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Clues From Darwin

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Clues From Darwin
By Morgan Bida

How shall we view our existence when we accept the realization that mankind is not the most important part of the universe? Will the wars that plague us, or the political hierarchies that control us, hold as much significance as they do now? For more than a thousand years, man has had the inkling that perhaps a greater force exists in the universe beside us. By about 520 BC, humans began observing that living organisms changed through the generations to become more suitably adapted to their environment; thus was spawned the idea of evolution. Early theories arose to describe this observed evolution of organisms, with notable contributions from the likes of Aristotle in 350 B.C. He studied marine animals and developed an epigenetic model of evolution. Further contributions, by others, would include systems for the classification of living things and developments in the fields of evolutionary biology and genetics. It wasn't until Charles Darwin, however, that a viable mechanism for the evolution of living things was described. His theories marked the beginning of an era of scientific discovery, which has brought us to where we are today.

The impact of Darwin's *The Origin of Species* is one that has transported the theory of evolution to the point of becoming an inescapable fact. This all-embracing concept has transformed our perception of the world from one of spontaneous creation, by a Divine omniscient Being, to a world possessing order and unity, manipulated only by natural forces.

Due to the lack of scientific knowledge at the time when Darwin wrote, it can be deduced that his ideas about the inner workings of heredity and variation were merely speculation. However, discoveries in modern genetics, specifically the mapping of the human genome and the development of gene therapy, have served only to strengthen, if not prove, that Darwin's theories were valid. But, at the time, how did Darwin manage to convince and persuade the scientific community and much of the general public to accept his idea, thus transforming the intellectual history of mankind? A review of the persuasive language contained within the *Origin's* text shows that Darwin, the

rhetorician, was an extremely deft manipulator. He was capable of persuasive maneuvers that greatly influenced the course of intellectual thought throughout the world.

The scientific language available to Darwin during the 19th century does not resemble that of today. Modern scientists, who publish papers in peer-reviewed journals, tend to use sentence structures that are as lean as possible. They report their researched findings in a mathematical, statistical style. A style referred to by Gillian Beer, author of Darwin's Plots, as 'Descartian' and unambiguous (39). The use of this type of rhetoric places the researcher in a position of merely reporting facts derived through observations, not through personal speculation. This approach provides the reader with a more convincing and logical scientific argument. But Darwin was forced to convey his ideas through the common language of his time.

It was a language of subjectivity and elaborate description, unlike today's Descartian style. According to Beer, when Darwin wrote, he "felt the problems of obscurity, the over-rapid condensation of argument and insight which dwells at length on inessential features because the deep connections are already so evident" (39). Perhaps some of these deep connections and insights were his realization that we must preserve our world and break away from the idea that man and his needs are the most important. Darwin may have experienced these thoughts and found the use of the language of his time inadequate to explain such a break-through. The lack of Descartian language, however, did not stop Darwin from establishing himself as the independent observer to phenomena of natural occurrence.

In *The Origin of Species*, Darwin writes in such a way as to convince the reader that his theory about evolution came about by itself, independent of any preconceptions or subjectivity he may have possessed. He accomplishes this task by using action words that convey the sense that the forces of natural selection he observed, were at work from outside and that he, too, was subject to them. As John Angus Campbell discussed in "The Polemical Mr. Darwin", published in December of 1975 in The Quarterly Journal of Speech, "the facts struck him, the facts threw light, and only after the fact, did it 'occur' to him that 'something might perhaps be made out on this question'" (378).

Darwin goes further to instill within the reader's mind that *he too* needed to be convinced that this process of Natural Selection governed species variation and the

success of living organisms. He does this by carefully explaining how thorough and laborious his observations were and that only through such means had his convictions come about. The final two sentences of *Origin's* opening chapter illustrate, after extensive explanation of his general method, that he has become convinced:

“I am fully convinced that species are not immutable; but that those belonging to what are called the same genera are lineal descendants of that species. Furthermore, I am convinced the Natural Selection has been the most important but not the exclusive, means of modification” (4).

His opening serves to connect with the reader on a level as humanistic and humble as possible. The role that Darwin takes resembles that of a prophet from scripture, who brought the Word of God, as spoken by God Himself. Such prophets were trusted and seen as independent observers to God's word. In *Origin*, Darwin acts as Nature's prophet, bringing the reader the 'Word of Nature.' His approach managed to have a persuasive effect on an audience highly influenced by religious conventions. “*The Origin* attempts to accommodate two opposite intellectual and theological currents, [it] can sustain either an agnostic or theistic reading” (Campbell 384). Campbell's comment serves as evidence that Darwin's attempts at addressing his audience were highly effective. He broke through the barriers of conventional thought and reached all types of people, from the common farmer to the avid capitalist.

Darwin also used logical progression of thought to convince his readers of his theory. His opening chapters describe the methodology he employed in deducing Natural Selection with the ease of an arithmetic sum (Campbell). After presenting himself as the humble messenger of Nature's grand scheme, he demonstrates how the scheme is carried out in everyday, observable life. He begins, in his first chapter, by examining the occurrence of “Variation Under Domestication.” He used the concept of species variation under domesticated control as a means of observation where all growth conditions are known and to which his audience could relate. The majority of people during the 19th century were familiar with the domestication of plants and animals as much of their sustenance depended on such means. Campbell observed that “no scientific profundity is required of the reader to understand Darwin's barnyard examples,” giving contention to the fact that it was the means by which Darwin could approach a general public. Darwin explains that the addition of slight variations and their

harvesting of these variations by agriculturists, contributes to “the accumulative action of Selection, whether applied methodically and quickly, or unconsciously and slowly but more efficiently, seems to have been the predominant Power” (31). This conclusive sentence leads the reader into the next chapter, which goes further to examine the occurrence of natural selection in the ‘wild’ forum of undomesticated nature.

By the time Darwin reaches his third chapter, Struggle for Existence, he begins preparing the reader for his final and momentous conclusion that a force of “Natural Selection” contributes to species variation. But throughout the journey, which Darwin embarks upon ‘with’ the reader, he always manages to take into account any doubts that may have arisen. This serves to further enhance the logic of Darwin’s argument.

Darwin addresses possible doubts with an omniscience that allowed him to anticipate almost any argument. In fact he opens his third chapter by immediately addressing any inconsistencies, which may have surfaced (Campbell).

“But the mere existence of individual variability and of some few well-marked varieties, though necessary as the foundation for the work, helps us but little in understanding how species arise in nature. How have all those exquisite adaptations of one part of the organization to another part . . . been perfected? We see beautiful adaptations everywhere and in every part of the organic world” (46).

Darwin treated his audience with a kindness and gentleness of a wise grandfather. Joseph Dalton Hooker spoke similarly of Darwin in The Gardeners’ Chronicle, in 1859 when he said, “In fine, whatever may be thought of Mr. Darwin’s ultimate conclusion, it cannot be denied that it would be difficult in the whole range of literature of science to find a book so exclusively devoted to the development of theoretical inquiries, which at the same time is throughout so full of conscientious care, so fair in argument, and so considerate in tone” (Hull 83). Darwin’s use of this approach served to promote the acceptance of his theories by colleagues and ordinary citizens alike.

Be it the gentle addressing of the audience, the extensive acknowledgement and rebuttal of opposing argument or the logical progression of thought, Darwin had a power to manipulate language to persuade a critical audience. He was capable of personalizing his theories so that readers would feel the need to experience “independent assent to the object of scientific belief” (Campbell 389).

Darwin was a man who earned no great academic merit, yet still managed to change the course of scientific thinking throughout the world. Today we have a viable model for the origin of life by means of primitive chemical reactions spawned out of a primordial bundle of molecules. These originally simple reactions grew gradually more complex over the course of many billions of years. The complexity grew to the point of the introduction of living organisms and reaching a fantastic climax with the birth of man.

But wait, we must dispel this myth that man is the ‘dramatic climax,’ not perpetuate it. We must shy away from the idea that we are the best, the greatest thing that has ever happened. For thousands of years, as evidenced in the Bible, we have thought of ourselves as supreme beings not subject to mere evolutionary forces. We have a grander view of our existence in the universe, one that places mankind in the center. Darwin would slap our wrists if he knew that we still think the universe revolves around us. We need to accept that we are a mere fold in the page of time and contribute to the good of our little niche in the Universe. The fighting, politics, there is just so much more out there than us. Yet we still manage to get wrapped up in things to the point that we kill each other. “Darwin demands that his reader self-consciously endorse the attitude toward life implicit within man’s use of tools and discover in that challenge of intellectual development the foundation of his moral stature” (Campbell 389). What shall our moral stature be, one of war and struggle or shall we come to the realization that when dealing with mankind, “intra-specific competition is much less important than co-operative participation” (Huxley 11).

Works Cited

Beer, Gillian; Darwin's Plots. Routledge and Kegan Paul, London; 1983.

Campbell, John Angus; "The Polemical Mr. Darwin," The Quarterly Journal of Speech.
Volume 61, Number 4. December 1975.

Darwin, Charles; The Origin of Species. Prometheus Books, Buffalo, NY. 1991.

Huxley, Julian S. "Darwin and the Idea of Evolution," The Book That Shook the World.
University of Pittsburgh Press, Pittsburg, Pa. 1958.