

The Malthusian Darwin

Franz Rheinhardt Wise

INTRODUCTION

Village Farm, Belize, Central America

I arrived at Village Farm in the spring of 1992. The site, some 5,000 acres of “untouched” land, was located forty-five minutes, by water, north of Punta Gorda, Belize. Upon my arrival, I was awestruck by the biodiversity: land crabs, by the thousands, marked my path; countless colorful birds flooded my ears with song; and palm trees shaded my entry into what would be my living home. After establishing my sleeping quarters, I ventured into the forest. Iguanas sat perched on sandy banks and leaf-cutter ants, carrying freshly cut leaves, marched in step on the forest’s floor. Other ants, large and brightly colored, foraged alone. I can only imagine the joy and excitement Mr. Charles Darwin felt during his voyage on the *H. M. S. Beagle*. Like his trip, I came to the jungle to observe, to gather facts that would help me formalize my thoughts about the world I live in. I didn’t observe anything that distorted my view of what I considered to be the harmony, the balance of Nature. And during times of hardship and periods of questioning, I did not cloak myself in theories to explain the inner workings of Nature. It’s as if I was influenced by Sir Francis Bacon’s method of scientific inquiry without the knowledge of his philosophy.

In reading *The Voyage of the Beagle*, I saw similarities between Mr. Darwin and myself. We were interested in “just the facts” and maybe through these facts we could derive an intermediate theory or even a grand theory to explain the diversity of life and the mechanisms at work behind this diversity.

Where I stopped with observations, Mr. Darwin continued on—continued on to eventually write a book, a grand theory that would forever change the way we see the world—*The Origin of Species*.

In this wonderfully written treatise, Mr. Darwin brought together facts from a variety of different disciplines—geology, paleontology, botany and biology. But the *Origin* isn't just a book of facts and observations of the natural world, it's a book that has a thread running through its entirety—a thread guided by the writings of Mr. Thomas Malthus. It was Mr. Malthus' *On Population* that Mr. Darwin looked to and was influenced by to help him formulate a theory grounded in his observations, his facts of natural history. And it was Mr. Malthus' view, a very dark and foreboding view of human society, that Mr. Darwin used to interpret the workings of Nature—the mechanisms driving evolution. It was this leap, this influence that tainted Mr. Darwin's observations and it is this leap that must be explored and questioned.

GALAPAGOS

The young Charles Darwin set down on the Galapagos Archipelago in September 1835 and like other stops on his voyage, he took copious notes on the geology and on the animal and plant life. What he didn't know at the time was that his observations that he recorded with the utmost care and impartiality would later become pivotal evidence for his theory of evolution. This impartiality, this “just the facts” is of the utmost importance. Mr. Darwin observed, with open

eyes, the worlds he visited and his observations were not tainted by theory. He may have had beliefs concerning the origin of species but these beliefs were not expressed in his writings concerning the life forms that inhabited the Galapagos Islands. Instead, the reader finds an accurate, if not sometimes playful, account of Mr. Darwin's observations. From the craters of "lava and scoriae" to the "extreme tameness of birds," the young Darwin set out and delivered an account of natural history that's breathtakingly beautiful. Through his unbiased observations, he pointed us in the direction of appreciating life's great diversity but he also foreshadowed a great schism—the separation between man and man's influence and the harmony, the balance of Nature.

Again, reviewing Mr. Darwin's writings of his visit to the Galapagos Islands, we are introduced to a myriad of plant and animal species "peculiar" and "found nowhere else." We are also introduced to another powerful observation. On the 23rd of September, the *Beagle* visited Charles Island, an island with a thriving settlement. This settlement had a profound effect on the life forms of the Island, particularly the tortoise. These great reptiles were hunted for food and "there numbers have of course been greatly reduced." It is through this observation that one is introduced to concepts that would later become crucial to Mr. Darwin's theory of evolution—concepts that drove Mr. Malthus' theory of population—competition and extinction. Is it simply ironic or is it of paramount importance that where we see these driving forces at work is also where we see man at work—whether it's in the growing cities of Malthus' England or the small settlements of Darwin's Galapagos Islands?

POPULATION

Mr. Thomas Malthus wrote his paramount *An Essay on the Principle of Population* in 1798 and though he alludes, and very briefly, to the nature of animals and plants, his primary focus is on the population of human beings and their inevitable world of suffering and misery. He begins his investigation by positing two laws: “First, that food is necessary to the existence of man” and “Secondly, that the passion between the sexes is necessary and will remain nearly in its present state.” From these laws, Mr. Malthus concludes: “Population, when unchecked, increases in a geometrical ratio. Subsistence increases only in an arithmetic ratio.” What follows from this, in the world of plants and animals, is that population growth will be checked by sickness and death. “They are all impelled by a powerful instinct to the increase of their species,” writes Mr. Malthus, and “whenever therefore there is liberty, the power of increase is exerted, and the superabundant effects are repressed afterwards by want of room and nourishment, which is common to animals and plants, and among animals, by becoming the prey to others.” What evidence, based on observation, Mr. Malthus gives to verify this claim is not expressed in his treatise. What does follow from his claim is that competition and extinction govern Nature.

Because Mr. Malthus gives no evidence to verify his claim concerning the inner workings of Nature, we can only assume its truth—an assumption that I am not willing to make. But for the sake of argument, let’s see how such a system would work. Animals and plants have this innate propensity to increase

regardless of the possible checks that may exist in the balance of Nature. As these populations increase, there is a decrease in available resources and hence an increase in competition for the sustenance of life. As this competition increases, the number of deaths increases until one animal or plant—or many animals or plants—become(s) extinct. Again, a likely theory, but Mr. Malthus cites no evidence. Where Mr. Malthus does investigate this scenario and gives theoretical evidence of its truth is in his observations of the human population.

Unfortunately, these observations are tainted by his dark and foreboding view of human society—a view very much influenced by his notions of competition and extinction and even when looking at tribal peoples, he can't help but paint their actions with these colors. "Restless from present distress, flushed with the hope of fairer prospects, and animated with the spirit of hardy enterprize, these daring adventurers were likely to become formidable adversaries to all who opposed them," writes Mr. Malthus, concluding with: "In these savage contests many tribes must have been exterminated."

Though the focus of my paper is on Mr. Malthus' influence on Mr. Darwin's theory of evolution, I can't help but bring up a refutation of Mr. Malthus' claims. By refuting, or at least questioning Mr. Malthus' foreboding view of human society, I may be able to shed some light on the validity of the premises—the driving forces of competition and extinction—of Mr. Darwin's theory.

During the writing of *On Population*, Mr. Malthus was introduced to an alternate view of the forces at work driving human society—a view that he incorporated into his treatise—the view of Mr. Godwin. Mr. Godwin believed that

“man is perfectible” and that the misery of man is a state of being brought on by selfishness. Mr. Godwin writes: “The spirit of oppression, the spirit of servility, and the spirit of fraud, these are the immediate growth of the established administration of property.” To change, to overcome the misery that plagues man, Mr. Godwin proposed that we must create a “society where men lived in the midst of plenty and where all shared alike the bounties of nature, these sentiments [the spirit of oppression, etc.] would inevitably expire.” Yes, a challenge to the “might makes right” Malthusian view. Unfortunately, Mr. Godwin’s utopian vision of the future of mankind fell on deaf ears. One can only imagine what Mr. Darwin’s theory of evolution would look like if he saw the world through Mr. Godwin’s eyes.

ORIGIN

As I have stated earlier, Mr. Darwin was influenced by the writings of Mr. Malthus and this influence is no more evident than in *The Origin of Species*. After accumulating much empirical data, Mr. Darwin set out to unify the “facts” under the umbrella of his theory of evolution through natural selection. It’s one thing to state that evolution is the way Nature functions, it’s another thing to state the mechanisms at work in evolution. And it was these mechanisms that Mr. Darwin set out to discover and it was Mr. Malthus’ laws of population that lent Mr. Darwin the means in doing so. This becomes no more evident than in Chapter III – “The Struggle for Existence.”

If we accept the theory that species vary, the question becomes how? According to Mr. Darwin, “All organic beings are exposed to severe competition” and this struggle for existence, this overriding competition arises “from the high rate at which all organic beings tend to increase.” Mr. Darwin further goes on to say: “As more individuals are produced than can possibly survive, there must in every case be a struggle for existence, either one individual with another of the same species, or with the individuals of distinct species, or with the physical conditions of life.” Mr. Malthus’ theory has shown itself and it is this theory that will drive the rest of the discussion in Chapter III. Mr. Darwin, knowing the importance of evidence to justify his claims, sets forth by citing a myriad of examples to prove Mr. Malthus’ principle that a population, left unchecked, will increase geometrically. Unfortunately, Mr. Darwin begins his argument with examples of man’s introduction of animal and plant species into areas alien to those species. The balance of Nature was disturbed—the system shocked by man’s tampering—and I do not think that the leap can be made from these examples to what actually occurs in Nature outside of man’s influence. But Mr. Darwin does just that. “In looking at Nature,” Mr. Darwin begins, “it is most necessary to keep the foregoing considerations always in mind—never forget that every single organic being around *us* may be said to be striving to the utmost to increase in numbers.” Immediately, a question is raised as to what Mr. Darwin considers evidence to justify this claim.

Mr. Malthus’ theory, whether it’s true or untrue, was derived from his observations of the human world. Mr. Darwin, seizing the opportunity to use

Mr. Malthus' principles to fortify his theory, applied these principles to Nature, and then used examples of man's interventions in Nature to justify his claims.

Mr. Darwin cites other evidence in regards to competition at work in Nature. But like the first series of examples—domesticated animals running wild in Nature and introduced plants forcing out indigenous species—the other observations have much more to do with man's encroachment on Nature than on what is actually occurring under the surface of the untouched environment. Mr. Darwin even acknowledges his ignorance concerning the balance of Nature. The checks are most obscure—except when we let our cows graze in what used to be virgin pine forests—and we do not know exactly “what the checks are in even on single instance.” Yet, Mr. Darwin doesn't let his ignorance get in the way of what he believes to be the mechanisms at work in Nature—competition and extinction.

As I have stated earlier, the result of competition in Nature, according to the Malthusian paradigm, is death and hence extinction. Extinction, the extermination of an intermediate species, is of paramount importance for Mr. Darwin's theory. Where there is competition between “one individual with another of the same species,” one individual will win and the other will lose. The individual that wins will be better adapted—stronger—than the other individual and hence, the winner will pass these “winning” traits on to its offspring. The losing individual will fail to reproduce, because it's either dead or maimed, and hence its “weak” genetic line will cease to exist. A plausible explanation but Mr. Darwin fails to give evidence of this mechanism at work in Nature. What Mr. Darwin does provide is what the consequences will be—a steady decrease in the

numbers of a species and its eventual extinction—when man introduces several varieties of wheat in the same plot or when man pens in different varieties of sheep on the same mountain range or when man traps a variety of related leeches in the same bowl. The organisms battle it out on a man-made battlefield and the survivors save the day for their offspring as well as for Mr. Darwin’s theory—a theory molded by Mr. Malthus’ despairing view of mankind.

EXTINCTION

As mentioned in the previous discussion “ORIGIN,” extinction is of paramount importance to Mr. Darwin’s theory of evolution through natural selection. This importance stems from Mr. Darwin’s belief that as a species’ population geometrically increases, the selected and favored form will increase in number and the less favored form will decrease and become rare and rarity, as we know, leads inevitably to extinction. But Mr. Darwin wants and must take this belief one step further. The highest rate of extinction results from the competition that occurs between “closely-allied forms.” This claim is very important. Because “closely-allied forms” are in direct competition for all things under and including the sun, the strongest will survive and by surviving, the dominant intermediate species will reproduce. This process doesn’t stop there but continues on resulting in a landscape dominated by well-adapted and diverse species and by corpses of intermediary links buried under fallen leaves and mudslides. But where’s Mr. Darwin’s evidence? He quickly points to the

“imperfect” geological record and to the fossils littering, in bands of strata, under the earth’s surface. What Mr. Darwin doesn’t provide, regardless of his insightful observations, are direct, present examples of extinction occurring in Nature— unless, of course, examples of man’s destructive influence is taken into account. A more plausible explanation for the existence of fossils, an explanation that Mr. Darwin flatly denounces, is extinction caused by major cataclysms. Why does Mr. Darwin denounce such a theory? The answer is quite obvious. If major, earth-shattering events did occur resulting in mass extinction, then Mr. Darwin cannot use the fossil record as evidence to justify his claim that extinction results from the competition between “closely allied forms.” It’s as if he foresaw this difficulty and the impact such an explanation would have on his theory as a whole.

CONCLUSION

St. John’s College, Annapolis, Maryland, United States of America

I arrived at the liberal arts college in the fall of 2000 and given the choice of Preceptorial topics, I chose Evolutionary Biology. The primary focus of the class was the reading of Mr. Charles Darwin’s *The Origin of Species*. I found the treatise to be wonderfully written and the arguments that he put forth to be convincing. But the more I thought about his theory of evolution, the more questions I unearthed. These questions didn’t center on the theory

itself—I believe in evolution as a viable theory to explain life on this planet—but what Mr. Darwin proposed to be the driving mechanisms at work in Nature. My investigations revealed that Mr. Darwin was excited and very much influenced by a theory on population growth and its effects on human happiness—the theory of Mr. Thomas Malthus. It was Mr. Malthus’ theory that Mr. Darwin adapted to help him derive the mechanisms driving evolution—the mechanisms of competition and extinction. With further study, I realized that Mr. Malthus’ theory wasn’t a theory about what happens within populations of animals and plants—though he does briefly cite their populations as an example—but what he thought was occurring in the world of man. Hence, the question: Can we derive laws that govern Nature from what we theorize to be the laws that drive human society? And if we can, is there convincing evidence in Nature that will enable us to justify our claims? Mr. Darwin obviously thought so but what I found, and I hope that I brought my discoveries to light, is that the examples Mr. Darwin cited as evidence were never far out of reach of man’s influence.

Reviewing Mr. Darwin’s notes taken during his epoch trip on the *H.M.S. Beagle*, I failed to come across any direct evidence of competition and/or extinction occurring in Nature. What I did realize was that where these forces were at work, there was another being at work—Man. Man competed with the tortoise and the tortoise lost!

Unfortunately, as man’s influence in the world has grown, Nature’s untouched, pristine areas have diminished. The 5,000 acres of tropical rain forest I had the pleasure to explore, to observe, to marvel at is gone—it was sold

to a real estate developer. One cannot help but be shocked by the following irony: If the driving mechanisms of evolution are in fact competition and extinction, we may never get to see these forces at work in Nature because Nature may no longer exist outside of man's sphere of influence. And yet, we live in a world, in a belief system, which presupposes that these forces exist and drive our very actions and justifications.

FINIS