Monkeys on the Mind –
The Spirit of Darwinism

By David Tresemer, Ph.D.

Imagine a young man, 28 years old, visiting the manicured park of the London Zoo in the spring of 1838, to see the new arrival, the zoo's first orangutan. The young man had returned from a long voyage around the world and seen many things, but not a monkey with nearly the stature of a human being. He was so impressed by this creature that he came back twice more, bringing with him a harmonica, some peppermint, a sprig of verbena and a mirror. He was able to pass the harmonica to the orangutan, so it wasn't like zoos today. That's an astonishing thing just to think of, this handing of a harmonica through the bars to an orangutan, to see what he would do with it. In the intervals between the props, they just stared at each other.

Let us imagine that two other people observed this encounter. I have names for them which perhaps sound as if they come out of comic books, but these names are useful in that they indicate what kinds of characters lurk in the shadows. One observer we can call the Illusionist and the other we can call the Hardener.

Illusion comes from *il-* and *–lusion*, the latter part from *ludera* meaning play and the prefix *il-* indicating a negative, so combined meaning 'bad play' or 'foul play'. The Illusionist is one who, using trickery and deception, likes to play with our thoughts, with our fantasies, by coaxing us up and out into realms of imagination divorced from reality. Once out too far on too thin a branch, we fall. The Illusionist laughs and mocks. We don't seem to notice. This siren's song is so dreamy that, still in the thrall of enchantment, we ignore our injuries and begin to climb out on another limb.

The Hardener can go by different names. All include the sense of rigidity. 'Sclerotic' is another choice of name, as 'dry' and 'skeleton' come from its ancient root. But Hardener serves best as it is a verb, an active principle. It comes from an old word that had a hard beginning, a 'k' sound, actually more like the 'ch' sound at the beginning of 'Christ,' in Greek the X-shaped 'chi,' and indeed this one gives us a cross to bear, a heavy hard cross. 'Hardener' also has the same Proto-Indo-European root as 'cancer,' which is a kind of hardening, and the same root as the suffix '-cracy,' meaning power, as in theocracy or plutocracy. In the name 'Hardener,' we find a sense of power and rigidification.

We can think of the Hardener as tending towards cold, dry, heavy and bitter. A scientist would align with the Hardener, gaining thus both the positive qualities of clear practical thinking and the negative qualities of cold rigidity, lack of feeling, and ruthlessness. We can think of the Illusionist as tending to warm, moist, lifted and sweet. Positively this can bring us empathy and aesthetic sensitivity, welcome to a poet. Negatively this can bring the fogs of deception. These two characters work together often. It's a real Mutt and Jeff team, and we can laugh at the contrast until we feel their grip on our lives.

In the shadows, these two observed the young man with keen interest, for a battle smoldered in this young man that would have world-wide consequences. The man was Charles Darwin, and they were trying very hard to influence him from afar.

They succeeded. When Darwin left the zoo he wrote in his notebook, "Man in his arrogance thinks himself a great work, worthy of the interposition of a deity. More humble and I believe true to consider him created from animals."

This thought, formulated in broad strokes before, even by Darwin's grandfather, Erasmus Darwin, and suspected during young Darwin's voyage on the H. M. S. Beagle, took deeper root in 1838. By 1844 Darwin had presented an outline of a theory of evolution,

and in 1859 published *The Origin of the Species*, its full title being *The Origin of Species by Means of Natural Selection or the Preservation of Favored Races in the Struggle for Life*. It seems that the public relations team that decided to promote this book gave away the first printing to people in prominent positions in society, then said it had "sold out". The buzz began and the second edition sold well. Darwin wrote many other books but none has actually come close to the power of *The Origin of the Species* to affect how human beings understand themselves.

Part of the motivation behind Darwin's work can be found in these two sentences from his notebooks, while the monkey at the zoo bore down on his mind. He links 'arrogance' and 'deity,' 'truth' and 'animal'. Before the voyage, Darwin had tried medical school for a year and, when that didn't work out, he had studied to be a parish priest. That also didn't work out, but it brought him into close encounters with a world that he considered pompous, full of empty promises, and insulting to his intellect. The total grasp of dogma had been loosened by two centuries of scientific work and the philosophy that went with it, but dogma still held on. The Church believed Bishop Ussher's estimate – partly because it had come from the good Bishop's mathematical-scientific (and therefore modern) study of the chronology of the Bible – that the Earth was formed on October 23, 4004 BC, at nine o'clock in the morning. This seemed absurd to Darwin. The magical appearances supposed by the Church and, above all, the subsequent fixity of the forms of the world rankled Darwin. Just before leaving on his voyage, Darwin took up the books of the geologist Charles Lyell, who claimed not six thousand years, but millions of years in the making of the world. This answered Darwin's frustration at the creationists' static world view and opened him up like a walnut. He was able to observe the new forms that he discovered in South America, Australia, and the Galapagos Islands with new eyes.

What did he see? Rather than a single pre-determined path, he saw multiple possibilities. Rather than the fixity of a single creation, he saw change and variation. The giddy feelings of his new-found freedom from the 'interposition of a deity' shines through in his writing.

Darwin's theory begins with the observation that in any group of animals or people there are variations between individuals. Fair enough, we can all agree. Later on this variability was assigned to random mutations of DNA (deoxyribonucleic acid) by cosmic rays that knock molecules about, thus altering one kind of amino acid into another. In Darwin's time no one knew about DNA but he knew that organisms kept their traits and passed them on. Individual differences that are inheritable – that's the beginning observation.

Darwin next observed that nature varied too in its ability to provide a food supply, protection from predators, warmth, any factor that made a difference in the quality of life of an organism.

Darwin put the two together and concluded Nature's variability acted like pressures, and some individuals found these pressures more bearable than others. Simple. Some survive better while others survive less well.

It's like trying out for a soccer team. Some can kick the ball and some can't. The ones who kick the ball better make the team. The ones who can't go away, now shifting metaphors again to Darwinism, they go away and die. This is called survival of the fittest, a term coined by the sociologist Herbert Spencer that Darwin put in *The Origin of the Species*, thus giving it the scientific nod.

So the bottom line, the final accounting—those who by chance were affected by cosmic rays in such a way that their DNA made their (back to soccer) legs longer and stronger were thus able to kick the ball better and therefore made the team. Those who made the team, now back to the jungle, were able to survive better in relation to the selective pressures of food or predators. Finally, and here is the key, these survivors were able to reproduce more and pass on more of their genes holding their superior characteristics to

future generations. After a time, more of that kind of animal begin to look like the ones who 'made the team'. If soccer is food, then soon everyone has better legs.

Darwin noticed that natural settings can change. Climates change; land masses move; the sea level rises and falls. These events create changed contexts of food, water, shelter, and danger. Animals respond to these changes by changing their behavior and over time their form. Thus change occurs in response to pressure, adaptation to random shifts of the environment – evolution. The same kind of animal separated into two groups by a slowly rising mountain range may thus change slightly in two different directions, and over time become two separate species (a term with several definitions, the most common being that sex between two species does not lead to offspring).

Darwin concluded that to avoid starvation, we change, and since our leader – Nature – is governed by the vagaries of weather and random chemical and geological processes – we follow a blind leader. There is no progress, aim, or goal.

Darwin spoke strongly in reaction to the context of the times. He felt that organized religion had a strait jacket on independent thinking and he wished to break out of the stifling constraints. Instead of the 'elect' chosen by a beneficent deity to ascend to heaven, in Darwin's view the 'select' were chosen by their own evolved capacities to survive another day in a randomly determined world. There was no deity, only capability.

Steven J. Gould, the late professor at Harvard, championed evolutionary theory and soundly ridiculed anyone who thought differently. His thousand-page tome on the structure of evolutionary theory was published posthumously. From Gould's perspective Darwin presented three new points of view for his time. First was a complete commitment to materialism as opposed to the spiritism of the Church, building upon the developments of science of the seventeenth century, so potently stated by Hume. You

can feel the influence of the Hardener in Darwin's commitment to 'what you see is what you get'. Period.

The conflict of materialism and spiritism can still be found in our times, for example, in the transcripts of the Scopes Monkey Trial of 1925. The State of Tennessee had declared the teaching of evolutionary theory illegal, and was prosecuting a high school biology teacher for teaching it. The Presidential candidate William Jennings Bryan came to Tennessee as part of the prosecution to defend creationism. Clarence Darrow, as defense for the biology teacher, came to promote evolutionary theory primarily by ridiculing Bryan's dogmatic spiritism. The transcripts are almost bizarre as they bring to light the literal interpretations of the Bible held by firm believers. Clarence Darrow puts the prosecutor William Jennings Bryan on the witness stand and asks, "Did Jonah actually spend three days in the belly of a whale?" William Jennings Bryan responds, "Absolutely, that's the case. The Bible says so." In an age of reason or simply of reasonableness, and faced only with these two extremes, you have little choice – you drop spiritism and choose materialism. The Illusionist often creates the notion that you have only two choices.

One should realize, however, that Bryan was being a materialist here too. When Darrow pressed him on the whale story, Bryan insisted that Jonah literally lived inside of the belly of a physical whale. Fundamentalist belief tends to this kind of materialist view, undercutting itself because it has already agreed that the world that can be numbered, weighed, and measured is the only world.

A modern Darwinist, Massimo Pigliucci, cites another story, where the French philosopher and cosmologist, Laplace, was instructing his pupil, Napoleon, who would some day be emperor but at that time was basically a good Catholic boy. Laplace demonstrated to Napoleon his whole system of celestial dynamics, that is, how the whole solar system and the universe developed and how it works. At the end, young Napoleon asked, "But where is divinity in this?" Laplace replied with some pride (you can just see

his smirk), "Sire, my theory has no necessity of such a hypothesis." Thus are laid the foundations of materialistic thinking. Darwin was able to add a thick book of research and a kind of stamp of scientific approval for how materialism is, indeed, the Truth, and had no need of God.

A second point of view that Steven J. Gould noticed in Darwin's thinking was the notion of no progress. Organisms adapt not to grand goals but to the whims of nature, which are only the chance workings of impersonal mechanical laws. Events in nature just happen and no one can point to a goal or a direction of it all. At that time there was general excitement about the explanatory power of science – from Boyle to Maxwell – that began to show that everything functioned via Newtonian mechanics. Science, it was believed, would soon pierce through all the veils and find large clockworks behind everything, a clock with hands but without numbers, just moving gears, all interrelated but not progressing. Time passing, going nowhere, just round and round.

Gould observed a third new feature in Darwin: purposelessness. As the German Professor Ernst Haeckel, one of Darwin's ardent spokespersons, wrote, "A grim and ceaseless struggle for life is the real mainspring of the purposeless drama of the world's history. We can only see a 'moral order' or 'design' in it when we ignore the triumph of immoral force and the aimless features of the organism." 'Immoral force' and 'aimless features'. Odd that he didn't say 'amoral force,' meaning no-morals, as in a bull in a China shop, destructive but not intentionally so. No, Haeckel meant anti-moral force to undermine the Church and its rigidities, giving us a world that has as its 'triumph' the defeat of morals, brute violence, competition but more than competition, 'a world red in tooth and claw,' as Tennyson summarized it. Organisms develop features—eyes, ears, limbs—not in any directed way but only in response to the pressures of an aimless environment so that they can live long enough to reproduce. To finish it off Haeckel added, "Might goes before right as long as the organism exists." The 'Lord of the Jungle' gets there by strength and power, via immoral force. Any notion of 'right' or integrity or enlightenment in the ruler comes only secondarily. Fairness comes as an afterthought, and more likely to justify or

explain the use of might. Purpose exists only as long as the life of the bully, and serves only the bully's survival. After the organism ceases to exist, then none of it matters anymore. It is no longer matter; therefore, it matters not.

Haeckel was a powerful force in European science. As an example, he divided human skeletons into two types. One was *homo sapiens* which meant wise human beings—that's us. The rest were *homo stupidus*. That's them – the ones that didn't make it and, let us agree, shouldn't have made it. In the German universities of Haeckel's time, you were at risk at any moment of being branded the 'other' species, *homo stupidus*.

The Origin of the Species was initially published in November of 1859. The second edition came out in ample time for the meeting in June of 1860 of the British Association for the Advancement of Science, their 13th meeting. In the theatre world, "No publicity is bad publicity," and Science used theatre to gain a foothold in the popular mind. Darwin's theory of evolution was chosen as one of the great debates of the era. Samuel Wilberforce, Bishop of Oxford, known as the most powerful orator of the day, rose to lead the opposition. Then, unexpectedly, two days before the meeting, Darwin bowed out for reasons of bad health and instead went to a water-cure sanitarium.

After an early life of health and athleticism, Darwin had contracted an unknown illness on his voyage, and from 1836 until his death in 1882, he was a sickly person. He hated large groups; he hated to debate; he had said that, "I would rather die than debate a bishop." For all these reasons, Darwin excused himself from the fracas.

In his place Darwin put a young naturalist, Thomas Huxley, who later became known as Darwin's Bulldog, as Darwin himself was more modest, more the reclusive naturalist, more the writer, penning 14,000 letters in his lifetime, and more sickly.

Huxley wrote his wife just before the debate, "By next Friday evening they will be convinced, all of them, that they are monkeys." Monkeys on the mind, this time on

Huxley's. Recall the Illusionist working from the sidelines, implanting suggestive images. An evolutionist today would cringe at Huxley's statement as unscientific, yet it is important to understand the roots of one's profession.

The debate occurred, a thousand people jamming into a hall at Oxford. What most remember are not the reasoned speeches, but the jibes that were delivered, one of them being initiated by Wilberforce, "And so Mr. Huxley, is it from your grandmother or your grandfather's side that you are descended from apes?" Wilberforce thought this joke would settle the matter. His comment got a laugh, during which Huxley turned to a friend and said, "God has delivered him into my hands." (A figure of speech, for Huxley was an *agnostic* – he invented the term – so who was delivering Wilberforce into his hands? Might we see a kind of god-like character, the Hardener, prompting the young naturalist?) Huxley rose to reply to various points, concluding, "And I would sooner be descended from apes than from such a person who uses his mind not to better himself, but to slither in the grime of untutored opinion." An uproar from the gallery – the people loved this kind of gladiator sport, hinging on every word. In a day before television this was the major sitcom, the source of entertainment. I have paraphrased, but so did all the newspapers. Many versions of that encounter were created, and that was the point – 'no publicity is bad publicity'.

After that the papers were full of Darwinism. Evolutionary theory gained power in the scientific community very quickly because it had the power of explaining the interrelationship of all living things. Time was spread out to the hundreds of millions of years that Darwin considered necessary for all the geological processes to occur and for little slithering animals to come out of the sea onto the land and grow slowly through many intermediary forms into the shape of human beings.

Darwinism had broken through; it became the mainstream. The populace now rejoiced that the human intellect had penetrated Nature and laid bare her secrets. They began to see other possibilities immediately. If you want to have something better, you change the

selection pressures – note the mechanical image of 'pressure,' easily taken up by a populace intent on inventing new things for industry. Breeders had known about changing pressures for a long time and Darwin had in fact studied with breeders of pigeons. (Most people are disappointed that the first chapter of *The Origin of Species* is mostly about pigeons, what pigeon breeders do.) Now people thought of new arenas to try out these ideas. We can all be scientists, we can follow the breeders and indeed all of Nature and apply selection pressures for the common good. After all, human society was a mess; it was chaotic. Let's give it some order.

The capitalist baron, John D. Rockefeller, a devout Baptist, embraced this creed. He had a method. He destroyed people in business, including driving his brother into bankruptcy. Then he turned around and became the largest philanthropist – ever.

John D. explained his method to his regular Baptist Sunday School group, "The growth of a large business is merely a survival of the fittest. This is not an evil tendency in business. It is merely the working out of a law of nature and a law of God." Notice how quickly God was brought back into Darwin's theory. From what Gould observed in the pure theory as purposelessness, now the theory recruited God for the task of capitalism. Capitalism then became recruited for the task of God, and many churches have been built as a result with capitalists' money. The Church signed on very quickly to Darwinian thinking. The linking factor that justified this common recruitment was evolutionary theory.

Another example of the recruitment of evolutionary theory for the goals of capitalism – Andrew Carnegie, the great tycoon and industrialist, founder of the steel empires of the United States, who wrote about a certain moment in his life: "I remember that light came as in a flood and all was clear." That sounds good, certainly an inspiration, maybe even a spiritual insight. But this light was not the warm light of revelation, but rather cold and bright. "Not only had I got rid of theology and the supernatural, but I had found the truth of evolution. Man was not created with an instinct for his own degradation, but from the

lower he had risen to the higher forms. Nor is there any conceivable end to his march to perfection. His faith is turned to the light. He stands in the sun and looks upward." Now you might ask if he's gotten rid of theology and the supernatural, what light is this? Where is upward? What is this man marching towards 'perfection' seeing as he 'looks upward'? Can we see the work of the Illusionist working here? See too how quickly progress has come back into the scene under the new wings of a revised evolutionism.

Does capitalism intrinsically have a goal toward which it progresses? The sociologist Max Weber thought so, and pondered this in 1905 in his book, *The Protestant Ethic and the Spirit of Capitalism*. Capitalism, protestantism, very soon thereafter catholicism, industrial development – all had similar vague goals of 'bigger and better, all on the way to heaven'. The motivation was great; the great ends – 'heaven'! – justified any means, and yet the vagueness of heaven meant that all the effort became vague. Tycoons built great temples of commerce, leaving destruction in their wake, and then – what? – gave away money that seemed to be helpful, altruistic, public-minded, and progressing – but in truth could never redress the destruction that they had wrought to get it.

You can see the idea of Darwinian evolutionary theory, the principle of survival of the fittest, influencing many social movements of Darwin's time and now too. Darwin was beloved of the Royal Society in London because he served to legitimize what the British were already doing. For example, what imperialistic campaigns did the British set out upon between the time when we observed Darwin at the zoo and up until he died? They entered China in 1840, India in 1845, New Zealand in 1845, Russia in 1854, Turkey in 1855, China in 1858, Ethiopia in 1866, Afghanistan in 1878, Egypt in 1882. The British had been acting this way before Darwin, but they needed a kind of philosophical shot in the arm. Those in power needed to have a new way of answering: "Have you gone mad? What do you think you're doing?!" In a scientific age, they needed a scientific justification.

The British saw their worldwide empire in terms of protecting national interests by removing competitors in the struggle to survive, a style of reasoning that we see active today. Owing to what we would now call clever propaganda, the British people were convinced, for example, that if they didn't attack India now, the East Indians would be on their shores at any moment. The British went out to conquer a projection of their own aggressive desires. Paranoia later became painted over by the patina of altruism, by white man's burden. "It is up to us to help the seething masses of non-Christians see the light and help them economically and bring them democracy too." After Darwin popularized the struggle for existence, the United States joined the campaign.

Darwinism was brought into the bosom of another social movement, national socialism, the idea of the super race. Kill the bad, breed the good, simply helping nature to do its job. Darwinism came into the foundations also of Communism, a better material civilization. Now it finds its way into the thinking of globalization, which is a new form of the British Empire. For centuries, the British could boast, "The sun never sets on the British Empire." Now it never sets on what multinational corporations combine in the world. The conquering has shifted from military to economic. The present military expansionism, though the stuff of daily headlines, obscures the larger economic struggle that is taking place by those who feel that "might goes before right." One reads that WalMart has negotiated with the Chinese to cut their pay rate from 30 cents an hour to 19 cents an hour and that's why the company's stock goes up. Only the cold math of Darwinian thinking can justify that kind of exploitation.

When an undocumented immigrant worker is not covered with Worker's Compensation then that worker has an accident, he or she is just pushed out the door. "We never heard of you. We didn't employ you. Life is tough." That's Darwinian thinking. That's survival of the fittest. I'm richer, you're poorer. Darwinism was used to justify imperialism and pre-emptive wars of conquest because, as Haeckel said, 'might makes right'. A journalist wrote in 1889, six years after Darwin died: "The greatest authority of all the advocates of war is Darwin. Since the theory of evolution has been promulgated,

they can cover their natural barbarism with the name of Darwin and proclaim the sanguinary instincts of their own inmost hearts as the last word of science." This predicted the Spanish-American War of 1898 which had an initial outrage – sinking of the USS Maine, found later to have been done secretly by Americans – and a scapegoat – Spain, then a defunct monarchy, which was attacked and stripped of its possessions, including the Philippines. Might makes right. We can prove it because we can destroy you.

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In another image reported by a machine-gunner of the conquering force from this past few months: A poor Middle Eastern family driven to utter despair throws a rock futilely at a tank from the rooftop of their house. The tank pounds thousands of dollars of ammunitions into the house, destroying it and all the people in it. A thousandth part of the expense of the ammunition would have befriended that family for life. The Illusionist specializes in substituting an "immoral force" for a human relationship.

Today we have a curious combination of fundamentalism and Darwinism, a new version of white man's burden, with new terminology – 'liberating the people,' 'regime change,' 'making the world safe for democracy'. Thus we help out the natural course of adaptation. It becomes the responsibility of all enlightened people to make the world safe for democracy, by destroying it if need be. The Illusionist spins his webs, creating great designs, castles in the sky, leading us all after. Our leaders assume a natural selectionist God as they assist the righteous unfoldment of the future. Certain members in power would hurry the Apocalypse and they know who's going to be lifted up to heaven in the great Rapture and who is not. Those who won't, well, what do they deserve now? Those are natural selectionist ideas. God and politics and natural selection have become befuddled and confused.

Some have developed Darwinian theory all the way: We survive to reproduce. Period. Only the genes matter and the genes intend to continue to survive. "Selfish genes." The genes create the twinkles in the eye that cause people to procreate. All the rest is

irrelevant, only a side show. Richard Dawkins, an English philosopher, summarizes this. "In a universe of electrons and selfish genes, blind physical forces and genetic replication, some people are going to get hurt, others are going to get lucky, and you won't find any rhyme or reason in it or any justice. The universe we observe has precisely the properties we should expect if there is at bottom no design, no purpose, no evil and no good, nothing but pitiless indifference." Not only your concepts, but your experience and your perceptions do not matter. The story is about reproduction. That's all there is. Anything else is meaningless and, in fact, 'meaning' has been fabricated as a sideline to narcotize ourselves while the real activity is taking place with the genes. In fact, there is no meaning.

In his later life, Darwin would not have approved of this logical consequence of his theory, and in his book, *The Descent of Man*, said very clearly that principles of natural selection do not function after the advent of consciousness. But Darwin the naturalist, the student of barnacles and beetles, is different from Darwin-ism, which took on a life of its own. Once the scientist had given the scientific stamp of approval for the notion of competition and force, then he could be permitted to end his life in the study of earthworms, which was a lifelong study and the topic of his last book.

Under the inspiration of the cold Hardener, however, the system of Science made Darwinism as Gould understood it part of its foundation. The historian Alexandre Koyré says that science has witnessed "the disappearance – or the violent expulsion – from scientific thought of all considerations based on value, perfection, harmony, meaning, and aim, because these concepts, from now on merely subjective, cannot have a place in the new ontology." Ontology means "being." The word comes from the present participle of the Greek "einai," the verb of being, and the Divine Word (*-ology* from Logos, the divine Word, also meant as a verb of being), the being-ness of being. Science has said that meaning has no place in being, and has made 'being' into a form of matter, a most modern phenomenon. Seyyed Hossein Nasr has pointed out that the modern conception of 'matter' that we have taken for granted, a lifeless substance whose secrets

we have discovered through science and with which we can do what we wish, could not have been imagined even four hundred years earlier. 'Being' has been demoted by Science, and particularly by evolutionary theory.

Darwinism fully laid out, has a sense of nihilism, or nothingness, initially in reaction against the rigidity of the Established Church. Ironically, Darwin-ism has become a fixed creed of its own, actually the Church of Meaninglessness that worships the God of Random Things. It has a doctrine and a dogma; it requires cooperation and obeisance. You can't get an appointment at a biology department in most universities today unless you're a member of this Church. Unless you have preached sermons in this Church, you cannot get into the ranks of its ministry.

If there is no reason, if there's only chance, if from random cosmic rays playing upon a little rock orbiting a less than average star in a backwater of its galaxy – in other words, if completely insignificant – then what becomes the answer to the question of life purpose, "Where is my life going?" What is the highest value in a world without meaning? Pleasure. Now. My senses. Let's push all the buttons! Thus arises consumerism where all my attention goes to what flavors I can experience, what images I can plug in, what kinds of sexual arousal I can elicit, what ways to massage and stimulate my senses and have more fun. More fun. And more. And, hey, what about these drugs? Much less effort.

You can perhaps begin to appreciate that your answer to the question, "Where do I come from?," has financial consequences to those in power.

We must follow the money. Follow the way that the industrialists who controlled the Royal Society decided which scientific theories to promote and which scientists to promote them. One can look at Darwin the scientist, happy with his barnacles and earthworms, a pure scientist really, and happy to remain at home studying the simple things. Or one can look at Darwin from a well-to-do family interconnected with other

well-to-do families, related by blood and marriage to the ones who controlled the industries and also the Royal Society of science, a young scientist with a theory that his grandfather had proposed, but bringing to it much more data, who could 'prove' the notion of 'survival of the fittest' and who was also sickly so that he had to be represented by others in public. In other words, he was used.

Both of these views are partly true. To the extent that the latter one could possibly be true, it must arouse our concerns for how the theory was used and our suspicions for the foundations of Darwin's theories. When we learn that all is not right at the foundations of evolutionary theory, then we must ask why the theory is being promoted in our world. Let us review a few of the gaps in the footings of evolutionary theory.

I learned the biology of evolutionary theory so well in high school that I took a college advanced placement exam and got the highest score, a 5, which gave me college credit. I learned Darwinism especially well and was happy to see that they asked on the exam about a part of this work that I had studied very diligently. It was an experiment by Stanley Miller in 1953. As I was taking biology in 1962, it was relatively fresh stuff and everybody was very excited.

Stanley Miller had put in a glass jar what he thought of as the primordial soup of the early oceans billions of years ago. He put in water and carbon dioxide and methane and ammonia and certain minerals into this liquid. Then brilliantly he zapped his soup with little electric arcs to mimic little lightning bolts. You can imagine a *National Geographic* artistic depiction of this—"ancient seas" with a dark volcano in the distance spewing sparks into the bleakness, and gooey swirls of chemicals in the waters below, and a threatening sky out of which come lightning bolts. After just several days, in his flask Miller found little amino acids.

Now, as you know, amino acids are the major constituents of DNA—adenine, cytosine, guanine, and thymine. Where had they come from? Miller didn't get these particular

amino acids, but perhaps, Miller thought, it was just a matter of time and all of them would be created by lightning bolts in the primordial mineral soup. It required only a minor leap of the imagination to see the next development of complex amino acids, then to unicellular organisms, and then from there to multiple cellular organisms, and then up to little things that go squish, squish, and then things that go plop, plop. And then pretty soon you're on land and you're off and away and become human beings in a relatively short amount of time, geologically speaking. Darwinian theory gave the sense of a ladder. With Miller's experiment, the authors of my biology textbook felt that the first step of the ladder had been demonstrated—how life could be brought about from mere chemicals, minerals, and electrical arcs from lightning. Piecing together the rest of the ladder was only a matter of time.

Implied was the complete negation of any originating divinity. Miller might have echoed Laplace: "My theory has no need for that hypothesis."

What I didn't know until two years ago was that many people had tried to replicate the experiment and many got as far as Miller. Despite much longer times of zapping their primordial oceans, they were never able to get beyond simple amino acids. Stanley Miller's experiment still gets smiling approval in textbooks teaching people about biology. Never reported are the nonreplications, the failures, and the experiments that go on and on but cannot get to the supposed second rung of the presumed ladder. The Illusionist was at work feeding young minds, such as my own, with apparent proofs of the ladder of creation from the mineral world. Some scientists now say that you can't go from little amino acids in a soup to a cell with a protective membrane and with many complicated structures inside. No matter how much time you have, you can't do it.

Some Darwinists back away by saying, "Well, Darwinism really isn't about the origin of life anyway; it's only about the origin of species, that is, change once we have life." That's not true. Darwin was actually very interested in the origin of life. His tenacious supporter, Haeckel, embraced a mechanical explanation for the origin of life and found

evidence for the origins at the bottom of the sea, discoveries that have since been discredited. Now the latest idea is that life came as unicellular organisms on meteorites from outer space, from some unknown mechanical process that occurred there. Oddly, this has not aroused feelings of awe, wonder, and appreciation for a creator in the scientists who have proposed this idea. Out of sight, out of mind, and back to the materialistic concerns of this planet.

My personal sense of betrayal has caused me to research the foundations of Darwinism more closely. Many good books, amongst too many silly polemics, have offered many well-researched challenges to Darwinism. I shall mention only a few themes, beginning with polymorphism, meaning 'many forms'. If you look at other organisms in the wild, you see many, many different kinds of individuals, far more than what evolutionary theory would have you expect. Using the soccer metaphor, you see people playing soccer who kick the ball well and people who don't kick the ball well. And what are the people doing there who can't kick the ball well, nor could their forefathers? How does it make sense that they're still on the team after millions and millions of years?

The big book, *Forbidden Archeology*, documents counter-examples, otherwise known as anomalies or exceptions, quite thoroughly, thorough because when you have data that are not part of the prevalent paradigm, you have to document them in extraordinarily detail. If you come across a geological stratum that you identify as ten million years old and out of that you begin to extract a modern homo sapiens' pelvis, you immediately stop in order to bring together very good geologists to witness the final extraction. The professional geologists then write long opinions about where you found it and saying yes, that's between eight million and twelve million years old.

In the book, modern human skeletal remains are demonstrated from geological strata that are ten million years old. Not just one or two. There are dozens of findings of tools and modern human remains that go way back before they are supposed to. Ten million years? Twenty million years? Scientists have a name for this—anomalous findings, meaning it

just doesn't fit and there is probably a reason for this, most probably human error or conspiracy, and we hope we get to the bottom of it soon, but for now we'll just ignore it.

Anomalous findings arouse the worst in scientists. One young scientist found in the middle latitudes of Canada evidence of human activity in a stratographic level dated to 150,000 years ago. That doesn't fit the model of humans coming across the Bering Strait about 30,000 years ago. *Forbidden Archaeology* documents the plight of the poor young man. Cursed by trust in the basic scientific approach, that is, naïve, truthful, patient, and observing, he was very careful to document his findings. Being a scientist who has carefully looked at all angles, he does not back down when threatened. Then he loses his job. His superior who defends him loses his job too. All the artifacts are taken and disappear. The casualties are small compared to the impact that a change in the basic paradigm would create.

Another point of difference has been the rate of change in the world. Darwin adopted Charles Lyell's doctrine of uniformitarianism, which says that everything has always happened just the way it does now. Thus if you watch the erosion of a riverbed over fifty years, you can assume that it has altered at the same rate for as far back as you care to measure. Thus, conditions have changed slowly, rain has fallen, seasons have changed, rivers have cut their channels. It has gone on just like it goes on now for hundreds of millions of years. However, it has been found that the world has had at least six major catastrophes, severe changes where the comparison of before to after shows no similarity. A meteor falls, the sky goes black for years, temperatures plummet, almost everything dies. Quite suddenly 90 percent of all species disappear. The mystery deepens when the skies clear and a whole new set of species suddenly shows up – entirely new! How could that happen? 'Suddenly' could mean ten million years, but that's relatively short for evolutionary processes to occur. Vine Deloria, professor emeritus of the University of Colorado, has summarized, "Survival of the fittest in a catastrophic context is actually survival of the luckiest." Not the fittest, the luckiest.

Another challenge comes from the work of Michael Behe, a molecular biochemist, into what he calls 'irreducibly complex' systems, for example, blood clotting. If you cut yourself, for the blood to start to clot eleven separate chemical reactions have to occur. It won't work with ten. Hemophiliacs have ten. It won't work with nine or eight. Well then, using evolutionary theory's principles of slow accretion of change, how do you start with one of these chemical reactions, and then somehow go to two, or jump to six, and finally get to eleven processes when no intermediate steps have any utility, no greater fitness to survive? Behe gives other examples, and concludes that there may be intelligent design behind it rather than accidents.

These, among several other well-reasoned and well-researched themes seriously challenge the dominant paradigm of understanding where we came from.

Yet our culture clings to Darwinian thinking. And the Illusionist has had a grand time giving us a choice between two points of view.

From one side, we are pulled by metaphors of mechanism – our brain is like a computer, our heart is like a pump, our eye is like a camera, we move like a system of pulleys and gears, our digestion is like a chemistry class, etcetera. Even William Paley, author in 1800 of *Natural Theology*, champion of divine origins, compared the human being to a clock. Outdated and unworkable parts are discarded ruthlessly, so that the mechanism works increasingly better. We seek today to improve upon the mechanism, making it more streamlined and efficient. We speak of computer-chip implants, the cyborg, as a way of taking evolution into our own hands – progressing by becoming more like a computer, pump, camera, and so forth.

From another side, images of our animal origins pull on our attention. We look in the mirror and we repeat the experience of Charles Darwin at the London Zoo, seeing in our faces the features of our monkey ancestors – and prior to them little mammals in the jungle, and prior to them reptiles freshly emerged from the sea, and back to tiny

organisms in the slime of the primal soup. We are, from this view, in structure, in gesture, and in feeling, an odd collection of hand-me-down parts that, like a drunken sailor stumbling this way and that down the darkened streets of time, have picked up one oddity then another *randomly*, without purpose, goal, or progress. We arrive, a congeries, a mongrel, of animal parts. To 'find our true nature,' workshop leaders ask us to find our animal nature and, almost as with a pet, love it and care for it.

The mechanistic and the animalistic seem quite different, and people struggle with which side they will align, but it is the illusion of choice that is not a choice. Both points of view are glosses, overlays, images, and soulless. What about soul or meaning? "My theory has no need of that hypothesis." The Illusionist works diligently to give us these views, and then the Hardener seals these images so that they lead to fundamental despair and the reaction to it, consumerism.

Various alternative ways of thinking have arisen. Dogmatic creationism is particularly unsatisfactory, as it involves a creation once-upon-a-time that often seems as deterministic and mechanical as anything that Darwinists could devise. Yet one of the alternative ways of thinking shines out as different. It comes from Rudolf Steiner, who as we shall see has a close connection to Charles Darwin. To get into the mood, we have to break the hold of the Hardener, the notion that we have to find Truth by choosing between the mechanistic and the animalistic views.

To break out of the enchantments of the Illusionist, we can get some help from the Spanish concept of *duende*. Garcia Lorca spoke of *duende* as the magical, the dark, the dangerous, the passionate, the inexplicable, the inspired, the unstoppable, the absolutely apparent force that animates everything and eludes all further naming. A guitarist told Lorca, "I don't play from my fingers. When I play it surges up from the souls of my feet." *Duende* reminds us that we do not need to be reasonable about life, that life is not a mechanical reality.

Duende says do something wild. Who cares if anyone understands? There's passion, sexuality, and meaning. *Duende* has yearning; *duende* has death in it. The bullfighter demonstrates *duende*, the flare of color and gesture on a field of danger and blood. With Dawkins' world there is no death because there is no life really. There are only genes replicating. Thus we will not retrieve our souls from the Hardener by patient arguing with the hard-line Darwinists. They will simply say our experiences, our words, our arguments, our very perceptions, are mere automatisms, unrelated to the basic fact of the genes' desire to procreate. *Duende* responds, *duende* has sparkling attention. In the face of conquests of empire and economic enslavement *duende* rattles our complacency and compels us into action. *Duende* knows that power does not come in fancy cars and offices in high-rise buildings but in the depth of struggle with the soporific illusions given us by those who want our life force, to which we ourselves have gone asleep.

Duende reminds us of these forces. A philosopher who knew *duende* was Rudolf Steiner.

Remember the great debate at the British Association for the Advancement of Science in June of 1860? Rudolf Steiner was conceived in that same month, perhaps that same day. You could even say that Rudolf Steiner came to answer Darwin and that Steiner's *An Outline of Esoteric Science* is an answer to Darwinism. What is this view? I should say that this has been amended by own experience and by my experience of Aboriginal philosophy. Indeed, it reads very much like an Aboriginal creation myth.

This alternative cosmology can be introduced by a good story. Several aboriginal artists recognized for their bold concepts and executions had been brought to Paris for a gallery opening of their work. Looking up at a billboard, seeing the common image of little rat on the left, then going to the right, as in a solemn procession, a larger mammal, then a chimpanzee, then an ape, then Cro-Magnon man, then upright human, and in this version a human at a computer, the artists began to point and argue amongst each other. The guide asked what was this all about. One of the artists answered with a question, "Is that your story?" The guide was confused. The artist repeated himself, "Is that your story –

that you come from monkeys?" The guide shrugged, as in everybody-knows-that, "Well, yes." The aboriginals then fell into gales of laughter which went on for a very long time, through which the artist was able to blurt out, "That explains everything!" Later the artist added, "That's not our story! We come from Wanjina!" Wanjina, creator spirits that populate and motivate the physical world including the heavens, unseen except at special moments.

Now for the alternate cosmology. Imagine back a long stretch of time, so long that time is warped and can no longer be counted. In vast stretches of space, great spiritual beings determined to create a new level of angels-in-training, the human being. They created a blueprint for this new human being and perfected it over long ages. Imagine this human being moving slowly as in floating through space and being worked on by wise, spiritual beings, different groups of whom created all the complex interlocking systems of functions of the human being. In the course of this development certain aspects of the human being were found to be too rigid and too fixed. The rigid parts of the human being, the parts that were densifying too quickly, were precipitated out to become plants and animals on this earth, some with superior capabilities, but all fixed in their niches of habitat.

Wishing for everything to gel just at the right time, these spiritual beings held off on the appearance of human. They wished to reduce the fixity. Why? Humans need less fixity and more adaptability so that we can receive the ability to perceive and also say "I perceive," the sense of existence and individuality, the "I am," what one might call the true Promethean fire. Our task isn't over, and more development is in store for us. Naturally, there are similarities to our cousins – oxytocin in the brain has been found to trigger mating behavior in mice and also romantic love in humans. Rather than take this as proof that this chemical reaction came from mice up through to us and now we're using it for a similar process, this story views it differently. This brilliant design piece came from the primal human being, from which mice were precipitated earlier. Oxytocin

was kept for later designs. The mice got it from the primal human being, as did humans, not the other way around.

Yet we are flawed, and have not attained the perfection of the primal human being. We can receive an "I am" and yet we know we have many imperfections and burdens. One of them is our heredity. We may receive a heavenly impulse, but that impulse must work through the mechanics of our DNA – and that we receive from our parents. This magnificent and efficient design system comes with great capabilities and flaws too. In our story these flaws come from the Hardener, who grabs a more perfect spirit descending to incarnate and forces it into situations with flaws. These flaws we must simply work with as best we can.

We are also burdened by karma, the habits and experiences that we left behind from our previous experiences on the planet. When we come back in as spirits we pick up our past, in order to transform it with our new opportunity.

We are burdened also by the Dragon. The Dragon in Rudolf Steiner's view comes from rebellious angels, Luciferic spirits whom Michael struck down out of heaven. These spirits were rejected by Nature and could not find a place there. The Dragon found a home in the human being. The Dragon actually does not live in a cave in some remote mountain fastness. It lives within our own beings. Rebellious angels ought to be angels' business, not ours, but fairly or not, we have to deal with it.

We pick up karma, we pick up heredity, we pick up the Dragon – it's a marvel that we're able to do anything. We certainly try to escape these influences, and the Illusionist makes much of this, but the force of life returns us to the basic questions again and again.

Let us revisit the scene at the London Zoo. There stands Darwin the young man, looking at the orangutan and he has the Illusionist and the Hardener in the shadows who are trying to influence his mind. Two others now join: Rudolf Steiner and Samuel

Wilberforce. The great churchman and orator, Wilberforce, is there for a very short moment because to him the orangutan is simply another curiosity of God's grand creation. Off he goes marveling at God's one-time creation.

Steiner would notice the Illusionist and the Hardener off to the side. Indeed, he was the one who described these two in modern philosophy. Their presence would clue him into the importance of this young man's visit to the zoo.

Steiner might contrast the large ape and Darwin, seeing in both the blessings and burdens of heredity, and seeing only in the latter the extra burdens of karma and The Dragon. In conversation, Steiner and Darwin would actually agree that we are the offspring, both the orangutan and the human beings, from a common ancestor. And they would agree that the monkey is a cousin. Isn't that curious? They would agree.

They would, however, disagree about what the common ancestor looked like. Darwin would start looking in the other cages at the zoo, looking to find simpler forms, related structures, what they call homologies, things that look the same, things that function the same, same kind of organs, same look, same functions. Darwin would be convinced that somewhere in this zoo were living indicators of our origins. He would go off with his notebook, with its characteristic plus and minus columns, making lists and finding in the end a winner.

Steiner might see in this Darwin's connection with his previous lifetime, which Steiner proposed was a Muslim general who moved swiftly destroying all in his path. How can one perceive the zealous general in the sickly naturalist? Darwin's battles were fought in his notebooks with plusses and minuses, like little soldiers lined up to fight.

Steiner would not reject evolutionary theory for changes in form in the short term. But to find the beginnings, the real origin of the species, he would begin to look inside into the core of the orangutan and into the core of the human being. Not at the outside but at the

inside. In our creation story, Steiner would find there the memory of the common ancestor, a primal human being tended by spirits, unseen by many but not by all. Some of the primal human being's descendants were not ready for the great opportunity of self-awareness and were cast off to became other animals, including at the end, monkeys. After that, modern human beings were incarnated. This view makes us more than cousins, more like siblings. Steiner would speak about the fact that early human beings, very modern in their capacities, did not yet have bony skeletons, and therefore left no fossilized remains. The cast-off or precipitated precursors were too rigid and too dense, and thus more likely to have hard skeletons much earlier.

In Qabala, the esoteric branch of Hebrew religion, the primal human being that precipitates off the plants and the animals has the name Adam Kadmon. You can also think of this primal human being and Noah's Ark. Have you ever wondered why Noah took two by two, all the animals on earth? How was that possible? Because the ark was and is the body of the primal human being. Within that body were all the animals, which later were ejected to the earth. Last to exit were the human beings.

In this story, Adam Kadmon is our common ancestor, often called Father but technically without gender – before gender. Adam Kadmon is the model human being yet-to-be. If we identify with Adam's purpose, then we can begin to look at the apes and at every animal and every plant as our offspring. I invite you to try that because it changes everything. Permit yourself to identify with the primal human being, Adam Kadmon, who will not resist this but rather greet it. Then look upon all living beings as your offspring. We, as self-aware beings, have the capability of imagining such a perspective. A feeling of intimacy and responsibility arises of momentous proportions, also feelings of gratitude for all that we have been given, including this extraordinary physical form that is not random but purposeful. The question arises, "Purpose for what?," and that is now revealed as the major question placed before us every day of our lives. You can let go of the thought experiment if it does not suit you, but even experiencing it for a few moments seems to break through other blindnesses foisted upon us by the Illusionist.

We get help from other quarters as well. The archangel Michael helps us with the Dragon by offering his sword of discernment, his sword of science, his own kind of science. The word 'science' comes from the ancient root *skei-* which means to cut, to cut away falsehood from the truth, not too little and not too much. When the Dragon rises up within us with its voices of passion, our discernment can wield the sword, suppress the Dragon, and reclaim our divinity.

Conventional science would reject this alternative creation story because it is not parsimonious, the key to many scientific arguments. Deriving from the English philosopher William Occam, parsimony is the translation of Occam's Razor, namely the rule that the simpler the explanation, the better. Laplace used the notion of parsimony when he proclaimed, "My theory has no need of that hypothesis." Steiner had a special interest in Laplace's demonstration: Laplace had put some drops of oil into a bowl of warm water and spun it around with his thumb, at which point a large droplet of oil rotated in the center while smaller droplets orbited around from a distance. It was his demonstration of the solar system, with planets orbiting the Sun. "Voila!" However, Steiner asked, didn't Laplace see that the whole system needs God's Thumb to get it going?

Parsimony can also lead one to the recognition of the influence of spirit. Evolutionary theorists sometimes get backed into a corner of explanation – this animal is brightly colored in order to attract mates, but that animal is grey and dusty in order to avoid predators – every trait must have a purpose in relation to vicious selection pressures, and contradictory explanations are used for all the many features. When a spider with three thousand neurons in its brain (compared to our ten billion) creates in every kind of situation a web based on the Platonic solids whose structure is irreducibly complex, then one can ask if a simpler explanation is that there is extra guidance involved.

Darwinism, the dominant paradigm of our day, has many virtues, and Steiner would agree with many of its principles, but he wouldn't stop with these. The present exposition is meant to show the dangers of adherence to a single explanation for this magical world, and to challenge each person with the task of answering the questions, "Where do you come from?," then "How do you know?" Since our explanation to ourselves of our origins has such profound effects on how we think, feel, behave, conform, we need to shake it up with a little *duende*, get the monkey that Darwinism has given you out of your mind, and reject mechanical images – we are not buttons to be pushed, senses to be plugged in, our hearts are not pumps, our brains not computers, nor are we any mechanical wannabe. Then we can strive to experience what this precious gift of Life really is.

Steiner warns in no uncertain terms that to the extent that we do not see Life moving, to the extent that we let fixed and dead images tell us about a fixed and dead Life, and to the extent that we divorce ourselves from living spirits offering a guiding hand at our origin and in this very moment, then we feed the Dragon within us. The alternative requires that we see other human beings as alive. Try it out – it may feel new. Humans as alive and divine. The hands as divine. The faces, the ears, the noses, all of it as divine. The consciousness within the form as divine. Likewise, we can begin to see other forms of life, the animals and plants, as cousins, then perhaps as siblings, and radically even as our offspring. This arouses a potent sense of connection, and a sense of responsibility, for we hold the highest attainment so far, the bearers of the sense of existence, the "I AM," and it is not for us to squander this gift. Embracing creation, we subdue the Dragon, master our heredity, work with our karma, name and thus deflate the Illusionist, name and thus soften the Hardener, and achieve the purpose that is ours in this age of Michael, to participate in Life living, truly, madly, deeply.