

religión. El relato científico sobre la evolución humana presenta obstáculos para quienes insisten en una interpretación literal del texto sagrado acompañada de un origen especial y divino para la humanidad. Estos problemas hallan su resolución en los escritos bahá'ís que contemplan a la evolución humana, al desarrollo espiritual en el individuo, al avance de la civilización, y al progreso de la religión, como representando todo un solo proceso de desarrollo fundamental y principio espiritual que sustenta a toda la creación. A lo contrario de eslar en conflicto con la teoría de la evolución, la Fe Bahá'í incorpora dentro de sí un punto de vista evolucionario global.

As science has advanced, it has increasingly come into conflict with religion. The history of active conflict goes back to the Middle Ages. Almost every aspect of science was initially opposed by the Church, particularly astronomy, geology, and medicine (Boorstin, *The Discoverers*). Galileo was forced to recant. While in earlier periods religion had the upper hand, including the power to ban books and imprison heretics, today science has the upper hand and sits in harsh judgment of religion. The ordinary person sees the evidence of the power and authority of science every day. Consequently, if some aspect of religion seems to clash directly with a scientific principle, there is a tendency to reject religion outright. This conflict is most evident in the case of evolution. The theory of evolution does not merely shake the certainty that the Bible is literally true by contradicting Genesis; it attacks the foundation of religion itself. If the Adam and Eve story is wrong and we evolved, then it would seem that God did not create us; we are nothing special; and in fact it is pure chance that we are here at all. This contradicts the whole theme of religion that the world was created for a purpose and that life has meaning. Furthermore, if we are just one species of animal, then it seems exceedingly unlikely that any divine power is guiding our destiny. As animals, we would also be unlikely to have a soul, an essential component of Christian theology. While some compromise positions have been attempted, the result is a watering down of Christianity that takes the passion and certainty out of it. There is no real resolution to the dilemma posed by evolution within the context of mainstream Christianity, and as a consequence many have turned away from religion. It is interesting that the primary aspect of science actively resisted or denied today by those who are religious is the theory of evolution and the evolutionary explanation of human origins. In surveys of adults or even college students, a substantial

minority and sometimes even a majority do not accept scientific accounts of the origin of the universe, life, and humanity. These people state that they accept the biblical version of origins as literally true.

Active attacks on evolution continue today in the public school arena with “creation science” and attempts to remove evolution from textbooks. Particularly disturbing are blatant distortions of scientific method and evidence, especially in evolution and geology (documented and refuted in Strahler, Controversy). For example, some claim that the vast deposits of bones of prehistoric animals were all laid down in Noah’s flood and represent animals that did not make it onto the ark. Bones of early hominids are asserted to be put there by the devil to confound us. The response from scientists is equally vigorous, resulting in a heated debate in the scientific and popular literature.¹ Scientists have also mounted attacks on religion in general and claim to prove that God does not exist (Kaye, Meaning).

A brief explanation of what evolution comprises helps to clarify the roots of the conflict. The theory of evolution as currently understood is based on a set of well-tested premises and extensive data (Futuyma, Evolutionary Biology).

- The morphology, physiology, and behavior of all organisms is determined by their genetic code, stored in DNA, interacting with environmental factors;
- When genetic information is passed to the next generation, transmission is not perfect. Recombination mixes the traits of the parents. Information is lost or altered via mutations, deletions, inversions, chromosome doubling, and other mechanisms;
- Natural selection acts on organisms via differential survival and fecundity, favoring those traits best adapted to the circumstances that the organism must face (e.g., climate, predators);
- Chance effects influence the course of evolution, particularly via extinctions.

When we trace our earliest ancestors back several million years, Africa appears to be the cradle of both ancient and modern forms (Lewin, “Africa”). While very primitive humans (*Homo erectus* and later Neanderthal) spread out from Africa to Europe and Asia over a million years ago, modern humans arose in Africa about 200,000 years ago (Lewin, “Africa,” “Modern”; Stringer and Andrews, “Genetic”). About 100,000 years ago modern humans spread out from Africa in a great wave and supplanted preexisting early humans in Europe and Asia (Lewin, “Africa,” “Modern”). This date thus represents the beginning of the worldwide spread of humanity and

the earliest date for racial differentiation. Such a recent origin for the races means that most racial differences are rather superficial and trivial (Stringer and Andrews, "Genetic"). Interestingly, the oldest remains of modern humans outside of Africa are dated 92,000 years B.P. (Before Present), from Mount Carmel, Israel (Stringer, "Eden"; Valladas et al., "Dating"), the location of the world administrative center of the Bahá'í Faith.

The period around 10,000 years ago represents a unique crisis and turning point in human history. During the period 12,000 to 10,000 B.P., rapid global warming caused the retreat of the global ice sheets of the last glaciation. This rapid warming was accompanied by massive shifts in local climates and vegetation such as expansion of the grasslands in the American West. Animals previously adapted to cold climates, particularly larger mammals, were unable to adapt, and many became extinct. By 10,000 B.P. the large mammal herds in most areas outside Africa, upon which early humans had depended, were either reduced in number or extinct. We can think of this time as the historical expulsion from the Garden, in a sense. This crisis forced people into new food sources including fishing, more sophisticated hunting techniques, and agriculture (Geist, Life), thus leading directly to the establishment of more advanced culture and technology. In particular, the earliest dates known for domestication of both plants and animals are in the period 12,000–10,000 B.P. from the Middle East (Simmons et al., "Neolithic"). The period around 10,000 B.P. is when the earliest villages (permanent settlements) were established, also in the Middle East.

While a priori not goal-directed, evolution has tended to produce, particularly in mammals and birds, more elaborate sensory modes, greater homeostatic control of physiology, increased care of young, and larger brains, because these traits enhance survival. We humans are the beneficiaries of these trends. This evolutionary progression is marvelous to behold and full of small miracles, but the concept that we arose by a purely physical process is anathema to many because it removes purposefulness from the universe. It leaves a watch without a watchmaker, a body without a soul, a universe with no meaning or order or feeling. Thus, the part of evolution attacked most vehemently has to do with human origins and the origins of the universe, i.e., with God as Creator. Even Wallace, codiscoverer with Darwin of evolution, maintained that everything had evolved except human beings, who were a special creation.

In place of faith, some attempt to find ethical roots in evolution itself. By understanding the way in which

humanity evolved socially and genetically, they hope to discover a basis for social order and ethics. In the tendency for evolution to create more complex forms (Burhoe, "Civilization"; Dobzhansky and Boesiger, Human Culture), they seek a general organizing principle (complexity, integration, system, world-mind) from which moral imperatives can be derived (e.g., Burhoe, "Natural," "Civilization"; Campbell, "Conflict"; Davis, "Evolution"). As we will see later, such ideas though incomplete are not incompatible with Bahá'í belief. Some have used the principles of natural selection (the "selfish gene") as a basis for guidance for society (review in Kaye, Social). Unfortunately, the "selfish gene" provides only very limited guidance on ethics (e.g., it is not adaptive to kill your relatives) and almost none on larger social issues. Wilson (Biophilia), as another example, argues that we are genetically evolved to have an attraction or affinity to all forms of life. Most of these writers seek to replace the (to them) outmoded social order based on religion with one based on the guidance inspired by evolution. While the above-cited authors tend to view evolution in terms that lead to the derivation of humanistic values, such need not be the case. Social Darwinism and Monism, as propounded by Ernst Haeckel and other German philosophers of the nineteenth century (Stein, "Nazism") reflected a worldview that applied the struggle for existence logically to human society, with the struggle being between nations (races). The superior race, the Aryans, was seen to have a right to take land away from inferior peoples. Exterminating the "lesser" races, the old, the ill, or the deformed was not viewed as criminal but as a matter of racial hygiene. This rationale was explicitly incorporated into Nazism and carried out (Stein, "Nazism") with horrible consequences. Evolution per se is thus an insufficient basis for a human moral order. The problem with extrapolating Nature's order to human society is that multiple moral codes are compatible with Nature, many of which lead to societies in which few of us would willingly live.

If evolution and religion were marriage partners, we would be tempted to diagnose "irreconcilable differences" and grant them the divorce they both seem to seek. However, the consequence of admitting failure here is, as we have seen, mental turmoil and massive loss of faith. Furthermore, both evolution and religion claim to embody solutions to the same set of moral and social issues. Medicine can extend life but reduces its meaning. Psychology claims hegemony over understanding our behavior but is powerless to give us values and comes to absurd conclusions like "open marriage"

being healthy. Where is the solution to this conflict?

What is needed is a synthesis within which religion is compatible with evolution, without creating pseudoreligions, such as social Darwinism or secular humanism. Such a synthesis is not only possible but has already been achieved in the Bahá'í Faith.

Science and God's Existence

Before specifically dealing with evolution and human origins, it is necessary to clarify the Bahá'í views on science. It is a fundamental, central teaching of the Bahá'í Faith that science and religion are in harmony. The Bahá'í Faith emphatically and explicitly accepts scientific accounts of the creation of the universe, our planet, and life on Earth. The current scientific explanation (Hawking, Time) is that the known universe began as a fireball (the Big Bang) 10 to 20 billion years ago and that our solar system formed from the dust of space much later. At the instant of creation, all original matter was concentrated at a single point or singularity of unimaginable heat and density, which then exploded outward and gradually cooled. What happened "before" this time is unknown. Some would argue that "before" the Big Bang has no meaning because time did not even exist then. Although the Bahá'í writings specify that God has neither a beginning nor an ending, Bahá'u'lláh states the following regarding "the beginning of creation":

...this is a matter on which conceptions vary by reason of the divergences in men's thoughts and opinions. Wert thou to assert that it hath ever existed and shall continue to exist, it would be true; or wert thou to affirm the same concept as is mentioned in the sacred Scriptures, no doubt would there be about it, for it hath been revealed by God, the Lord of the worlds.... His creation had ever existed beneath His shelter from the beginning that hath no beginning, apart from its being preceded by a Firstness which cannot be regarded as firstness and originated by a Cause inscrutable even unto all men of learning. That which hath been in existence had existed before, but not in the form thou seest today. The world of existence came into being through the heat generated from the interaction between the active force and that which is its recipient. These two are the same, yet they are different. (Tablets 140)

Note that this passage was written in the late nineteenth century, before any hint of our current concepts of cosmology. 'Abdu'l-Bahá refers (Questions, 183–84, 196–97) to the

gradual process of the formation of the Earth, though he does not mention the Big Bang. Bahá'u'lláh specifically dismissed literal interpretations of the Bible that give the age of the Earth as between 5,000 and 6,000 years:

The learned men, that have fixed at several thousand years the life of this earth, have failed, throughout the long period of their observation, to consider either the number or the age of the other planets. (Gleanings 163)

He goes on to state:

Know thou that every fixed star hath its own planets, and every planet its own creatures, whose number no man can compute. (163)

Note that these statements were made prior to 1890, when few scientists accepted either a great age for the Earth or the existence of other planets with life. Life on at least a few other planets outside our solar system is now viewed by many scientists as almost inevitable (Swartzman and Rickard, "Extraterrestrial"). "Fixed stars" (those that are true stars and not a part of a binary-type system) are in fact the only kind likely to have planets. The origin of life on Earth as simple organisms with subsequent evolution to higher forms (discussed further below) is granted in the Bahá'í writings ('Abdu'l-Bahá, Questions 180-84). There is also no quarrel with the fossil record. No claim is made that prehuman bones were placed there by the "devil" to confound us, as claimed by "creation scientists." Bahá'ís do not accept reincarnation and do not emphasize miracles as a basis for faith. The Bahá'í writings on the topics of greatest conflict between science and religion, therefore, are not in conflict with science.

To be compatible with science, religion should be internally consistent, and its predictions should be accurate.

There are false and unscientific disciplines, such as astrology, which can explain everything but predict nothing. 'Abdu'l-Bahá explained many times that religion is logical and can be studied using the tools of logic. In this context, a religious account of human origins must be both internally consistent and consistent with science. It is important first of all to clarify the Bahá'í view of causation. 'Abdu'l-Bahá states that events in the world may have three causes: natural law, chance, and divine Will (Bahá'u'lláh and 'Abdu'l-Bahá, Bahá'í World Faith 342). Natural law includes the law of gravity, laws of physics, and other laws that operate in a regular, predictable way. These laws are manifestations of God's purpose in that God established these laws, but they operate independently of active divine intervention. Examples of

chance include radioactive decay of any particular atom, lightning strikes, and Brownian motion. It is noteworthy that at the time 'Abdu'l-Bahá expounded these ideas, most scientists tended to hold a rigid Newtonian view of the universe in which apparent randomness was merely the result of our limited perspective. Current work in the fields of dynamics and chaos reveals unpredictability (and hence chance) to be both fundamental and irreducible, similarly in quantum mechanics. The third operative force is divine Will. In earlier periods, divine Will was popularly assumed to be responsible for the fall of every leaf and drop of rain. In the Bahá'í view, such detailed manipulation of the natural world violates the existence of free will in humans, upon which our spiritual progress depends: Without free will, we cannot choose to do good and therefore cannot be held accountable for doing evil ('Abdu'l-Bahá, Questions 248–50). The necessity for free will leads inevitably to the existence of an imperfect world ('Abdu'l-Bahá, Questions 248). God intervenes only to further the goal of humanity's cultural evolution. God's Will operates according to its own set of divine Laws and manifests itself particularly clearly in the person of the prophet and in the events that surround Him. Divine Will is popularly perceived as producing "miracles," but it is also manifest in terms of revelation, dreams, visions, and coincidences. Such events surround the person of the prophet and propel religious events forward. For Bahá'ís, although divine Will is a force that operates in the world today and can affect individual lives, not everything that happens can be called God's Will. As 'Abdu'l-Bahá explains, there is a large component of chance and natural law in the world, and we can never be certain whether or not some event in our lives is part of God's Plan.

Human Evolution

Having explained the Bahá'í concept of causation and law, I now return to the issue of human evolution. In the Bahá'í view, humanity did not merely evolve accidentally, but rather it was God's purpose for creation that humanity arise ('Abdu'l-Bahá, Questions 196–97). Humanity's origin can be viewed as the unfolding of God's Plan. 'Abdu'l-Bahá uses the analogy of a seed holding within it the potential of the tree. Similarly, the earliest life contained the potential for humanity, though not in the sense of a mere unfolding, as in the earlier view of the homunculus curled up in the sperm cell. Geneticists discredited this view years ago because of the role of chance in evolution (Dobzhansky and Boesiger, Human Culture). Evolution is influenced by three major components of chance:

chance mutations, chance extinctions,
and chance migrations, Humanity was thus not preordained in a programmed manner
because anyone of hundreds of
chance events could have deflected the path actually taken by human evolution.
The Bahá'í view is not that the earliest life literally had a step-by-step
plan for evolution but rather that it
contained the potentialities that unfolded because of evolution, which, as has
often been remarked, tends gradually to
produce higher, more complex forms. In this view, the unfolding of higher forms
by degrees is the way that God works.
Individuals, cultures, species, knowledge, and individual intelligences must
all go through a process of development. As
'Abdu'l-Bahá states:

For the supreme organization of God, and the universal natural system surround
all beings, and all are subject to
this rule. When you consider this universal system, you see that there is not
one of the beings which at its
coming into existence has reached the limit of perfection. No, they gradually
grow and develop and then attain
the degree of perfection. (Questions 199)

In specific reference to Darwinian evolution, 'Abdu'l-Bahá states:

Moses taught that the world was brought into existence in the six days of
creation. This is an allegory, a
symbolic form of the ancient truth that the world evolved gradually. Darwin can
refer to Moses for his theory of
evolution. God did not allow the world to come into existence all at once,
rather the divine breath of life
manifested itself in the commanding Word of God, Logos, which engendered and
begot the world. We thus have
a progressive process of creation, and not a one-time happening. Moses' days
of creation represent time spans of
millions of years. From Pythagoras to ibn-i-Sína (known as Avicenna) to the
"faithful brothers from Basra,"
through Darwin and to the blessed manifestations of the Báb and
Bahá'u'lláh, both scholars and Prophets have
testified to the progressive creative action of the Logos (divine breath of
life). The Darwinian and monistic
theories of evolution and the origin of species are not materialistic,
atheistic ideas; they are religious truths
which the godless and the deluded have unjustifiably used in their campaign
against religion and the Bible.
(Cited in Khursheed, Science 90)

A more elaborate explication of this view is given by 'Abdu'l-Bahá:

...it is evident that this terrestrial globe, having once found existence, grew

and developed in the matrix of the universe, and came forth in different forms and conditions, until gradually it attained this present perfection, and became adorned with innumerable beings, and appeared as a finished organization.

Then it is clear that original matter, which is in the embryonic state, and the mingled and composed elements which were its earliest forms, gradually grew and developed during many ages and cycles, passing from one shape and form to another, until they appeared in this perfection, this system, this organization and this establishment, through the supreme wisdom of God.

Let us return to our subject that man, in the beginning of his existence and in the womb of the earth, like the embryo in the womb of the mother, gradually grew and developed, and passed from one form to another, from one shape to another, until he appeared with this beauty and perfection, this force and this power.

It is certain that in the beginning he had not this loveliness and grace and elegance, and that he only by degrees attained this shape, this form, this beauty, and this grace. There is no doubt that the human embryo did not at once appear in this form: neither did it then become the manifestation of the words “Blessed, therefore, be God the most excellent of Makers.” Gradually it passed through various conditions and different shapes, until it attained this form and beauty, this perfection, grace and loveliness. Thus it is evident and confirmed that the development and growth of man on this earth, until he reached his present perfection, resembled the growth and development of the embryo in the womb of the mother: by degrees it passed from condition to condition, from form to form, from one shape to another, for this is according to the requirement of the universal system and Divine Law. (Questions 182–83).

A significant remaining question is whether human beings may be viewed as a special creation. The Bahá'í view is both yes and no. Yes, because humanity was in the eye of God from the beginning, and He created us; no, because we progressed through various forms rather than being created in one moment from clay. As ‘Abdu’l-Bahá explains:

Let us suppose that there was a time when man walked all his hands and feet, or had a tail; this change and alteration is like that of the fetus in the womb of the mother. Although it changes in all ways, and grows and develops until it reaches the perfect form, from the beginning it is a special

species....

To recapitulate: as man in the womb of the mother passes from form to form, from shape to shape, changes and develops, and is still the human species from the beginning of the embryonic period—in the same way man, from the beginning of his existence in the matrix of the world, is also a distinct species—that is, man—and has gradually evolved from one form to another. Therefore; this change of appearance, this evolution of members, this development and growth, even though we admit the reality of growth and progress [i.e., if we admit, for example, that man had formerly been a quadruped, or had had a tail], does not prevent the species from being original. Man from the beginning was in this perfect form and composition, and possessed capacity and aptitude for acquiring material and spiritual perfections, and was the manifestation of these words, “We will make man in Our image and likeness.” He has only become more pleasing, more beautiful and more graceful. Civilization has brought him out of his wild state, just as the wild fruits which are cultivated by a gardener become finer, sweeter and acquire more freshness and delicacy. (Questions 193–94)

It is perhaps not easy to understand how human beings can be a special creation and still have evolved. This is a subtle concept. A further quotation from ‘Abdu’l-Bahá helps clarify this.

The reflection of the divine perfections appears in the reality of man, so he is the representative of God, the messenger of God. If man did not exist, the universe would be without result, for the object of existence is the appearance of the perfections of God.

Therefore, it cannot be said there was a time when man was not. All that we can say is that this

terrestrial globe at one time did not exist, and at its beginning man did not appear upon it. But from the

beginning which has no beginning, to the end which has no end, a Perfect Manifestation always exists. This

Man of Whom we speak is not every man; we mean the Perfect Man. For the noblest part of the tree is the fruit,

which is the reason of its existence. If the tree had no fruit, it would have no meaning. (Questions 196–97)

A final note is needed on interpreting ‘Abdu’l-Bahá’s discussions of human evolution. Some Answered

Questions, quoted in large measure above, was recorded from verbal answers given to a Bahá’í pilgrim, Laura Clifford

Barney, during the years 1904–1906. Parts of ‘Abdu’l-Bahá’s answers

appear contradictory but upon closer inspection are not. For example, at one point 'Abdu'l-Bahá argues that the possession of vestigial organs does not prove the absence of special creation but concludes the discussion by admitting that humans have passed through various forms. It seems clear that 'Abdu'l-Bahá is using a pedagogical device here. He is refuting the principal arguments of materialists so as to break the questioner out of any confining notions or preconceived ideas, thus allowing his explanation to be effectively heard and understood. The introduction to the book notes that 'Abdu'l-Bahá is more pedagogical here than in his other works. Quoting single sentences out of the context of the entire passage could thus be construed as opposing evolution, which is not the case. In the above section, I therefore focused on his concluding paragraphs to the individual sections, in which he presents his final arguments.

From the above discussion we see that the Bahá'í view is inherently and fundamentally evolutionary. Biological evolution, individual development and cultural advancement are all aspects of one fundamental process. This is how God has ordained the world to work. Evolution is thus not in conflict with religion, rather, it is at the very heart of God's purpose and way of working. This is a fundamentally new view of the very nature of religion, in distinct contrast to the static worldviews and philosophies of the past.

We can recognize, therefore, three components in human origins. First, the law-like component of evolution gradually leads to higher forms. More recent, advanced organisms tend to have larger brains, greater internal homeostasis, and more advanced sensory abilities and adaptive behaviors. Larger brains increase survival and lengthen lifespan. Second, chance leads to random variations (e.g., many of the randomly derived differences among individuals) and random origins and extinctions. Third, I postulate (the Bahá'í writings do not specify this) that divine Will may have operated at times to help guide the process toward humanity; it was God's intention from the beginning that humanity should arise. In this view, the same mode of action for God is postulated to have acted in the past as acts today; that is, subtle interventions that further God's Plan of an advancing civilization for humanity. Thus, God's role in human origins is one of a periodic intervenor in the natural process of development of higher forms called biological evolution. This is a plausible explanation: if you believe, from faith or evidence, that God is active in our world today as Bahá'ís believe He is, then God's role in human origins can be seen as consistent with that belief.

However, the role of chance in evolution is such a fundamental one that it leads to a scientific argument against God's very existence, and thus it requires further examination here. All religions give humanity as the reason for the existence of the world: God created the world so that we could inhabit it; He created us to know Him. Thus, a fundamental premise of all religion is that if humans did not exist, then there would be no reason for the world to exist, and thus God's purpose would be unfulfilled. This line of reasoning runs into difficulty with the nature of the evolutionary process. Since there is a very high chance for something adverse to have happened to our ancestors (i.e., extinction), and since given a minutely different course of events we would look different, there is nothing to suggest that we followed any predestined course to arrive here in the twentieth century appearing just as we do (since we are supposedly made in "God's image"). Thus, there is no "purpose" in life, and God does not exist. There is no resolution to this puzzle in the context of earlier religions, but there is in the context of the Bahá'í teachings. Current theology is too concrete and focuses on external appearances. Since we are made in God's image, artists depict angels that look like us (though usually blond). 'Abdu'l-Bahá states, however, that external appearances are of no consequence whatsoever. Thus, racial differences are meaningless from a spiritual perspective. It is our minds, our rational souls that distinguish us and enable us to know God. Thus, if we had evolved differently and looked different, it would be of no consequence to our spiritual state. While the exact path followed by human evolution is an improbable one, the evolution of sentient beings is not so improbable (Swartzman and Rickard, "Being Optimistic"). There was a dinosaur (*Stenonychosaurus*) that was bipedal, had opposable thumbs, and was quite intelligent for its type (Russell, "New Specimen"). That path could have led to "humans." In our own history, there were several prehuman hominids that could have evolved further had they survived. The pygmy chimpanzee walks upright frequently and has much greater language capacity than the regular chimp or other apes. Who is to say that we could not be replaced by it if we destroy ourselves? The Bahá'í writings refer to other planets and other creatures and include them in God's Plan. When we consider the infinitude of stars in the sky, if even a small percentage has planets with life, then sentient beings capable of knowing God are virtually inevitable. By 'Abdu'l-Bahá's definition, they would still be "in the image of God," because the rational soul or intelligence is the distinguishing feature of "humans." If God exists, it is probable that these beings have their own

prophets, just as we do. Thus, we can conclude that the universe can have a purpose and that we are part of that purpose, even though chance does play a major part. In addition, as mentioned above, there may have been direct intervention by God in the evolutionary process. Bahá'í teachings state that the world-embracing civilization destined to arise in response to the Revelation of Bahá'u'lláh will be the "final stage in this stupendous evolution" on this planet (Shoghi Effendi, *World Order* 43). This and similar statements point beyond our limited earthbound perspective toward a distant future in which civilization may extend into the galaxy. Perhaps we are part of a very big Plan indeed.

Another aspect of this issue of chance conflicting with a divine Plan is the conflict with free will. If we have free will, then again it seems that there is no possibility for the existence of an overall plan. However, our free will is always constrained ('Abdu'l-Bahá, *Questions* 248–50). Consider the soldier in battle. The commanders have made plans and arrayed their forces, but each soldier still can be a hero or coward within that context. In the same way, both free will and chance are components of causation, but their existence does not rule out the existence of a grand scheme.

Understanding our biological origins still leaves us with a riddle, for if we trace our ancestors back in time they become by degrees more primitive. At what point in this succession do we begin to see self-consciousness, higher-level thought, and other functions that are indicative of the rational mind? More specifically, at what point can we say that there is a soul? All the major religions are founded upon the supposition of a human soul, and if we only differ from the animals by degrees, then either we do not have a soul, or other animals also have a soul.

While I cannot prove that other animals do not have a soul, it is the basic assumption of Christianity, Islam, and the Bahá'í Faith, at least, that human beings differ from animals in the possession of an immortal, higher, moral self: the soul. Such an assumption is not subject to proof. For the purpose of this paper, it is sufficient to ask whether this assumption can be reconciled with our acceptance of an evolutionary origin for humanity.

'Abdu'l-Bahá's (*Questions* 191–94) solution to this problem begins with an analogy. Consider the fetus in the womb. It goes through various forms, at one point having gills, at another a tail. Yet throughout these stages it is a human infant and has a soul since, in the Bahá'í view, the soul exists from conception. In the same way, human beings went through various forms throughout the evolutionary process but were still human,

with a soul, from the beginning. God had a purpose for humanity and gave a special blessing to all our ancestors. As we go farther back in time to more primitive forms, the soul becomes more veiled, undeveloped, and less realized, but it still exists. Thus humanity is simultaneously a special creation and a product of evolution, different from animals in kind through possession of a soul but linked to the animals by lineage and physical attributes.

The above view represents, as best I can reconstruct it, the Bahá'í view of human origins in terms of God's Plan.

It is neither a mathematical proof nor a laboratory study, and only further elaboration will fill in all the details. What it does offer, I hope, is a plausible middle ground between mental compartmentalization on the one hand and a choice between atheism and fanaticism on the other.

In conclusion, in the context of the Bahá'í teachings it is possible to take both a religious view of evolution without altering science and an evolutionary view of religion without losing faith. I have attempted to demonstrate that God's existence and influence do not conflict with science and evolutionary theory. Furthermore, developmental processes, of which evolution is one, are core concepts in the Bahá'í Faith. Humanity evolves, our spirits evolve, and society and religion evolve. We thus need not be afraid that teaching children about evolution will lead them astray or destroy their faith. It is also no longer necessary for the devout to fear science or rational argument. The rational mind, of which science is a fruit, is "God's greatest gift to man" ('Abdu'l-Bahá, Paris Talks 41-43). But pure rationality (personified in technology), devoid of the unifying and humane themes of religion, will lead us to destruction. Religion, devoid of rationality, leads us inevitably to superstition and bigotry. With the two wings of science and religion in harmony, humanity can fly to far greater heights. Let it be so.

Notes

1. See, for example, the cited works by Boxer, Kricher, Oliver, Rice, Shapiro, Strahler, and Zuckerkandl.

Works Cited

'Abdu'l-Bahá. Conversation with Dr. Fallscheer. P.9 in *Sonne der Wahrheit*. No. 1. 1921. Translation in Khursheed, *Science and Religion*, 1987.

———. *Some Answered Questions*. Trans. Laura Clifford Barney. 2d ed. Wilmette, Ill.: Bahá'í Publishing Trust, 1981.

Bahá'u'lláh. *Gleanings from the Writings of Bahá'u'lláh*. Trans. Shoghi Effendi. 2d ed. Wilmette, Ill.: Bahá'í Publishing

Trust, 1976.

———. *Tablets of Bahá'u'lláh*. Trans. Habib Taherzadeh. Rev. ed. Haifa: Bahá'í World Centre, 1982.

Bahá'u'lláh and 'Abdu'l-Bahá. *Bahá'í World Faith*. Trans. Shoghi Effendi. Rev. ed. Wilmette, Ill.: Bahá'í Publishing Trust, 1956.

Bloom, A. *The Closing of the American Mind*. New York: Simon and Schuster, 1987.

Boorstin, D. J. *The Discoverers*. New York: Random House, 1983. Boxer, S. "Will Creationism Rise Again?" *Discover* 8 (1987):80–85.

Burhoe, R. W. "Natural Selection and God." *Zygon* 7 (1976):30–63.
———. "The Source of Civilization in the Natural Selection of Coadapted Information in Genes and Culture." *Zygon* 11 (1976):263–303.

Campbell, D. T. "The Conflict between Social and Biological Evolution and the Concept of Original Sin." *Zygon* 10 (1975):234–49.

———. "On the Conflict between Biological and Social Evolution and Between Psychology and Moral Tradition." *Zygon* 11 (1976):167–208.

Davis, B. D. "Evolution, Human Diversity and Society." *Zygon* 11(1976):80–95.

Dobzhansky, T., and E. Boesiger. *Human Culture: A Moment in Evolution*. Ed. B. Wallace. New York: Columbia University Press, 1983.

Futuyma, D. J. *Evolutionary Biology*. Sunderland, MA: Sinauer Assoc., 1979.

Geist, V. *Life Strategies, Human Evolution, Environmental Design*. New York: Springer-Verlag, 1978.

Hawking, S. W. *A Brief History of Time*. New York: Bantam, 1 988.

Hoagland, H. "Reflections on the Purpose of Life." *Zygon* 6 (1971):28–38.

Kaye, H. L. *The Social Meaning of Modern Biology*. New Haven: Yale University Press, 1986.

Khursheed, A. *Science and Religion: Towards the Restoration or an Ancient Harmony*. Guernsey, England: One World Publications, 1987.

Kricher, J. C. Letter to editor. *Bull. Ecol. Soc. Amer.* 67 (1986):262.

———. Letter to editor. *Bull. Ecol. Soc. Amer.* 68 (1987):487–88.

Lewin, R. "Africa: Cradle of Modern Humans." *Science* 237 (1987):1292–95.

———. "Modern Human Origins under Close Scrutiny." *Science* 239 (1988):

1240–41.

Mühlschlegel, P. *Auguste Forel and the Bahá'í Faith*. Oxford: George Ronald, 1978.

Oliver, J.D. "Ecology and Creation." *Bull. Ecol. Soc. Amer.* 67 (1986):229–230.

Rice, S. "Creationist Ecology?" *Bull. Ecol. Soc. Amer.* 67 (1986):8–10.

———. Letter to editor. *Bull. Ecol. Soc. Amer.* 68 (1987):2–3.

Russell, D. "A New Specimen of *Stenonychosaurus* from the Oldman Formation (Cretaceous) of Alberta." *Can. J. Earth Sci.* 6 (1969):595–612.

Shapiro, A.M. "God and Science." *The Pennsylvania Gazette*, Oct. 1987, 47–51.

Shoghi Effendi. *World Order of Bahá'u'lláh*. Rev. ed. Wilmette: Bahá'í Publishing Trust, 1974.

Simmons, A.H., I. Köhler-Rollefson, G.O. Rollefson, R. Mandel, and Z. Kafafi. "Ain Ghazal: A Major Neolithic Settlement in Central Jordan." *Science* 240 (1988):35–39.

Stein, G.J. "Biological Science and the Roots of Nazism." in *Am. Sci.* 76 (1988):50–58.

Strahler, A.N. *Science and Earth History: The Evolution/Creation Controversy*. Buffalo, N.Y.: Prometheus, 1987.

Stringer, C.B. "The Dates of Eden." *Nature* 331 (1988):565–66.

Stringer, C.B., and P. Andrews. "Genetic and Fossil Evidence for the Origin of Modern Humans" in *Science* 239 (1988): 1263–68

Swartzman, D., and L.J. Rickard. "Being Optimistic about the Search for Extraterrestrial Intelligence." *Amer. Sci.* 76 (1988):364–69.

Valladas, H., LL. Reyss, J.L. Joron, G. Valladas, O. Bar-Yosef, and B. Vandermeersch. "Thermoluminescence Dating of Mousterian 'ProtoCro-Magnon' Remains from Israel and the Origin of Modern Man." *Nature* 331 (1988):614–16.

Wilson, E.O. *Biophilia*. Cambridge: Harvard University Press, 1984.

Zuckerandl, E. "Creationism and Evolution." *Nature* 334 (1988):376.

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