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Cover: HOOPER C. DUNBAR Rooted in Two Worlds (acrylic, 1995)

Religion and Evolution Reconciled: 'Abdu'l-Bahá's Comments on Evolution

COUROSH MEHANIAN AND STEPHEN R. FRIBERG

Abstract

The harmony of science and religion is a central teaching of the Bahá'í Faith that has important implications for the development of society and the emergence of a global civilization. Science and religion, "the two most potent forces in human life," have often been at odds, most notably over evolution and the origins of man. 'Abdu'l-Bahá has commented at length on evolution and man's origins, providing the most extensive exploration of the harmony of science and religion in the Bahá'í canon. We systematically survey 'Abdu'l-Bahá's teachings on evolution and show that He reconciles two viewpoints—evolution and divine creation—that other thinkers have deemed irremediably in conflict.

Résumé

L'harmonie essentielle entre la science et la religion, un enseignement de base de la foi bahá'íe, est de grande importance pour l'évolution de la société et l'émergence d'une civilisation mondiale. Toutefois, la science et la religion ont souvent été mises en opposition, en particulier en ce qui a trait à l'évolution et à l'origine de l'homme. 'Abdu'l-Bahá a formulé des commentaires détaillés sur l'évolution et l'origine de l'homme, fournissant l'exploration la plus approfondie de l'harmonie entre la science et la religion que l'on puisse trouver dans les enseignements bahá'ís. L'auteur passe en revue tous les enseignements d'Abdu'l-Bahá concernant l'évolution, et il montre comment celui-ci réconcilie ces deux points de vue—l'évolution et la création divine—que d'autres penseurs estimaient à tout jamais inconciliables.

Resumen

La armonía de la ciencia y la religión es una enseñanza clave de la Fe Bahá'í que

entraña implicaciones importantes para el desarrollo de la sociedad y el surgimiento de una civilización global. La ciencia y la religión, sin embargo, no pocas veces han estado en desacuerdo, marcadamente acerca de la evolución y los orígenes del hombre. 'Abdu'l-Bahá ha comentado detalladamente sobre este tema, proporcionándonos una investigación a fondo acerca de la armonía entre la ciencia y la religión en el canon bahá'í. En forma sistemática contemplamos las enseñanzas de 'Abdu'l-Bahá sobre la evolución y demostramos como Él empareja dos puntos de vista, la evolución y la creación divina, supuestamente en conflicto irremediable según otros pensadores.

INTRODUCTION

Science is extraordinarily successful at explaining the world, unceasingly producing new knowledge and updating older understandings. Among its fruits are marvelous and powerful technologies: world-embracing communications, sophisticated computers, and life-enhancing medical technologies are but examples. The powerful impact of these technologies, combined with the multiple successes of science in explaining natural and human phenomena, has led to the widespread view that science—not, as once was held, religion—is our primary source of reliable knowledge. Not surprisingly, ideas derived from science have clashed with ideas derived from religion.

The most visible of the clashes between scientific and religious ideas concerns evolution and the origins of man. This conflict started to take definite shape after the publication of Darwin's famous *Origin of Species* in 1859 in Europe and the United States. By the time of the Scopes "monkey trial" of 1925, it had hardened into a polarized standoff between evolutionism and creationism. At issue were specific questions about human origins as well as broader questions about the validity of religion in a scientific age. Were human beings created by God or by evolutionary processes? Is scientific knowledge or revealed knowledge the truest knowledge? What is the role of revealed truth? Conflict over these questions continues unabated to this day.

A consequence of the clash of scientific and religious ideas about evolution

is the widespread belief that science and religion themselves are necessarily in conflict. True or not, this belief has had significant consequences. The loss of the moderating influence of thinkers familiar with science and its methods, for example, has led many religious groups to adopt certain ideas regardless of their rationality, increasing the component of superstition and myth in their religious systems. Distrust of the moral and ethical perspectives inculcated by religion has made it easier for scientists to embrace ideologies—for example, social Darwinism and eugenics—that have contributed to the horrors of the totalitarianisms of the twentieth century. Fortunately, these and other negative consequences of the clash between science and religion have been widely recognized, and many scientists and religionists are now calling for an updated assessment of the relationship between science and religion.¹

The harmony of science and religion is a central tenet of the Bahá'í teachings. 'Abdu'l-Bahá explained the Bahá'í view thus: "Religion and science are the two wings upon which man's intelligence can soar into the heights, with which the human soul can progress" (*Paris Talks* 143). Rejecting the view that science and religion are in conflict, Shoghi Effendi describes them as "the two most potent forces in human life" (*World Order* 204). Religion, he says, "must go hand-in-hand with science."² The task facing humanity, the Universal House of Justice has written, "is to create a global civilization which embodies both the spiritual and material dimensions of existence." This can only be accomplished by "a progressive interaction between the truths and principles of religion and the discoveries and insights of scientific inquiry."³

How do the Bahá'í teachings resolve the seeming conflicts between evolution and the widely shared religious doctrine of divine creation? In this article, we address this question by surveying 'Abdu'l-Bahá's extensive comments on evolution and the origins of man. Addressed primarily to educated Western audiences in the first two decades of the twentieth century, these comments provide the fullest and most sustained discussion of the relationship between science and religion in the Bahá'í Writings. We show that 'Abdu'l-Bahá describes the human species as coming into being by developmental processes that are consistent with the mechanisms of

scientific evolution and, further, that these processes are the working out of the divine creative impulse. 'Abdu'l-Bahá thus reconciles two perspectives—evolution and divine creation—that many modern thinkers have deemed irremediably in conflict.

'ABDU'L-BAHÁ'S COMMENTS ON EVOLUTION

'Abdu'l-Bahá's comments on evolution may be found mainly in *Some Answered Questions*, *Paris Talks*, and *The Promulgation of Universal Peace*. The first is a compilation of notes of His table talks with pilgrims in the Holy Land; the latter two are compendiums of His addresses delivered in the early part of this century in Paris and America, respectively.⁴ The majority of His comments touch on issues that, although contemporary to His time, still command great interest. They span a number of inter-related themes and resist simple categorization.

It should be mentioned that the transcriptions of 'Abdu'l-Bahá's talks do not all enjoy the same degree of authenticity. Thus, care is required when drawing conclusions based solely on these works. To fully understand 'Abdu'l-Bahá's comments on evolution, it is important to take into account the many different topics they contain and their context in the body of the Bahá'í teachings. Shoghi Effendi has cautioned that statements by 'Abdu'l-Bahá on evolution "must be taken in conjunction with all the Bahá'í teachings," emphasizing that "we cannot get a correct picture by concentrating on just one phrase" (*Arohanui* 85–86). In this article, we explore some of the major themes that run through His comments on evolution.⁵ We group them under nine topical headings:

1. Creation is perfect
2. Nature has no conscious intelligence
3. Life evolved gradually from a sole origin
4. Diversity is necessary
5. Man has progressed through stages
6. Man is a distinct species, not an animal
7. Man is a composition of elements that attracts the human spirit

8. Evolution is governed by law
9. Man is a necessary part of existence

In the following, we look at each of these topics in detail. Throughout, we use the terms "man" and "human" interchangeably in their non-gender-specific sense.

1. CREATION IS PERFECT

A central foundation of 'Abdu'l-Bahá's teachings on evolution is an affirmation of the perfection of creation:

When man . . . sees the state, the organization and the perfection of the world, he will be convinced that in the possible world there is nothing more wonderful than that which already exists. . . . [T]he universe has no imperfection, so that if all beings became pure intelligence and reflected for ever and ever, it is impossible that they could imagine anything better than that which exists. (*Some Answered Questions* 177)

When we carefully investigate the kingdoms of existence and observe the phenomena of the universe about us, we discover the absolute order and perfection of creation. The dull minerals in their affinities, plants and vegetables with power of growth, animals in their instinct, man with conscious intellect and the heavenly orbs moving obediently through limitless space are all found subject to universal law, most complete, most perfect. (*Promulgation* 79)

'Abdu'l-Bahá compares the universe to the human body; if the chief member of the human body, the brain and the mind, were missing, it would be imperfect:

[I]f we imagine a time when man belonged to the animal world, or when he was merely an animal, we shall find that existence would

have been imperfect—that is to say, there would have been no man, and this chief member, which in the body of the world is like the brain and mind in man, would have been missing. The world would then have been quite imperfect. It is thus proved that if there had been a time when man was in the animal kingdom, the perfection of existence would have been destroyed; for man is the greatest member of this world, and if the body was without this chief member, surely it would be imperfect. (*Some Answered Questions* 178)

If, however, the creation in the past had not been adorned with utmost perfection, then existence would have been imperfect and meaningless, and in this case creation would have been incomplete. (*Some Answered Questions* 177)

A universe without man, 'Abdu'l-Bahá asserts, would be incomplete and therefore meaningless. This implies that human existence is an essential part of creation.

'Abdu'l-Bahá did not elaborate on the physical mechanisms by which creation gave rise to man. Recent scientific findings have led some scientists to the conclusion that our existence is critically dependent on the exact form of the laws of nature.⁶ The laws of physics and the fundamental constants of nature are delicately balanced in such a way that permits stars and galaxies to form. Furthermore, the basic building blocks of life—hydrogen, carbon, oxygen, water, and so on—have chemical and physical properties that appear to be finely tuned to enable the evolution of complex life forms. The physicist Paul Davies summarizes this perspective as follows: "It almost looks as if the structure of the universe and the laws of physics have been deliberately adjusted in order to lead to the emergence of life and consciousness" (*Are We Alone?* 118). This point of view is consistent with 'Abdu'l-Bahá's claim that the universe is perfect, and that humanity is a central part of that perfection.

2. NATURE HAS NO CONSCIOUS INTELLIGENCE

Despite the order and perfections evident in the universe, nature lacks

conscious intelligence. 'Abdu'l-Bahá tells us: "Nature is subjected to an absolute organization, to determined laws, to a complete order and a finished design, from which it will never depart. . . . But when you look at Nature itself, you see that it has no intelligence, no will" (*Some Answered Questions* 3).

This can readily be illustrated:

For instance, the nature of fire is to burn; it burns without will or intelligence. The nature of water is fluidity; it flows without will or intelligence. The nature of the sun is radiance; it shines without will or intelligence. The nature of vapor is to ascend; it ascends without will or intelligence. Thus it is clear that the natural movements of all things are compelled; there are no voluntary movements except those of animals and, above all, those of man. (*Some Answered Questions* 3)

While nature lacks consciousness, humans do not: "Man is intelligent, instinctively and consciously intelligent; nature is not. Man is fortified with memory; nature does not possess it. Man is the discoverer of the mysteries of nature; nature is not conscious of those mysteries herself" (*Promulgation* 81).

The Darwinian model of evolution similarly assigns no intelligence to nature. For example, Richard Dawkins, in *The Blind Watchmaker*, explains how unintelligent forces operating over long periods give rise to organisms of unimaginable complexity and marvelous design. The distinction is that Dawkins (and others who believe as he does) sees the marvelous complexity that is intrinsic to life and consciousness as created entirely by unintelligent processes, whereas 'Abdu'l-Bahá describes both nature and consciousness as products of the same cause. This cause, He says, must possess greater intelligence than its consequences.

3. LIFE EVOLVED GRADUALLY FROM A SOLE ORIGIN

A cornerstone of 'Abdu'l-Bahá's teachings on evolution is His affirmation of a single origin of life: "the origin of all material life is one . . ." (*Promulgation* 350).

From this sole origin, the diversity of life was produced: "Consider the world of created beings, how varied and diverse they are in species, yet with one sole origin" (*Paris Talks* 51–52).

[T]here is no doubt that in the beginning the origin was one: the origin of all numbers is one and not two. Then it is evident that in the beginning matter was one, and that one matter appeared in different aspects in each element. Thus various forms were produced, and these various aspects as they were produced became permanent, and each element was specialized. But this permanence was not definite, and did not attain realization and perfect existence until after a very long time. Then these elements became composed, and organized and combined in infinite forms; or rather from the composition and combination of these elements innumerable beings appeared. (*Some Answered Questions* 181)

'Abdu'l-Bahá describes the development of complex entities as a slow, gradual process: "the growth and development of all beings is gradual; this is the universal divine organization and the natural system. The seed does not at once become a tree; the embryo does not at once become a man; the mineral does not suddenly become a stone. No, they grow and develop gradually and attain the limit of perfection" (*Some Answered Questions* 198–99).

Thus, according to 'Abdu'l-Bahá, life on earth is extremely old: "life on this earth is very ancient. It is not one hundred thousand, or two hundred thousand, or one million or two million years old; it is very ancient. . . ." (*Some Answered Questions* 160).

These teachings are in harmony with the conclusions of the evolutionary sciences that life originated approximately 3.8 billion years ago from a single bacterial form, as evidenced by the common biochemical foundation of all life on earth.

4. DIVERSITY IS NECESSARY

The theory of evolution as developed by Darwin placed a strong emphasis

on the role of competition. Since Darwin's time, the interdependence of the different components—both animate and inanimate—in a habitat has been recognized as playing an equally important role. Evolution takes place in ecosystems that are complex webs of interactions between plants, animals, geography, bacteria, weather patterns, and other phenomena (see Lewontin). 'Abdu'l-Bahá's comments on evolution strongly emphasize the importance of interdependence:

For all beings are connected together like a chain; and reciprocal help, assistance and interaction belonging to the properties of things are the causes of the existence, development and growth of created beings. It is confirmed through evidences and proofs that every being universally acts upon other beings, either absolutely or through association. (*Some Answered Questions* 178–79)

Cooperation and reciprocity are intrinsic components of the created world, according to 'Abdu'l-Bahá:

Consider for instance how one group of created things constituteth the vegetable kingdom, and another the animal kingdom. Each of these two maketh use of certain elements in the air on which its own life dependeth, while each increaseth the quantity of such elements as are essential for the life of the other. . . . co-operation and reciprocity are essential properties which are inherent in the unified system of the world of existence, and without which the entire creation would be reduced to nothingness. (*Huqúq'u'lláh* 21)

This passage calls to mind modern ideas about the dynamics of ecosystems and the modern evolutionary biological concepts of cooperation and altruism.⁷

'Abdu'l-Bahá emphasizes that diversity is a necessary condition for the order and perfection of the whole universe:

Know that the order and the perfection of the whole universe require

that existence should appear in numberless forms. For existing beings could not be embodied in only one degree, one station, one kind, one species and one class; undoubtedly, the difference of degrees and distinction of forms, and the variety of genus and species, are necessary—that is to say, the degree of mineral, vegetable, animal substances, and of man, are inevitable; for the world could not be arranged, adorned, organized and perfected with man alone. In the same way, with only animals, only plants or only minerals, this world could not show forth beautiful scenery, exact organization and exquisite adornment. Without doubt it is because of the varieties of degrees, stations, species and classes that existence becomes resplendent with utmost perfection. (*Some Answered Questions* 129)

5. MAN HAS PROGRESSED THROUGH STAGES

'Abdu'l-Bahá compares the evolution of man to the growth of an embryo into an adult. Man did not appear all at once but developed gradually: "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. . . ." (*Some Answered Questions* 183). There are different stages in the evolution of man:

[M]an, 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. (*Some Answered Questions* 183)

In each stage (degree) of his development, man acquired new virtues:

In the world of existence man has traversed successive degrees until he has attained the human kingdom. In each degree of his progression he has developed capacity for advancement to the next station and condition. While in the kingdom of the mineral he was attaining the capacity for promotion into the degree of the vegetable. In the kingdom of the vegetable he underwent preparation for the world of the animal, and from thence he has come onward to the human degree, or kingdom. Throughout this journey of progression he has ever and always been potentially man. (*Promulgation* 225)

In every stage of existence through which he progressed—mineral, vegetable, and animal—man was potentially man. Potentiality, as we will see, is a key concept in 'Abdu'l-Bahá's discussion of evolution.

6. MAN IS A DISTINCT SPECIES, NOT AN ANIMAL

According to 'Abdu'l-Bahá, man progressed through many stages before attaining his present form. But always, he was potentially human. That he passed through an animal stage does not mean he is an animal:

But at all times, even when the embryo resembled a worm, it was human in potentiality and character, not animal. The forms assumed by the human embryo in its successive changes do not prove that it is animal in its essential character. Throughout this progression there has been a transference of type, a conservation of species or kind. Realizing this we may acknowledge the fact that at one time man was an inmate of the sea, at another period an invertebrate, then a vertebrate and finally a human being standing erect. Though we admit these changes, we cannot say man is an animal. In each one of these stages are signs and evidences of his human existence and destination. (*Promulgation* 358)

It may seem that 'Abdu'l-Bahá's comments differ from the standard Darwinian picture of human evolution. In the latter picture, *Homo sapiens*

is considered to be one species which, along with the great apes—chimpanzees, gorillas, and orangutans—evolved from a common ancestor living in Africa some five to ten million years ago. This common ancestry is often said to imply that man is an animal. 'Abdu'l-Bahá rejects this interpretation, saying that man is a distinct "species." However, 'Abdu'l-Bahá is not using the word *species* in the modern taxonomic or biological sense. Rather, He is using it with the implication of "kind" or "category."⁸ With this meaning in mind, we further examine 'Abdu'l-Bahá's statements about human nature and origins.

'Abdu'l-Bahá likens the development of human beings to the growth of an embryo in the mother's womb to emphasize that the evolution of man through different stages does not bind him to any of those stages:

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. (*Some Answered Questions* 193–94)

Although he evolved through many stages, man was always distinctly man, a unique species: "man's existence on this earth, from the beginning until it reaches this state, form and condition, necessarily lasts a long time, and goes through many degrees until it reaches this condition. But from the beginning of man's existence he is a distinct species. . . . Man was always a distinct species, a man, not an animal" (*Some Answered Questions* 184). "Therefore, this change of appearance, this evolution of members, this development and growth, even though we admit the reality of growth and progress, does not prevent the species from being original." (*Some Answered Questions* 194)

What makes man unique, according to 'Abdu'l-Bahá, is his intellectual endowment, not his physical makeup.⁹ He urges us to understand man's

reality not by focusing on his physical connection with the animal kingdom, but rather by considering his spiritual nature. It is wrong, He repeatedly emphasizes, to assume that man's physical body makes him merely an animal: "Man is not man simply because of bodily attributes. The standard of divine measure and judgment is his intelligence and spirit" (*Promulgation* 184). "Again, there are men whose eyes are only open to physical progress and to the evolution in the world of matter. These men prefer to study the resemblance between their own physical body and that of the ape, rather than to contemplate the glorious affiliation between their spirit and that of God. This is indeed strange, for it is only physically that man resembles the lower creation, with regard to his intellect he is totally unlike it" (*Paris Talks* 71). "The reality of man is his thought, not his material body. The thought force and the animal force are partners. Although man is part of the animal creation, he possesses a power of thought superior to all other created beings" (*Paris Talks* 17).

'Abdu'l-Bahá does not deny what humans have in common with the animal world. Rather, He denies that their animal characteristics comprise their entire nature. According to 'Abdu'l-Bahá, human beings are on a different plane than the animal because of their spiritual and intellectual powers, powers that are evidenced by the sciences, the arts, and human inventions. "Though man has powers and outer senses in common with the animal, yet an extraordinary power exists in him of which the animal is bereft. The sciences, arts, inventions, trades and discoveries of realities are the results of this spiritual power" (*Some Answered Questions* 186). Further elaborating on the differences between humans and the rest of living things, 'Abdu'l-Bahá explains: "Man is endowed with ideal virtues—for example, intellection, volition, faith, confession and acknowledgment of God—while nature is devoid of all these. The ideal faculties of man, including the capacity for scientific acquisition, are beyond nature's ken. These are powers whereby man is differentiated and distinguished from all other forms of life" (*Promulgation* 51).

'Abdu'l-Bahá collectively calls the human powers which distinguish man from the animal the spirit of man: "The animal is the captive of the senses and bound by them; all that is beyond the senses, the things that they do

not control, the animal can never understand, although in the outer senses it is greater than man. Hence it is proved and verified that in man there is a power of discovery by which he is distinguished from the animals, and this is the spirit of man" (*Some Answered Questions* 188). The evidence for the spirit of man lies in its visible signs:

There is no doubt that from its effects you prove that in the animal there is a power which is not in the plant, and this is the power of the senses—that is to say, sight, hearing and also other powers; from these you infer that there is an animal spirit. In the same way, from the proofs and signs we have mentioned, we argue that there is a human spirit. Since in the animal there are signs which are not in the plant, you say this power of sensation is a property of the animal spirit; you also see in man signs, powers and perfections which do not exist in the animal; therefore, you infer that there is a power in him which the animal is without. (*Some Answered Questions* 189–90)

Man differs from the animals, possessing mental and spiritual capacities that animals lack. In a similar way, animals differ from the plants, possessing the power of movement and senses that plants lack. Paleo-anthropologist Ian Tattersall comments on this difference when he writes "that with the arrival of behaviorally modern *Homo sapiens*, a totally unprecedented entity had appeared on Earth" (188). Man's mental and spiritual capacities make him a distinct species.

7. MAN IS A COMPOSITION OF ELEMENTS THAT ATTRACTS THE HUMAN SPIRIT

'Abdu'l-Bahá asserts that man's perfections—his powers—result from a measured and balanced combination of elements:

[A]ll these endless beings which inhabit the world, whether man, animal, vegetable, mineral—whatever they may be—are surely, each one of them, composed of elements. . . . [T]he perfection of each individual

being—that is to say, the perfection which you now see in man or apart from him, with regard to their atoms, members or powers—is due to the composition of the elements, to their measure, to their balance, to the mode of their combination, and to mutual influence. When all these are gathered together, then man exists. (*Some Answered Questions* 178–79)

When the appropriate combination of elements appears, the human spirit is attracted to it:

Moreover, these members, these elements, this composition, which are found in the organism of man, are an attraction and magnet for the spirit; it is certain that the spirit will appear in it. . . . [W]hen these existing elements are gathered together according to the natural order, and with perfect strength, they become a magnet for the spirit, and the spirit will become manifest in them with all its perfections. (*Some Answered Questions* 201)

Lest this statement be construed materialistically, it should be pointed out that according to 'Abdu'l-Bahá the human spirit does not depend for its existence on the body. He states: "The spirit is independent of the body, and in relation to it the spirit is an essential preexistence" (*Some Answered Questions* 280). He emphasizes: "The spirit does not need a body, but the body needs spirit, or it cannot live. The soul can live without a body, but the body without a soul dies" (*Paris Talks* 86–7). He further expands: "The life of the spirit is neither conditional nor dependent upon the life of the body. At most it can be said that the body is a mere garment utilized by the spirit. If that garment be destroyed, the wearer is not affected but is, in fact, protected" (*Promulgation* 259). 'Abdu'l-Bahá affirms that the human soul has a beginning, but has no end: "Know that, although the human soul has existed on the earth for prolonged times and ages, yet it is phenomenal. As it is a divine sign, when once it has come into existence, it is eternal. The spirit of man has a beginning, but it has no end; it continues eternally" (*Some Answered Questions* 151).¹⁰

The human soul is associated with the body but continues to exist after the body disintegrates:

The human spirit may be likened to the bounty of the sun shining on a mirror. The body of man, which is composed from the elements, is combined and mingled in the most perfect form; it is the most solid construction, the noblest combination, the most perfect existence. It grows and develops through the animal spirit. This perfected body can be compared to a mirror, and the human spirit to the sun. Nevertheless, if the mirror breaks, the bounty of the sun continues; and if the mirror is destroyed or ceases to exist, no harm will happen to the bounty of the sun, which is everlasting. (*Some Answered Questions* 143–44)

8. EVOLUTION IS GOVERNED BY LAW

'Abdu'l-Bahá asserts that natural laws regulate all physical phenomena: "The phenomenal world is entirely subject to the rule and control of natural law" (*Promulgation* 17). These laws are so comprehensive that nature is bound by them: "Nature is subjected to an absolute organization, to determined laws, to a complete order and a finished design, from which it will never depart. . . ." (*Some Answered Questions* 3). In particular, 'Abdu'l-Bahá states that these laws apply to the evolution of living things:

Similarly, the terrestrial globe from the beginning was created with all its elements, substances, minerals, atoms and organisms; but these only appeared by degrees: first the mineral, then the plant, afterward the animal, and finally man. But from the first these kinds and species existed, but were undeveloped in the terrestrial globe, and then appeared only gradually. 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. (*Some Answered Questions* 199)

All beings, whether large or small, were created perfect and complete from the first, but their perfections appear in them by degrees. The organization of God is one; the evolution of existence is one; the divine system is one. Whether they be small or great beings, all are subject to one law and system. (*Some Answered Questions* 199)

Having established that evolution is governed by universal law, 'Abdu'l-Bahá states that the composition of elements responsible for the appearance of beings is not a chance process:

[I]t is evident that in the beginning matter was one, and that one matter appeared in different aspects in each element. . . . Then these elements became composed, and organized and combined in infinite forms; or rather from the composition and combination of these elements innumerable beings appeared.

This composition and arrangement, through the wisdom of God and His preexistent might, were produced from one natural organization, which was composed and combined with the greatest strength, conformable to wisdom, and according to a universal law. From this it is evident that it is the creation of God, and is not a fortuitous composition and arrangement. (*Some Answered Questions* 181)

In accordance with this natural organization—this universal law—the mature properties of things are not evident at the beginning. Rather, they appear gradually. According to 'Abdu'l-Bahá, man's essential qualities—mind and spirit—emerged from this same gradual process. He invokes the analogies of the embryo and the seed:

[T]he formation of man in the matrix of the world was in the beginning like the embryo; then gradually he made progress in perfectness, and grew and developed until he reached the state of maturity, when the mind and spirit became visible in the greatest power. In the beginning of his formation the mind and spirit also existed, but they were hidden; later they were manifested. . . . So it is that in the seed the tree

exists, but it is hidden and concealed; when it develops and grows, the complete tree appears. (*Some Answered Questions* 198)

Central to these analogies is the concept of potentiality. Seed-like growth and embryonic development bring into reality the potentialities inherent in their respective DNA structures. The potentiality of human existence is embedded in the laws of the universe. Man existed from the beginning, but his physical appearance is a gradual process.

9. MAN IS A NECESSARY PART OF EXISTENCE

'Abdu'l-Bahá asserts that the universe requires human existence: "One of the things which has appeared in the world of existence, and which is one of the requirements of Nature, is human life" (*Some Answered Questions* 4). The purpose of human existence in the universe is the appearance of divine perfections: "[W]e . . . have also proved logically that man exists from his origin and foundation as man, and that his species has existed from all eternity, now we will establish spiritual proofs that human existence—that is, the species of man—is a necessary existence, and that without man the perfections of Divinity would not appear" (*Some Answered Questions* 195). "If man did not exist, the universe would be without result, for the object of existence is the appearance of the perfections of God" (*Some Answered Questions* 196). 'Abdu'l-Bahá's intent is not that we simply consider our own planet, but the whole of existence:¹¹ "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. . . . Therefore, it cannot be imagined that the worlds of existence, whether the stars or this earth, were once inhabited by the donkey, cow, mouse and cat, and that they were without man!" (*Some Answered Questions* 197).

According to 'Abdu'l-Bahá, the reality that humans embody—mind and spirit—is necessarily present in the world:

[I]t is necessary that the signs of the perfection of the spirit should

be apparent in this world, so that the world of creation may bring forth endless results, and this body may receive life and manifest the divine bounties. . . . [I]f the perfections of the spirit did not appear in this world, this world would be unenlightened and absolutely brutal. By the appearance of the spirit in the physical form, this world is enlightened. As the spirit of man is the cause of the life of the body, so the world is in the condition of the body, and man is in the condition of the spirit. If there were no man, the perfections of the spirit would not appear, and the light of the mind would not be resplendent in this world. This world would be like a body without a soul. (*Some Answered Questions* 200–1)

The appearance of human consciousness is assured because it is woven into the fabric of the universe at the deepest level—that of its laws.

This outline of 'Abdu'l-Bahá's comments on evolution, while not exhaustive, covers many of the major themes in His comments and provides an overview of His approach, an approach that resolves the apparent differences between science and religion at one of its most contentious dividing points.

SCIENCE AND RELIGION

We have systematically explored 'Abdu'l-Bahá's teachings on evolution and can summarize them succinctly: The process of evolution operates according to universal law and its outcome is the appearance of the human spirit—and divine perfections. Before looking at some of the implications of these teachings, we first briefly describe the current conflict between science and religion over issues pertaining to human evolution. We then outline the Bahá'í perspective on the harmony of science and religion.

CONFLICTING VIEWS OF HUMAN ORIGINS

The tension between science and religion over human origins has its roots

in conflicting views of how man was created. According to European tradition (and cultural traditions strongly influenced by monotheistic religion), man was created—designed—by God. The traditional view is conveyed very effectively by William Paley's argument from design. In his 1828 book *Natural Theology*, Paley argues that the complexity and perfection of living creatures proves the existence of God. Consider a person walking across a heath. If he discovers a watch with its intricate machinery lying on the ground, he would conclude that the watch had an intelligent maker. Similarly, an observer aware of the intricate workings of nature would conclude that an intelligent maker—God—fashioned living things.

Darwin's theory of evolution, in the eyes of many scientists and religionists, contradicts the view that God designed man. These scientists, especially biologists, have argued that there is no need to postulate the existence of an intelligent maker. Evolutionary theories, they argue, provide simple, broad, and fully adequate explanations of the intricate machinery of life in purely material terms. The blind forces of nature, they hold, are responsible for biological complexity. If the blind forces of nature can explain the intricate workings of the natural world, then there is no evidence of an intelligent maker. It follows, according to many, that there is no compelling reason for belief in God.¹² Stephen Jay Gould, for example, has argued that the emergence of man is accidental, a result of blind forces interacting with historical contingencies. He views the evolution of humans as an unlikely event and the appearance of intelligence singularly improbable:

Wind back the tape of life to the origin of the modern multicellular animals in the Cambrian explosion, let the tape play again from this identical starting point, and the replay will populate the earth . . . with a radically different set of creatures. The chance that this alternative set will contain anything remotely like a human being must be effectively nil, while the probability of any kind of creature endowed with self-consciousness must also be extremely small.¹³ (*Full House* 214)

Suppose we accept that humans and their self-consciousness are simply the products of evolutionary processes driven by random chance. It might then seem logical to conclude that an intelligent maker did not create man and that man has no purpose. "The human species," according to one such conclusion, "was not designed, has no purpose, and is the product of mere mechanical mechanisms" (Futumya 12–13).

Clearly, Darwin's theory of evolution strongly challenged traditional European religious beliefs about God and the origins of man. The backlash to this challenge has been the emergence of religious movements, usually Christian, that oppose Darwinian evolutionary theories and that frequently promote a literal interpretation of the Biblical creation story. This movement—creationism—encompasses a variety of views with the common theme that Darwinian evolution cannot be correct. Creationists believe their views on human origins to have the backing of sacred scripture and therefore to be superior to evolutionary theory.¹⁴ Creationism has fanned the flames of conflict between science and religion and has lent widespread credence to the belief that religion is inherently irrational. As we will see in the following sections, the Bahá'í Writings advocate a different approach.

SCIENCE AND RELIGION IN THE BAHÁ'Í TEACHINGS

Science and religion, according to the Bahá'í Writings, are "the two most potent forces in human life" (Shoghi Effendi, *World Order* 204). A central principle of the Bahá'í teachings is that religion must conform to science and reason. True religion and science must agree. This central principle of the Bahá'í Faith has numerous facets, many of which are interrelated. 'Abdu'l-Bahá often conveys these themes together in His Writings and utterances. We quote several comments from 'Abdu'l-Bahá in support of this central principle.

'Abdu'l-Bahá asserts that science and religion cannot be opposed because they are aspects of the same truth, while at the same time affirming that reasoning powers are required to understand the truths of religion:

It is impossible for religion to be contrary to science . . . God made religion and science to be the measure, as it were, of our understanding. . . . To him who has the power of comprehension religion is like an open book, but how can it be possible for a man devoid of reason and intellectuality to understand the Divine Realities of God? Put all your beliefs into harmony with science; there can be no opposition, for truth is one. (*Paris Talks* 145–46)

He emphasizes that science and religion are aspects of the same reality: "Religion must stand the analysis of reason. It must agree with scientific fact and proof so that science will sanction religion and religion fortify science. Both are indissolubly welded and joined in reality" (*Promulgation* 175). He further declares that religious beliefs must accord with the intellect and the power of reason, otherwise they are merely superstition:

Every religion which is not in accordance with established science is superstition. Religion must be reasonable. If it does not square with reason, it is superstition and without foundation. . . . God has endowed man with reason that he may perceive what is true. If we insist that such and such a subject is not to be reasoned out and tested according to the established logical modes of the intellect, what is the use of the reason which God has given man? . . . It is evident that within the human organism the intellect occupies the supreme station. Therefore, if religious belief, principle or creed is not in accordance with the intellect and the power of reason, it is surely superstition. (*Promulgation* 63–64)

'Abdu'l-Bahá ascribes the majority of the blame for the rift between science and religion to religious claims to superior authority: "Between scientists and the followers of religion there has always been controversy and strife for the reason that the latter have proclaimed religion superior in authority to science and considered scientific announcement opposed to the teachings of religion" (*Promulgation* 231). Religious claims to authority often create conflict between religious sects. One consequence of this

conflict has been to convince many that religion is irrational and not reconcilable with science:

Many religious leaders have grown to think that the importance of religion lies mainly in the adherence to a collection of certain dogmas and the practice of rites and ceremonies. . . .

Now, these forms and rituals differ in the various churches and amongst the different sects, and even contradict one another; giving rise to discord, hatred, and disunion. The outcome of all this dissension is the belief of many cultured men that religion and science are contradictory terms, that religion needs no powers of reflection, and should in no wise be regulated by science, but must of necessity be opposed, the one to the other. The unfortunate effect of this is that science has drifted apart from religion, and religion has become a mere blind and more or less apathetic following of the precepts of certain religious teachers, who insist on their own favourite dogmas being accepted even when they are contrary to science. (*Paris Talks* 143–44)

'Abdu'l-Bahá states: "There is no contradiction between true religion and science" (*Paris Talks* 141). He pronounces those who hold religion to be opposed to science as failing to distinguish between true and false religion and true and false science:

Any religious belief which is not conformable with scientific proof and investigation is superstition, for true science is reason and reality, and religion is essentially reality and pure reason; therefore, the two must correspond. Religious teaching which is at variance with science and reason is human invention and imagination unworthy of acceptance, for the antithesis and opposite of knowledge is superstition born of the ignorance of man. If we say religion is opposed to science, we lack knowledge of either true science or true religion, for both are founded upon the premises and conclusions of reason, and both must bear its test. (*Promulgation* 107)

According to 'Abdu'l-Bahá, much of human conflict can be traced to man-made differences between science and religion and between the various religious sects: "Much of the discord and disunion of the world is created by these man-made oppositions and contradictions. If religion were in harmony with science and they walked together, much of the hatred and bitterness now bringing misery to the human race would be at an end" (*Paris Talks* 144).

'Abdu'l-Bahá emphasizes the indispensability of both science and religion for human progress. An important aspect of this is that science safeguards religion against superstition and religion protects science from dogmatic materialism. 'Abdu'l-Bahá puts it as follows:

Religion and science are the two wings upon which man's intelligence can soar into the heights, with which the human soul can progress. It is not possible to fly with one wing alone! Should a man try to fly with the wing of religion alone he would quickly fall into the quagmire of superstition, whilst on the other hand, with the wing of science alone he would also make no progress, but fall into the despairing slough of materialism. (*Paris Talks* 143)

IMPLICATIONS OF 'ABDU'L-BAHÁ'S COMMENTS ON EVOLUTION

The Bahá'í teachings in general, and 'Abdu'l-Bahá's comments in particular, make it clear that science and religion, if properly understood, are in agreement. Does this imply that scientific knowledge can be used to enhance understanding of religion? Can religion enrich scientific understanding? Questions like these raise more general issues about the nature of the agreement between science and religion. In the following, we use 'Abdu'l-Bahá's comments on evolution to explore some of these issues from a Bahá'í perspective.

SCIENCE, RELIGION, AND AUTHORITY

Central to any discussion about the relationship between science and religion

is the question about the extent to which each enjoys authority. The Bahá'í perspective is that "religion which is not in accordance with established science is superstition." While this seems to suggest that religion must accept current scientific knowledge as authoritative, this is not necessarily always the case. The present scientific point of view is not always correct, nor is the truth limited to only what science can explain.¹⁵

Ultimately, according to 'Abdu'l-Bahá, the worth of a given science is determined by whether or not it leads to love of God: "Every kind of knowledge, every science, is as a tree: if the fruit of it be the love of God, then is it a blessed tree, but if not, that tree is but dried-up wood, and shall only feed the fire" (*Selections* 181). In a similar vein, He describes science without religion as blocking progress by leading man to "fall into the despairing slough of materialism" (*Paris Talks* 143). Thus, we can characterize the Bahá'í Writings as saying that religion must be in conformity with reason and science, and that science should not be misused to turn people's hearts away from God.

AGREEMENT OF RELIGION WITH SCIENCE

Let us consider whether or not 'Abdu'l-Bahá comments on evolution are in agreement with the truths of the evolutionary sciences. Clearly, 'Abdu'l-Bahá espouses an evolutionary perspective as the framework for understanding the emergence of man. He describes man as evolving through stages, starting in the mineral kingdom, then moving through the vegetable and animal kingdoms before arriving in the human kingdom. He also describes life as developing from a single origin by a slow process over extremely long periods of time. Thus, He embraces an evolutionary viewpoint that is in broad general agreement with that of the biological sciences: the earth is very ancient, life evolved from simple origins, man evolved through the animal world, and man's attributes are a consequence of his evolution.

DEPARTURES FROM THE CONVENTIONAL INTERPRETATION

Aspects of 'Abdu'l-Bahá's thought are at odds with certain conventional

interpretations of evolution. He emphasizes that humans, while sharing characteristics in common with the animals, are in some fundamental ways distinct and different from them. He also emphasizes—repeatedly—that humans have always existed, either potentially or in actuality. He explains evolution by analogy with the development of an embryo or a seed. Much as a tree exists potentially in a seed or as an adult exists potentially in an embryo, man is present at the beginning in the evolutionary process. He thus describes evolutionary mechanisms of development not only as intrinsic to the growth of life on earth (and an essential aspect of spiritual development), but as the unfolding of God's creation. He stresses that man—and all the rest of creation—is created by God.

Do these seeming departures from the conventional interpretation of evolution conflict with the Bahá'í view that religion should be in conformity with science? Are they assertions that modern scientific understandings of evolution are wrong or incomplete? When considering these questions, we should be careful to distinguish between factual accuracy, an area where science often has indisputable authority, and metaphysics, philosophy, and ideology, areas where science has no special privilege. Because 'Abdu'l-Bahá classifies any religious belief that contradicts established science as superstition, it is unlikely that He would endorse a view that dismissed recognized bodies of scientific truth (like the evolutionary sciences) as factually wrong. It is likely, therefore, that His departures from the conventional interpretation of evolution are due to disagreements with the metaphysical, philosophical, and ideological aspects of those interpretations, not with scientific findings.

Man Is Not an Animal

Consider, for example, 'Abdu'l-Bahá's insistence that man is a distinct species, not an "animal." Taxonomically scientists place *Homo sapiens* as one species in the order of primates, along with apes and monkeys—a classification based on humans' biological similarity to the primates. 'Abdu'l-Bahá defines man as a separate species on the basis of those qualities that differentiate humans from animals—their rational faculties, for

example—so there is no intrinsic contradiction. Indeed, the differences between man and the animals in many aspects are significant and obvious, suggesting that purely biological classification schemes are inadequate. Classifying man as an animal, while perhaps useful for narrowly defined scientific goals, ignores both human rational and spiritual aspects, making it misleading as guidance for wider philosophical explorations. Recognizing humans' special nature—their rational faculty and spiritual capacity—as a category of considerable significance opens up to discussion those aspects of life that are unique to humans, such as science, art, ethics, and the possibility of a peaceful global civilization.

The Missing Link

In the nineteenth and early twentieth centuries, hominid forms intermediate between humans and their primate ancestors had not been discovered. 'Abdu'l-Bahá is reported to have stated that a "missing link" between man and the animals would never be found: "Between man and the ape, however, there is one link missing, and to the present time scientists have not been able to discover it. . . . It will never be found" (*Promulgation* 358–59).

At the dawn of the twenty-first century, the fossil record is much more complete, although new discoveries continually challenge and alter existing understandings. Fossils of many early hominid forms have been found and a family tree has been constructed for the human species. Do earlier hominid forms, having substantial anatomical differences from modern humans, constitute the missing link, negating 'Abdu'l-Bahá's assertion that it would never be discovered? In the talk in which He discusses the missing link, 'Abdu'l-Bahá underscores that theories of evolution claiming human beings to be descended from the animals concern themselves solely with human anatomical characteristics:

[T]he philosophers of the West have certain syllogisms, or demonstrations, whereby they endeavor to prove that man had his origin in the animal kingdom; that although he is now a vertebrate, he originally

lived in the sea; from thence he was transferred to the land and became vertebrate; that gradually his feet and hands appeared in his anatomical development; then he began to walk upon all fours, after which he attained to human stature, walking erect. They find that his anatomy has undergone successive changes, finally assuming human form, and that these intermediate forms or changes are like links connected. . . . Therefore, the greatest proof of this western theory of human evolution is anatomical. . . . (*Promulgation* 358)

Other philosophies, in contrast, describe reason as man's essential reality, separating humans from the animals:

The materialistic philosophers of the West declare that man belongs to the animal kingdom, whereas the philosophers of the East—such as Plato, Aristotle and the Persians—divide the world of existence or phenomena of life into two general categories or kingdoms: one the animal kingdom, or world of nature, the other the human kingdom, or world of reason.

Man is distinguished above the animals through his reason. (*Promulgation* 356–57)

'Abdu'l-Bahá endorses this point of view. Man clearly has scientific attainments attributable to the faculty of reason, attainments animals fail to possess. The "missing link" between man and the apes thus signifies the distinction between the human and animal kingdoms: "The lost link of Darwinian theory is itself a proof that man is not an animal. How is it possible to have all the links present and that important link absent? Its absence is an indication that man has never been an animal. It will never be found. The significance is this: that the world of humanity is distinct from the animal kingdom" (*Promulgation* 359).

So in the Bahá'í view, while humans are anatomically connected with the animals, their true reality, which is intellectual and spiritual, is distinct and separate.¹⁶

Man Has Always Existed

'Abdu'l-Bahá states that man has always existed. Even when man did not physically exist, or when he existed in a form different than he has today, 'Abdu'l-Bahá states that he nonetheless existed. In His comments on evolution, 'Abdu'l-Bahá frequently uses the analogies of the development of a mature plant from a seed and the development of an adult from an embryo. In many of His other comments and writings, He describes similar developmental processes that transform potentiality into actuality. Thus, before humans physically existed, their existence was potential, like the existence of the tree in the seed, or the full adult form in the embryo.

'Abdu'l-Bahá's standpoint is very simple but subtle. Two factors may make His argument difficult to grasp for those accustomed to modern debates about human origins. The first factor is that evolutionary processes are often thought to proceed without goals or purpose. The second factor is that it is difficult to see how the very simple constituents of primordial matter—subatomic particles and the like—could contain within them instructions for building the biological complexity of man. What is it in the structure of reality that allows human existence to become realized? From a scientific perspective, what allows mankind's existence must be built into the laws of nature. Of course, certain conditions have to be met before human existence becomes a reality, that is, a planet must be at a suitable distance from its star and have a suitable atmosphere, chemical composition, water content, and so on. But these are conditions that are made possible by the laws of nature. Therefore, it follows that the laws of nature contain within themselves everything that brings about man's existence. An important consequence of this thesis is that it locates both the possibility and the current actuality of the existence of man in the laws underlying the entire universe.

The Laws of Nature Embody God's Will

The view that humankind was created through the laws of nature differs from a traditional Western Christian stance, which holds humans to have

been created by the miraculous intervention of God. In contrast, 'Abdu'l-Bahá ascribes the origins and evolution of man—indeed of all life—to natural developmental and evolutionary processes. This view equates the scientific understanding of human origins with a religious perspective unencumbered by ancient dogmas and superstitions. 'Abdu'l-Bahá emphasizes the central role of evolutionary processes and calls attention to parallels that exist between physical and spiritual development (*Promulgation* 131). He identifies evolution as a universal divine law: "The organization of God is one; the evolution of existence is one; the divine system is one. Whether they be small or great beings, all are subject to one law and system" (*Some Answered Questions* 199).

Bahá'u'lláh describes the laws of nature as an expression of God's will: "Nature in its essence is the embodiment of My Name, the Maker, the Creator. Its manifestations are diversified by varying causes, and in this diversity there are signs for men of discernment. Nature is God's Will and is its expression in and through the contingent world" (*Tablets of Bahá'u'lláh* 142). A corollary of this is that God's creation of human beings has been effected through natural law.

COMPLEXITY AND 'ABDU'L-BAHÁ'S COMMENTS ON EVOLUTION

Complexity theory offers an increasingly popular way to probe the interplay of historical contingency and natural law responsible for the persistent increase of complexity in the universe. Although still an emerging field, it has brought important new perspectives to the study of evolution.¹⁷ Questions it poses are central to the discussion of human evolution: In a universe with omnipresent randomness, where does order come from?¹⁸ What in the structure of physical law gives rise to complexity?¹⁹ Is the emergence of life probable or improbable? Is evolution governed by general laws (see Kauffman, *Investigations*)? Are intelligence and consciousness inevitable (see Simonton; Byrne)?

A compelling interpretation of what we know about the history of the universe is that it can be characterized as an unfolding of greater levels of complexity leading from primordial matter to galaxies, stars, and planets

and eventually to life. Throughout all of the processes responsible for these unfoldings—processes at scales ranging from the subatomic to the cosmological—randomness plays a role. Chance and law (see Monod) work together in this grand scheme to produce the complex universe we see today. Randomness is the engine that drives the relentless discovery of new complex configurations of matter, and therefore is indispensable to evolution at all levels. Therefore, the presence of randomness as a central mechanism of biological evolution does not contradict the idea that God created man.

The complexity theory approach to evolution exhibits strong parallels with 'Abdu'l-Bahá's teachings. It suggests that general laws govern evolution, in resonance with 'Abdu'l-Bahá's assertion that evolution conforms to universal law. Complexity theory states that new properties emerge from complex configurations of matter, mirroring 'Abdu'l-Bahá's affirmation that man's perfections are an outcome of his physical makeup. Complexity theory strongly suggests that intelligence and consciousness are the inevitable results of evolution, echoing 'Abdu'l-Bahá's principle that man is necessarily present in the universe. From both viewpoints, human beings are the product of historical processes as well as the long-awaited expression of underlying order latent in the laws of nature (see Kauffman, *At Home* 149–89). Championing these ideas, the physicist Freeman Dyson declares: "I do not feel like an alien in this universe. The more I examine the universe and study the details of its architecture the more evidence I find that the universe in some sense must have known we were coming" (250).

CONCLUSION

'Abdu'l-Bahá's comments on evolution show that belief in divine creation and evolutionary thought are compatible, illustrating the Bahá'í principle of the unity of science and religion. Here we briefly examine some of the wider implications. A central issue is how we view ourselves: Is man just an animal or is he something more? Does man have purpose or not? Other questions concern the relationship of science and religion: Is religion

compatible with science? How do science and religion contribute to the development of a peaceful global civilization? Are science and religion both necessary?

We have seen that 'Abdu'l-Bahá's comments on evolution support the view that physically humans are the product of the natural processes responsible for animals and all living beings. Animals, and most other living beings, are captive to nature—they cannot deviate from a range of behaviors imposed on them by evolution (see Wilson). If man is simply an animal, it follows that animal behavioral patterns—conflict, aggression, and the like—are inherent, inescapable, and ineradicable aspects of human nature as violence and conflict are chronic and permanent realities in the animal world.²⁰ If man is an animal, he cannot be held individually responsible for his actions, nor does it follow that he is capable of altering them. Similarly, if man is solely a product of the random mechanisms of evolution, then he was not created with a purpose. An attitude of hopelessness and meaninglessness—"the despairing slough of materialism" ('Abdu'l-Bahá, *Paris Talks* 143)—seems to be the unavoidable consequence of such beliefs.²¹

To 'Abdu'l-Bahá, man is much more than an animal. Man has a three-fold reality. He asserts:

Man is endowed with an outer or physical reality. It belongs to the material realm, the animal kingdom, because it has sprung from the material world. This animalistic reality of man he shares in common with the animals.

The human body is like animals subject to nature's laws. But man is endowed with a second reality, the rational or intellectual reality; and the intellectual reality of man predominates over nature. . . .

Yet there is a third reality in man, the spiritual reality. (*Foundations* 51)

Man's physical nature is rooted in the animal kingdom. Evolution has left its imprint on us: we are constrained by the need for food, shelter, sleep, and other physical necessities. But human beings, unlike animals, are not slaves

to nature's command. Their rational mind and spiritual capacity open to them a vast range of choices not available to animals. Aggression, selfishness, and conflict, far from being inescapable aspects of human individuals and society, are the outward signs of undeveloped spiritual potential.

One of the unique capacities of man is science. 'Abdu'l-Bahá maintains that science is a divine gift: "The virtues of humanity are many, but science is the most noble of them all. The distinction which man enjoys above and beyond the station of the animal is due to this paramount virtue. It is a bestowal of God; it is not material; it is divine" (*Promulgation* 49). 'Abdu'l-Bahá urges humanity to apply its scientific powers to unify the human race:

"How shall we utilize these gifts and expend these bounties [science]? By directing our efforts toward the unification of the human race. We must use these powers in establishing the oneness of the world of humanity, appreciate these virtues by accomplishing the unity of whites and blacks, devote this divine intelligence to the perfecting of amity and concord among all branches of the human family. . . ." (*Promulgation* 51).

Another unique human capacity is religion. "The essential purpose of the religion of God," 'Abdu'l-Bahá states, "is to establish unity among mankind" (*Promulgation* 202). "It is evident," He asserts elsewhere, "that the fundamentals of religion are intended to unify and bind together; their purpose is universal, everlasting peace" (*Promulgation* 97). As we have seen, 'Abdu'l-Bahá states that true religion and science do not conflict with each other, nor does science obviate the need for religion.

'Abdu'l-Bahá declares that both religion and science should direct their services towards a common goal: the unity of humanity. When their harmony becomes widely understood, this will set into motion processes that will convert conflict and struggle into peace and unity: "When religion, shorn of its superstitions, traditions, and unintelligent dogmas, shows its conformity with science, then will there be a great unifying, cleansing force in the world which will sweep before it all wars, disagreements, discords and struggles—and then will mankind be united in the power of the Love of God" (*Paris Talks* 146).

The enterprise of creating a peaceful global civilization is a formidable

one. If it is to be accomplished, both science and religion must be brought into play. Science trains and develops humanity's intellectual capacity, frees humanity from ignorance and superstition, and provides the material, technological, and wealth-creating mechanisms that make a global civilization possible. Religion provides the spiritual and moral impetus that takes the benefits of science and directs them into appropriate application. Religion trains and develops humanity's spiritual capacity, identifies and establishes the moral and ethical foundations of society, and provides a universally compelling vision of the goal to be achieved. Without both science and religion, a peaceful and unified world civilization is impossible.

NOTES

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1. See Barbour; Brooke; Gould, *Rocks of Ages*; McGrath; Polkinghorne; Richardson and Wildman.
2. From a letter to the High Commissioner for Palestine, June 1933.
3. From a letter written on behalf of the Universal House of Justice to an individual believer, dated 19 May 1995.
4. This article will consider only a general position about evolution that was prevalent in the Christian West, as it is the one to which 'Abdu'l-Bahá was specifically responding. The position of other religions with respect to evolution is outside the scope of the paper. For a discussion of the nineteenth-century reception of Darwin's theory of evolution in the Middle East and its relationship to 'Abdu'l-Bahá's comments, see Brown.
5. The view of evolution and religion that this article describes 'Abdu'l-Bahá

as engaging with is of necessity generalized, but it represents the general view His audience most likely had in mind when they asked Him about the topic.

6. See Barrow and Tipler; Davies, *Accidental Universe*; Eiseley.

7. See Kauffman, *At Home*; Axelrod.

8. 'Abdu'l-Bahá uses the Persian word *naw'*—translated as "species"—which has the broad sense of "kind" or "category."

9. Fossils of the earliest known hominid species, *Australopithecus anamensis*, were discovered in Ethiopia and Kenya. Living slightly more than four million years ago, Australopithecines were bipedal, a trait which may be taken as the first hominid adaptation. Many other species of hominids inhabited the earth before modern *Homo sapiens* appeared about one hundred thousand years ago. The physical features of hominids (bipedal locomotion, large brain, slender build, etc.) were unique adaptations that have been seen nowhere else in the animal world. It is, therefore, evident that humans are unique even in the physical sense. See Lewin, *Origin*, and Tattersall, *Becoming Human*, for reviews of human evolution.

10. The human spirit and the human or rational soul designate one thing. See 'Abdu'l-Bahá, *Some Answered Questions* 208–9.

11. The continuity of human existence is dependent upon the continuous presence of stars and planetary systems that are home to life and evolution. Bahá'u'lláh affirms that the earth is not the only planet to host life: "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. Consider, moreover, the manifold divergencies that have resulted from the theories propounded by these men. Know thou that every fixed star hath its own planets, and every planet its own creatures, whose number no man can compute" (*Gleanings* 163).

12. Robert Wright has remarked that evolution may obviate the need to posit a God that designs organisms, but it does not rule out a God who designed the machine (natural selection) that designs organisms (see *Nonzero* 294).

13. Intelligence, consciousness, and self-consciousness are terms used interchangeably in the literature to refer to the unique cognitive abilities of humans.

14. For an exploration of creationism from the point of view of a biologist who is a believing Christian, see Miller, *Finding Darwin's God*.

15. The nature of scientific knowledge has been the subject of vigorous and

controversial debates by philosophers, historians, and sociologists. For a balanced overview of these debates, see Kitcher; Klee. For an eminent scientist's response, see Weinberg.

16. Above we discuss parallels between 'Abdu'l-Bahá's approach to evolution and that of complexity theory. According to the latter, biological species constitute quasi-stable points (sometimes called attractors) of a complex dynamical system. Stable points in the state-space—the space of biological possibilities—are discrete. Transitions between states are sharp and the distinctions between them can be dramatic. If the human species constitutes an attractor in biological state-space, complexity theory suggests that there may be no link, in terms of traits, that connects the human species with other species. Thus, complexity theory may offer an explanation of why the missing link will never be found.

17. See Lewin, *Complexity*; Wright, *Nonzero*; Kauffman, *At Home*.

18. Quantum mechanics—one of the pillars of modern physics—is a theory of probabilities. Thus, randomness is embedded in the very structure of the laws of the universe.

19. Complexity theorists ascribe the accumulation of complexity in the biosphere not to mutation and natural selection alone, as Neo-Darwinism contends, but also to the intrinsic self-organizing properties of complex systems. See Kauffman, *At Home*.

20. The emerging discipline of evolutionary psychology attempts to explain a great deal—perhaps the majority—of human behavior in Darwinian terms, i.e., as determined genetically, either directly or indirectly through the creation of “mental organs.” For a review of evolutionary psychology, see Wright. Conversely, a group of distinguished scientists and scholars has condemned the misuse of evolutionary theory to justify the existence of war and violence in the *Seville Statement on Violence*, which was adopted by UNESCO in 1989.

21. See also Universal House of Justice 28.

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