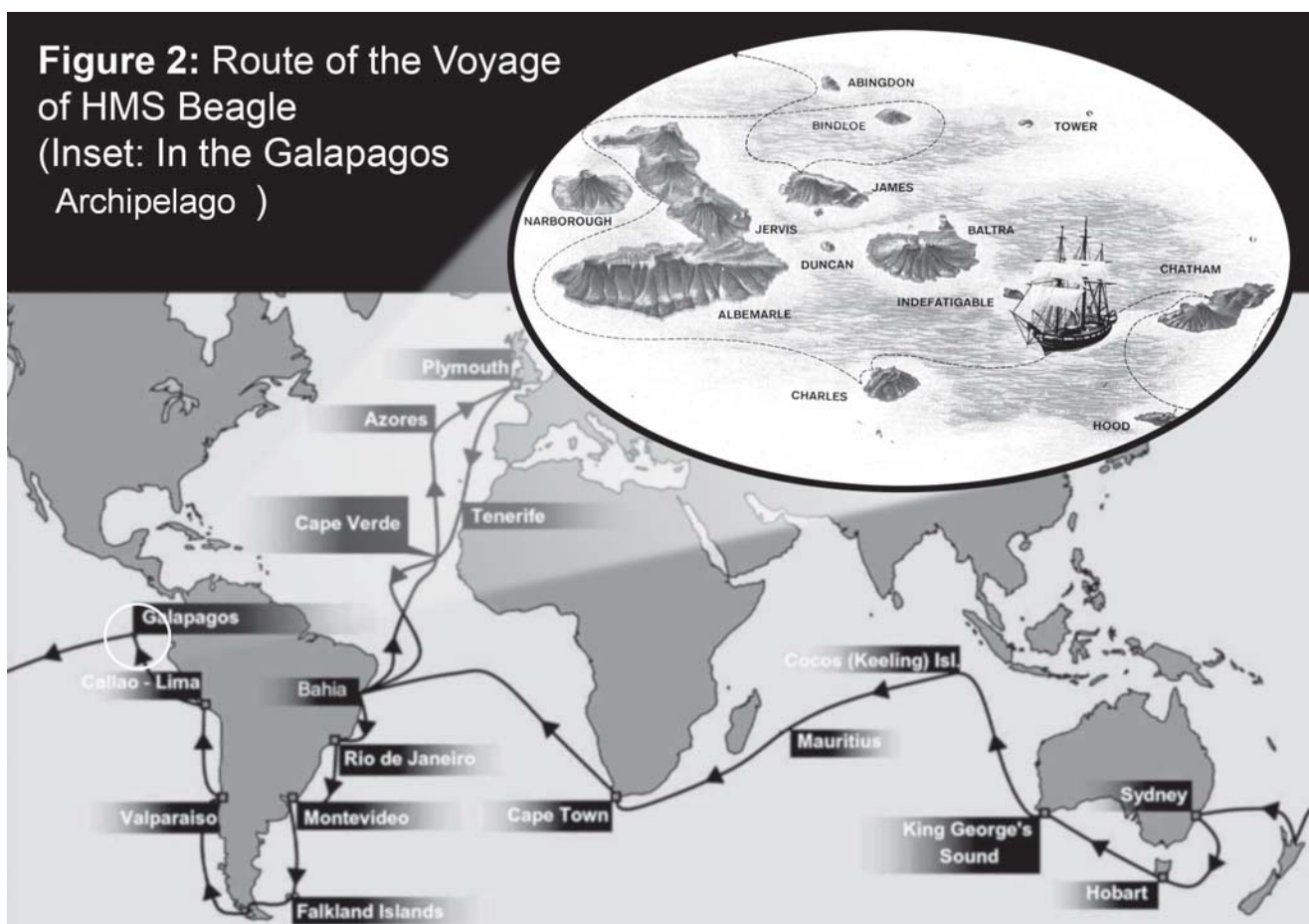
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## The Voyage and the Origin of 'Origin of Species'

When *HMS Beagle* started its voyage from the coast of England its mission was to test a clock for British navy and construct a precise map of South American coastlines, far from the causes of its fame catching association with evolution. Young Darwin sailed in *Beagle* on 7<sup>th</sup> December, 1831 as an unofficial naturalist to accompany captain FitzRoy. Darwin was then engrossed in Lyell's 'Principles of Geology' and *Beagle* sailed through the east and west coast of South America. He witnessed volcanic eruption, experienced earthquake, collected animal specimens and fossils mainly of large extinct mammals from the Argentinean coast, spent time in the forests of Brazil to the heights of Andes with his extreme inquisitiveness to find the evolving earth surface. After living the coast, *Beagle* anchored in a cluster of islands on the Pacific. There he found a strange gathering of animals and wrote later "It seems to be a little world within itself". He found iguanas, varieties of tortoises and huge number of birds. After completing the survey in Galapagos archipelago from

September to October of 1835, the ship sailed through Pacific. That time he had a huge database of 386 pages of zoology notes, 1529 specimens in bottles of alcohol, 3907 dried specimens including birds, live tortoises caught in Galapagos and others <sup>1</sup>. From the Lyellian provocation of changing surface of earth he gathered the ingredients to imagine the changing face of life on earth.

After returning in 1836, Darwin shared his specimens with British ornithologist James Gould and encountered the article named 'An Essay on the Principle of Population' by Reverend Thomas Malthus, written in 1798. The idea sparked to Darwin that certain natural forces act like sieve to select individuals from variations to become successful for its next generation and so on. The force is multidimensional, applicable for all species to choose its suitable individuals for nature. Thus, the driving force of evolution is 'natural selection'. Then four years of silent preparation extended his explanation to a 200 pages draft in 1844 and send the draft into a permanent hiding in his study at Kent farmhouse. Meantime, he worked a lot on barnacles and other crustaceans, with pigeon breeders and



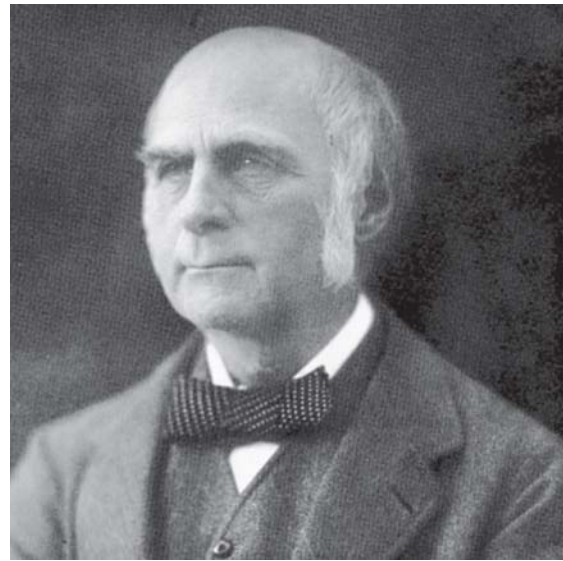
**Fig. 2.** HMS Beagle followed the route marked with arrow heads and its route map in the Galapagos archipelago is magnified in the inset (Source: *Life Nature Library: Evolution, Time Life International, Nederland, N.V, 1964*)

their artificial selections and did some other simple experiments in favor of natural selection in his farmhouse. After 14 silent years this hiding came to a dramatic end with the arrival of a letter in 1858 from Alfred Russell Wallace who was then travelling in the Malayan archipelago. Darwin was spellbound with Wallace's idea; it was more like reading his own theory in the handwriting of other<sup>1, 2</sup>. Thus inspired by Lyell's concept of evolving geology of earth Darwin rejected Paley's argument for 'intelligent design' by his long argument in the *Origin of Species*, probably the most powerful theory to explain the driving force of life.

So far, the events were finely tuned. But later on, with Darwin, the supporters of the theory started to express their own verdicts and expanded its implementations in other fields sometimes without the deep insight in the facts. In 1877, Darwin attempted to explain the human origin in the light of his own assumptions. That was probably one of the weakest attempts by Darwin from the scientific point of view and carried some major consequences also in the history of mankind.

### ***Galton Distorted Darwin: Emergence of Eugenics***

Francis Galton, the 13 years young cousin of Charles Darwin, applied the theory into a different direction in human social affair from 1883, just a year after Darwin's demise. Galton was a typical member of Victorian society with high values of traditional aristocracy. He, like other Victorians, believed that the so called lower classes out-reproduce the decent and moral middle and upper classes. To him decency, morality, hard work, intelligence etc were different traits of human nature that would inherit through generations. In opposition, vices like laziness, immorality etc were also traits transmitted through generations. Thus he simply divided the behavioral expressions of human society into 'good' and 'bad' genes/traits and inferred that lower class (in his version) would increase the 'bad' genes in human population by their higher reproduction rate. Galton was also connected with Erasmus Darwin, the intellectual giant of Victorian England and Charles Darwin's grandfather. He used that connection to establish the transmission of 'good' trait like intelligence in the family. In 1869 he published "Hereditary Genius: An Inquiry into Its Laws and Consequences", which depicted his idea about human social development. In this he clearly omitted the effect of environment or nurture on growing individual. He overlooked the higher possibility of the son of a reputed doctor to be a doctor simply because of his



**Fig. 3.** Francis Galton – the proponent of Eugenic Movement.

father's connection or conducive environment offered to him, than the son of a farmer. He emphasized on the nature and heredity of the child and directly opposed the notion that babies are born pretty much alike. When his theory became more popular to the higher class of the society he reckoned it as a movement. In 1883 the movement was named as 'Eugenics', literally 'good in birth'<sup>3</sup>.

Darwin should take responsibility for that because it was undeniably true that there were ingredients in his writings, that could be distort to the direction of Eugenics. After the publication of 'Origin of Species', news paper critics interpreted his theory as 'might is right'. This view was oversimplified and extended to tell that the individualistic struggle in human society does matter nothing with ethics and cooperation. To improve the society, this struggle must be continued in which the weak should be allowed to perish. But it is partially true as means of development or evolution of human society. Darwin was aware about the comments and those extended interpretation of his views, but remained silent. This silence was one of his best shields to resist the criticism of Victorian society and the Church and Creationists who dominated those days. And the same method he also applied for those over-enthusiast social Darwinians<sup>2</sup>.

Darwin's personal interpretation about the human society also directly fueled the Eugenics movement. In the '*Descent of Man*' Darwin discriminated human races into higher and lower categories. He believed that dark African races were more close to the higher apes like gorilla and whites or Caucasians were highest of all human races. Even Darwin was concerned about the spread of



**Fig. 4.** Charles B Davenport at work to provide the pseudo-scientific basis of Eugenics (Source: Cold Spring Harbor Laboratory)

vice in the society that should be out competed by virtues. He believed that the controlled form of selection, that is, mate selection or marriage was “a most important obstacle in civilized countries to an increase in the number of men of a superior class....”<sup>4</sup>. According to Darwin, the savages or the lower tribes, the weak individuals would be eliminated from human society and the remaining who survived would exhibit better state of health. He considered the protecting strategies and sympathy for weak and old or the ill from the society as some types of negative force against his natural selection. Thus he thought that the civilized man should not do their utmost to check the process of elimination of them. Darwin wrote “We must therefore bear the undoubtedly bad effects of the weak surviving and propagating their kind; but there appears to be at least one check in steady action, namely that the weaker and inferior members of society do not marry so freely as the sound;...”<sup>4</sup>.

Basically, in some part, Darwin was confused in his thoughts. At the same time, he was against the process of slavery and believed that all human races were closely related biologically, but distinct in mental characteristics. Though he supported the efficacy of controlled breeding, he denied the legitimacy of the program. He also accepted the qualities like sympathy, duty etc as naturally selected traits in evolving human races, advocated for the existence of fundamental nature of human being, but not exactly believed in the fixity of that nature. Rather, to a large extent he supposed that human nature was partially malleable and thus unknowingly supported Marxian philosophy.

Darwin argued that good education and opportunity could bring many female geniuses at the level of males. In his last days, Darwin worked on ‘niche construction’ of earthworm, from where he realized that the living environment of organisms could be changed by themselves and this in return could alter the nature of the organism. So, in the case, Darwinian thoughts were not distant from the leftist believes<sup>5, 6</sup>.

Ultimately Darwin provided much to the racist thinkers and sectarians. Those selected Darwinian thoughts had enough spark to flourish and explode into a disastrous consequences in human society. The extreme rightist thoughts were propelled by some truncated views of Darwin and its distorted explanation. The pseudo-science in the name of ‘Eugenics’ began.

Galton argued “... it would be quite practicable to produce a highly gifted race of men by judicious marriages during several conservative generations”. He basically used the principles of agricultural breeding to human without knowing its limitations for a natural species or population. Eugenics was then referred as ‘self-directed human evolution’ and some of the era’s most progressive thinkers including George Bernard Shaw were convinced of it<sup>3</sup>.

### ***Spread of Eugenics – The Pseudo-science of Racism***

Comparatively worse situation developed when American Eugenic movement got its momentum. There was qualitative difference between Galton advocated Eugenics in Europe and that started in America. The first one encouraged people who were considered as genetically superior to have children. That was ‘positive eugenics’. But in case of the second, when the movement gradually progressed, it had turned to be ‘negative eugenics’ preventing so called inferior people in doing so. Richard Dugdale, after observing the New York slums and dark society in 1875, furnished his view that murderers, rapists, alcoholics etc appeared after few generations of accumulations of bad genes. Later, around 1912, the story of ‘Kallikak Family’ influenced the American minds. The IQ test, which was then a newly introduced method of testing the general intelligence of the people in a society, showed that the general intelligence level of the Americans was decreasing. Actually, the IQ test questions of those early days were comprised largely with general knowledge and average Americans, particularly those willing to join the army, failed to meet them. The result of U.S Army recruitment test during World War-I showed very poor



**Fig. 5.** Adolf Hitler turned Eugenics to its ultimate deformation into Racism and led the nations to the World War II.

result and nearly half were categorized as 'feeble-minded'. So it was inferred that the society was degrading. But no one analyzed that those GK questions might not be acquainted with most of the common people in that social education system. Thus the proponents of eugenic movement got their foothold and percolated in the society.

One of the most famous scientific laboratories of America was involved to support the movement and that was Cold Spring Harbor Laboratory. The director of CSHL, Charles Davenport, was one of the stalwarts who used that scientific establishment to mobilize this idea and established the 'Eugenic Record Office' there. Davenport applied Mendelian genetics to analyze pedigree for interpreting human characters. He first started with albinism and Huntington disease and interpreted their mode of inheritance. But on that basis he expanded his range to complex human behavior and without having any knowledge of multi-gene inheritance he started to mess the things. He even constructed the pedigree of families with literary and musical ability and showed inheritance of those qualities as if they were governed by single gene. Extent of his imagination and pseudo-scientific explanations astonished us when we saw that he tracked the transmission of boat-building gene. Now it has been undoubtedly established that all those qualities are conglomeration of multiple genes with their environment, nature and learning. Some behavioral characteristics like feeble-mindedness were itself so ill-defined and its nature

varied from one individual to another varies so much that determination of its genetic basis was virtually impossible. Thus Davenport's interpretation and involvement of Cold Spring Harbor Lab yielded worthless results. Its impact on impacted contemporary society was great, particularly in the thoughts, ideas and outlooks.

In Europe and America local chapters of Eugenic Society developed. They organized competitions for 'better babies' and 'fitter families', which had increased the tendency of discriminating society on the basis of family aristocracy and blood inheritance. The birth control movements merged with eugenics. In 1919, the slogan for birth control became "More child for the fit, less from the unfit- that is the chief issue of birth control". Vasectomy, a newly invented method then, became the effective means of sterilization program intended to be applied on criminals, rapists, imbeciles etc so that they could not transmit their bad genes to the population. The different states of America amended legislation to implement it. By the year of initiation of Second World War, well more than half a million people were sterilized in USA alone. Europe was not behind for long to adopt that method to build a better society. Within 1930s Germany, Switzerland and Scandinavia gradually enacted their laws for the purpose<sup>3</sup>.

### ***Eugenics, Hitler and World War II***

The basic idea of eugenics, whether it was positive or negative, was the promotion of good genes. These good genes might come from any race. But the supremacy of any particular race or in other word, the idea of bearing the good genes in some pure racial line was gradually dripping into the social psyche. The racism was arriving. Darwin in his own writings also put forward the idea of superior race and Caucasian's position among human races. The worldwide movement flourished.

In 1916, a book named *The passing of the Great Race* was published. The author was Madison Grant, an upper cast rich American and very close to Davenport and Roosevelt. He shouted for Nordic supremacy among all human races including other Europeans and proposed to restrict immigration and mixture of other races to preserve the genetic superiority of the race. The book was an influential best seller and translated in German. Similarly, another close partner of Davenport, named Harry Laughlin, became another great pioneer of 'scientific' racism. He forcefully manipulated the data to 'scientifically' establish the Nordic supremacy, even in the operations of the Eugenic Record Office.

A maniac cartoonist of Berlin named Adolf Hitler caught German translation of Grant's arguments and Laughlin's works. Those helped him to strengthen his idea. The poisonous eugenic believe evolved from Galton to Grant with the support of the pseudoscience promoted by Davenport and Laughlin. It was then mesmerizing the politics and society. Grant's book became the Bible of Hitler. Hitler depicted his ideas in *Mein Kampf* that was an extreme racist provocation to establish the longstanding German claim of racial superiority. After coming in power, the Nazi government passed the sterilization law following the American model. Soon they performed the operations with great thrust and for them the 'right' people meant the Aryans or Nordics. Heinrich Himmler, the right-hand of Hitler, took special policies to care the German wives during pregnancy and prohibited marriage between German and Jews or others to protect 'German blood and German honor'. Extreme fascist operations dismantled the existence of other races, prominently Jews, in Germany. The massacre started at the onset of the War in 1939, to exempt out the 'not worth living' people of the society. According to the Nazis they were useless eater, cause of degradation of society and spoiling the 'Aryan blood' or German supremacy. They not only included the criminals or imbeciles, rather all other ethnic groups, Gypsies and particularly Jews. Initially Nazis offered bullets to provide death to them. But to reduce expenditure, save bullets and time, Nazis introduced more developed mass murder technology – the gas chamber. To establish racial domination the largest territorial aggression of world history occurred. Eugenics movement reached to its ultimate<sup>7</sup>.

### ***Eugenics: Evolution of Darwinism to Darkness***

Many including Alfred Russel Wallace and Thomas Hunt Morgan directly and strongly criticized that pseudoscientific movement. Long before Nazi connection developed with eugenics, the greater part of scientific world rejected the basis of that idea. It was the social biases and horrifying political imperialistic will that made the idea a monstrous giant, which yielded the largest mass killing ceremony of human civilization. The consequences of it was well expressed in the words of James Watson, the DNA maestro, "When in 1948 I first came to Cold Spring Harbor, former home of the by-then-defunct Eugenics Record Office, no body would ever mention the 'E-word'; nobody was willing to talk about our scientific past..."<sup>8</sup> And Franz Boas told rightly that "Eugenics is not a panacea that will cure human ills, it is rather a dangerous

sword that may turn its edge against those who rely on its strength."<sup>7</sup>

Thus a fraction of Darwinians evolved their theory through a gloomy path towards absolute darkness. That Malthus stated as deprivation of weaker people from resources to maintain population size, was explained by Darwin as the 'natural selection' in the living world where environment including competition, cooperation and organisms' genetic make-up (inheritance) determine their fate. But Eugenics totally omitted the malleability of human as an organism, ignored environment or culture and cashed some confused remarks by Darwin in his '*Descent of Man*'. In recent times, 'Out of Africa' evidences of human origin prove those Darwinian overrating of Caucasians as baseless mix-up of the great mind. But Eugenics that developed on such misunderstanding was an extremely opposite development of Marxian lefts and fueled the imperial process in its ultimate form. By 1940s, multi-gene inheritance and population genetics transformed Darwinism to 'Modern Synthesis', which explained the effect of environment on the genetic contour of a population to determine the fate of a species. But proponents of Eugenics never attended those scientific developments; if attended, the movement never reached such an edge. Thus the Darwinian Theory misinterpreted arrogantly and directed a strong lobby of mankind to the Second World War, where all of our knowledge including  $E = mc^2$  were used to destroy our own existence. So the 150 years of journey of Darwinian thoughts was not glorious throughout and Eugenics left the worst scar on its path.

### ***Acknowledgement***

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