[page 15]

# A Bahá'í Perspective on the Origin of Matter

# Keven Brown

#### Abstract

The origin of matter, according to the Bahá'í teachings, can be explained as a spiritual reality. Although this view is not modern, modern science is also finding that at the most fundamental level "permanent aspects of reality are not particular materials or structures but rather the possible forms of structures, and the rules for their transformation" (Wilczek). The Bahá'í Faith teaches that science and religion reveal complementary aspects of one truth. To Bahá'ís, the Word of God is an actual, albeit transcendent, entity with the power to bring physical reality into being. Its forces directly give rise to the structures and functions of matter. The theory of the four elements, the threefold structure of being, and the necessity of balance to life are also examined.

#### Résumé

Selon les enseignements bahá'ís, les origines de la matière peuvent être expliquées en tant que réalité spirituelle. Bien que cette façon de voir ne soit pas moderne, la science moderne est en train de découvrir qu'au niveau le plus fondamental "les aspects permanents de la réalité ne sont pas des matières ou des structures particulières mais plutôt des formes possibles de structures, ainsi que les règles qui régissent leur transformation" (Wilczek). La foi bahá'íe enseigne que la science et la religion révèlent les aspects complémentaires d'une même vérité. Pour les bahá'ís, la parole de Dieu est une entité réelle, bien que transcendante, qui a le pouvoir de donner naissance à une réalité physique. Ses forces agissent directement pour donner lieu aux structures et aux fonctions de la matière. Cet article examine également la théorie des quatre éléments, la triple structure de l'être et la nécessité de l'équilibre pour la vie.

#### Resumen

El origen de la materia, según las enseñanzas bahá'ís, puede explicarse como una realidad espiritual. Aunque este punto de vista no es moderno, la ciencia moderna también está encontrando que al nivel mas fundamental, "los aspectos permanentes de la realidad no son materias o estructuras particulares, sino las formas posibles de las estructuras, y las reglas para su transformación" (Wilczek). La Fe Bahá'í enseña que la ciencia y la religión revelan aspectos complementarios de una sola verdad. Para los bahá'ís, la Palabra de Dios es una

entidad actual, ya sea trascendente, capaz de dar existencia a la realidad física. Sus fuerzas directamente dan surgimiento a las funciones y estructuras de la materia. Se examinan también la teoria de los cuatro elementos, la estructura tripartita de la existencia, y la necesidad de dar balance a la vida.

#### [page 16]

It is a basic Bahá'í belief that the prophets of God are the supreme educators of humankind. By following their teachings, especially the spiritual essentials, civilizations advance and the fairest fruits of human nature appear. The prophets have also set forth statements in regard to the workings of the physical universe that accord with the exigences of the age. At a time when the Ptolemaic system was in vogue, Muhammad declared that "the sun moves in a fixed place (*mustaqarr*)" (Qur'án 36:37) and implied the orbiting motion of the earth: "and each star moves in its own heaven" (Qur'án 36:38). 'Abdu'l-Bahá relates that these verses inspired controversy among Muslims who wished to remain faithful to the Ptolemaic system, and they were thus obliged to explain them away (*Some Answered Questions* 23). These were not new cosmological ideas. The Greek philosophers Pythagoras, Plato, and Aristarchus had formerly proposed a non-geocentric view of the cosmos, but this view had been forgotten.

Bahá'u'lláh, the prophet-founder of the Bahá'í Faith, has likewise revealed principles that give a unique perspective on physical reality. Many of his statements in the area of natural philosophy can be recognized in philosophical theories of the past, especially those of the ancient Greeks. According to Bahá'u'lláh, most of the knowledge of "the contemporary men of learning ... hath been acquired from the sages of the past, for it is they who have laid the foundation of philosophy, reared its structure and reinforced its pillars" (*Tablets* 144). As an example, it may be noted that Socrates was the father of the dialectic procedure of investigation, which has always been the basis of proving the validity of a theory down to our own time. Socrates began by setting forth a proposition, or hypothesis, that could be agreed upon to be true. The next step was to ask: "What are the consequences that follow from this proposition?" Since truth is a coherent system, all necessary consequences following from a hypothesis must also be true. If a consequence is found that seems to be contrary to observable phenomena, then either the observed facts are misleading or the initial hypothesis is false. Socrates' successor Plato was the first to offer a geometrical model of the cosmos, which accounted for the existence of irrational square roots. In the realm of science, proposes the historian of science Karl R. Popper, "the Renaissance ... largely meant a 'rebirth' of [Plato's] geometrical method, which was the basis of the works of Euclid, Aristarchus, Archimedes, Copernicus, Kepler, Galileo, Descartes, Newton, Maxwell, and Einstein" (Conjectures 89).

The philosophers were not the origin of wisdom, however. In Eastern histories, which Bahá'u'lláh confirms, the sages are portrayed as having gained the fundamentals of their knowledge from the prophets. "The essence and fundamentals of philosophy," Bahá'u'lláh asserts, "have emanated from the Prophets. That the people differ concerning the inner

meanings and mysteries thereof is to be attributed to the divergence of their views and minds" (*Tablets* 145).

In his The Secret of Divine Civilization 'Abdu'l-Bahá states that it is

a matter of record in numerous historical works that the philosophers of Greece such as Pythagoras, acquired the major part of their philosophy, both divine and material, from the disciples of Solomon. And Socrates after having eagerly journeyed to meet

### [page 17]

with some of Israel's most illustrious scholars and divines, on his return to Greece established the concept of the oneness of God and the continuing life of the human soul after it has put off its elemental dust. (*Secret* 77)

One of Bahá'u'lláh's most significant Tablets in which He sets forth the principles of creation is the *Lawḥ-i-Ḥikmat* (Tablet of Wisdom). In another Tablet Bahá'u'lláh advises: "Meditate upon the *Lawḥ-i-Ḥikmat*; in every verse the Sea of Seas is concealed" (quoted in Ra'fatí, 'Andalíb, 5.19:36). The philosopher Socrates is singled out in the *Lawḥ-i-Ḥikmat* as "the most distinguished of all philosophers," a fact to which we shall later return. In what follows, I would like to examine in an introductory fashion the question of matter's nature and origin from the standpoint of this important Bahá'í text, as well as from the entire body of Bahá'í sacred literature, and compare these teachings with observations from modern physics as well as classical Greek philosophy and its later manifestations in Islamic thought.

It should be observed at the outset that the terminology employed herein may be unfamiliar to many readers. Many of the terms used in Bahá'í natural philosophy to describe the metaphysical origin of the universe come from its classical Greek and Islamic heritage. These terms cannot always be interpreted literally in the way modern science uses words at face value but must be understood in the context of the tradition from which they derive. For example, Bahá'u'lláh refers to "earth," "water," "air," and "fire," but He does not intend the every-day meanings associated with these terms. In addition, the reader should keep in mind that when names are used to describe something, the name should not be confused with the reality it represents. Names are labels, and labels can be changed according to the perspective from which the reality is [sic] question is being viewed. Thus many designations often refer to exactly the same thing.

Some may question the relevance of religion to answering questions about matter. To Bahá'ís and to religionists in general, however, matter is the mirror in which the qualities of the spirit are reflected. Religion has always approached the question of matter from the metaphysical side, science from the material side, but both approaches are complementary—each is attempting to describe an area that is associated with but not customarily the realm of the other.

#### The Philosophers on What is Real

The origin of matter and the elements that compose all organic and inorganic forms in the universe is an ancient philosophical question. In the Western tradition, the Greek philosophers of the Ionian School (ca. 585-540 B.C.) were the first to reformulate elements of older religious and philosophical traditions they had inherited from the Near East into a more rationalistic cosmological system. The Ionian philosophers, such as Thales, Anaximander, and Anaximenes, were all searching for a unique "something" that would give unity and structure to the universe. How else could the observable orderliness of the universe be

1. Provisional translation by the author.

# [page 18]

explained unless a single unifying substance or power existed to connect all the parts?<sup>2</sup> Because their answers tended to focus on a physical substance, they have been described as "material monists." Democritus of Abdera (ca. 420 B.C.), a contemporary of Socrates, carried on the physical focus even further by proposing that only atoms ("indivisible" physical units) and the void are real. All change was explained in terms of the rearrangement of the atoms moving in a void. Pythagoras of Samos (ca. 530 B.C.) developed another school of thought. Instead of a material substance serving as the unifying principle, Pythagoras proposed numbers or abstract mathematical forms (e.g., the principle that determines all particular triangles:  $a^2 + b^2 = c^2$ ) and in this way anticipated Plato's eternal, non-material realities. To the Pythagoreans, the One, from which multiplicity arises, was not a number but a polarity consisting of both even and odd. The first number was two. Other schools offered different perspectives. Heraclitus of Ephesos (ca. 500 B.C.) pointed not to number or substance but to process. He saw the world as one of constant change, a process of perpetual "becoming," caused by the conflict of opposites. In contrast, Parmenides of Elea (ca. 470 B.C.) held that only absolute unchanging Being exists; movement and change must therefore be senseperception delusions.<sup>3</sup>

According to Theo Gerard Sinnige, the various philosophical developments of the pre-Socratic Greek philosophers are first brought together in a coherent system in Plato's *Timaeus*. The earlier theories, save that of Pythagoras, remained limited by a dependence upon spatial dimension. "It was Plato," proposes Sinnige, "who found the first principles and who developed a fully metaphysical and abstract method of thinking, the concepts of which were valid for both material and immaterial Being" (*Matter and Infinity* 109). To Plato, the immaterial realm of unchanging Ideas, in other words, the spiritual world, is real and permanent. The material world only exists as an evanescent and changing copy of the former. This material world, therefore, is not an illusion, but neither is it absolute and unchanging; rather it has a quasi-existence. In the *Timaeus* the universe is described as eternally young and spherical in form. God, the master Craftsman, fashioned the cosmos as a perfect living being, of which the component parts are also living and perfect beings. Just as in the human reality the soul works through its power called mind to organize and rule the functions of the

body, so does the body of the cosmos possess a "World-Soul" and a Nous, i.e., the Universal Mind that keeps the universe a well-ordered whole and arranges things in the best manner possible. A human being as the microcosm that corresponds in every respect to the macrocosm is fundamental to this line of thought.

The *Timaeus* contains metaphysical and cosmological doctrines that are helpful to understanding the Bahá'í teachings on creation. The most important of these doctrines is the Theory of Forms, or Ideas, which is most successfully reconciled with the existence of sensible things in the *Timaeus*. This theory shall be

- 2. A Hermetic text answers this question in the affirmative: "It needs must be that all things are one, if they exist, in order that the whole which is made up of them may not be dissolved" (Libellus 16:3 in Scott, *Hermetica*).
- 3. A detailed study on the views of the pre-Socratics occurs in Theo Gerard Sinnige, *Matter and Infinity in the Presocratic Schools and Plato*.

#### [page 19]

examined more fully later in the article. At this point, it is important to consider the question of whether the origin of this theory, which is basic to all of Plato's thought, should really be attributed to Socrates, rather than to Plato. In the *Lawḥ-i-Ḥikmat*, Bahá'u'lláh mentions an "exposition" by Socrates that discusses the theme of "a pervasive nature in things, bearing the closest likeness to the human spirit, and ... distinct from the substance of things in their refined form" (*Tablets* 146). In my opinion, there is little doubt that Bahá'u'lláh is here referring to the Theory of Forms. But where is this particular exposition to be found?

As far as is known, Socrates never wrote down any of his theories; therefore, what we know of his teachings must be gleaned secondhand from the writings of others, especially those of Plato, where Socrates often appears as a principal speaker in the dialogues. It is from his dialogue in Plato's *Phaedo* that we learn of Socrates' use of the dialectic method of debate and his teachings on the immortality of the soul. It is likewise in the *Phaedo* that Socrates first discourses comprehensively upon the reality of the world of Forms, which he uses as an important proof for the indestructibility of the human spirit. By virtue of its likeness to the Forms, Socrates proclaims that the human spirit is of an imperishable, non-composite nature and is therefore everlasting. Socrates was, above all else, concerned with proper human conduct, and he strove to demonstrate that universal moral principles (Forms) exist which are changeless and that our earthly attempts to reflect them are only approximations. For example, no matter how just we regard someone's action, we are able to imagine a more just act.

Historians are in agreement that the influence of Socrates upon Plato was immense. W. K. C. Guthrie in *A History of Greek Philosophy* sums up the opinion of many: "In the dialogues, there is no need to emphasize the fact that Plato's chief inspiration for the greater part of his life was Socrates" (4:33). The extent of Socrates' influence upon Plato's thought, however, is

a source of debate. J. Burnet and A. E. Taylor believe that the Platonic Socrates of the dialogues is clearly Plato's recollection of the historical Socrates, but not all historians of Greek philosophy endorse this view. Bahá'u'lláh concurs with the Burnett-Taylor hypothesis when He ascribes an exposition to the historical Socrates that may only be found among the writings of Plato. The exposition that Bahá'u'lláh refers to in the *Lawḥ-i-Ḥikmat* is most likely Socrates' dialogue on the Forms in the *Phaedo*. However, to obtain a fuller understanding of this theory in relation to the coming-to-be of things, we must turn to the section of the *Timaeus* called "The Work of Necessity." The term "necessity" refers to Plato's "natural receptacle of all bodies," the essential and passive counterpart of the Forms, without which physical entities cannot exist.

Plato puts the words of this discourse into the mouth of a person called Timaeus of Locri, about whom we lack any historical information. Cornford, in his commentary on the *Timaeus*, believes that "the very fact that a man of such distinction has left not the faintest trace in political or philosophic history is against his claim to be a real person" (*Plato's Cosmology* 3). It is more likely that the *Timaeus* represents a Pythagorean-Socratic-Platonic synthesis in which Plato attempts to harmonize the seeming incompatibility of the universal principles to

#### [page 20]

their particular expressions in sensory experience. Alternatively, however, it is possible that Timaeus was one of the philosophers of the Hermetic School who are often lamented upon for their lack of historic visibility. Antiochus of Athens (ca. first century B.C.) referred to an "earlier interpreter of Hermes called Timaeus" (Fowden, *The Egyptian Hermes* 3n).

Aristotle was perplexed with the Theory of Forms and no doubt dissatisfied with Plato's explanation in the *Timaeus*. But Aristotle was not a mathematician. Had he read the inscription that Plato placed above the entrance to the academy: "Nobody untrained in geometry may enter my house"? Aristotle wanted to define the relationship of Forms to their sensible expressions: "Is what we call a sensible thing merely a temporary assemblage of Forms, or 'universals', and if it is more, what else is it?" (Taylor, *Socrates* 170). Aristotle concluded that the Theory of Forms was "a mistaken attempt to separate the 'universal characters' of individual sensible things from the things themselves, and then to set up these 'abstractions' as a second set of super-sensible things which somehow produce the things we see and handle" (Taylor, *Socrates* 171). Aristotle then put forward his own hypothesis: that the Form is only the essential character of a physical thing and is inseparable from it.

The Hermetic philosophers, those who claimed to be following the teachings of Hermes, maintained, like Plato, that all temporal things consist of both gross matter and a subtle counterpart, the latter being the lasting and essential part. Since Bahá'u'lláh refers to the significance of the Hermetic texts in the *Lawh-i-Ḥikmat*, I shall digress here briefly to elucidate their background. The common belief about these writings in the Roman Empire, a view that continued to the end of the sixteenth century, was that they were derived from an

even earlier time from the prophet-philosopher Hermes and became the basis of the theories of some of the Greek philosophers. The philosopher Iamblichus (d.ca. A.D. 330) wrote: "If you propose some difficulty in philosophy, we'll settle it according to the ancient *stélai* of Hermes that Plato and Pythagoras read in entirety and from which they constituted their philosophy" (quoted in Lindsay, *The Origins of Alchemy in Graeco-Roman Egypt* 107). Ficino and other Renaissance Platonists thought Hermes might be a contemporary of Moses. As a historical figure, however, Hermes is veiled in almost total obscurity. Accounts of his origin are numerous and widely divergent. Modern scholarship places the composition of the extant philosophical Hermetica in the period from the late first to the late third centuries A.D. and some of the extant technical Hermetica somewhat earlier (Fowden, *The Egyptian Hermes* and Scott, *Hermetica*, vol. 1). Fowden notes that the collection of Hermetica that has come down to us from the period mentioned above was "the product of an evolutionary process, since its individual constituent parts were also altered in the course of transmission.... And, conversely, extraneous material might be introduced into the tradition" (*The Egyptian Hermes* 9).

Most modern scholars of the Hermetica propose, contrary to the tradition of antiquity, that the name "Hermes" was primarily used as a pseudonym, borrowed from legend, by Hellenistic writers of the Roman Empire to provide an

#### [page 21]

aura of sacred authenticity to their writings, the essence of which they derived largely from Plato along with Stoic influences and to which they gave Egyptian overtones. Bahá'u'lláh, however, follows the traditional account. In one of his Tablets, He writes: "The first person who devoted himself to philosophy was Idrís. Thus was he named. Some called him also Hermes. In every tongue he hath a special name. He it is who hath set forth in every branch of philosophy thorough and convincing statements" (*Tablets* 148n)

In regard to the other names of Hermes, he was thought to be the Thoth of the Egyptians, Enoch to the Hebrews, Hushang to the Zoroastrians, and Idrís to the Muslims (Qur'án 19:57-58). Muslims also called Hermes Abu'l-Ḥukamá' (Father of the Philosophers), because they considered him to be the origin of *sophia*, or wisdom. Seyyed Hossein Nasr states that "early Shi'ism in general was more sympathetic to [the Hermetic] teachings" but, in time, they attained such an influence in Islam that "Hermeticism must be considered as one of the most important factors which aided in the construction of the Muslim world view" (*Islamic Studies* 71, 76).

The Hermetic philosophers, Nasr says, "sought a particular cause for each particular effect and chose an 'experimental' and concrete method much closer to that of the Stoics than the Aristotelians" (*Islamic Studies* 75). That this approach, and the Hermetic philosophy in general, appealed to many is demonstrated by the impact that Hermeticism has made in the development of scientific and philosophical thought over the ages. It strongly influenced such figures as Jábir ibn Ḥayyán, ar-Rází, the Ikhwán aṣ-Ṣafá', and Ibn Síná in Islam; and

Raymond Lull, Roger Bacon, Ficino, Paracelcus, and Bruno, among others, in the West, not to mention Isaac Newton and Robert Boyle in the seventeenth century. In regard to Newton, Betty Jo Teeter Dobbs in her work *The Foundations of Newton's Alchemy* demonstrates that "it was precisely by the route of alchemy [a Hermetic science] and transmutation that Sir Isaac expected to elucidate 'the ultimate component parts of matter'"(9), and it was through his particular resolution of the matter-spirit conflict "that Newton's new concept of force was born" (193).

The neo-Platonic philosopher Plotinus in the third century A.D. renewed Plato's emphasis on the ideal realm. He proposed that all beings emanate from God like waves moving outward in concentric circles from a common center. Matter is only the outermost sphere of the ideal, where the emanation of light gives way to darkness.

Other philosophers have proposed that matter and spirit are irreconcilable realities, neither one able to approach the sphere of the other. Descartes (d. A.D. 1650) concluded that matter has no relationship to spirit, the latter being absent in the operations of the universe. In the twentieth century, the terminology has changed, but the questions are the same. "We still find ourselves asking what is the 'status' of 'scientific objects'. Just what are the things of which the mathematician and the physicist discourse?" (Taylor, *Socrates* 171). And scientists today, like their Greek predecessors, are looking for a single "unified" theory that would reconcile the amazing discoveries of relativity

# [page 22]

and quantum mechanics to explain the order of the cosmos. What insights on these questions are offered in the Bahá'í writings?

#### The Primal Will

To answer such questions we must begin with that which is the First Cause of everything else. In the *Lawḥ-i-Ḥikmat* Bahá'u'lláh states that the "Word of God ... is the Cause of the entire creation, while all else besides His Word are but the creatures and the effects thereof" (*Tablets* 140). This Word "transcendeth the limitations of known elements and is exalted above all the essential and recognized substances. It became manifest without any syllable or sound and is none but the Command of God which pervadeth all created things. It hath never been withheld from the world of being" (*Tablets* 141). A common synonym for the Word of God in the Bahá'í writings is the Primal Will.

The Bahá'í Faith teaches that God is the Creator of all things but is not their Cause. The word *cause* implies a dependency with the effects in the same way that the attribute of knowledge, in the realm of creation, requires the existence of objects of knowledge. Even the term *Creator* requires its counterpart, the created, in order to be comprehensible. 'Abdu'l-Bahá gives this explanation:

As to the attributes and perfections such as will, knowledge, power and other ancient attributes that we ascribe to that Divine Reality, these are the signs that reflect the existence of beings in the visible plane and not the absolute perfections of the Divine Essence that cannot be comprehended. For instance, as we consider created things we observe infinite perfections, and the created things being in the utmost regularity and perfection we infer that the Ancient Power on whom dependeth the existence of these beings, cannot be ignorant; thus we say He is All-Knowing. It is certain that it is not impotent, it must be then All-Powerful.... The purpose is to show that these attributes and perfections that we recount for that Universal Reality are only in order to deny imperfections, rather than to assert the perfections that the human mind can conceive. Thus we say His attributes are unknowable. (*Bahá'í World Faith* 342-43)

God, therefore, exists completely outside the order of creation. In the *Timaeus*, Plato's divine Craftsman likewise exists separately from the universe He fashions. The station of the Creator of all things as He exists in Himself is portrayed in verses such as this: "God was alone; there was none else besides Him.' He, now, is what He hath ever been" (Bahá'u'lláh, *Gleanings* 192). In the *Lawḥ-i-Ḥikmat* this station is referred to as the "hidden treasure." Bahá'u'lláh affirms that "this is a station that can never be described nor even alluded to" (*Tablets* 140). The expression comes from this famous Islamic Tradition (*ḥadith qudsi*) about God: "I was a Hidden Treasure and loved to be known; therefore did I bring the creation into being." It is a theme that is often repeated in Bahá'í scriptures. For example, in this prayer Bahá'u'lláh says:

### [page 23]

Lauded be Thy name, O Lord my God! I testify that Thou wast a hidden Treasure wrapped within Thine immemorial Being and an impenetrable Mystery enshrined in Thine own Essence. Wishing to reveal Thyself, Thou didst call into being the Greater and the Lesser Worlds [the world hereafter and this world], and didst choose Man above all Thy creatures, and didst make Him a sign of both of these worlds.... (*Prayers and Meditations* 48-49)

God's "desire" to be known is fulfilled when human beings fulfill their purpose for being: to know and worship God. To fulfill this purpose they must first recognize the prophet of God for the age in which they live as their true educator, and then strive to apply in their lives all that has been revealed by the Pen of God's prophet. According to the Bahá'í teachings, knowledge of the prophet is, for humankind, the knowledge of God, and attainment to the prophet is attainment to "the presence of God," because human beings, limited creatures, are incapable to fathoming, or attaining to, the Supreme Essence. Human beings may also recognize the signs and evidences of God in the perfection of his creation.

God's act of wishing to reveal Himself is identical with the outpouring of the Primal Will from God's Essence. It is a timeless act, without beginning or end. In this station, Bahá'u'lláh explains, "God was, and 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..." (*Tablets* 140). The term "Firstness" in the above verse is another synonym for the Word of God and the Primal Will. The Primal Will has a priority to creation in the same way that fire has a priority to heat. But they are inseparable from each other; creation is the necessary property of the Will. In fact, Bahá'u'lláh says in the *Lawḥ-i-Ḥikmat*, "Nature is God's Will and is its expression (*zuhúr*) in and through the contingent world" (*Tablets* 142). The Will's numberless manifestations or appearances (*zuhúrát*), which constitute nature, like the waves upon a sea, are "diversified by varying causes" (*Tablets* 142).

The Báb explains that what first emanates from God, i.e., the Primal Will, must be single and unique, otherwise it could not demonstrate the unity of God (from the *Súriy-i-Tawhid* cited in Nicholas, *Le Béyan Arabe* 26-27). The Word of God is not part of God in the same sense that rays emanating from the sun are not parts broken off from it. The Word emanates from God like a discourse emanates from a speaker. Despite its transcendent station, the Word of God is a contingent reality; it depends upon God for its existence (cf. *Some Answered Questions* 203 on the Primal Will). However, God's Word is immeasurably exalted above any physical property or substance, for the worlds of existence, both material and spiritual, come into being as its effects. 'Abdu'l-Bahá states:

- 4. Zuhúr may also be translated as visible aspect, appearance, manifestation.
- 5. This is also the Hermetic view. "Mind [i.e., the Universal Mind] then is not severed from the substantiality of God, but is, so to speak, spread abroad from the source, as the light of the sun is spread abroad" (Libellus 12:1 in Scott, *Hermetica*).

### [page 24]

The truth is that the reality of the Sanctified Essence cannot descend into the world of creation. . . . In the height of sanctity He subsists holy and exalted above all characteristics, specifications, and individualizations; ever beyond the understanding of all created things. Rather it is the Primal Will. which is likened to the bounty and rays of the sun, which is the cause of the manifestation and appearance of beings. This is the truth and naught lieth beyond the truth but error. (*Makátíb* 3:358)<sup>6</sup>

In the exordium to the *Tafsír-i-Súriy-i-Va'sh-Shams*, Bahá'u'lláh likewise affirms, as He does in many other Tablets, that the Primal Will of God upraises creation: "Verily, no God is there save Him, Who hath created the universe and fashioned all things by the agency of his Primal Will, the cause of all that hath been and shall be" (*Alwáḥ* 2). In the Hermetica we find: "God makes by his will the very existence of all things" (*Libellus* 10:3-4a). The Báb points out that the cause of the existence of the Primal Will is its own self. This is so because there can be no phenomenal connection between God and his creation, in the sense of the divine Essence becoming a place of change. If this were so, argues the Báb, then before God created the existences He was necessarily in one state, and, afterwards, in another state, and this is impossible for the Supreme Being (from *Súriy-i-Tawḥid* cited in Nicholas, *Le Béyan Arabe*).

The Primal Will is identified in the Bahá'í writings with the Universal Mind, or First Intellect, of the ancient philosophers (*Some Answered Questions* 203), and it is the allembracing power present in the Manifestations of God.<sup>9</sup> "It is this Primal Will," explains the Báb, "which appeareth resplendent in every Prophet and speaketh forth in every revealed Book. It knoweth no beginning, inasmuch as the First deriveth its firstness from It; and knoweth no end, for the Last oweth its lastness unto It" (*Selections* 126).

In a Tablet on the opinions of the Sufis, 'Abdu'l-Bahá states that, according to the Bahá'ís, "existence has three degrees: God, Command (which is the Primal Will), and creation. The Primal Will ... is the inner reality of things, and all existing things are its manifestations (mazáhir), not manifestations of the divine Reality and Identity" (Makátíb 3:356). 10 'Abdu'l-Bahá is here refuting the pantheistic belief of the Sufis that God Himself is the inner reality of things, the essence of his own creation. These three degrees are also explained in Some Answered Questions, where 'Abdu'l-Bahá describes the Primal Will as "the first emanation from God" and "the bounty of the Kingdom," which is "reflected in infinite forms in the reality of all things, and specifies and individualizes itself according to the capacity, the worthiness and the intrinsic value of things" (295). Created things, the third realm, are likened in another Tablet to waves

- 6. Provisional translation by the author.
- 7. Provisional translation by the author.
- 8. All of the following quotations in this paper attributed to Hermes are taken from Walter Scott's translation of the *Hermetica*.
- 9. The term *Manifestation* in the Bahá'í writings is synonymous with the terms *Prophet* or *Messenger* used in earlier religious dispensations.
- 10. Provisional translation by the author.

### [page 25]

and images of the Primal Will. 'Abdu'l-Bahá relates: "The Báb, may my life be a sacrifice unto Him, saith that the intention of this verse: 'The sea is the same sea it hath ever been from eternity and the contingent phenomena (*al-ḥawádith*) are its waves and images', is fulfilled in the Primal Will, not in the Essence of God' (*Makátíb*, 3:356).<sup>11</sup>

In another Tablet 'Abdu'l-Bahá compares the Primal Will to a sea: "The world of Command is the station of the Primal Will which is a universal reality that is resolved (*munḥall*) into infinite forms. The sea of the Will is the world of Command" (*A World Faith* 22). The sea of the Will is also known as the sea of God's (created) names and attributes, which are equivalent to the Forms of Plato. The true or essential attributes of God, as have been mentioned, are unknowable. It is to the created names and attributes of God, which in their totality are identical to the Primal Will, that 'Abdu'l-Bahá refers in this passage:

The names and attributes of Divinity are requirements of this world.... Therefore, all the names and attributes of God require the existence of objects or creatures upon

which they have been bestowed and in which they have become manifest.... [These] names of God are actually and forever existing and not potential. Because they convey life, they are called Life-giving; because they provide, they are called Bountiful, the Provider; because they create, they are called Creator; because they educate and govern, the name Lord God is applied. That is to say, the divine names emanate from the eternal attributes of Divinity. Therefore, it is proved that the divine names presuppose the existence of objects or beings. (*Promulgation* 219)

Bahá'u'lláh also reveals the created nature of the names we apply to God. In *The Hidden Words*, speaking for God, Bahá'u'lláh says: "O SON OF MAN! My eternity is My creation, I have created it for thee. Make it the garment of thy temple. My unity is My handiwork; I have wrought it for thee; clothe thyself therewith, that thou mayest be to all eternity the revelation of My everlasting being" (18-19). Bahá'u'lláh continues: "My majesty is My gift to thee, and My grandeur the token of My mercy unto thee. That which beseemeth Me none shall understand, nor can anyone recount" (19).

'Abdu'l-Bahá refers above to these names in the plural, but in reality they are one essence. They are facets of the one reality that emanates from God. Sometimes this reality is called Love, because it is the source of all ardor and attraction; sometimes Spirit, because it is the inner reality and highest aspect of all things; sometimes Truth, because it is the point to which all knowledge returns, and in like manner with all the divine names. These creative names and attributes are paralleled in the Bahá'i writings by the expression *al-a'yán ath-thábitah*, which may be translated "the eternal archetypes" or "the causal essences." It is a term borrowed from the mystic philosophy of Ibn 'Arabí. 'Abdu'l-Bahá explains that the independent existence of the archetypes is relative as in the notion that east and west, north and south are fixed (*thabút*), but they have no existence in themselves. (*Makátíb* 3:356).

11. Provisional translation by the author.

#### [page 26]

In the vision of Hermes called *The Poimandres*, he witnesses the Universal Mind, which he also calls the Light. Then, says Hermes. "I saw in my mind that the Light consisted of innumerable Powers, and had come to be an ordered world, but a world without bounds." To Hermes, the Mind then explains: "You have seen in your mind the archetypal form, which is prior to the beginning of things, and is limitless" (Libellus 1:7-8a).

#### Form and Substance

How do things come into being from the Primal Will? The Primal Will and the Word of God are also synonymous with God's Command (*amr*), which is the word "Be" (*kun*). Bahá'u'lláh says, in a Tablet addressed to the celebrated Aḥmad, "He [God] it is Who hath created all that is in the heavens and on the earth by the word of his Command, which He hath designated as the 'B' before the 'E'" (quoted in Ra'fatí, '*Andalíb* 5.19:29). These two letters symbolize two principles inherent in the Primal Will that make all subtle and material manifestation

possible. According to the Báb, they represent God's Will (*mashiyyat*) and Purpose (*irádih*) respectively. He says: "through the 'B' God created the substance of all things and through the 'E' God created the form of all things" (quoted in Afnán, *Áhang-i-Badí*' 24.5-6:126). Abdu'l-Bahá explains in his *Tafsír-i-Kuntu Kanzan Makhfiyyan* (Commentary on the Tradition "I was a Hidden Treasure ...) that form and substance arise simultaneously and that they are interdependent. In setting forth the viewpoints of certain mystic knowers on this matter, 'Abdu'l-Bahá states:

They have said that the potentialities (*qábiliyyát*) and the recipients of the potentialities (*maqbúlát*) came into being and were created simultaneously. For example, it has been stated that all things are composed of two elements: the 'Fashioner' (*qábil*) and the 'Fashioned' (*maqbúl*). By 'Fashioned' is meant substance (*mádda*) and primary matter (*huyúlá*), and by 'Fashioner' is meant form and shape, which confines and limits the primary matter from its state of indefiniteness and freedom to the courtyard of limitation and definite form. (*Makátíb* 2:35).<sup>14</sup>

One of the Hermetic texts repeats the same theme: "All things are but two, that which is made and that which makes. And the one cannot be separated from the other; the Maker cannot exist apart from the thing made, nor the thing made apart from the Maker" (Libellus 14:5).

Titus Burckhardt, in chapter four of his book *Alchemy: Science of the Cosmos, Science of the Soul*, gives a masterly exposition on the meaning of these two principles, which we may term form and substance, or spirit and primary matter respectively. He likens them to the two Hands of God that artistically

- 12. Provisional translation of the author.
- 13. Provisional translation of the author.
- 14. Provisional translation by Moojan Momen in *Bahá'í Studies Bulletin* 3.4.26-27. It is interesting to note that in the microworld of subatomic phenomena, particles are characterized by "definite form," not continuity, whereas in their alternate aspect as waves they are characterized not by "definite form" but by placelessness and continuity.

#### [page 27]

fashion all things with beauty and perfection. They are the active and passive poles of existence. beyond all visible manifestation. This non-material matter "is not something separated from spirit, but its necessary complement. In itself it is no more than the potentiality of taking on form, and all perceptible objects in it bear the stamp of its active counterpart, the Spirit or Word of God" (*Alchemy* 58-59). The primordial substance has also been described as the mirror in which qualities become visible. To the Pythagoreans, these two principles are the even and the odd concealed in the One that precedes multiplicity.

As 'Abdu'l-Bahá has explained above, the two principles of existence arise simultaneously and are interdependent. Burckhardt continues:

Wholly 'formless' matter can neither be represented nor imagined, for it is a pure potentiality (that of taking on form) and has in itself no discernible characteristics whatsoever. It can only be known at all in its relationship with 'form'. Even form, however, cannot be represented as separate from matter, for every form which has been revealed already takes part in *materia*, and this applies also even for an imagined form. (*Alchemy* 62)

The non-material matter, or *materia prima*, of the universe is purely passive with regard to its form-giving counterpart. In the Bible it is symbolized by the waters over which the Spirit of God moved at the beginning of creation. The active pole contains the "essential predeterminations of things . . . as 'prototypes' or 'archetypes'" (*Alchemy* 65).

Bahá'u'lláh, in the *Lawḥ-i-Ḥikmat*, refers to the two principles inherent in the Primal Will in these terms: *al-fá* 'il, the active force, and *al-munfa* 'il, its recipient. All created things in the universe reflect the primal polarity, as evidenced by our complementary adjectives male and female, positive and negative, hot and cold, light and dark, and the like. These opposites are not independent from each other. Each requires the other to be known: In this world, we know light by its contrast to darkness; we know love by its contrast to hate; we know justice by its contrast to injustice. Thus Socrates asks: "Between the members of every pair of opposites, since they are two, aren't there two processes of coming-to-be, from one to the other, and back again from the latter to the former?" (*Phaedo* 71a-b). In other words, the realm of becoming requires the existence of contraries. Change or motion is the evidence of the strife of opposites, and their temporary harmony in nature is, according to Bahá'u'lláh, through God's absolute power (*Má'idiy-i-Ásmání* 1:46).

Bahá'u'lláh calls that which first results from the active force and its recipient, prior (in the sense of priority, not time) to the generation of the world, *al-fá'ilayn*,

### [page 28]

the twin active agents, and *al-munfa`ilayn*, the twin passive agents, and affirms that they "are indeed created through the irresistible Word of God" (*Tablets* 140). <sup>16</sup> In other Tablets He identifies them with the four elements. <sup>17</sup>

<sup>15.</sup> In one of his Tablets 'Abdu'l-Bahá explains the story of Adam and Eve as a metaphor for the active force and its recipient: "'Adam' signifieth that reality which is pervasive, effulgent and active, that is the manifestation of God's Names and Attributes, and the evidences of His mercy. Whereas 'Eve' is that reality which is the seeker and the recipient of the force, the grace, the message and the influence—that reality which receiveth the impact of all God's Names and Attributes" (quoted in Nakhjavani, *Response* 72).

Through the interaction of the active force and its recipient a heat is generated that causes all motion in the universe. In Bahá'u'lláh's words: "The world of existence came into being through the heat (*al-ḥarárat*) 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). In another Tablet He again refers to the heat: "O Amín, the cause of motion (*ḥarakah*) hath ever been heat, and the cause of heat is the Word of God" (quoted in Ra'fatí, '*Andalíb* 5.19:36). In another Tablet He says: "In truth, it is the active force through which the world of creation is raised up. It is the heat without which there would be no motion" (*Má'idiy-i-Ásmání* 4:80). It seems from this that heat is intrinsically part of the active force, but interaction with the recipient is needed to manifest its effect. "Heat," used in this context, cannot be ordinary heat, which is only an exterior thing. Perhaps life-ordering energy would be a better way to describe it.

#### The Non-Material Ether

In one of his Tablets 'Abdu'l-Bahá interprets what Bahá'u'lláh has intended by the two terms *al-fá*'i*l* and *al-munfa*'i*l* in the *Lawḥ-i-Ḥikmat*. He explains that

the substance and primary matter of contingent beings is the ethereal power, which is invisible and only known through its effects, such as electricity, heat, and light—these are vibrations of that power, and this is established and proven in natural philosophy and is known as the ethereal substance (*máddíy-i-athíríyyih*). This ethereal substance is itself both the active force and the recipient; in other words, it is the sign of the Primal Will in the phenomenal world.... The ethereal substance is, therefore, the cause since light, heat, and electricity appear from it. It is also the effect, for as vibrations take place in it, they become visible. For instance, light is a vibration occurring in that ethereal substance. (*Má'idiy-i-Ásmání* 2:69)<sup>20</sup>

This passage suggests why Bahá'u'lláh refers to the active force and its recipient as the same, yet different: they are the polar aspects of the ethereal substance, which is both spirit and non-material matter. The ethereal substance, as set forth by 'Abdu'l-Bahá in *Some Answered Questions*, "is an intellectual reality and is not sensible ... " (84).<sup>21</sup> Electricity, heat, and light—and likewise

<sup>16.</sup> *Al-fá`ilayn* and *al-munfa`ilayn* are translated in *Tablets of Bahá'u'lláh* by the expression "such as communicate the generating influence and such as receive its impact" (140).

<sup>17.</sup> See the section on the four elements.

<sup>18.</sup> Provisional translation by the author.

<sup>19.</sup> Provisional translation by the author.

<sup>20.</sup> Provisional translation by the author.

<sup>21.</sup> By 'Abdu'l-Bahá's assertion that the ethereal substance is an "intellectual reality," it should not be inferred that it, along with other intellectual realities like "love" and "spirit," has no actual existence other than as a human construct. 'Abdu'l-Bahá

affirms that it is among "the realities which unquestionably exist," and although "ethereal matter is not sensible ... it has an undoubted existence" (*Some Answered Ouestions* 190).

### [page 29]

subatomic particles—are vibrations of that intellectual substance. Plato's theory for the appearance of the perceptible qualities, discussed later, differs slightly from this conclusion on one point. He proposes that perceptible qualities are vibrations or forces that occur by the medium of an intellectual substance; they are not actually vibrations of it. These statements from the Bahá'i writings are analogous to similar statements in contemporary physics regarding the nature of matter.<sup>22</sup>

### Matter as Perceived by Modern Physics

There are many books available on the new paradigm in physics. Gary Zukav's *The Dancing Wu Li Masters* has stirred up controversy among physicists. However, he explains well the paradox of why we cannot really answer the question: "What is it made of?"

The answer to such a question is always another something to which we can apply the same question. Suppose, for example, that we ask of an ordinary toothpick, "What is it made of?" The answer, of course, is "wood." However, the question itself has taken us into a hall of mirrors because now we can ask about the wood, "What is it made of?" Closer examination reveals that wood is made of fibers.... Physicists are people who have pursued tenaciously this endless series of questions. What they have found is startling. Wood fibers, to continue the example, are actually patterns of cells. Cells, under magnification, are revealed to be patterns of molecules. Molecules, under higher magnification, are discovered to be patterns of atoms, and, lastly, atoms have turned out to be patterns of subatomic particles. In other words, "matter" is actually a series of *patterns out of focus*. The search for the ultimate stuff of the universe ends with the discovery that there isn't any. (193)

Further on Zukav describes the three distinguishing characteristics of subatomic particles: mass, charge (positive or negative), and spin. In regard to the third characteristic, he says:

Subatomic particles spin about a theoretical kind of axis like a spinning top. One big difference between a spinning top and a spinning particle, however, is that a top can spin either faster or slower, but a subatomic particle always spins at exactly the same rate. Every electron, for example, *always* spins at exactly the same rate as every other electron.... If the spin of a particle is altered, the particle in question is changed so fundamentally that it no longer can be considered an electron, or a proton. or whatever it was before we altered its spin. This makes us wonder whether all of the different "particles" might be just different states of motion of some underlying structure or substance. This is the basic question of particle physics. (207)

Zukav's emphasis is on the ultimate non-substantiality of physical reality. "The angular momentum of a subatomic particle is fixed, definite, and known,"

22. The abstract source of matter is also mentioned by Shoghi Effendi in a letter written by him to an individual believer (18 February 1930): "The essence of existence is a spiritual reality because invisible forces of the spirit are the origin of matter and the foundation thereof."

### [page 30]

he continues. Then quoting physicist Max Born, "'But ... one should not imagine that there is anything in the nature of matter actually rotating'. Said another way, the 'spin' of a subatomic particle involves 'The idea of a spin without the existence of something spinning' ..." (208). According to physicist Frank Wilczek, in the new paradigm of physics "the permanent aspects of reality are not particular materials or structures but rather the possible forms of structures, and the rules for their transformation" (*Longing for the Harmonies* 70).

Physicist David Bohm, author of *Wholeness and the Implicate Order*, presents a theory that discloses a realm strikingly similar to that of Plato's. His "implicate order" is the underlying reality of the universe, possessed of energy, information. content, form, and structure, in short, the potential of everything, but it unfolds externally as space-time, or the "explicate order." The implicate order is one of unbroken, non-localized wholeness, which Bohm compares to generalized light (not just visible light). In light itself there is no distance; all points are simultaneously present—an implication of the principle of special relativity: it is impossible to change the speed of light by one's motion. Particles, Bohm says, appear at the intersection of many light rays; they are "ripples on this vast ocean of light" (*Revision* 6.1:37).

#### Socrates' Discovery

These statements from modern physics are consonant with the idea that the motion (<code>harakah</code>) generated from the heat of the active agent in interaction with its recipient is the most that the best physical instruments will allow us to perceive. In other words, we cannot directly perceive the active force and its recipient, only the effects of their interaction. Physical reality, from this standpoint, is fundamentally a complex manifold of various states of motion or vibration. The term <code>motion</code>, used here, may be a blanket term that covers other properties of subatomic phenomena such as mass, charge, and spin. The ethereal substance itself, which is the universal medium for these vibrations and motions, belongs to the realm of the mind. It may be that this is what Bahá'u'lláh, in the <code>Lawh-i-Hikmat</code>, said Socrates discerned in things, bearing a resemblance to the human spirit. Bahá'u'lláh relates:

Methinks he [Socrates] drank one draught when the Most Great Ocean overflowed with gleaming and life-giving waters. He it is who perceived a unique, a tempered, and a pervasive nature in things, bearing the closest likeness to the human spirit, and he discovered this nature to be distinct from the substance of things in their refined

form. He hath a special pronouncement on this weighty theme. Wert thou to ask from the worldly wise of this generation about this exposition, thou wouldst witness their incapacity to grasp it. (*Tablets* 146-47)

Although it was pointed out earlier that the exposition Bahá'u'lláh is referring to was probably in the *Phaedo*, the following words in Plato's *Timaeus* are more instructive on how the Forms (spirit) produce, and yet are distinct from, physical beings (gross matter). The important thing is that the theory, in origin, belongs to Socrates, if Bahá'u'lláh's words above are to be meaningful.

[page 31]

Plato begins by introducing a third factor:

We must start our new description of the universe by making a fuller subdivision than we did before; we then distinguished two forms of reality—we must now add a third. Two were enough at an earlier stage, when we postulated on the one hand an intelligible and unchanging model and on the other a visible and changing copy of it. We did not distinguish a third form, considering two would be enough; but now the argument compels us to try to describe in words a form that is difficult and obscure.... In general terms, it is the receptacle and, as it were, the nurse of all becoming and change....

The natural receptacle of all bodies ... can always be called the same because it never alters its characteristics. For it continues to receive all things, and never itself takes a permanent impress from any of the things that enter it; it is a kind of neutral plastic material on which changing impressions are stamped by the things which enter it, making it appear different at different times. And the things which pass in and out of it are copies of the eternal realities whose form they take in a wonderful way that is hard to describe.... For the moment we must make a threefold distinction and think of that which becomes, that in which it becomes, and the model which it resembles. We may indeed use the metaphor of birth and compare the receptacle to the mother, the model to the father, and what they produce between them to their offspring. Anything that is to receive in itself every kind of character must be devoid of all character. Manufacturers of scent contrive the same initial conditions when they make liquids which are to receive the scent as odorless as possible. Therefore we must not call the mother and receptacle of visible and sensible things either earth or air or fire or water, nor yet any of their compounds or components; but we shall not be wrong if we describe it as invisible and formless, all-embracing, possessed in a most puzzling way of intelligibility, yet very hard to grasp.... The part of it which has become fiery appears as fire, the part which has become wet appears as water, and other parts appear as earth and air in so far as they respectively come to resemble them. (66-69)

This passage is full of allusions significant to understanding the process of creation from a traditional perspective. The "natural receptacle of all bodies" corresponds to the passive pole of the ethereal substance mentioned by 'Abdu'l-Bahá. It is, as was already stated, an intellectual reality and therefore eternal and on the same plane as the human spirit. 'Abdu'l-Bahá affirms that "the rational soul is the substance through which the body exists" (*Some Answered Questions* 240). The active pole of the ethereal substance corresponds to what Plato describes above as the "eternal realities," i.e., the Forms. In the Bahá'í writings these are referred to as the eternal archetypes (*al-a* 'yán ath-thábitah) concealed within the Primal Will, or, more simply, God's created names and attributes.

In regard to the appearance of the archetypes, 'Abdu'l-Bahá says in his *Tafsír-i-Kuntu Kanzan Makhfiyyan*:

Within the Hidden Essence [God], the stirrings of love and the inner yearnings necessitated Perfect Burnishing and Clarification (and the phrase "Perfect Burnishing" among some of the mystic knowers is the manifesting of the Absolute to Himself in the archetypal forms, and the word "Clarification" is the gazing by the Unconditioned Beauty upon the effulgences of His own Beauty in the mirrors of Realities and

### [page 32]

Forms). Therefore the Essential Dispositions have, through the Divine Outpouring (*fayḍ-i-aqdas*) manifested themselves out of the station of the Essence into the station of the Divine Knowledge.... And from this manifestation the eternal archetypes came into intellectual being. And each one, according to its inherent capacity, is distinguished from the others in the mirrors [the recipient reality] of the Divine Knowledge.... This stage is known as the Secondary Unknown and Manifested Oneness. (*Makátíb* 2:9-10)<sup>23</sup>

The active and passive poles of Being have been mentioned frequently. They correspond to spirit and soul, to the Father and the Mother, to form and substance, to the yin and the yang in Taoism. All created things, Plato proposes in the *Timaeus*, result from the interaction of these two realities, which, in essence, are one. In Bahá'u'lláh's words, they are "the same, yet they are different" (*Tablets* 140).

# The Threefold Structure of Being<sup>24</sup>

Plato sums up the threefold structure of Being in these terms: (1) that which becomes (physical things), (2) that in which it becomes (ethereal matter), and (3) the model which it resembles (the archetypes). The archetypes have been described already as the "essential predeterminations of things" concealed within the Primal Will. They are realities of which sensible objects are only "accidents" or "phenomena." Plato calls them "uncreated [in the sense of being eternal realities] and indestructible, admitting no modification and entering no combination, imperceptible to sight or the other senses, the object of thought" (*Timaeus* 70).

David Gallop clarifies, in his commentary on the *Phaedo*, that

The Forms are in no sense 'psychological' or 'subjective' entities. They are not thoughts or concepts, existing only "in the mind" of a thinker. Nor are they mind-dependent objects. They may be thought of by the mind, viewed "with the soul," but they do not depend upon being thought of for their existence. Just as physical objects exist independently of eye and vision, so Forms exist independently of mind and thought. (Plato, *Phaedo* 93)

For the archetypes or essences of things to become distinguished from one another or become "individualized," they must be reflected in a medium that itself has no characteristics or qualities whatsoever. Plato has designated this medium the "receptacle" and "the nurse of all becoming"; it is as everlasting and immutable as the archetypes. In a way that Plato admits is "hard to describe" images of the archetypes are cast onto the medium. It is God who "casts" by his creative act, for the archetypes are a formal energy emanating from his Essence. Cornford explains that "the Receptacle is not that 'out of

- 23. Provisional translation by Moojan Momen in *Bahá'i Studies Bulletin* 3.4:11-12, slightly modified by this author. The station of the Divine Knowledge may be equated with the Primal Will.
- 24. The term *Being*, used here, does not include God, who is beyond Being. Being is what emanates from God.

### [page 33]

which' things are made; it is that 'in which' qualities appear, as fleeting images are seen in a mirror. It is the qualities, not the Receptacle, that constitute 'the Bodily'" (*Plato's Cosmology* 181).<sup>25</sup> When the "reflection" commences, created things come from the state of potentiality into actuality. The medium provides a "seat" for the images to cling to a state of relative existence and escape from being nothingness.<sup>26</sup>

The things that "become" as a result of the reflection cannot really be called "things," because they are ever-changing images of the archetypes. "Whenever we see anything in a process of change," Plato explains, "for example fire, we should speak of it not as being a thing but as having a quality ... a continually recurrent similar quality" (*Timaeus* 67). The permanent part of a thing, its idea, remains unknown. 'Abdu'l-Bahá has mentioned the same proposition in regard to physical things:

Man discerns only manifestations, or attributes, of objects, while the identity, or reality, of them remains hidden. For example, we call this object a flower. What do we understand by this name and title? We understand that the qualities appertaining to this organism are perceptible to us, but the intrinsic elemental reality, or identity, of it remains unknown. (*Promulgation* 421)

From this perspective, all physical things, even the most fleeting subatomic particles, are no more than qualities that appear reflected in ethereal matter; they are ever-changing, although recurrent and similar, qualities that, in Plato's words, at every moment "pass in and out" of the receptive medium.

A similar theory was developed in Sufism called the "renewing of creation at each instant."<sup>27</sup> Burckhardt, in his *Introduction to Sufi Doctrine*, explains that "the 'immutable essences' (*ala'yán ath-thábitah*) ... in which God manifests Himself to Himself [possess] relative modalities, [in other words] all the possible relations (*nisab*) they imply." The variety of these relations is

never exhausted in a mode of succession, even as the waves of a river never cease from changing their form while at the same obeying the law imposed on them by the configuration of the river-bed.<sup>28</sup>

- 25. 'Abdu'l-Bahá often compares the connection of the soul to the body to that of a reflection in a mirror. In a Hermetic text it is also explained that "as bodies are reflected in mirrors, so incorporeal things are reflected in bodies, and the intelligible Kosmos is reflected in the sensible Kosmos" (Libellus 17).
- 26. 'Abdu'l-Bahá states that "existence and nonexistence are both relative. If it be said that such a thing came into existence from nonexistence, this does not refer to absolute nonexistence, but means that its former condition in relation to its actual condition was nothingness. For absolute nothingness cannot find existence, as it has not the capacity of existence.... Therefore, though the world of contingency exists, in relation to the existence of God it is nonexistent and nothingness" (*Some Answered Questions* 281).
- 27. This writer has not been able to find a specific reference to this theory in the Bahá'í writings. However, in a talk of 'Abdu'l-Bahá, in his residence in Haifa in January 1910, he states that Bahá'u'lláh has set forth in his writings the natural philosophy of the East, as Bahá'ís share it with the Persian Sufis (*Sonne der Wahrheit* 40).
- 28. A Hermetic text similarly states in regard to this concept: "Thus the type persists unchanged, but generates at successive instants copies of itself as numerous and different as are moments in the revolution of the sphere of heaven" (Asclepius 3:35).

# [page 34]

In this picture, imperfect just because it is concrete, the river water represents the incessant 'outpouring' or 'flux' (*fayd*) of Being and the river-bed "immutable determination" while the waves correspond to form, either sensory or subtle, resulting from the ontological polarity. (*Sufi Doctrine* 65)

As the diversity of the reflections from a single archetype is endless in its temporal succession "it is said that the 'projection' of the archetype into existence is renewed at each

instant in such a way that the same state of 'reflected' existence never subsists. Thus a relative being is subject to continual annihilation and continual renewal" (*Sufi Doctrine* 66). According to this theory, there is no temporal interval between annihilation and renewal; therefore, such an action is imperceptible. Bahá'u'lláh may be hinting at this theory when He elucidates different meanings for the term "return" in the *Súriy-i-Vafá*: "Know thou moreover that every created thing is continually brought forth and returned at the bidding of thy Lord, the God of power and might" (*Tablets* 183).

At the macroscopic level it is evident that physical beings are in a delicate state of balance between the forces of composition and decomposition, which may be explained by the above proposition that the images cast by an archetype are constantly changing. 'Abdu'l-Bahá gives this dictum: "all things are subject to transformation and change, save only the cause of existence itself ..." (Selections 157).

'Abdu'l-Bahá explains that human beings, even as the cosmos, possess the same threefold structure: "There are in the world of humanity three degrees; those of the body, the soul, and spirit" (*Paris Talks* 96). What about the mind? Its faculties, 'Abdu'l-Bahá sets forth in his Tablet to Auguste Forel, are "in truth of the inherent properties of the soul ..." (*Bahá'í World Faith* 337).

The Bahá'í writings teach that the reality of humanity is not the body, which we share in common with the animal. From the moment of conception we are spiritual beings, that is, our inherent nature is to reflect, even embody, the divine attributes of the world of Forms. This is that "image" of God we have been created after, not our flesh and bones. The limitless spiritual potentialities of the soul, however, become evident in human beings only by degrees, and many powers will become evident only after separation from the body. By passing through the outer bodily existence the soul is given a special opportunity to develop free willingly its immortal identity by the choices it makes in this life. However, spiritual development is not dependent upon living in this world, for the fundamental individuality (tashakhus) of the soul is from the beginning (Some Answered Questions 240). All of its potentialities are already latent within it from the moment of conception, like the seed that contains the potentiality of the oak tree.

The world of Forms, or the world of the soul, of course, is invisible to the senses. It is the spiritual realm, the world of the divine attributes, "which lieth hidden in the innermost reality of this world" (Bahá'u'lláh, *Tablets* 188). It is free from the contraries that mark the realm of becoming. In Bahá'í and Sufi terminology it is called the "world of vision" or the "world of similitudes or counterparts" (*'álam-i-mithál*), analogous to the Kingdom (*malakút*), which is

#### [page 35]

intermediate between this world (násút) and the realm of pure potentialities (jabarút). (This is the same as affirming that the soul is intermediate between body and spirit.) Bahá'u'lláh explains that a counterpart of everything in the external universe exists in that plane (Má'idiy-

*i-Ásmání* 1:18-19). By the statement that everything has its "counterpart" in the spiritual realm, it should be understood that an entity's spiritual counterpart is its essential self, the ethereal form that is both spirit and soul. "In the world of vision," testifies 'Abdu'l-Bahá, "where the soul inhabited by the spirit has its being, and functions without the help of the material bodily senses. There, in the realm of vision, the soul sees without the help of the physical eye, hears without the aid of the physical ear, and travels without dependence upon physical motion" (*Paris Talks* 86). 'Abdu'l-Bahá points out in another text that "the world of existence is a single world, although its stations are various and distinct" (*Selections* 193). Therefore, we are now present in the "hereafter" despite our lack of awareness of it: "the Kingdom of God.... is within this world. The people of this world, however, are unaware of that world, and are even as the mineral and the vegetable that know nothing of the world of the animal and the world of man" (*Selections* 194-95).

#### **The Four Elements**

When scientists in the nineteenth century attempted to explain the propagation of light waves, they came up with the concept of ether, a medium through which light could move. 'Abdu'l-Bahá called ether an intellectual reality. However, scientists at that time were looking for a physical medium for the propagation of light. When they failed to find what they were looking for (empirical evidence), they discarded the theory of ether and proposed new theories, such as abstract fields, to explain the same phenomenon. In the same way, the modern table of elements, which is the basis of modern chemistry, was developed by scientists as a new, more accurate, and much more comprehensive theory for explaining the physical composition of things than the older theory of the four elements of Greek physics: earth, water, air, and fire. There is no question that the modern theory of elements works very effectively at the molecular level. However, it is evident that Bahá'u'lláh considered the older theory of the elements appropriate to explain certain other truths or principles about nature.

In the *Lawḥ-i-Áyiy-i-Núr* (Tablet of the Verse of Light), Bahá'u'lláh gives this paradigm for the genesis of the worlds of physical creation:

Know that the first tokens that emanated from the pre-existent Cause in the worlds of creation are the four elements: fire, air, water, and earth.... Then the natures (ustuqusát) of these four appeared: heat, moisture, cold, and dryness—those same qualities that ye both reckon and know. When the elements interacted and joined with one another, two pillars became evident for each one: for fire, heat and dryness, and likewise for the remaining three in accordance with these rules, as ye are aware. By them God created all that there is in the worlds of creation, whether of the higher or lower realms. In whatsoever thing these natures came into equilibrium that thing endured the passage of time, as ye behold with the sun and the moon; and in whatsoever thing

[page 36]

these natures came not into balance, that thing passed quickly into extinction, even as ye observe to be the case with the creatures of the lower worlds. (Má'idiy-i-Ásmání 4:82)<sup>29</sup>

Because Bahá'u'lláh refers to the four elements as "the first tokens" by which material creation is generated, it is certain that He does not intend the ordinary meanings associated with the terms "fire," "air," "water," and "earth." The exposition in Plato's *Timaeus* may give us some insights in this regard.

Plato explains that the receptacle of becoming is not partially empty but is completely full at all times with the diverse ever-changing images of the archetypes, which are in a state of disequilibrium and chaos. The receptacle is now designated by the term "space." The qualities or powers at motion in the receptacle can be reduced to four basic kinds called fire, air, water, and earth. These qualities are not "things which change" but "changes," as permanence can only be ascribed to the recipient and its active counterpart. The Platonists, Cornford affirms, "confine real being to 'certain intelligible and bodiless Forms' and reduce the bodies which materialists regard as real to 'a moving process of becoming', with which we have intercourse by means of sensation and perception" (*Plato's Cosmology* 204).

By God's design the contents of the receptacle were sifted, so to speak, so that unlike qualities moved apart and like qualities moved together. Thereby, Plato says, the four different kinds

came to occupy different regions of space even before they were arranged into an ordered universe. Before that time they were all without proportion or measure; fire, water, earth, and air bore some traces of their proper nature but were in the disorganized state to be expected of anything which god has not touched, and his first step when he set about reducing them to order was to give them a definite pattern of shape and number. (*Timaeus* 71-72)

The "space" of Plato is not the void of Democritus; it is full of powers and qualities in a non-manifested state. 'Abdu'l-Bahá, in one of his Tablets on the universe, likewise asserts that "a void is impossible (*al-khaká'u muḥálun*)" (*Min Makátíb* 1:54). In order for the four kinds, with all their attendant qualities, to become manifest, Plato says that God endows them with regular geometrical shapes. These geometrical shapes are not ultimate smallest particles but fundamental structures. Plato chooses four regular solids: the tetrahedron, the octahedron, the icosahedron, and the cube, as the "best" that he could find

<sup>29.</sup> Provisional translation by the author. A similar concept of the elements is found in this Hermetic text: "The elements through which all matter has been indued with form are four in number—fire, water, earth, and air.... Matter has been made ready by God beforehand to be the recipient of individual forms of every shape; and nature, fashioning matter in individual forms by means of the four elements, brings into

- being, up to the height of heaven, all things that will be pleasing in God's sight" (Asclepius 1:3a-3c).
- 30. In regard to the chaos, Hermes relates: "When matter was not yet formed into body, my son, it was in disorder; and even in our world, it retained something of disorder, which besets the small living creatures [in contrast to planets and suns]; for the process of growth and decay is a remnant of disorder" (Libellus 8:3-4).

#### [page 37]

his purpose. Each of these solids can be constructed from two elementary triangles, a right-angled isosceles and a right-angled scalene. Because triangles are constructed from lines, and lines can be expressed in numbers, the basis of structure is mathematics. By a regrouping of the geometrical surfaces, Plato proposes that each of the elements can be transformed into one of the others. What we perceive at the macroscopic level is not the geometrical shapes but the qualities associated with particular patterns of structure. In light of the remarkable parallels of Plato's geometrical model to modern theory, as has been pointed out by Popper, it is not surprising that W. K. C. Guthrie also remarks of the *Timaeus*: The *Timaeus*' "geometrical theory of the world has come into its own again as evidence of a brilliant natural insight into the structure of matter.... [It was] Heisenberg's opinion that the tendency of modern physics brings it closer to the *Timaeus* than to Democritus" (*A History of Greek Philosophy* 5:242).

Two of the elements, fire and water, according to Bahá'u'lláh, are active agents, and two, air and earth, are passive agents (unpublished Tablet, Bahá'í International Archives). Plato likewise demonstrates that some of the qualities in the chaos must be active and others acted upon, since "motion can never take place in conditions of uniformity" (*Timaeus* 80).

In the Hermetic tradition, earth, water, air, and fire were never regarded "as corporeal or chemical substances in the present-day sense of the word. The four elements are simply the primary, and most general, qualities by means of which the amorphous and purely quantitative substance of all bodies first reveals itself in differentiated form" (Burckhardt, *Alchemy* 66). In other words, when the four kinds at motion in the chaos are brought into definite form and equilibrium, they manifest to our senses as four states of matter: solid (earth), liquid (water), gaseous (air), and radiant (fire). Each state, according to this theory, is characterized by dual properties that allow the elements to separate and intermingle. Air has hot and moist properties, fire has hot and dry properties, water has cold and moist properties, and earth has cold and dry properties. Traditionally speaking, from the interaction and coalition of these properties or natures into different proportions and states of equilibrium, minerals, plants, animals, and humans are enabled to come into existence.

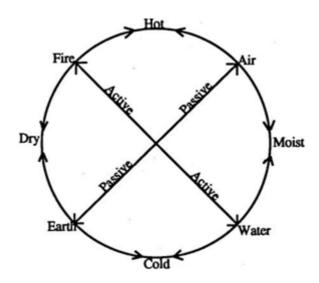


Figure 1: The Interaction of the Four Elements by Means of the Four Natures

### [page 38]

This figure resembles another allusion by Bahá'u'lláh to the process of creation that hints at the mathematical basis of the universe along Pythagorean lines. He relates: "Know then, that God, praised and glorified be He, took a line, split it lengthwise into two, rotated the one about the other, and so made from them the universe. The line, however, formeth only from the point when you move it. Conceive ye then our meaning" (unpublished Tablet, Bahá'í International Archives). Interestingly, according to one commentator, the elements coincide with four biochemical processes that preserve life: air (hot and moist) = oxidation, earth (dry and cold) = reduction, fire (hot and dry) = dehydration, and water (moist and cold) = hydration (Mahdihassan, *Hamdard* 20:77).

### The Principle of Balance

In Bahá'u'lláh's above-quoted passage on the elements He goes on to state that the degree to which any creature maintains the balance of its natures effects the duration of its lifespan. Balance is the key to preserving life, not just in individual entities, but in ecosystems and social systems as well. Bahá'u'lláh strongly advised humankind, in this regard, to practice "moderation in all things." Such things as liberty and civilization, He warns, will, "if carried to excess, exercise a pernicious influence upon men ..." (*Gleanings* 216).

The Greek philosophers in general placed great emphasis on the principle of balance. Hippocrates, the physician (ca. 460-400 B.C.), viewed the body as a balanced system with the power to heal its disorders from within. He mainly prescribed rest and diet as remedies. Plato set forth in his *Laws* that the best system of government is one wherein every party is in balance with the others. Aristotle, in his essay on *Nichomachean Ethics*, recognized that the virtues of humankind are means between excess and deficiency.

Maintaining the balance of one's natures is not only the key to longevity, it is the attractor of the spirit or life force. 'Abdu'l-Bahá explains:

... these members, these elements, this composition, which are found in the organism of man, are an attraction and magnet for the spirit.... That is to say, when 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 perfection. (*Some Answered Questions* 201)

In this world, the effects of spirit and matter upon each other are reciprocal. The act of love of the father and the mother that generates the embryo simultaneously individualizes the new soul from the Universal Spirit in which it potentially exists. The soul then, by successive effusions of its power, i.e., the unique combination of creative names that constitutes its essence, both directs the development of the embryo through new stages and maintains its being. Before the body can move on into a new stage of development, it must first have fulfilled the potential given it by the previous effusion of the spirit. In this manner the soul gradually

31. Provisional translation by the author.

# [page 39]

develops the body to the stage of maturity, at which time the soul's intellectual powers are also capable of mature expression, and, finally, the soul brings the body to the stage of fruition, which we call death. Aristotle gives a similar teleological explanation for the coming into being of natural things. The principle implied is that the immaterial form must precede the material form, just as a carpenter must first possess the plan for a house in his mind before he builds it. Our DNA may be the blueprints for our bodies, but the source of that information, and the energy that activates it, is beyond this space-time existence.

The Bahá'í Faith teaches that humankind collectively on this planet has been evolving through similar stages by the motive power of God's Word. God's Word has been progressively revealed to humanity, through the mediating agency of the prophets, according to the exigencies of the time and place, thus setting into motion what Shoghi Effendi describes as

that process of integration which, starting with the family, the smallest unit in the scale of human organization, must, after having called successively into being the tribe, the city-state, and the nation, continue to operate until it culminates in the unification of the whole world. . . . It is this stage which humanity, willingly or unwillingly, is resistlessly approaching. (*The Promised Day is Come* 117-18)

The external Word of God, which is set down as scripture, is, of course, only the shell that preserves for humanity the spirit and purpose of the actual Word of God that encompasses the

universe. Shoghi Effendi refers to "the creative energies" that the Revelation of Bahá'u'lláh released in the world at the moment humankind was ready to receive them, thus instilling "into humanity the capacity to attain this final stage in its organic and collective evolution (*The Promised Day is Come* 118). By such reciprocal interaction spirit, whether in the individual or in the universal sense, moves matter toward its ultimate goal: the bringing into being of creatures capable of knowing and loving their Creator, and of serving the best interests of their planet with pure and faithful hearts.

To return to the theme of balance, if humanity learns to maintain the delicate equilibrium of life on earth according to the natural order, it is certain that our planetary environment will proliferate abundantly for a long period to come. "The elements and lower organisms are synchronized in the great plan of life. Shall man," asks 'Abdu'l-Bahá, "infinitely above them in degree, be antagonistic and a destroyer of that perfection?" (*Promulgation* 350).

Health depends upon the equilibrium of the opposing properties that compose the whole human being. In regard to physical factors alone, 'Abdu'l-Bahá states:

The outer, physical causal factor in disease ... is a disturbance in the balance, the proportionate equilibrium of all those elements of which the human body is composed.... So long as these constituents remain in their due proportion, according to the natural balance of the whole . . . there will be no physical cause for the incursion of disease. (*Selections* 153)

# [page 40]

In the *Lawh-i-Tibb* (Tablet of Healing) Bahá'u'lláh outlines a healthful regimen, which if followed, He says, will preserve the normal equilibrium of the natures of the body and ensure that the primary substance (*aṣl*) remains in its pristine purity (*Alwáḥ* 224). Thus, preserving the equilibrium of the natures (qualities, powers), at all levels of created things, is essential for the life force to continue manifesting itself. Several scientists, in attempting to define the distinctive characteristics of life, have also noted that the continuance of life depends upon the peculiar organization and balanced operation of all the parts that compose an organism. Biologist J. Shaxel says: "Living processes and living materials as such simply do not exist save as parts of single whole organisms" (quoted in Augros, *The New Biology* 29).

From the Hermetic perspective, any form of physical life is dependent upon the presence of soul: "Wherever there is life, there is soul; but in the irrational animals, the soul is devoid of mind" (Libellus 12:2). The evidence of life or soul is motion. Hermes says: "Know then ... that everything which exists in the Kosmos . . . is in motion; and that which is in motion must be alive" (Libellus 12:18). The consequence of motion, which is the fundamental property of physical beings, is the law of change. According to this Hermetic principle, the universe as a whole is eternal, but it constantly changes in form over time. Bahá'u'lláh follows this view in the <code>Lawḥ-i-Ḥikmat</code>. If soul taken in an individual sense is the source of life in each thing, the Universal Mind, according to Hermes, is the life force of the universe as a whole. It is this

primal emanation from God that contains all things and maintains "in being all things that are" (Libellus 2:12a).

Among the four natures, Bahá'u'lláh states that two, moisture and heat, are active agents. Both qualities are found in the element of air, which, Bahá'u'lláh says, is the cause of colors and mixture and contains that which astounds the minds of those endowed with insight (Má'idiy-i-Ásmání 1:30). When one observes nature, it can be seen how important these two qualities are to the generation of life in the plant and animal kingdoms. At the height of the growing season the growth of plants can be measured daily according to the ratio of heat and moisture. The emergence of spring, with all of its colors and millions of forms of regenerated species, may be due to heat and moisture coming into equilibrium with each other once again. Eggs of most species develop and hatch through the influence of external temperature on their internal moisture.

In a body of Tablets known as *Alwáḥ-i-Iksír* (Tablets of the Elixir), Bahá'u'lláh proposes that it is possible, by means of a special process, to extract the life-imparting essence from nature, embodied in a highly balanced form of matter. <sup>32</sup> Alchemists call it the Stone, and it has numerous names in the Tablets. In its purified and refined form, i.e., when it becomes free from the external accidents that inhibit the action of the essence, it is designated, among other names, "the philosophers' gold," "the red oil," and "the red elixir." This agent,

# [page 41]

which Bahá'u'lláh claims is "the Physician of the Ocean (tabíb-i-baḥr) upon whose skill dependeth the well-being of diseased and sick bodies, whether terrestrial, marine, or mineral" (Má'idiy-i-Ásmání 1:40),<sup>33</sup> does not exist in the natural state, but must be fashioned by the artificial treatment known as "the hidden craft" (san'iy-i-maktúm). According to Bahá'u'lláh, "the treatment (tadbír) is specially designed so that this precious, life-giving essence . . . may be purified and cleansed of dross, darkness, and external, corruptive and immoderate moistures, which prevent the appearance of its effect and action" (Má'idiy-i-Ásmání 1:37). Within this "fashioned Stone," Bahá'u'lláh testifies, resides the essence of the active force, which is the heat (life-ordering energy?) that underlies the world and causes all motion (Má'idiy-i-Ásmání 4:80).

The counterpart of the elixir in the realm of Revelation is the Manifestation of God, by whose Word darkened souls are transformed into luminous, light-seeking essences. This is the source of missionary zeal and spiritual fervor among believers. Isaac Newton, in true Hermetic fashion, believed that the alchemical agent which vitalizes matter belonged to the realm of spirit, and he may have identified it with Christ and the Word, which "was in the beginning." As a believer in Arian Christianity, he saw Christ as the mediator of God's Will

<sup>32.</sup> In the *Lawḥ-i-Ḥikmat* Bahá'u'lláh alludes to a unique power concealed in nature: "It [nature] is endowed with a power whose reality men of learning fail to grasp" (*Tablets* 142).

into action in the world. By somehow extracting the alchemical agent from nature he hoped to "demonstrate God's action in the world in an absolutely irrefutable fashion" and thus counter the atheistic tendencies of the mechanists and the Cartesians (Dobbs, "Newton's Commentary" 187-89).

I do not fully understand the object of Bahá'u'lláh's thought in the *Alwáḥ-i-Iksír*, but it is certain that a familiarity with the theory of the four elements and the four natures, as well as the active and passive principles of being, is important, as they are frequently referred to in Bahá'u'lláh's explanations of the process. Bahá'u'lláh purposely used the allusive and symbolic language of the alchemists to explain the knowledge of the elixir, and He strictly prohibited his followers from becoming engaged in its practice. In many Tablets, He states that the time of its appearance is fixed by God, and, in one amazing instance, He prophesies that the appearance of "this hidden treasure" among the learned is one of the signs of the coming of age of the world (*Má'idiy-i-Ásmání* 1:41).

#### Conclusion

Bahá'ís believe that the ultimate origin of matter is a spiritual reality. The Word of God, which is the first thing to emanate from God, is the cause of all the other existences. To bring forth the worlds of existence, the Word manifests two poles, which Bahá'u'lláh has designated the active force and its recipient. They are the even and the odd concealed in the One that precedes multiplicity. By their interaction a "heat" is generated that has everlastingly caused the motions, forces, and properties that unite into an ordered universe of innumerable beings. In Bahá'u'lláh's words: "There is but one reality and one essence

- 33. Provisional translation by the author.
- 34. Provisional translation by the author.

### [page 42]

that is expounded in the worlds of outer form, and, at each of its stages, is described by a specific name ... in accordance with the degrees of its particular manifestations on the plane of this limited world" (unpublished Tablet, Bahá'í International Archives).<sup>35</sup>

<sup>35.</sup> Provisional translation by the author.

# Works Cited

'Abdu'l-Bahá. <i>Má'idiy-i-Ásmání</i> (The Heavenly Table). Vol. 2. Comp. I <u>sh</u> ráq <u>Kh</u> ávarí.
Tehran: Bahá'í Publishing Trust, 129 B.E.
Makátíb-i-'Abdu'l-Bahá (Collected Letters). Vols. 2 and 3. Cairo:
Kurdistán-i-'Ilmíyyih, 1912 and 1921 (respectively).
Min Makátíb-i-'Abdu'l-Bahá (From the Collected Letters). Vol.1. Rio de Janeiro,
Brazil: Editora Bahá'í Brasil, 1982.
Paris Talks, Addresses Given by 'Abdu'l-Bahá in Paris in 1911-1912. 11th ed.
London: Bahá'í Publishing Trust, 1969.
The Promulgation of Universal Peace: Talks Delivered by 'Abdu'l-Bahá During His
Visit to the United States and Canada in 1912. Comp. Howard MacNutt. 2d ed.
Wilmette, Ill.: Bahá'í Publishing Trust, 1982.
The Secret of Divine Civilization. Trans. Marzieh Gail with Ali-Kuli Khan. 3d ed.
Wilmette, Ill.: Bahá'í Publishing Trust, 1975.
Selections from the Writings of 'Abdu'l-Bahá. Comp. Research Department of the
Universal House of Justice. Haifa: Bahá'í World Centre, 1978.
Some Answered Questions. Trans. Laura Clifford Barney. 4th ed. Wilmette: Bahá'í
Publishing Trust, 1981.
'Abdu'l-Bahá and Bahá'u'lláh. Bahá'í World Faith: Selected Writings of Bahá'u'lláh and
'Abdu'l-Bahá. 3d ed. Wilmette: Bahá'í Publishing Trust, 1976.
Afnán, Muḥammad. "Tafsír-i-Bismi'lláh ar-Rahmán ar-Rahím." Áhang-i-Badí', 24.5-6 (126
B.E.).
Augros, Robert, and George Stanciu. The New Biology: Discovering the Wisdom in Nature.
Boston: New Science Library, 1988.
Báb, The. Selections from the Writings of the Báb. Comp. Research Department of the
Universal House of Justice. Trans. Habib Taherzadeh. Haifa: Bahá'í World Centre,
1976.
Bahá'u'lláh. <i>Alwáḥ-i-Mubárak-i-Ḥaḍrat-i-Bahá'u'lláh</i> . (Tablets of Bahá'u'lláh). Wilmette:
Bahá'í Publishing Trust, 1978.
Gleanings from the Writings of Bahá'u'lláh. Trans. Shoghi Effendi. 2d ed.
Wilmette: Bahá'í Publishing Trust, 1976.
<i>Má'idiy-i-Ásmání</i> , vols. 1 and 4. Comp. I <u>sh</u> ráq <u>Kh</u> ávarí. Tehran: Bahá'í Publishing
Trust, 129 B.E.
Prayers and Meditations by Bahá'u'lláh. Trans. Shoghi Effendi. Wilmette: Bahá'í
Publishing Trust, 1938.
Tablets of Bahá'u'lláh Revealed after the Kitáb-i-Aqdas. Comp. Research
Department of the Bahá'í World Centre. Trans. Habib Taherzadeh. Rev. ed. Wilmette:
Bahá'í Publishing Trust, 1988.
Bohm, David, and Renee Weber. "Of Matter and Meaning: The Super-Implicate Order."
<i>Revision</i> , 6.1 (1983).

- Burckhardt, Titus. *Alchemy: Science of the Cosmos, Science of the Soul.* Baltimore: Penguin Books, 1972.
- \_\_\_\_\_. *An Introduction to Sufi Doctrine*. Wellingborough, Northamptonshire: The Aquarian Press, 1976.
- Cornford, Francis MacDonald. *Plato's Cosmology: The* Timaeus *of Plato Translated with a Running Commentary.* London: Routledge & Kegan Paul, 1952.
- Dobbs, Betty Jo Teeter. *The Foundations of Newton's Alchemy*. London: Cambridge University Press, 1975.
- . "Newton's Commentary on the Emerald Tablet of Hermes Trismegistus: Its Scientific and Theological Significance." In Ingrid Merkel & Allen G. Debus, eds. Hermeticism and the Renaissance: Intellectual History and the Occult in Early Modern Europe. London & Toronto: Associated University Presses, 1988.
- Fowden, Garth. The Egyptian Hermes. Cambridge: Cambridge University Press, 1987.
- Guthrie, W. C. K. *A History of Greek Philosophy*. Vol. 4. Cambridge: Cambridge University Press, 1975.
- Lindsay, Jack. *The Origins of Alchemy in Graeco-Roman Egypt*. New York: Barnes & Noble, 1970.
- Maḥdihassan, S. "Interpreting Cosmic Elements, Particularly Water." Hamdard, vol. 20, Jan–Mar. 1977.
- Nakhjavani, Bahiyyih. Response. Oxford: George Ronald, 1981.
- Nasr, Seyyed Hossein. Islamic Studies. Beirut Librairie Du Liban, 1967.
- Nicholas, A. L. M. Le Béyan Arabe. Paris: Librairie Paul Geuthner, 1905.
- Plato. Phaedo. Trans. with notes by David Gallop. Oxford: Clarendon Press, 1975.
- \_\_\_\_\_. Timaeus and Critias. Trans. Desmond Lee. Baltimore: Penguin Books, 1971.
- Popper, Karl R. *Conjectures and Refutations: The Growth of Scientific Knowledge*. New York: Basic Books, 1962.
- Ra'fatí, Vahid. "Lawḥ-i-Ḥikmat: Fá'ilayn va Munfa'ilayn." 'Andalíb 5.19 (143 B.E.).
- Scott, Walter. Hermetica, The Ancient Greek and Latin Writings which Contain Religious or Philosophic Teachings Ascribed to Hermes Trismegistus. Vol. 1. Boston: Shambhala, 1985.
- Shoghi Effendi. *The Promised Day is Come*. Rev. ed. Wilmette: Bahá'í Publishing Trust, 1980.
- Sinnige, Theo Gerard. *Matter and Infinity in the Presocratic Schools and Plato*. The Netherlands: Van Gorcum, 1968.
- Sonne der Wahrheit (1930):40.
- Taylor, A. E. Socrates. New York: Doubleday Anchor Books, 1952.
- Wilczek, Frank, and Betsy Devine. Longing for the Harmonies: Themes and Variations from Modern Physics. New York: W. W. Norton and Co., 1989.
- World Faith, A. Wilmette: Bahá'í Publishing Committee, 1936.
- Zukav, Gary. *The Dancing Wu Li Masters: An Overview of the New Physics*. New York: Bantam Books, 1980.