

Darwin: The Bottom Up Philosopher Who Wasn't

Text of service honoring Charles Robert Darwin, conducted at Channing Memorial Church, Newport, Rhode Island on February 15, 2009.

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REFLECTIONS BEFORE THE SERVICE

“I see no good reason why the views given in this volume should shock the religious feelings of anyone.”

“It is so easy to hide our ignorance under such expressions as the ‘plan of creation, unity of design, &etc., and to think that we give an explanation when we only re-state a fact.

From *The Origin of Species*, by Charles Robert Darwin,

ANNOUNCEMENT

In the sand used for candle lighting during a time for sharing, I place two things: the bone of a dinosaur to remind us of lives lived before our time, and a miniature bust of Charles Darwin, who we celebrate today.

CALL TO WORSHIP

The Call To Worship is the first paragraph of *The Origin*. My benediction will be its last paragraph.

“When on board H.M.S. ‘Beagle,’ as naturalist, I was much struck with certain facts in the distribution of the organic beings inhabiting South

America, and in the geological relations of the present to the past inhabitants of that continent. These facts, as will be seen in the latter chapters of this volume, seemed to throw some light on the origin of species –that mystery of mysteries, as it has been called by one of our greatest philosophers. On my return home, it occurred to me, in 1837, that something might perhaps be made out of this question by patiently accumulating and reflecting on all sorts of facts which could possibly have any bearing on it. After five years' work I allowed myself to speculate on the subject, and drew up some short notes; these I enlarged in 1844 into a sketch of the conclusions, which then seemed to me probable: from that period to the present day I have steadily pursued the same object. I hope that I may be excused for entering on these personal details, as I give them to show that I have not been hasty in coming to a decision.”

From *The Origin of Species*, by Charles Robert Darwin,

READING

“It is interesting to contemplate a tangled bank, clothed with many plants of many kinds, with *birds* singing on the bushes, with various *insects* flitting about, and with *worms* crawling through the damp earth....and to reflect that *these elaboratory constructed forms, so different from each other, and dependent on each other in so complex a manner, have all been produced by laws acting around us....*

From *The Origin of Species*, by Charles Robert Darwin,

SERMON

Good morning.

Three days ago the entire world celebrated the bicentennial birthday of *Charles Robert Darwin*, and the 150th anniversary of his best known book titled: “*The Origin of Species By Means of Natural Selection.*” Just for today, I’m going to call this *magnus opus* “The Good Book,” if only because

it is the most important book of our modern era, and a well-written one at that.

There are still plenty of *Bible Bangers* out there today, Christian evangelical preachers who hold up their version of the “good book” as a dramatic prop, and bang it with their hands to make a point. Today I will be a *book banger* too, holding up my version of the good book whenever I quote its author, and banging it a few times for emphasis. *Doing so* with Darwin’s “Good Book” while evangelizing his message, is a far better way to honor the glory of god’s creation than doing so with the Bible, an edited anthology of Mosaic literature dating to the late Bronze Age.

This “good book” [...bang away...] emancipated our minds from the *fallacy* of a world created from the *top down* in all its details by some benevolent deity. In place of this fallacy, Darwin showed us that Earth’s beauty arose from the *bottom up* through natural selection.

Darwin did not *rule out* a divine creation for life itself. What he did was explain how a *single mysterious act of creation* could account for the diversity of life *more parsimoniously* than multiple acts of creation, one for each species, and with *special favor* given to one, *Homo sapiens*. Condemnations of his theory came mostly from those with a *vested interest* in top-down control via spiritual authority, in *his* case, the Anglican high church, a vocation Darwin’s father had in mind for Charles before funding his voyage on the H.M.S. Beagle to accompany Captain Fitzroy around the world. This funding is one of the hidden stories behind the *story* of evolution, that of a loving father allowing his *potentially prodigal* son to *chose* his own path, however misguided it may have appeared.

Through his theory of *natural selection*, Darwin showed us that Earth’s biological beauty – flowers, birds, pearls, emerged from the bottom up, emerging from the rabble of accident, diversity, luck, and struggle, rather than from the guiding hand of some great and beneficent artist. According to Darwin, beauty:

“depends on the nature of the mind, irrespective of any *real* quality in the admired object; and that the idea of what is *beautiful*, is not *innate* or *unalterable*.”

Translation? Beauty is in the *eye* of the beholder. It need not make sense. It simply is. Let it be.

Darwin, anticipated the criticism we've been hearing for the last century and a half, writing in the conclusion to the "Origin"

I see no good reason why the views given in this volume should shock the religious feelings of any one.

He was *100%* right. There is no *good* reason – then and now -- why any spiritual thinker should be *shocked* by the "Good Book," unless they make the *a priori assumption* that the Hebrew Bible does a *better* job explaining the facts of life than natural selection. In the *next* sentence of the "Origin", Darwin tries to defuse his potential critics, writing that

"the greatest discovery ever made by man, namely, the law of the attraction of gravity, was also attacked ... 'as subversive of natural, and inferentially of revealed, religion.' "

Should *physics* throw out its immutable law of gravity because diminishes the control of a creator? Should *biology* throw out the immutable law of natural selection because it does the same with living creatures? NO... NO... and a *thousand* times NO! Science in general, and physics and biology in particular, are *consistent with* and *independent of* religious spirituality. There is no "*Sophies Choice*" between science and religion. They are *separate* bubble universes of meaning.

Darwin went even further in cautioning the critics he knew would come:

"It is so easy to hide our ignorance under such expression as the '*plan of creation,*' "*unity of design,*' &c., and to think that we *give an explanation* when we only *re-state a fact.*"

Though Darwin's text *sounds* philosophical at times, it never strays from science. As the title of my sermon suggests, Darwin didn't philosophize about postulates, paradoxes and proofs. Instead he stuck to geology and

natural history, spending his whole career trying to make *sense* of observations using *evidence* and inductive *reasoning*. Yet, from now until eternity, Darwin's name will be forever be linked to popular philosophy because – like Alfred Einstein – his thinking so strongly impacted our sense of time, place, and purpose in the universe.

It is *truly* an honor for me to be here today, speaking to this historic congregation, and within this *magnificent* building dedicated to another 19th century hero of mine, *free-thinker* William Ellery Channing. The Unitarian movement Channing influenced so strongly claims Darwin as one of its own. Though nominally Anglican, Darwin frequently attended the English Unitarian Church with his wife's family, the Wedgewoods, for much of his life.

The best way for me to *extend* the honor I feel is to *explain* what Darwin wrote, using his own *Victorian prose* whenever possible. Hence, the middle section of this sermon -- that which you are about to hear -- is a factual digression on natural selection, peppered with quotes from the "Good Book." We will then return to spiritual reflections that stem from it.

Evolution *isn't* a theory. It's an outcome, a form of history involving continuous change of discrete entities through the passage of time. It is completely uncontroversial to talk about the evolution of *automobiles* or *music*, or *communication*. *Why then* should it be controversial to talk about the evolution of *another discrete entity*, in this case a *species*? To *deny organic* evolution is to deny

- the *relatedness* of living organisms today, something called taxonomy,
- the *distribution* of living organisms, a discipline, something called biogeography,
- the *genes* within our bodies, called genomics,
- the *interactions* between organisms, called ecology, and
- the *fossil record* of the last 3.8 billion years, called paleontology.

Another misunderstanding about evolution is the *etymology* of the word itself. It comes from the Latin *evolutio*, which translates as the *unrolling of a scroll*. Unfortunately, evolution doesn't work this way. There is no text to be unrolled, no master plan... only blank pages on which the names of a

seemingly endless list of *new* creatures are being added through origination, and the names of *old* creatures are being crossed out through extinction.

A better analogy than a scroll is that of a solitary deciduous tree in full leaf when seen from a distance. All the viewer sees is the *solitary trunk* which represents the origin of all life, and the *outer profile of the foliage*, a spherical halo of hundreds of thousands of leaves, each on its own twig. In this tree of life, each tiny twig represents a discrete species living in modern physical space: some toward the *right*, like the lions and zebras of Africa... some toward the *left*, like the raccoons and moose of North America... some near the *bottom* like the kangaroos and koalas of Australia... and some *on top*, like the polar bears and snow geese of the Arctic.

In this *real* tree of life, the *leaves* look *alike* and the *branches* are *physically* there, but *hidden* from view. In the *evolutionary* tree of life, the *leaves* look *different* because they are distantly related species, and the *branches* are *no longer there* in physical space. Instead, the branches are *there in time*, preserved as the *crypt* of the fossil record and as the *software* copied into our genes. Only rarely do the *outer twigs* on the evolutionary tree of life descend very deep into the tree of time, as with the well known horseshoe crab and the poorly known brachiopods of the deep dark sea. In fact, nearly *every* creature of *every* lineage that *ever* existed on earth is dead ...*long* dead...*long, long, dead...extinct*. These *species* are as dead to the evolutionary tree of life as the *leaves* that once grew on the deciduous tree of life, when it was a sapling.

Darwin didn't write much about *evolution* because he took it for granted, as did his grandfather Erasmus, his predecessor Jean-Baptiste Lamarck, and many of his colleagues. Darwin's contribution was to identify the mechanism that leads to evolution, which he called natural selection, to differentiate it from the human selection of livestock breeding populations. Only one of Darwin's contemporaries, Alfred Russell Wallace, arrived at this mechanism independently. Darwin's legacy reigns over that of Wallace not because he was smarter or had publishing priority, but because he was a better writer, and had more intellectual courage.

Natural selection consists of two main parts: the *food part* and the *sex part*.

In the *food part*, the goal of every organism is to *get* food and avoid *being* food. Being able to run fast like the *cheetah*, swim fast like the *tuna*, be

camouflaged like a *caterpillar*, have a hard shell like the *turtle*, or have hollow teeth like the *cobra* are very important in this regard. Poet Alfred Lord Tennyson saw Nature as “*Red in Tooth and Claw*.” This is certainly the case when a pride of lions is gorging on the carcass of a wildebeest, or a pod of killer whales on a seal. Much more often, but less dramatically, the struggle for life is about *keeping things green*, for example, a young plant finding enough *nutrient, water, and sunlight* to survive.

For *individuals* -- plants and animals alike -- death matters greatly. For *species*, death has little meaning except for how many are left standing, and what qualities they possess. For *ecosystems* death has no meaning whatsoever, beyond being a handoff of energy from producers to consumers, to decomposers.

Because natural selection is a culling process, the most creative force behind evolution is death... of *individuals, clans, breeding populations, species, genera* ...and so forth, right up to *phyla*. Ironically, times of *mass extinction* are followed by the most creative bursts of life, because the *occupants* of former ecological jobs -- called *niches* -- are *cleared away*, freeing up living space for new ways of being. The asteroid that did in the dinosaurs was *as creative* as it was *deadly*, allowing burrowing insectivores to become scampering primates, arboreal monkeys, ground-dwelling apes, hominids, hominims, and then finally ice-age hunters, Charles Darwin, myself, and everyone here today.

Darwin understood the creative power of death:

“We behold the face of nature *bright* with gladness, we often see *superabundance* of food; we *do not* see or we *forget*, that the birds which are idly singing round us mostly live on insects or seeds, and are thus *constantly destroying life*; or we forget how largely these songsters, or their eggs, or their nestlings, are *destroyed* by birds and beasts of prey; we do not always bear in mind, that, though food may be now superabundant, it is not so at all seasons of each recurring year.”

In the *sex part* of natural selection, the goal is to make another creature of your own kind by mating successfully, then having that offspring live long

enough to do the same. Having *strong antlers* like an elk, a *seductive dance* like a booby, an *extravagant wardrobe* like a peacock, the *siren song* of a robin, the *big house* of a bowerbird, or the *bravery* of a guppy can *give an animal* the edge when it comes to *consensual sex*. This is as biologically *true* with modern humans as it is with most creatures. Here's how Darwin put it:

"This form of selection depends, not on a struggle for existence in relation to other organic beings or to external conditions, but on a struggle between the individuals of one sex, generally the males, for the possession of the other sex. The result is not death to the unsuccessful competitor, but few or no offspring."

Mating is only the first half of the part involving sex. The second half, called *parenting* involves having offspring survive in good enough condition to keep the lineage going. The *frog* strategy is to produce thousands of eggs and then abandon them, hoping that one or two survive, the rest being destined to be fish food. The human strategy is to have *very few young*, but to *work hard* to *protect* them to adulthood.

As an aside, a recent, glaring, and unnatural exception to this rule is the case of the unmarried woman from California on public assistance who, through unethical *in vitro fertilization*, is now the mother of 14, including 8 fatherless newborns and six other children. This is a mockery of nature's rules...

For...under *natural* conditions, organisms have to make a choice between one of two strategies: the *precocial* strategy of having many offspring and providing them with little care; or the *altricial* strategy of having few offspring and nurturing them carefully.

To sum up, there are only four rules of natural selection:

- 1: get food.
- 2: avoid being food.
- 3: mate to produce fertile offspring, and
- 4: have those offspring survive long enough to repeat the steps above.

Just as evolution depends on natural selection, natural selection depends on two pre-courers.

The first pre-courer is *variation*, which was self-evident to Darwin, but which did not understand the source of. We now know that the source of variation is genetic. Every child, every maple, every bunny, every mosquito, every everything is a unique individual member of a potential breeding population. Whoever said “Variety is the spice of life” had it exactly right.

The second pre-courer to natural selection is the environment into which that variation appears. Here, I refer to the physical, chemical, and biological set of conditions within a geographic place. The insects known as walking sticks evolved not because any of them tried to look like sticks, but because those that looked most like sticks were eaten by predators less often. In this case, it was the unconscious environment that did the *selecting*. It was the species that did the *changing*. And it was the individuals who did the *living*, *breeding*, and *dying*. When different species evolve together in the same place – for example the carnivorous birds who ate the walking sticks -- the result is an ecosystem, which becomes more diverse, finely tuned, and stable with time. Such co-evolution never stops. In Darwin’s words:

“It may metaphorically be said that natural selection is *daily* and *hourly* scrutinizing, through the world, the *slightest* variations; *rejecting* those that are bad, *preserving* and *adding up* all that are good; *silently* and *insensibly* working *whenever* and *wherever* opportunity offers, at the *improvement* of *each organic being* in relation to its organic and inorganic conditions of life. We see nothing of these slow changes in progress, until the *hand of time* has marked the lapse of ages.....”

Writer Bertold Brecht wrote that “the *Devil* is in the *details*.” Though I know what he means, and though I agree with the statement when it comes to church committee work, engineering, or writing a sermon, I do not feel the same way about my personal spirituality. For me, its more accurate to

say that “*God* is in the details.” But when I want to be completely precise, I say to myself “*God is* the details... the *sum total* of everything we see, and smell, and touch, and love. If ever there *was* or *is* or a deity *external* to nature, its job was get things started, then “*let it be.*”

That phrase, of course, is the title track for the last original album released by the Beatles before their breakup in 1970, a song that will soon be played for the offertory. But at this point, need to sing a few bars.

“Let it be, let it be.
There will be an answer, let it be.”

Though I’ve been singing that song in the shower for years, it was only while writing this sermon that I figured out why. That lyric *is* the central message of Darwin’s greatest work.

Biologically, individual organisms, including yourselves, have no role in natural selection except to be themselves. No organism can claim credit for the variation they received in their genetic lottery, nor for the environmental circumstances into which they were born. From Opossums to Obamas, their job is simply to *be* who they are, meaning to *follow* their instincts, the strongest of which is to *stay alive*, in spite of the struggle, pain, and bad luck that just shows up. When not working to stay alive or to live through pain, our most important job is to appreciate what natural selection has wrought. Only from the suffering of individuals, can the larger beauty of life emerge.

Modern human evolution is no longer mostly about biology. Today, it’s mostly about the blind natural selection of *ideas*, rather than of *DNA*. The carrier is no longer the gene, but the *meme* ...a discrete idea... whether in art, science, technology, or religion ... originating not from an *individual mutation*, but from an *individual creative act*. Memes are propagated *not* by sexual reproduction, but by *sharing* --- thought, word, and deed...touch, sound, and sight. They are *nurtured* by marketing, archiving, conserving, curating, and remembering. Darwinism is a meme. We are nurturing that meme today. By creating memes and allowing for their natural selection, individual humans can exert a stronger force on human evolution than through their genes. In such a world, each fresh idea is like a newborn child. Each remembered idea is a child nurtured toward maturity

When the Beatles sang: “*There will be an answer*” they were really asking

the open-ended question “*What lies ahead?*”

In biology, the *answer* is the *endlessly moving target* called biodiversity, which, in the *last tenth of one percent* of earth history, added *Homo sapiens* to its grand list. In the realm of human affairs, the *answer* is the *endlessly moving target* of societal change.

Within a species, the job of each individual is to live and die, allowing natural selection to work its magic. Within a culture, the job of each individual human being is to live and die, to let their ideas live and die, to avoid letting the struggle get them down, and to be their natural self -- to “let it be.”

Finally, in both cases, it is *not the individual* who evolves, but the *greater whole*.

“Let it be, let it be.
Whisper words of wisdom, let it be.”

The *whisperer* of that wisdom was Charles Robert Darwin, born 200 years ago this week.

Amen.

CENTERING OF SILENT MEDITATION AND PRAYER

Please pause for a moment to reflect on the beauty of life on earth.

- Close your eyes. Silence yourself. Banish thought. Find that stillness inside your heart.
- Now imagine a beautiful sight, perhaps a blue sea, a green forest, or a gray-purple mountain.
- Now imagine a beautiful smell, perhaps the scent of a flower in a garden, bread baking in an oven, the resin of pine in the forest.
- Now imagine a beautiful sound, perhaps the song of a bird, the roar of surf, or wind chimes in a breeze.
- Now...while keeping your eyes closed... bring one thought into your consciousness: That all of this beauty – the sights, smells, and sounds

of the earth – emerged as a consequence of history, a type of history called evolution, driven by the mindless contingency of natural selection.

BENEDICTION

My benediction is the benediction of the “Good Book,” its final sentence.

“There is grandeur in this view of life, with its *several powers*, having been originally *breathed by the Creator* into a few forms or into one; and that, whilst this planet has gone *cycling on* according to the fixed law of gravity, from so *simple a beginning* ...endless forms *most beautiful* and *most wonderful* have been, and are being evolved.”