



**INTERPRETING EVOLUTION: DARWIN, NIETZSCHE, &  
TEILHARD DE CHARDIN**

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**Abstract**

Different explanations have been given to account for the origin and history of life forms on this planet. Concerning the factual theory of organic evolution, interpretations range in an arc from materialism, through vitalism and spiritualism, to mysticism. The scientist Charles Darwin, the philosopher Friedrich Nietzsche, and the theologian Pierre Teilhard de Chardin gave an account of life on earth in terms of biological evolution. Darwin and Nietzsche did not find it necessary to include religious beliefs or theological dogmas in their naturalist view of our own species within the evolutionary framework. Darwin deliberately ignored God in his scientific writings, while Nietzsche boldly claimed that "God is dead!" in his philosophical worldview. Yet, in sharp contrast, the theist Pierre Teilhard de Chardin argued that a personal God is involved in an evolutionary view of this dynamic universe, the history of life on earth, and both the emergence and completion of humankind. As evolutionists, all three thinkers have paved the way for the conceptualization of transhumans and posthumans in modern scientific and philosophical thought.

**Keywords:** *Evolution, God, Metaphysics, Posthumans, Science, Transhumans, Worldview*

**1. Introduction: Some Early Speculations**

The concept of evolution is a fact in science and an idea in philosophy, as well as remaining a challenge to entrenched theology. The theory of evolution now pervades the serious thoughts of enlightened thinkers in the special sciences, from geology and paleontology to biology and anthropology. Its descriptive power even extends from astronomy and cosmology to psychology and ethics; no area of human knowledge has escaped the penetrating influence of the evolutionary framework. Without evolution, nothing makes sense.



In offering an explanation for the existence of life forms on our earth, the scientist Charles Darwin (1809-1882), the philosopher Friedrich Nietzsche (1844-1900) and the theologian Pierre Teilhard de Chardin (1881-1955) grounded their interpretation of organic history in biological evolution. As a direct result of this conceptual revolution in terms of a strictly naturalist worldview, advocates of traditional religious beliefs and/or entrenched theological dogmas either reject the brute fact of evolution or attempt to incorporate evolutionary science into their outmoded view of the human being within this material universe. However, unlike the atheistic orientation of Darwin and Nietzsche, Teilhard embraced both scientific evolution and theistic mysticism.

Proto-evolutionary ideas emerged in the nature-oriented ideas of several Pre-Socratic philosophers, e.g., Thales, Anaximander, Heraclitus, Xenophanes, and Empedocles. Among these early thinkers, there was a growing awareness of the ontological unity of the natural world, whether this unity is essentially grounded in earth or water or air or fire. And, all life forms, including the human animal, were seen as a part of this dynamic unity. To different degrees, these philosophers acknowledged that our species had an origin and history prior to its present status as the reflective animal in the biological world. Furthermore, they saw no reason to resort to any gods or divine beings in order to account for the emergence of our species within natural history. As a direct result, their rational speculations in process metaphysics anticipated both the evolutionary framework in modern biology and a dynamic view in modern astronomy. It is incredible that these ancient thinkers had offered proto-evolutionary views centuries before the writings of Darwin, Nietzsche, and Teilhard de Chardin.

Unfortunately, Aristotle (384-322 BCE) did not expand on the dynamic interpretation of life forms presented by these earlier natural philosophers. In fact, although he was the father of biology, the Stagirite taught that all species are eternally fixed throughout earth history. His comprehensive idea of the great chain of being is a static ladder of forms, from minerals through plants to animals; the human being is a fixed species at the top of this static scale of nature. Moreover, for Aristotle, there never was a creation of life forms and no new species will ever emerge or any living species become extinct. Because he held that experience itself reveals natural reality, it could never occur to him that life forms are mutable and evolve (or become extinct) over vast periods of time. In fact, Aristotle's biological



writings support both teleology and essentialism. Centuries later, even Darwin himself needed time to eventually reject the idea of the fixity of species; finally, he embraced the fact of evolution without incorporating teleology and essentialism into his materialist framework.

Because Aristotle's worldview dominated Western thought for over two thousand years, particularly due to the Christian teachings of Saint Thomas Aquinas (1225-1274), there was no motivation for thinkers to challenge these Aristotelian ideas or Thomistic beliefs. Consequently, the interpretations of evolution offered by Darwin, Nietzsche, and Teilhard would seriously challenge both the philosophy of Aristotle and the theology of Aquinas.

To the thoughts of Ancient Rome, the philosopher Titus Lucretius Carus had written a 6-part epic poem entitled *On the Nature of Things*; in his remarkable work, Lucretius not only wrote about earth-generated life forms and the socio-cultural history of the human animal, but also speculated on the existence of intelligent beings living on other worlds elsewhere in this universe. Unfortunately, his incredible ideas were not taken seriously because they did not agree with the dogmatically accepted Aristotelian worldview.

Following the so-called Dark Ages, nature-oriented thinkers during the Italian Renaissance began to doubt the Aristotelian-Thomistic worldview; they took time and change seriously. Leonardo da Vinci recognized the need to embrace a dynamic view of earth history in terms of geology, as well as the value of paleontology for understanding and appreciating organic history. Exemplary of this new philosophical movement were the iconoclastic speculations of Giordano Bruno (1548-1600), whose bold cosmology argued for eternal time, infinite space, and endless change. Slowly, the rigid ideas of Aristotle and the dogmatic beliefs of Aquinas were being replaced by an emerging new worldview due to the growing awareness that nature is neither young nor fixed. Likewise, the need to use God in order to explain events in the heavens or on the earth was diminishing. Later, concerning the existence of God, both Darwin and Nietzsche would bring this naturalistic trend to its inevitable atheistic conclusion (as they saw it). Yet, Teilhard would argue that the existence of God is actually essential for a true understanding of and correct appreciation for evolution.

During the following Age of Enlightenment, important naturalists were taking the study of rocks, fossils, and artifacts seriously. A radically new view of our planet was emerging. The growing facts from geology, paleontology, archaeology, and comparative biology presented a remarkably different picture of life forms and earth history



that challenged the story of Genesis as given in the Bible. Empirical evidence now argued for the enormous age of this planet, the evolution of all species (including our own), the extinction of life forms throughout organic history, and the great antiquity of the human animal. In 1809, the year of Darwin's birth and exactly fifty years before he published his *On the Origin of Species*, the French naturalist Lamarck presented his book *The Philosophy of Zoology*; in it, he argued that species are mutable. However, Lamarck's stance was not accepted by other naturalists, because he lacked both the sufficient empirical evidence and a testable explanatory mechanism needed to convince them that evolution is a fact of nature.

In his book *Vestiges* (1844), Robert Chambers gave a naturalist interpretation of evolution, but his fantastic view of the sudden emergence of every new species as a "hopeful monster" did not satisfy other naturalist thinkers.

A few years later, a very imaginative attempt to reconcile evolutionary science and biblical fundamentalism was offered by the theistic naturalist Philip Henry Gosse (1810-1888). His book *Omphalos* (1857) was a provocative but controversial work. Not surprisingly, Gosse's unique interpretation of earth history convinced neither scientists nor theologians.

With its emphasis on facts, logic, and our species within natural history, the intellectual atmosphere of the Enlightenment had paved the way for the emergence of both the earth sciences and the social sciences, especially anthropology, to supplement natural philosophy. Furthermore, it was time for an open-minded naturalist to bring together all the facts and concepts in these special sciences into a comprehensive and intelligible view of life on earth in terms of a naturalist interpretation of organic evolution, in which descriptions of and explanations for life forms are free from both religious beliefs and theological dogmas. As a result of an incredible series of remarkable coincidences, this task was accomplished by the young geo-biologist Charles Darwin during a period of only six years!

Both the scientist Darwin and the philosopher Nietzsche had dynamic integrity. In his mechanistic and materialistic interpretation of organic evolution, Darwin gave a strictly naturalistic account for the history of life forms on earth without resorting to metaphysical speculations or theological assumptions. Even though the philosopher Nietzsche gave a speculative interpretation of organic evolution grounded in a dynamic metaphysics, he too rejected theological assumptions in his view of life and this universe. Critical of Darwin's



mechanistic materialism, the philosopher Henri Bergson (1859-1941) offered an evolutionary interpretation that represents vitalism, a view in which life itself is the result of a creative force that is neither matter nor spirit in the traditional use of these terms. But, Bergson's dualistic worldview favored intuition and metaphysics over science and reason. In modern thought, one may speak of an arc of interpretations concerning evolution, depending on whether priority is given to matter or spirit, e.g., the scientific writings of biologist Richard Dawkins represent atheistic evolution, while the mystical vision of geo-paleontologist Pierre Teilhard de Chardin represents theistic evolution. In our Neo-Enlightenment, Neo-Darwinism is an outgrowth of Darwin's lasting and significant contributions to biology within the framework of science and reason.

## 2. Charles Darwin & Science

Charles Darwin did not intend to become a scientist or an evolutionist; as a teenager, he was content to study rocks and collect beetles while exploring the geology and biology of England. Furthermore, he would become neither a doctor nor a minister, although he was interested in comparative anatomy and natural theology. As a young geo-biologist, his interests in natural history were expanded and intensified during his five-year trip around the southern hemisphere aboard the survey ship H.M.S. *Beagle* (1831-1836). It was during this voyage of discovery that the young naturalist Darwin read Sir Charles Lyell's 3-volume *Principles of Geology*; if Darwin had not read Lyell's work during his global journey, then one could argue that the inquisitive geo-biologist may never have developed his scientific theory of organic evolution. Lyell had given to Darwin a dynamic geological perspective of vast time and pervasive change within which the young naturalist could conceive of organic evolution from a mechanistic and materialistic viewpoint.

In brief, Darwin's biological framework supplemented Lyell's geological perspective. While on the *Beagle*, Darwin had the luxury of time for reflecting on his experiences, resulting in his piercing insights into earth history and the history of species. As the geo-biologist sailed around the world, he more and more doubted the story of creation as given in Genesis of the Bible, since the growing scientific evidence told an incredibly different story. The facts supported neither the fixity of species, nor a divine plan or pre-established order in nature. Finally, his rejection of biblical fundamentalism became complete, as he eventually



saw no need to include a personal God in his scientific interpretation of organic evolution (including his accounting for the origin and evolution of our human species from fossil ape-like forms that once existed in Africa during the remote past). This open-minded naturalist had now embraced the counter-intuitive truth of organic evolution. While the writings of Lyell offered Darwin the essential conceptual framework, his five-week visit to the unique Galapagos Islands gave him (in retrospect, after the voyage was over) the crucial empirical evidence needed to substantiate his scientific theory of biological evolution.

In general, Darwin's evidence for evolution included the fossil record, biogeography, and comparative biology. He himself did extensive research on orchids, barnacles, insectivorous plants, and even the earthworm. Furthermore, he was greatly influenced by the crossing of cultivated plants and the mating of domesticated animals (especially pigeons) in order to enhance specific characteristics of species or to produce desired varieties. It was the convergence of overwhelming evidence that convinced him of the fact of evolution. Actually, Darwin seldom used the term 'evolution' in his own writings, in order to avoid any teleological interpretation of his views on organic history as a result of the survival of the fittest. Rather, he referred to his evolution theory as "descent with modification" (thereby freeing it from teleology) and held that similar species share a common ancestor in their evolutionary history. As a result of the facts and concepts he accumulated during his trip and from his later research, the inspired Darwin was able to convince other naturalists of the fact of evolution in a relatively short period of time, especially Thomas Huxley in England and Ernst Haeckel in Germany.

After the voyage, a chance but fortuitous reading of Thomas Malthus' *An Essay on the Principle of Population* (1798, 1803), with its alarming description of nature as a struggle for existence, provided Darwin with his explanatory mechanism of natural selection which accounted for the survival of the fittest. The rigorous naturalist now had both the theory and an explanation to account for the origin, diversity, and historical unity of all life forms on this planet from a strictly mechanistic and materialistic standpoint. After waiting 20 years, Darwin finally published his theory of evolution in his major work, *On the Origin of Species* (1859), and later extended his controversial framework to also include our own species in his other major book on evolution, *The Descent of Man* (1871). In this latter work, Darwin held that the human animal shares a common ancestry with the great apes and that the fossil record for this



common origin would be found in Africa. Furthermore, he claimed that our species differs from the great apes merely in degree, rather than in kind (even in terms of our psychological makeup and social behavior). There was an obvious but disquieting implication: the human animal was now held to be an evolved ape, rather than a fallen angel. Within his strictly naturalist framework, Darwin saw no need to incorporate divine intervention in order to explain the origin of the human animal or its mental abilities. However, with a failure of nerve, he had simply left the philosophical questions and theological issues surrounding the fact of evolution for other thinkers to grapple with. In sharp contrast, Nietzsche and Teilhard did not hesitate to offer their own ideas concerning the scientific implications, philosophical ramifications, and theological consequences of the fact of evolution.

It was never Darwin's intent to include the existence of a personal God in order to explain the origin and evolution of species, or their extinction. His interpretation of organic history is grounded in atheistic evolution. Moreover, he did not concern himself with the origin of life on earth or its possible end on this planet. Never speculating on the origin or end of this universe, his cosmology is agnostic. Darwin had focused his intellectual energies on scientifically demonstrating, as best he could, the empirical truth of organic evolution. Even so, one would love to know his final thoughts on life and humankind within this universe as he reflected on reality during his daily walks down the "Sand Path" behind Down House in Kent. No doubt, Darwin often thought about his adventures during the voyage of the *Beagle* and those discoveries that had influenced him throughout his five years on this survey ship. One may safely assume that, in his final years, he had become a silent atheist.

### **3. Friedrich Nietzsche & Philosophy**

Friedrich Nietzsche accepted the fact of evolution, but his philosophical interpretation of organic history is far different from Darwin's scientific explanation for the origin of species. Although both presented a naturalist view of life on this planet, the German thinker offered a vitalist interpretation of evolution, while the English scientist had grounded his theory of descent with modification in materialism. Briefly, Nietzsche maintained that materialism and the explanatory mechanism of natural selection are not sufficient to account for the awesome and pervasive creativity throughout organic evolution. Furthermore, unlike in Darwinism or Neo-Darwinism, teleology plays a central role in Nietzsche's description of



dynamic reality; Darwin's description of the biological world is free from any teleological interpretation of life on the earth. But unlike the scientist, this philosopher presented a cosmology within which the human animal is the meaning and purpose of this planet, since for Nietzsche out of our species will eventually emerge the end-goal of creative evolution: the future existence of superior overbeings on this earth.

Nietzsche had been especially influenced by Arthur Schopenhauer, whose process philosophy presented an atheistic worldview. Among his own many writings, Nietzsche's major work remains his ever-popular, but deeply-provocative and enormously influential, four-part book, *Thus Spake Zarathustra* (1883-1885). This seminal work is a ground-breaking venture into a metaphysical description of dynamic reality as he interpreted it.

Nietzsche boldly claimed that "God is dead!" In doing so, he rejected all beliefs in a personal God who created and sustains this dynamic universe, as well as gives meaning and purpose to human existence. Consequently, both his cosmology and anthropology are grounded in atheism. Furthermore, acknowledging social history, he called for a re-evaluation of all values in light of his perspectivism and cross-cultural outlook: values vary from place to place and from time to time, including religious beliefs and theological dogmas. There is no divine intervention or spiritual world in Nietzsche's naturalist orientation. For this philosopher, the idea of God is an empty concept and a false belief; no such personal being exists in an alleged transcendent reality. Consequently, as Nietzsche saw it, the vacuous idea of a personal God is meaningless and purposeless. In short, for him, there is only this material world.

The essential unity of Nietzsche's atheistic worldview is grounded in his metaphysical description of reality as the will to power; this pervasive will is the creative force that exists throughout this evolving universe. It accounts for the past and continuing creativity in the biological realm. Having rejected all forms of supernaturalism, Nietzsche's will to power is a strictly naturalist account of both the ongoing creative and continuous destructive forces in the material world. The appearance of our species is a recent event within the evolution of this will to power. Creative individuals are a product of creative evolution within this creative





universe. Moreover, for the modern naturalist, beyond the will to live and the will to power, a human being needs to embrace the will to evolve.

Within his evolutionary framework, Nietzsche saw the human being as a temporary link between the fossil apes of the remote past and the emergence of the superior overbeings in a distant future. For this visionary philosopher, the overbeing will be as advanced beyond our species as the human animal of today is superior to the earthworm! As a result, however, his worldview is anthropocentric: our species is held to be the meaning of the earth because it is the arrow pointing the way to the coming of the noble overbeing, the purpose of evolution. One may argue that Nietzsche's vision anticipated the coming of the posthuman, since the future overbeing is an outgrowth of but far superior to our own species.

Going beyond Darwin's planetary theory of organic evolution, Nietzsche presented his colossal idea of the eternal recurrence of this same universe. Darwin's focus on past-time and Teilhard's vision of future-time converge in this philosopher's awesome concept of the eternal recurrence as the endless return of a finite but identical sequence of dynamic events; reality is a circle. As such, Nietzsche held that this entire finite world would always repeat itself forever in an eternal sequence of identical universes. Consequently, since each world is absolutely the same, once is forever! Furthermore, there is neither evolution from cycle to cycle, nor a final ultimate-goal as the end-point of this godless universal process. However, within its naturalist framework, the eternal recurrence of the same does give a form of immortality to everything that exists (including Nietzsche himself) without the need for a personal God or a supernatural realm. For this philosopher of overcoming, one should be creative and live as if the eternal recurrence is true. Despite his perspectivism, it may be argued that Nietzsche himself held the eternal recurrence of the same to be a true interpretation of cosmic reality.

#### **4. Pierre Teilhard de Chardin & Theology**

Pierre Teilhard de Chardin dedicated his life to both science and theology. As a geopaletontologist and Jesuit priest, he made a bold attempt to synthesize facts and beliefs into a comprehensive interpretation of the human animal within a dynamic universe. Essentially, his worldview is grounded in an evolutionary framework that focuses on the planet earth in terms of emerging life forms in general, and our own species from the perspective of increasing



consciousness in particular. As such, Teilhard rejected fixity and essentialism and biblical fundamentalism. Ultimately, he had given preference to spirit over matter and energy, and mysticism over science and reason. Despite the vastness of space and time and evolution, the scientist-mystic claimed that the human species does occupy a special place within a spiritual reality (as he saw it).

Actually, it was Henri Bergson's philosophical book *Creative Evolution* (1907), not Charles Darwin's scientific work *On the Origin of Species* (1859), which had convinced Teilhard that organic evolution is a fact of the living world. As a result, the human animal has emerged from those fossil apes that once existed in the remote past. Obviously, this scientific fact challenged an entrenched belief of the Roman Catholic Church, which taught the uniqueness of the human being. It is not surprising that Teilhard's religious superiors silenced him, and that the Vatican prohibited the publication of Teilhard's three controversial books during his lifetime: *The Divine Milieu*, *The Phenomenon of Man*, and *Man's Place in Nature: The Human Zoological Group*.

Exiled from France to China because of his unorthodox ideas and evolutionary stance, Teilhard was nevertheless fortunate to participate in the scientific discovery of the fossil hominid remains of *Sinanthropus pekinensis* in a cave in the Western Hills near Zhoukoudian; at the time, the scientist-mystic was a geologist at the Cenozoic Laboratory of the Peking Medical School. After years of research and reflection, Teilhard committed himself to writing a synthesis that would reconcile science and theology in terms of evolution; consequently, *The Phenomenon of Man* became his major book, although it was not published until after his death.

Teilhard's interpretation of evolution is grounded in four major ideas: a dynamic spiritual universe, the evolutionary law of increasing complexity-consciousness, the crossing of periodic critical thresholds throughout the process of evolution (e.g., from matter to life, and from life to thought), and the eventual emergence of an Omega Point as the final goal of human evolution on earth. Briefly, the scientist-mystic foresaw the ongoing convergence and involution of our global species ending in the formation of an Omega Point as the spiritual unity of our species. In the future, this point will represent the union of a human collectivity with the transcendent and personal God of Christianity as the ultimate divine-destiny and final end-goal of spiritual evolution.



In the last analysis, Teilhard's metaphysical interpretation of evolution is a mystical vision of human existence within a dynamic universe which he saw as a cosmogenesis. From a planetary perspective, geogenesis had created the geosphere and biogenesis has created the biosphere; ongoing noogenesis will result in the creation of the Omega Point. As a visionary and futurist, Teilhard's global perspective and emphasis on increasing consciousness (in terms of shared information) did anticipate our modern Age of the Internet. Clearly, his evolutionary mysticism was a serious threat to the entrenched orthodox beliefs of the Roman Catholic Church.

## **5. God & Evolution**

Darwin in science and Nietzsche in philosophy both presented an interpretation of organic history grounded in atheistic evolution. Neither thinker found it necessary to appeal to religious beliefs or theological dogmas in order to explain the dynamic existence of life forms on this planet; a personal God was not needed to account for the living world, including the existence of the human being. For each thinker, science and reason (without religion and theology) are sufficient to account for biological evolution. Although the scientist Darwin did not concern himself with explaining the origin of life on earth, it is clear that he saw the emergence and evolution of life forms within a naturalist framework. Although the philosopher Nietzsche speculated on the future of our own species and this universe itself, his vision is also strictly naturalistic.

No doubt, Darwin realized that in the future his evolutionary framework would render unnecessary the use of religious beliefs and theological dogmas in order to account for the origin, evolution, and extinction of life forms on this planet. For him, the human animal is merely a recent product of primate evolution. Furthermore, Nietzsche acknowledged that the belief in God is empty of any explanatory value concerning the emergence of our own species, the process of organic evolution, and the existence of this universe. Neither thinker took miracles or supernatural causality seriously; for each, nature is sufficient to account for life (including the human animal).

Nietzsche assumed that our species is not the end-goal of organic evolution, but merely a fleeting link between the apes of the past and the overbeings of the future. Of course, neither Darwin nor Nietzsche could have imagined nanotechnology and bioengineering, much



less the far-reaching promises of the ongoing advances in these two areas of applied science for enhancing the biological and mental aspects of our species. Finally, an evolutionary metaphysics that posits an endless succession of different universes is also a God-free position, as is Nietzsche's cosmological idea of the eternal recurrence of this same universe.

Teilhard argued that a true interpretation of evolution did, in fact, require the existence of a personal God as both the first and the final cause of dynamic reality. As such, he saw a divine design manifesting itself in the ever-increasing complexity and consciousness of life forms throughout organic history. For the Jesuit priest and geo-paleontologist, our own species does occupy a special place within this spiritual universe (as he saw it). He offered a planetary perspective that envisioned the emergence of an Omega Point as the mystical end-goal of human evolution on the earth; this closed process panentheism will resolve itself in a quasi-pantheism. Teilhard had boldly accepted scientific evolution and was acutely aware of human convergence; these were two crucial steps in his development of a comprehensive ultra-anthropology.

As the special sciences continue to advance with astonishing success (from geology and paleontology to biology and anthropology), there is no need to include a personal God in a naturalistic explanation for the process of organic evolution. In 1953 at the University of Cambridge, James D. Watson and Francis H. C. Crick announced to the world their discovery of a working model for the double-helical structure of the DNA molecule. Following Charles Darwin's explanatory mechanism of natural selection, this model for the code of life was the second major contribution to understanding and appreciating the process of organic evolution. Today, Neo-Darwinism explains the origin of species in terms of genetic variation, natural selection, and population dynamics.

In an attempt to overcome atheistic evolution, theistic believers have offered biblical fundamentalism, then so-called scientific creationism, and most recently intelligent design in order to discredit a strictly naturalist interpretation of organic history on this planet. Yet, this appeal to faith-bound authority and blind wishful-thinking is certainly no substitute for a comprehensive scientific theory now supported by overwhelming empirical evidence (especially the ongoing discoveries in paleontology and genetics). In fact, one may speak of the evolution of religious beliefs and theological dogmas from their origin in prehistoric times. The scientific implications, philosophical ramifications, and theological consequences



of organic evolution are difficult to ignore. Likewise, the more evolutionists search, the more empirical evidence they find to substantiate the fact of evolution. It is unwarranted to disregard all of the objective scientific facts for evolution simply because they do not support one's subjective religious beliefs.

The far-reaching consequences of atheistic evolution are devastating for those theistic believers who cling to the transcendent existence of a personal God, the spiritual immortality of a human soul, and a divine destiny for all moral individuals. Grounded in materialism, atheistic evolution maintains that the human animal is a recent product of, dependent upon, and totally within the natural world. Emerging from fossil apes, our species has had an incredibly long evolutionary past and it may have an incredibly long evolutionary future. But, Darwin and Nietzsche and Teilhard never envisioned our species leaving the earth, or making contact with intelligent beings existing elsewhere in this universe. However, existing elsewhere in this dynamic universe may be the ultimate destiny for our descendants.

Having emerged on this planet, the human animal neither occupies the center of this cosmos, nor holds a privileged position in this universe. The biological anthropologist recognizes the brute fact that our species is remarkably similar to the great apes (orangutan, gorilla, chimpanzee, and bonobo), from its genetic makeup and morphology to its psychological makeup and behavior. As such, the human animal as the bipedal, social-dependent, and culture-bound fifth great ape or pongid is unique in communicating with symbolic language as articulate speech. Even so, this uniqueness may be explained in terms of the evolutionary sciences, from genetics to morphology. If our species travels beyond the earth to inhabit other worlds, then it will take with it those genes that tie it to those fossil great apes in the remote past of hominoid evolution, as well as to the living great apes of today; the empirical evidence is incontrovertible that the human animal and the four pongids share a common ancestry.

In the United States during the last century, John Dewey (1859-1951) and Marvin Farber (1901-1980) were greatly influenced by the ideas of Charles Darwin, with their own views representing philosophical naturalism. In the present literature, the position of atheistic evolution grounded in scientific naturalism is rigorously defended by Richard Dawkins, Daniel C. Dennett, and Victor A. Stenger (among others). Their writings are an important contribution to the evolutionary framework, as well as to free thought and open inquiry.



## 6. Transhumans, Posthumans, & Cosmic-Overbeings

One may speculate on the far-reaching implications of Darwin's evolution theory and Nietzsche's future overbeing and Teilhard's Omega Point; remembering that these three thinkers could not have foreseen the coming of nanotechnology and bioengineering, much less their applications in order to enhance the human animal and then transform it into a superior being.

Transhumanism is a scientific and philosophical movement of optimistic visionaries and enlightened futurists who are focused on fundamentally enhancing *Homo sapiens* through the convergence of nanotechnology and bioengineering, as well as utilizing any advanced technologies of the future. The desired result is to genetically enhance the biological and psychological makeup of a human being (thereby improving health, extending longevity, intensifying the senses, and greatly expanding the intellectual capacity of our species), in order to overcome those limitations that are now inherent in the human animal. Furthermore, transhumanism seeks not only to enhance the human individual, but also to improve its material environment, including enhancing other species. Within this vision, transhumanists see *Homo sapiens* overcoming aging and eventually even death. In the coming centuries, the enhancement of our species will require both global ethical guidelines and serious value judgments. In time, enhanced human beings will leave this planet for deep space; they may even exist, evolve, and flourish elsewhere in this universe.

Through human intervention, random organic evolution is being replaced by emerging teleology. Transhumanists respect science and technology, are committed to progressive evolution through the application of technology (especially computers), and are aware that the coming transhuman will be a link between our own species and the emergence of the future posthuman; just as the human being emerged out of a fossil-ape species. I have referred to the superior transhuman as *Homo futurensis*. One may even speculate on the eventual emergence of a new genus, which I refer to as the god-like cosmic-overbeing. Thus, the ultimate goal of transhumanism is posthumanism. As a new life form, the posthuman as a god-like cosmic-overbeing will far surpass our species in every aspect and enjoy immortality. Of course, one cannot imagine the nature of this remote descendent in the ages to come. In



fact, this new life form will have departed so far from the human being, through self-evolution, that one would be unable to comprehend it, even if a cosmic-overbeing were to exist among us today. By analogy, think how *Homo habilis* might react if he were to suddenly appear one night in the middle of Times Square! How would his limited cognition from a far less complex brain register the lights, sounds, people, and skyscrapers of modern civilization?

Surely, Darwin and Nietzsche and Teilhard could not have reflected on the awesome possibilities that science and technology now offer us, or will offer transhumans and posthumans in the future. Be that as it may, it is even possible that the human being will encounter superior beings from elsewhere in this universe before it evolves into a new species or a new genus. However, our species may be absolutely alone in material reality, there being no other intelligent species similar to us existing anywhere in reality. Of course, a sobering fact of organic evolution is the pervasive extinction of life forms throughout earth history. For millions of years, trilobites and ammonites and dinosaurs flourished on this planet, only to eventually vanish completely from the earth. It is always possible that the human being will also become extinct before it evolves itself into a transhuman or posthuman.

## **7. Conclusion: Speculations on Things to Come**

Charles Darwin represents a crucial turning point in the history of science, especially in the disciplines of biology and anthropology. His writings resulted in a conceptual revolution in terms of organic evolution. Consequently, no enlightened thinker will ever look at our species or earth history or this universe in the same way as previous naturalists had done before Darwin's publications. There was a remarkable paradigm shift: eternal fixity has been replaced by continuous change. Organic time on this planet has encompassed billions of years. Not only evolution, but also extinction pervades the history of life forms throughout earth history. Many evolutionists are naturalists in science and materialists in philosophy. They find no need to include a transcendent personal God in their interpretations of or explanations for the origin and history of life on this planet. Thus, in principle, atheistic evolution implicitly or explicitly dominates the modern scientific worldview.

Reflecting on Darwin's global voyage on the *Beagle* from island to island, one may imagine a future naturalist in outer space searching from planet to planet, and from moon to moon, in order to find and study life forms existing somewhere else in this solar system. It is



probable that life does exist elsewhere in this material universe. Furthermore, exobiology implies exoevolution, i.e., the descent with modification of life forms on other worlds throughout sidereal reality.

Friedrich Nietzsche represents a crucial turning point in the history of philosophy, especially in terms of ethics and metaphysics. His writings are grounded in an atheistic worldview. Although the scientist Darwin was not interested in speculating on the future evolution of our species, the philosopher Nietzsche focused on the eventual emergence of a superior overbeing as the result of ongoing human evolution. Although neither Darwin nor Nietzsche imagined the science of genetics or the use of nanotechnology, their acceptance of the fact of biological evolution did establish a conceptual framework within which one can now imagine the coming of a transhuman, followed by the emergence of a posthuman. With accelerating advances in science and technology, the continued enhancement of our species through human intervention seems inevitable. In fact, improving the human being will help our species to exist in outer space. Remembering Nietzsche's awesome idea of the eternal recurrence of this same universe, one can imagine how surprised he would be with our present awareness of the inconceivable size and incomprehensible age of this material universe. No doubt, this knowledge would not deter the visionary philosopher from still advocating his colossal speculation on a cyclical cosmology.

As a geo-paleontologist and Jesuit priest, Pierre Teilhard de Chardin was aware of both the sweeping vastness of earth history and the incredible fossil record preserved in the seemingly endless rock strata of the geological column. Embracing both time and change, he accepted the fact of evolution and saw the emergence of our own species as a recent event on this planet. His vision focused on the evolving human layer or noosphere that is continuing to converge and involute around our finite spheroid earth. Furthermore, Teilhard saw our species evolving toward a final end-goal in terms of a collective consciousness. His mystical orientation held that an Omega Point would be reached, eventually resulting in our human layer detaching itself from the earth, transcending space and time, and then uniting itself with God beyond the matter and energy of reality. As such, Teilhard had given preference to metaphysics rather science, i.e., to spirit rather than matter.

Of course, human evolution need not end on this planet; with the will to evolve, our species may spread throughout this solar system and perhaps even venture to other stars.





*Homo sapiens* may evolve itself first into *Homo futurensis*, and then into a cosmic-overbeing beyond our imagination. But, there is always the possibility that the human species will become extinct without leaving any descendants to explore the sidereal depths of cosmic reality.

From time to time, I perform this thought-experiment about earth history. In the far distant future, as a cosmic observer living on the surface of our moon (or on another planet in this solar system), I am able to watch for amusement the evolution of life forms on earth with the use of a glorious computer that rapidly displays organic history as a speeded-up film; 4.6 billion years of geo-biological and recent socio-cultural changes are condensed into a few hours or days or weeks, as I wish them to be shown (just as time-lapse photography quickly shows the growth of a tree, the branching of a bush, or the unfolding of a flower). I witness the ongoing origin, evolution, and extinction of plants and animals (including the emergence of our own species with its societies and cultures). It is a breathtaking view of creative and destructive events on earth as the surface of our planet changes from second to second. There is never a sign of divine intervention or superior beings visiting from deep space. Nevertheless, this experience is spectacular. Suddenly, in the last few seconds, I am astonished to see masses of bright lights streaming from this blue-green object. It is an awesome sight. Then, with a smile, I realize that I have just witnessed my remote ancestors leaving cradle earth for the remote stars!

### **Note**

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