

## DARWIN—EVOLUTION

Charles Darwin is probably the most celebrated and the most reviled person from the 19<sup>th</sup> Century, but who was he really? He is often cast as a bumbling country gentleman, but he was a rigorous observer of whatever living thing drew his attention. He spent more than 8 years studying barnacles. His father a prominent medical Doctor, his mother from the Wedgewoods of Pottery fame, the woman he married a cousin from the same privileged background. Darwin was moderately outgoing, with a good sense of humor, and by available accounts a loving father to his children. According to James T. Costa, author of the recent *Darwin's Backyard*, he also could claim fame for being the first to practice crowd-sourcing. He regularly asked friends, relatives, and acquaintances to conduct observations of whatever his current interest might be. He also regularly enlisted his children as scientific assistants. And though Darwin was influenced by and in regular correspondence with the group that coined and publicized the term “scientist,” particularly William Whewell, Darwin was known during his lifetime as a Naturalist or a Natural Philosopher. The techniques of experimentation he used, and his theory of Natural Selection, certainly helped set the stage for Evolutionary Science from his day to ours. And it could be argued that all modern science is about change/evolution. So Darwin, nominally an Anglican to honor his wife, but far better attuned to his mother's family's Unitarianism, and his Father's family's skepticism leaning to Unitarianism came to dramatically influence life and science!

Though Darwin's interest in observing the Natural world was lifelong, his academic studies of Medicine and Theology were not satisfying. He was invited and proposed to his father serving as Gentleman Naturalist on the H.M.S Beagle, which he then did for almost 5 years beginning December 27, 1831. Between frequent seasickness during sea crossings, reading vociferously, especially the volumes of *Principles of Geology* published by Charles Lyell beginning in 1830, and various volumes on Natural Philosophy and other aspects of life-science, Darwin collected an amazing assortment of species of flora and fauna with descriptions and sketches and journals that he would study for the rest of his life.

The voyage of exploration on the Beagle surely set the direction of the rest of Darwin's life but he was a more complex figure than we often are led to believe. Family was deeply important to him and he and Emma both grieved deeply at the loss of their 10 year old daughter Annie. His work and their other children helped them get through the trauma, but Annie's death may have pushed Darwin further toward theological agnosticism. In his writings he sought a certainty of his conclusions that slowed the progress of his many publications. Darwin would almost certainly have waited longer in publishing his theory as elaborated in *the Origin of Species*, which was intended as the abstract for a much longer book, *Natural Selection*, had he not received material from Naturalist Alfred Russel Wallace indicating that Wallace might soon begin publishing a similar theory that was also carefully documented.

Both Darwin and Wallace became known as Transmutationists, a term that preceded Evolutionist and indicated a belief that species change over time, as opposed to the belief that God had created each species as it currently is. The religious objections were if anything more vehement in their tone than even those among the approximately 38% of Americans who currently say that they do not believe in Evolution. An equivalent number believe God guided Evolution while only 19% do not believe God has any role in Evolution. (*May 2017 Gallup poll*). While many Christians then and now could conceive a world set in motion by God and left to function mostly by evolutionary processes, many other Christians saw Evolution as an attack on God. Biblical literalists, mostly now calling themselves Fundamentalists for a set of tracts published around the turn from the 19<sup>th</sup> to the 20<sup>th</sup> Century, selectively asserted that God created everything in a single week some 6,000 years ago, giving power and control to white or light skinned males with all women and minorities subject to them, and that the rules of the Bible (as understood by them) provide all that is needed for life. Fundamentalism has been described by many as a reaction to evolution. Though Darwin moved progressively from Unitarian skepticism toward agnosticism, he did not wish to needlessly upset the social order, nor incur the wrath of the Church.

Though Darwin has been the main target of evolution-deniers since *The Origin of the Species* was published in 1859, others such as Wallace would soon have published their own versions of Natural Selection. The scientific observations

by evolutionary Naturalists were becoming more and more clear, just as today the possibly 1% of Climate Scientists who deny Climate Change cannot hold back the observations of the 99% who see the evidence of Climactic Change.

Of course, those who choose to believe in some version of selectively written Fundamentalist religion over against the vast majority of scientists and scientific evidence have only the ancient manuscripts of a few scriptures to defend their cases. Fundamentalist Christians prefer the early 17<sup>th</sup> century King James translation of the Bible, known by scholars to contain numerous translation errors and to be particularly and selectively negative toward women, Jews, and minorities. But Darwin's interest was not in the struggles with religious communities, he only intended to describe what he had observed of species and to present hypotheses and theories based firmly in his observations. He also frequently exchanged ideas, books, and specimens with a wide array of correspondents.

I have known about Darwin at least since I was 8 or 10. I remember watching a movie about him and his Journey on the Beagle when I was on a Field trip as a Cub Scout to a small Lapidary Arts Museum not far away. I actually won a subscription to a program that sent out monthly packets of rocks, shells, games and information about areas around the world. And of course, with Engineers as parents, scientific interests were always encouraged! In good Scientific and Unitarian process, I can hardly imagine that Darwin's experiments would not have encouraged questioning and exploration with his own children!

Had Evolution not become the dominant paradigm of the modern scientific world, we would surely live in a far different kind of world, one perhaps more like the world that Trump and his corporate cronies are trying to establish. For evolution came to be equated with progress in science but also in society. Progress in education and government and the relationship between workers and owners and between the sexes and between people with different shades of skin became the goal if not yet the norm. The idea that things can change for the better allowed all kinds of innovation throughout Western society. Evolution came to be applied to all facets of life, so that those who now are challenging the idea of Evolution are in effect blaming God for every change in life as well as science. And if that is true, why get angry at us?

There is a logic to evolution that has been clearly shown, whereas the deniers of evolution and climate change and progress cannot claim logic nor evidence other than perhaps misleading readings of select scriptures. Like modern investigators, Darwin and his compatriots followed the evidence, shaping their hypotheses and theories to continue testing the evidence, writing of their findings only when they were sure beyond a doubt. And scientists continue to test those hypotheses and to refine the theories and to add to the compendium of knowledge. 160 years after *The Origin of the Species* was published and almost 150 years after *The Descent of Man*, scientists continue to be amazed at how much Darwin got right with the microscopes and scientific tools of his day, long before computers could be set to the task of compiling and sorting evidence. Trump and the anti-science crowd either fail to understand how science works and/or they deliberately deny or obfuscate the answers for their own ends.

Our Unitarian Universalist religion is full of scientists and engineers, educators and medical professionals, people who understand the benefits of science, people who appreciate what Darwin and other 19<sup>th</sup> Century Scientists accomplished.

We are currently seeing the effects of people who refuse to vaccinate their children in a terrible Measles outbreak in Washington on the basis of a long discredited report blaming the vaccine for causing autism and other harm. The sad thing is that updated science cannot convince these true believers. They are not benefitting from science, they have been misled by information that was never accurate, and it is the children who are being hurt.

Science can only do so much. People have to understand enough to recognize the value of good science and that science must continually be tested to get better. For those who do not believe in change, who believe that those with wealth and power now will always win, that God has created things just as they are, there will not likely be a good outcome. For those who believe in the human spirit, in progress in science and society, that change and evolution happen, there is much more hope. Let us choose evolution, science, and hope!

So May it Always Be! Shalom, Salaam, Blessed Be, Namaste, and Amen!