

“Why Evolution Still Matters”

A sermon by Rev. John E. Gibbons
delivered on Sunday, February 6, 2005
at The First Parish in Bedford, Massachusetts

Readings:

from Darwin's Religious Odyssey, by William Phipps:

To a German student who inquired about his religious views, Darwin first had a family member respond, “He considers that the theory of Evolution is quite compatible with belief in a God; but that you must remember that different persons have different definitions of what they mean by God.”

Darwin's mature religious ideas are displayed in his response to a Dutch student:

“The impossibility of conceiving that this wondrous universe, with our conscious selves, arose through chance, seems to me the chief argument for the existence of God but whether this is an argument of real value, I have never been able to decide. I am aware that if we admit a first cause, the *mind* still craves to know whence *it* came, and how *it* arose. Nor can I overlook the (theological) difficulty (posed by) the immense amount of suffering through the world. I am, also, induced to defer to a certain extent to the judgment of many able people who have fully believed in God; but here again I see how poor an argument this is. The safest conclusion seems to be that the whole subject is beyond the scope of human intellect; *but we humans can still do our duty.*”

“The Beauty of a Flower”

from “The Pleasure of Finding Things Out” by Richard P. Feynman

I have a friend who's an artist and he's sometimes taken a view which I don't agree with very well. He'll hold up a flower and say, “Look how beautiful it is,” and I'll agree, I think. And he says—“you see, I as an artist can see how beautiful this is, but you as a scientist, oh, take this all apart and it becomes a dull thing.” And I think that he's kind of nutty. First of all, the beauty that he sees is available to other people and to me, too, I believe, although I might not be quite as refined aesthetically as he is; but I can appreciate the beauty of a flower. At the same time I see much more about the flower than he sees. I can imagine the cells in there, the complicated actions inside which also have a beauty. I mean it's not just beauty at this dimension of one centimeter, there is also beauty at a smaller dimension, the inner structure. Also the processes, the fact that the colors in the flower evolved in order to attract insects to pollinate it is interesting—it means that insects can see the color. It adds a question: Does this aesthetic sense also exist in the lower forms? Why is it aesthetic? All kinds of interesting questions which shows that a science knowledge only adds to the excitement and mystery and the awe of a flower. It only adds; I don't understand how it subtracts.

The Sermon:

For a variety of reasons, preaching about evolution is a dangerous thing for me to do. Not least of the dangers is that many of you know much more about science in general and evolution in particular than I ever will know. Not knowing much about a topic, however, has seldom in the past stopped me from preaching – as you well know – and, just for your protection, I have asked a couple of actual scientists to comment on this sermon during the discussion period, mainly I expect to correct my errors.

Nonetheless, much as my sermon of three weeks ago called for a revival of the freethought tradition within our church, this morning I call for a revival of our liberal religious appreciation of science. And where better to begin than with evolution?

In the freethought sermon, I told you that, when I was a child in a Unitarian Sunday School in Chicago, I was required to memorize the words of freethinker Tom Paine “These are the times that try men’s souls...” So too I recall an October Sunday School picnic where, along with all the other little kids, I pondered an orange (as Christopher Columbus might have when considering alternatives to those who assumed the earth was flat). I recall gathering and displaying my first collection of rocks – granite, schist, mica, agate – not in public school but in Sunday school. And once at age ten or so my mother took my church friends and me to Coal City, Illinois where – with our hammers – we discovered lots and lots of fossils that were, well, millions of years old. I have them still here in this box along with treasured arrowheads from my grandparents’ Illinois farmland. The Unitarian Sunday school curriculum of my childhood included the “Beacon Science Series” focused on “how miracles abound” and “the beginnings of earth and sky.” I especially recall a lesson that called attention to the human hand that has 27 bones that miraculously work together.

Growing up in a Unitarian Church in the 1960’s meant learning some science. Not much, to be truthful, but just enough to appreciate the importance of what Richard Feynman has called, “the pleasure of finding things out.” Unitarian churches used to be stereotyped as places of scientists and, indeed there was and remains some truth to that: 16th century Unitarian martyr Michael Servetus was also a physician who discovered the circulatory system; 18th century Unitarian minister Joseph Priestley also discovered oxygen; Charles Darwin came from a Unitarian family; Maria Mitchell, America’s first woman astronomer was a Unitarian; and so too in modern history Clyde Tombaugh, discoverer of Pluto, was a UU; and of more local repute, there’s Jim Waters, innovator of chemical spectography (The Waters Corporation, you may recall; was bought out by Bedford-based Millipore); and there’s Tim Byers-Lee, so-called innovator of the Internet; and over the centuries there has been an above-average lot of UU scientists.

My hope for this sermon is to revive “the pleasure of finding things out” and to refresh our awareness that this is a core spiritual value within liberal religion.

Evolution seems a good place for us to begin because it has been breaking idol-smashing news since the 1859 publication of Darwin’s *Origin of Species*. I can hardly believe that the lead

editorials in the Sunday *New York Times* of two weeks ago and in *The Boston Globe* last week were in defense of evolution! Evolution is the cover story of *Newsweek* and other national magazines. Evolution is a rumored topic in Bedford's school committee election.

Last fall I was also introduced to Bedford resident Dr. Ernst Mayr, father of parishioner Sue Harrison and the leading evolutionary biologist of our era, "the Darwin of the 20th century." I am sad that Dr. Mayr died on Thursday, at 100 years of age, still thinking, still publishing ("publish or perish," they say), still finding thing out until the very end. One cannot read anything about any aspect of biology or evolution without encountering Ernst Mayr, the pre-eminent authority.

And so – just to know what to say after saying Hello to Mayr, I've been reading high school biology texts, comic book introductions to evolution (our cover is from one), and articles like this National Geographic that teases us on the front cover, "Was Darwin Wrong?" then answers the question inside with an emphatic, "NO. The evidence for evolution is overwhelming."

Again and again, I am impressed by what a radical scientific theory and fact evolution is; and I am startled by its religious implications. Do you ever recall being intrigued by the concept of a "universal acid," something that might eat through everything with which it comes in contact? If such an acid should ever exist, what could ever contain it? Evolution has been called a universal acid that eats through all static ideas of how and what life is. Evolution especially eats through all orthodox religious concepts of how life came into existence and what life's purpose may be. Evolution has been called "Darwin's dangerous idea" and, in the newspaper, we see that danger is felt by the Board of Education in the state of Georgia that was recently court-ordered to remove stickers that falsely claimed that "evolution is a theory not a fact."

To the utter disbelief of people around the world, there are men and women being elected to public office in this country who assert that the world was created in six days, *as is*, by God, just 6000 years ago. And because science education in this country is so notoriously thin (a week ago our governor proposed that science competency now be included in the MCAS exam), there are those who put forward theories of "creationism" or "intelligent design" and even some fair-minded Americans are confused by this false equivalency and conclude that evolution is but one among many plausible but unverifiable theories. Like the theory of gravity, perhaps.

Evolution, it is alleged, is also responsible for social decay, for premarital sex and for abortion. I kid you not. House Majority leader Tom DeLay says that the shootings at Columbine High School occurred "because our school systems teach our people that they are nothing but glorified apes who have evolutionized out of some primordial mud. Guns don't kill people (Tom DeLay really said this)...Charles Darwin kills people."

It is difficult to overestimate the revolutionary import of Darwin and his theory of evolution by natural selection. The year 1859 marks the beginning of secular science; all earlier science made religious assumptions about life's origins and purpose.

I will highlight a few of the momentous consequences of evolutionary thinking, but a basic description of evolution by natural selection might help. Understand that the term *evolution*

alone is not an adequate description: things might evolve for various reasons. Perhaps a supernatural God might direct evolution. The church evolves; governments evolve; video games and Volkswagens and dance styles evolve over time: in such cases humans, not God, bear responsibility. When we say “*evolution by natural selection*,” however, we are saying that the changes that occur over time happen neither by divine nor human intervention but happen naturally, without external intervention or fore-ordained purpose.

Evolution by natural selection occurs when the following three conditions are met:

1. There is a population of things that make copies of themselves.
2. The copying process is not perfect.
3. The copying errors lead to differences in the ability of offspring to survive and make copies of themselves.

These conditions apply to animals and plants but also to anything that can copy itself. Computer viruses can copy themselves and, therefore, they too may evolve by natural selection.

A classic example, however, of natural selection is of pale-white butterflies that once lived in an English forest. Their population increased because, sitting on pale tree branches, birds could not spot them easily. Then a smoke-belching factory was built near the forest. Pollution darkened the tree branches; the pale butterflies stood out against the branches and the birds feasted. But butterflies are a population that makes copies of themselves and the copying process is not perfect; and so, occasionally – *just by chance* - butterflies were born that were even more pale than their parents and they were gobbled up even more quickly than the others; and, yes indeed, occasionally – *by pure chance* – butterflies were also born who were more grey than their parents and these blended into the polluted tree branches and these lived to a ripe old age and had lots of offspring. And after several generations almost every butterfly in the forest was grey.

Pre-Darwinian scientists would likely have concluded that God, the “intelligent designer,” made gray butterflies that gave camouflage against their predators. The difficulty with that view, though, is that that same God would have to have been responsible for the even more pale butterflies that attracted predators.

The ultimate purpose or function of an adaptation *is not predetermined* and thus there is the miracle of the human hand and so many complex, gradual and wondrous adaptations but there are also plagues and viruses and antibiotic-resistant bacteria and mosquitoes.

The feathers on birds, I’ve learned, seem to have their origins – not to aid in flight – but as a means of dispersing heat away from the animal’s body. Not only did those with feathers not overheat but they were less likely to get hurt – they had a little cushion – if they chanced to fall out of a tree. Gliding came next; and then flying. Something can evolve for one purpose, then acquire another; each step was an improvement but not every step served the same purpose.

In contrast to those pre-Darwinian scientists who compared God’s creation to that of an intelligent watchmaker who assembled each cog and gear in amazing coherence, a British zoologist named Richard Dawkins describes this process of natural selection as that of a “blind

watchmaker”: “Unlike a real watchmaker, who plans out the watch he will make before he starts, natural selection aimlessly tinkers with organisms in a piecemeal fashion, with no particular end in sight.”

OK, it’s time for me to tease out the still revolutionary and liberal religious values that are inherent in this.

First of all, the universal acid of Darwinism utterly disproves the notion that there is any one perfect, ideal, or unchanging type of any species whatsoever. Ernst Mayr was once asked what delayed the acceptance of evolution and he placed responsibility on our western platonic philosophy, an idealism held by Plato and Aristotle through Linnaeus and Mill that there are ideal types or kinds of organisms: the quintessential perfect rabbit, or woodpecker, or butterfly, or tree, or white-handed gibbon monkey, or human being.

In any biopopulation no two individuals, not even identical twins, are actually identical. There is no such thing as the perfect ideal unless you consider all to be perfect ideals (and frankly I think it wiser to assume universal imperfection).

That no two individuals are identical is called “population thinking” – we are a population of diverse individuals. And – get this – it is the failure to adopt population thinking that is the primary source of racism, and sexism, and heterosexism, and ableism, and ageism. Last week marked the 60th anniversary of the liberation of Auschwitz and it must not be forgotten that the evil of Auschwitz was fueled by the illusion of an Aryan ideal – the evil opposite of population thinking.

How often – among ourselves, with our children, with our neighbors and strangers and friends – we are tempted to type, categorize, or urge others to fit some mold of *our own* making, or to conform to some preconceived notion of whom or what or how they really should be if they are to live up to our expectations. Darwin and liberal religion say that we are individuals, living or trying to live amidst a population.

Darwinism, next, disabuses us of the illusion that there is *anything alive* that is unchanging. Not a tree, not a human being, not any biopopulation...such as a church, just for example. “The way leads on,” wrote Edwin Muir, “None stays here, none....And what will come at last? (the poet asks, then answers...) The way leads on.”

Most significantly, evolution and natural selection place enormous responsibility – truly all responsibility – on what we do or do not do with this life. There is a branch of theology called teleology that is concerned with *telos*, that is *end* things, meaning where are we going? Is it God’s purpose that we move toward Armageddon or the Rapture or toward the progress of humankind onward and upward forever? Darwinism says that every teleology is bunk: we do not know, we cannot know, the story is still being written, revelation is not sealed.

Now I suspect that most of us are not readers of the Left Behind series of books that envision the end-times salvation of some and the damnation of others. But if that is not our delusion, we are still sometimes deluded by the idea that progressive ideas will ultimately prevail, that

superstition and dogma will decline, and that – as our preacher here said just a week ago – “the arc of history, though long, bends toward justice.” Darwinism says, No. Nothing is settled aforethought. As is said, “We are the indispensable link between the world that was and the world that yet shall be.” If an arc is to be bent, it is our hands that shall do the bending.

These are not antiseptic observations, and to illustrate I must tell you more about Charles Darwin. He was married to Emma Wedgwood – of the famous pottery-making Unitarian family. Together they were devoted to eight children: William, Anne, Mary, Henrietta, George, Francis, Leonard and Charles. Two died in childhood: Charles lived just past his second year; Annie died of consumption – tuberculosis – at ten. Of Annie, Darwin wrote to William Fox, his friend, “She was my favorite child. Her cordiality, openness, buoyant joyousness and strong affections made her most lovable.” Twelve years after her death he still spoke of his “unutterable bitterness” and he wept frequently at her loss even at the end of his life.

From my experience as a parish minister, I know that the loss of a child is simply intolerable.

The theological issue that most confronted Charles Darwin’s heart was the issue of justice: if God is loving and all-powerful, how can children die? Darwin was horrified by suffering. He was a generous contributor to the Society for the Prevention of Cruelty to Animals and he was outraged, when he heard about it, by enslaved and tortured children in Brazil.

Sensitive as he was, he was sometimes actually nauseated by the reality he articulated in his own *Origin of Species*, that is, that there is a great procession of life evolving over millions of years by the blind happenstance of natural selection. He said there is a “dreadful but quiet war of organic beings...in every peaceful wood and smiling field.”

By ethical standards, natural selection is brutal. Over the eons, whole species have, do, and will continue to perish. Millions upon billions of creatures have, do and will continue to suffer. What Darwin realized, however, was that because nature itself is not sentient, conscious and caring, these realities – however awful – are not *ethically* unjust. Were, however, there to be an all-mighty God or Providence who directs this great march of life – and if that God *determined* to take his beloved daughter Annie from him, that – Darwin concluded – would be the height of injustice and truly ethically intolerable.

And so, because none will do so for us, it is our responsibility to “do our duty” (as was said in the earlier reading). It is our responsibility, Darwin said, to preserve love and justice and compassion and forgiveness – and all the other evolved ethical virtues because these are the true expression of our evolved human heart.

Evolution does not create injustice, as Tom DeLay seems to think, but evolution preserves justice as the noble expression of our humanity.

My poetic colleague in Columbus, Ohio, Mark Belletini says, “Gingko trees don’t express a sense of fairness. Human beings do. Perch do not write love sonnets, storks do not express compassion, eels do not wriggle in tenderness when their children laugh. The natural world outside humankind has instinct, and the higher mammals even express elementary forms of love,

but the grand ideas of justice and compassion evolved for the first time with clarity within the *human* heart.”

Thus, at last, another of the ways that Darwin and evolution have transformed our culture and informed a liberal understanding of religion is by affirming the priority of justice first, doctrine second. *Ortho-praxy* – that is *doing* that which is right – is so much more vital than having the right opinions, *orthodoxy*. Love comes first; philosophical explanations are a distant second.

And what of God? Well, there is an ancient Jewish instruction that, in any given situation, the highest devotion to God is achieved when one acts as if there is no God and acts justly, lovingly and compassionately nonetheless. The universal acid of Darwinism and evolution by natural selection really do eat through conventional notions of God and, well, you will have to decide for yourself if and whether God is meaningful.

And yet it is the highly evolved religious imagination of many human beings who indeed conceive of a God that assists them in finding their place in this evolving universe. It is, as far as I know, human beings who have brought God into existence and that existence, for those who believe, is certainly real.

When I first imagined preaching this sermon on evolution, I thought it might be a dusty bloodless academic thing – sort of an antidote for you who think I’ve become altogether too spiritual for your tastes. And yet I’ve discovered that evolution is a – perhaps *the* – touchstone of our vital blood-pulsing approach to religion. It ought be no surprise that there is in our hymnal an index entry for evolution (in the preceding blue hymnal there was an even lengthier index entry). I’m not sure that the hymnal of any other faith has such an entry! Last week, I was with my friend Fred Muir who is the minister of our church in Annapolis, Maryland. There they celebrate Darwin Sunday every February, the month of Darwin’s birth. And, as I have suggested that we might remember Tom Paine more routinely, so too we might call to memory Charles Darwin – and Ernst Mayr – by calling to mind the rich spiritual legacy of evolution

I was surprised – and I should not have been – when I was in India last month to discover that the Khasi Unitarians have recently reproduced a 1925 essay by a Unitarian minister from Michigan named Jabez Sunderland who, in a sermon on evolution, said, “Evolution teaches us, as no other thought can do, that the past belongs to us, a heritage infinitely rich and precious. But it belongs to us, not as a stream emptying itself into the present as a pool, to stagnate and dry up and breed disease and die. The past belongs to us as a stream that must flow on through the present into the future, to bless that. If evolution means receiving from what has been, it no less means contributing to what shall be. It means giving. It means making ourselves willingly and joyfully a part of God’s eternal order. Evolution means a face set to the future, toward which we press with faith and high purpose. It means believing in some better thing, and forever some better thing, for religion, for (humankind), for the world; believing in it so earnestly that we shall gladly make ourselves coworkers with God to bring the consummation.”

Denying that there is any one perfect, ideal, or unchanging type of any species whatsoever, we affirm the manifold, plentiful, imperfect and unique diversities of life.

Denying that there is anything alive that is unchanging and knowing that revelation is not sealed, we affirm that we too are an evolving part of the great tide of existence.

Denying that any supernatural power has foreordained our destiny, we affirm that the processes of life are natural processes, that doing and not doctrine matters most and that we are the ones responsible for bringing our values to fruition – thus making, if you will (*and only if you will!*) God's work truly our own.