

Main aspects of the origin of species and the theory of survival

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The reactions to the publication of *The Origin of Species* by means of Natural selection in 1859, was a defining moment in the history of science. Even more so the book had an effect on the general public the likes of which have never been seen since. The years following *The Origin of Species* publication were to be ones with much debate as the book came to be read by the various classes across the Empire. More so debate would spring up in the unlikeliest of places, especially within the Established Church as liberal and conservative elements struggled to define the role of God in nature. Similar events were to take place within the minds of the general public as they read more of Darwin's work, discovering that the world may not be as planned as implied within religion and subsequently theories such as Survival of the Fittest as it related to Humanity made sense to the common man. While the affects were not as immediate as perhaps often described in the grand narrative of scientific history, it was nonetheless a spark which ignited debate and would ultimately result in the proper establishment of independent science.

When Darwin's *Origin of Species* by Means of natural selection was published in 1859 it is arguable to say that the affect it had on not just scientific understanding, but more so on the general populace as a whole could hardly have been fully grasped. Darwin's *Origin of Species* was truly a book of its age. An age in which science was fully starting to come to stand on its own, and even more so an age which saw the beginning of education for the masses. This was to play a large part in the reception, adoption and ever-growing sympathy of the essential argument Darwin was going for in the *Origin of Species*. However at the same time it should also be understand the

while Darwin may have been among the first to put the theory of an origin of species being via natural selection, the essential components of his theory was largely to an extent accepted within much of the scientific community. This will be explored when we look deeper into the historical context in which the book was published, which will aid in understanding why various parts of society responded differently than others. To that end though we shall analyze the various reactions which took place within the first couple of years following the publication of *The Origin of Species* in 1859, focusing primarily on the reactions of the; the General Populace, the Established Church and the Scientific Community.

Before the reactions to the *Origin of Species* publication can be assessed it is important firstly to spend a little bit of time seeking to understand the common notions of evolution and science as it had come to be since the first forays into Evolutionary theories in the 17th century. Throughout much of History up until the begin of the 17th centuries science had been intertwined strongly within the religious cultural framework of most European societies. However in the wake of the Protestant Reformation in the 16th century and the subsequent wars that followed, the binding of the two became to an extent loosened and weakened. Indeed also coinciding with these events were various strains of thought, most commonly during this period originated in the Protestant British Isles and Northern Europe, that sort to seek at first to understand the place of humanity in the world. While there was no single person or natural philosopher that is solely responsible for this, it is possible to begin to see where thought is going within the thought of Church of England Archbishop James Ussher, who sort to discover the true age of the

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Earth. Subsequently Ussher came up with a theory that placed the earth at around 6-7000 years old. While it is possible to jest at the very idea in modern times that it would even be conceivable to judge the true age of the earth, this was to start thought in direction of trying to understand the world better.

Swedish botanist Carl Linnaeus, was the first to specifically place Homo Sapiens (A name he coined) within the same category as Primates. Linnaeus is an important figure in the history of science as he among the first to attempt to construct a list of all beings categorized within logical and sensical grounds within his book, *Systema Naturae*. While Linnaeus didn't mention concepts such as evolution exactly, it is undeniable that through the process of seeking to classify all known plants and fauna in his region the result would lead to similarities being noticed and cause for more scientific inquiry. Among the first to question such reasons was Leclerc, the Comte de Buffon. Buffon argued that various regions are home to unique builds of certain species. Buffon was not an evolutionist in the sense it has come to mean, although similar in certain ways he did believe that not only did many animal types have common ancestors but that at the same time that there was a type of spectrum which affected how an animal is in certain regions and climates. This would result in concepts that would lead in towards evolution yet were more of a form of transformation, in that local conditions would transform and alter animals. Charles Darwin's own grandfather Erasmus Darwin would himself come onto the scene in 18th century in which in his work *Zoonomania*, where he stated his belief in that the world may be much older than previously established via the Bible. Erasmus Darwin also

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believed in the idea of sexual selection in regards to an early form of evolution of a species, however it never left the theoretical stage due to his inability to provide evidence for this.

The Frenchman Jean-Baptiste Lamarck, unlike his predecessors, was the first to openly argue for the involvement in nature and the environment as a force that can change nature. Lamarck's theory however was based upon the natural progression of naturally acquired characteristics that are passed on via the young, characteristics that ultimately were proven to be fails in their adherence of future generation. Although Lamarck may have been wrong however his work helped create arguably more so than most natural scientists previously, an environment that would aid in the further development in regards to the theory of evolution. Subsequently Lamarck's debated with fellow Frenchman Cuvier, although they agreed on the fact that previous forms of some animals had indeed become extinct, though via means of catastrophism rather than naturally. It is important to note that a common thread was the search for perfection in general, not survival of the fittest via natural selection as would come in from the Origin of Species. Therefore even though this subject could be an essay on its own, it should be strongly stressed that the ideas Darwin proposed while extreme and somewhat groundbreaking, adhered essentially to principles that were common in many scientific circles and which had been developing over the course of previous centuries. In the words of Evolutionist Ernst Mayr, " Up until 1859 all evolutionary proposals endorsed linear evolution, a teleological march toward greater perfection"

Arguably one of the most important reactions to *The Origin of Species* was that of the British public. Notoriously shifting in their views key to the success of Darwin's work would be that sector of society, and in that regards he was largely successful. As noted by various historians, scientists and even Psychologist such as Kevin J. Flannelly, in his work on the development of religious and cultural belief, Darwin's book was generally very well received by the general public at large. Part of the reason for this was due to the style of writing Darwin utilised. Indeed *The Origin of Species* was meant to be a book for general reading and hence it was constructed to be easily understand with common examples and an appeal to reason throughout. The popularity of Darwin's theory in the general public grew larger over time, especially in the wake of the Oxford debate of 1860. Various figures such as Huxley and Lyell in their own works and commentaries on *Origin* would breach the gap between Darwin's theory as it related too animals and eventually humanity as a whole. Although there is little direct evidence regarding the publics initial reaction, the newspapers of the times are a great source for getting an idea of common thought. Within the various news outlets of the time there were numerous commentaries and cartoons done on the work, mainly making fun of various aspects. However most of the criticism against Darwin would come later when he would come to question the origins of man in his 1871 book *The Descent of Man*. The 1850's were a time of exploration and desire for learning, and thus upon the entrance of *The Origin of Species* into the public sphere the public readily consumed. Another noticeable impact of the *Origin of Species* was that although Darwin didn't provide scientific proof for all of his arguments, it was never meant to

do so and thus what would have affected it within scientific circles only aided in allowing the general public to come to their own conclusions about certain elements to it. This could be seen as an important moment in regards to the growing secularisation of the public and scepticism, especially encouraged by the reaction of the clergy which in certain ways only encouraged the authoritative position from Clergy to 'Scientists'.

Following naturally from general public is that of the reaction of the Clergy, specifically that of the Church of England. Whereas the theory was acknowledged and thought to be somewhat workable within the Roman Catholic faith in later years, the Protestant faith in England was built upon a strong understanding of biblical truth. Therefore the Established faith saw Darwin's theory, and even more so the concept of Survival of the Fittest, to be an attack on the entire identity of Protestant Britain. The main opposition to the theory of survival of the fittest, was that it was an entirely atheist and nihilistic concept due to nature taking the role of the Christian understanding of God. While many clerics came out to attack the works of Darwin, it should also be noted that at the same time liberal elements of the Church supported the position of Darwin. Most notably a group of Anglican clerics and laymen produced a work titled Essays and Reviews. In this work written a mere four months after the publication of Origin of Species, the authors not only argued largely in favour of Darwin's theories, but even more so they argued that much of the events in the Bible didn't take place as described and are meant to be understood more loosely. Indeed it should also be understood that too Darwin, at least at first, there was no cause for a disagreement between Christianity and what he was proposing.

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One of the foremost reactions to Darwin's Origin of Species came in the form of a review from Church of England bishop Samuel Wilberforce, the son of the famous abolitionist and MP William Wilberforce. Wilberforce is an excellent example of a measured approach to the entire situation which seemed appreciative of the effectiveness of Darwin's style, stating that;

The essay is full of Mr. Darwin's characteristic excellences, It is a most readable book; full of facts in natural history, old and new, of his collecting and of his observing; and all of these are told in his own perspicuous language, and all thrown into picturesque combinations, and all sparkle with the colours of fancy and the lights of imagination. It assumes, too, the grave proportions of a sustained argument upon a matter of the deepest interest, not to naturalists only, or even to men of science exclusively, but to every one who is interested in the history of man and of the relations of nature around him to the history and plan of creation.

It should be noted however that although Bishop Wilberforce goes onto criticize various elements of Darwin's work, he does so in good faith as this is before the infamous oxford debate and also before the formal link between animal and man is more than hinted at in further works.

The scientific response at the time was quite different from the ones mentioned here, for as has been previously mentioned the scientific debate up until this time had been coming to similar conclusions regarding an evolutionary theory. The book also quite naturally aided in various factions beginning to appear, specifically Lamarckian with their adherence to the passing on of characteristics, although Darwinism as it became known

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created a strong beachhead for itself within the Scientific community of the British Empire. One of the strongest legacies of Darwin's book within the scientific community is arguably how much it aided in firmly establishing a separation of religion and science. Indeed in the years following the publication of the work, the Church of England would go through a number of reforms as Liberal elements turned against the establishment which desired God to be at the heart of scientific reason.

The Oxford debate of 1860 is probably the most famous yet misunderstood results of Darwin's publication of Origin of Species. Although the debate has been established in popular culture as a debate between religion and science which science was the victor, there are no actual surviving elements of the play and much of what survives is mere conjecture. Another important aspect of the Oxford debate is the fact that there were religious and men of science on both sides of the debate, indeed the Oxford debate if anything shows the clearest picture of the affect of the Origin of Species. The debate was also among the first times where Huxley and others brought in the idea of Human evolution into the public sphere, an action that would cause years of debate between Huxley and the palaeontologist Richard Owen.

By and large the reactions to Darwin's Origin of Species were as varied initially as would any publication that challenged the establishment to an extent. The best similar example would probably be the nailing of the 35 theses by Martin Luther in the 16th century, and subsequently set alight a blaze across Europe that sort to challenge the old order. Indeed the similarities between the two characters are similar in their infancy, for both

didn't at first seek to tear down the Establishments. Indeed part of the reason Darwin didn't bring up the topic of God in his earlier publications is for the simple reason that it really didn't matter, the establishment could work within the theory of Evolution he proposed yet by fighting it the way they did they lost public support and eventually their role and influence over society. Therefore while there is truth to the idea of a revolution taking place as many prominent atheist such as Richard Dawkins may argue, however what is often left out is that the ideas put forth in Darwin were already commonly discussed within various scientific circles. What is amazing is that by making his theory common knowledge through the power of words, Darwin laid the foundation for the advancement of Scientists to the position once granted to Religion within society. If anything Darwin comes to prove his theory that would subsequently be named The survival of the fittest, as by getting the general public on his side his ideas had more currency than would have been otherwise possible.