In the Beginning: Islamic Perspectives on Cosmological Origins—II

Muzaffar Iqbal

How did the cosmos come into existence? When? With what? How did the material for its creation come into existence? Is there an end to this beginning? These questions about the origin of the universe and its composition are foundational; they create worldviews. In Islamic tradition there are four distinct and often intertwined approaches to these questions: (i) sacred cosmology, based on the Qur'ān and the sayings of the Prophet; (ii) philosophical cosmologies; (iii) illuminationist and mystical cosmologies; and (iv) contemporary perspectives on scientific cosmology. This second part of the article continues description of Islamic sacred cosmology and focuses on elements of the cosmos.

Keywords: Sacred cosmology; Islamic perspectives on origins; history of cosmology; creation theme in the Qur³ān; constituent elements of the cosmos.

A systematic exploration of Islamic cosmology can be conceived as consisting of four distinct and mutually interacting perspectives, spanning fourteen hundred years of Islamic tradition. The first to appear was the "Sacred Cosmology", which came into existence as a result of intense reflection on the creation theme of the Qur'ān by the Companions of the Prophet, their successors $(t\bar{a}bi^c\bar{i}n)$ and their successors $(t\bar{a}bi^c\bar{i}n)$. This was followed by various philosophical cosmologies,

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which were generally influenced by Greek philosophy. The third strand of cosmological writings in Islamic tradition emerged as a result of the appropriation and transformation of philosophical cosmologies through a long process of reformulation which attempted to remove elements of these cosmologies which were foreign to Islamic worldview. The fourth strand consists of contemporary Islamic perspectives on modern scientific cosmological theories, which only deal with the physical cosmos.

In the previous installment of this article¹ we explored various aspects of the Sacred Cosmology regarding the creation of the Throne and the Footstool, the Guarded Tablet and the Pen, and the Heavens and the Earth. Traditional formulations of the hierarchical cosmology of the Qur'ān then describe creation and the attributes of entities which fill the cosmos: the sun and the moon; stars and planets; the night and the day; clouds, water, winds, rain, and oceans; thunder, lightening, and thunderbolts; mountains and rivers. In addition there are non-physical entities such as time and beings of other realms, for instance, the angels and the jinn. It should be kept in mind that these descriptions often depict the creation and elements of the cosmos from a perspective much higher than the physical plane and, therefore, the vocabulary used here should not be confused with that used in physical descriptions.

CONSTITUENT ELEMENTS OF THE COSMOS

The Qur'anic Data

Before we proceed with the theme of the creation of the various elements that fill the cosmos, it is important to note that the Qur'ānic descriptions of the cosmos—and indeed of everything created by God—are replete with an embedded teleology to which the Qur'ān constantly draws the attention of its faithful readers. This teleological orientation of the entire created order makes every existing thing a sign and a pointer, an āyah, to the One Who created it; all elements in the Qur'ānic cosmos have been created for a reason and each and every thing has a purpose and role: Indeed in the heavens and the earth there are signs for the believers; and in your own creation and in [the creation of] animals which have been scattered [on earth], there are signs for people who wish to believe; and in the alternation of the day and the night, and in the means of provision which Allah sends down from the sky—with which He brings the earth back to life after it has been dead—and

^{1.} Islam & Science, Vol. 4 (Summer 2006) No. 1, 61-78.

in the blowing of the winds, there are many signs for people of understanding.²

These and other verses of the Qur'an which describe the creation and function of various cosmic entities and processes were received and understood by its first bearers (that is, the Prophet and his Companions), not so much for their scientific content but for the three fundamental aspects of the message of the Qur'an for which the elements of the cosmos were signs: (i) tawhīd: that there is only one Creator Who has created the universe and all that it contains for a fixed duration and for a purpose; (ii) risālah: that this Creator has sent guidance for humanity from time to time through His prophets, Prophet Muhammad being the last such messenger and the Qur'an being the last revelation; and (iii) ma'ad: that there is a return to the Creator for all who have come into this world. Thus situated within the matrix of the Qur'an, the elements of the cosmos as well as meteorological phenomena are not merely physical objects and processes in a vast and splendid cosmos; rather, they are pointers toward an ultimate reality which transcends the cosmos and everything that exists within it.

In addition to their sign-function, a second important aspect of the Qur'ānic description of the elements of the cosmos is the sheer ontological dependence of the elements on the Creator for their existence, movement, and stillness; they have been made subservient (*musakhkharāt*). This subservience of the elements of the cosmos extends to the human domain, so that the sun and the moon traverse their cosmic distances for the benefit of humanity, the winds move and the rain-bearing clouds carry their life-giving water to barren valleys—all for the benefit of humankind. In their function as elements of a vast system which creates, nurtures, and sustains life on earth, the cosmic entities are in the service of humanity, but by the Will and Decree of their Creator.

The Sun, the Moon, and the Stars

The Qur'ān does not tell us how and when the sun, the moon, and the stars were created or with what, but it describes them as signs of the Creator (Q. 41:37); subservient to His will and Command (Q. 35:13); as entities created for a fixed duration, *li-ajalil musammā* (Q. 39:5). The sun and the moon move, we are told with the characteristic Qur'ānic brevity, in fixed orbits (Q. 21:33; 31:29; 35:13; 36:38; 55:5). *Neither the sun can take over*

the moon, nor the night the day—all float within their own orbits (Q. 36:40).³ Light plays an important role in the Qur³ānic imagery. Have you not seen how Allah has created the seven heavens, layer upon layer; and He has set the moon therein as a light [nūr] and the sun as a lamp [sirāj].⁴ The light of the sun and moon produces shadows, to which the Qur³ān also draws our attention (Q. 25:45). Two Qur³ānic sūrahs are given the name "The Sun" (ash-Shams) and "The Moon" (al-Qamar); one is called "The Star" (an-Najm); yet another, aṭ-Ṭāriq—"that which comes in the night" (an-najmuth-thāqib). Throughout the Qur³ān, one finds numerous references to the sun, the moon, the stars, and phenomena associated with their movements (the light of the day, the lengthening of shadows, the coming of the evening, the stillness of the night, the function of stars as guides to the travelers).

Oaths in the Qur³ān include those sworn by the sun, the moon, and the stars: By the sun and its rising to radiant brightness; by the moon and its following [the sun]; and by the Day when it has become resplendent.⁵ These oaths, it should be noted, serve several functions in the Qur³ān. They use visible objects and processes of the cosmos to remind humanity that the entire cosmic order is utterly subservient to the Creator; they are used as witnesses testifying to the Oneness of the Creator and the purposefulness of their creation; and, most of all, their function is to draw convincing arguments and proofs (dalīl) for the message of the Qur³ān.⁶ Imbued with life and movement, the sun, the moon, and the stars appear in the Qur³ān as dynamic entities, following the commands of their Creator—entities, moreover, which will one day cease to exist: And when the sun is wrapped up; and when the stars fall, dispersing (Q. 81:12). Thus the sun, the moon, and the stars—indeed, the entire cosmic order—become a powerful reminder of the Day³ when nothing save the face of Allah will remain (Q. 55:27). On

^{3.} It should be noted here that the Qur³ānic description of the sun as an object moving in its orbit may produce a dissonant chord in those who take it as a fixed star *a la* Galileo, but motion and rest, as Einstein's theory of relativity has amply demonstrated, are relative to the observer. The sun may appear to be stationary to the inhabitants of the Earth, but not so when viewed from another point in the cosmos.

^{4.} Nūḥ: 15-16.

^{5.} Ash-Shams: 1-3.

^{6.} For an insightful discussion on Qur'ānic oaths see 'Abdu'l-Ḥamīd al-Farāhī, *Am'ān fī Aqsāmil-Qur'ān* (Damascus: Dār al-Qalam, 1415/1994).

^{7.} Day with a capital "D" refers to the Day of Qiyāmah, when the entire

that Day, the Qur'ān states categorically, the sun and the moon will be joined together (Q. 75:9). And a tradition, on the authority of Abū Hurayrah, tells us that on the Day of *Qiyāmah*, both the sun and the moon will lose their light.⁸

Time; the Night and the Day

Nothing precedes Allah, the Qur'ān tells us; He is the First (*al-Awwal*), and nothing will outlast Him, for He is the Last (*al-Ākhir*). "Time"—a concept which ultimately remains beyond human understanding—is therefore, Allah's creation; it did not exist, then He brought it into existence.

From a purely human perspective, one can understand time as having begun with the mysterious *kun* (cf. Q. 36:40) which initiated the creation of the cosmos. This initiation brought into existence a differentiated entity, "ad-dahr"—"a time encompassing the entire duration from the beginning to the end of creation". This time is intrinsically linked to the movement of the moon, rather than that of the sun; hence the use of the lunar calendar in revealed religions as the primary mode of determining time for religious rites. This original linkage was tempered by the Quraysh and the Jews¹¹ by introducing intercalary month, a practice condemned by the Quraysh in the intercalation [an-nasī] is but an increase in kufr, [a means] by which those who deny the Truth are led astray. They declare this [intercalation] to be permissible in one year and forbidden in [another] year

cosmic order will be destroyed at the sound of the first trumpet . This, according to the Qur'ān, will be followed by resurrection.

^{8.} Bukhārī: 3200

^{9.} Al-Hadīd: 3.

^{10.} This is the definition given by Imām ash-Shāfī'ī (150-204/767-820), cf. "ad-dahr" in Ibn Manzūr al-afrīqī al-miṣrī, *Lisānu'l-'Arab*, vol. 4 (Beirūt: Dār Ṣādar, 1417/1997), 292-295, on 293.

^{11.} The "modern" Jewish calendar is a rule-based luni-solar calendar, like the Chinese calendar, measuring months defined in lunar cycles as well as years measured in solar cycles, as opposed to the purely lunar Islamic calendar and the almost entirely solar Gregorian calendar. Because of the roughly 11 day difference between twelve lunar months and one solar year, the calendar repeats in a Metonic 19-year cycle of 235 lunar months, with an extra lunar month added once every two or three years, for a total of seven times every nineteen years. Because solar years cannot be evenly divided into lunar months, an extra embolismic or intercalary month must be added to prevent the starting date of the lunar cycles from "drifting" away from the spring season. There is no direct mention of this in the Bible.

in order to conform [outwardly] to the number of months which Allah has made sacrosanct; and thus they make allowable what Allah has forbidden; and beautiful seems to them the evil of their own doings; indeed, Allah does not guide people who refuse to acknowledge Truth. The Qur'an restored the measure of time to its pristine state. 13

One of the most important cosmological aspects of time is its uneven pace; it is now hastening toward its own end. This dissolution, bringing forth the Hour of Doom with ever-increasing speed, is akin to a centripetal folding of the center which drags the periphery into an ever-hastening whirlpool, making each stage more rapid, and shorter, than the previous.¹⁴

This is why the message of the Qur'ān is urgent and dire. It is not just that the Hour of Doom is near in time, but time itself is hastening. Temporal conditions are changing. Moments are getting shorter. The downward curve is not an even slope.¹⁵

Blackhirst points out that this characteristic of time is present in the Qur'ān at the structural level: its longer *suwar* are placed at the beginning and the shorter to the end, and this structural correspondence extends to the very letters of the text.¹⁶ Further, and more importantly,

^{12.} At-Tawbah: 37.

^{13.} At-Tawbah: 36: Indeed, the number of months in the sight of Allah is twelve, [laid down] in Allah's decree on the day when He created the heavens and the earth; out of these, four are sacred; this is the ever-true law; do not, then, sin against yourselves with regard to these; and fight together against those who associate others with Allah—just as they fight together against you—and know that Allah is with those who are conscious of Him.

^{14.} This imagery comes from an article by Rodney Blackhirst in response to the profane ideas centered around a mysterious "nineteen code" in the Qur'an, propounded by Rashad Khalifah in his *Qur'an:* The Final Scripture—the Authorized English Version (Tucson: Islamic Publications, 1981). See Rodney Blackhirst, "Numbers and Letters: Modern and Traditional Perspectives on some Mysteries in the Qur'an" in Sacred Web 16, 167-174.

^{15.} Ibid, 172.

^{16. &}quot;This dimension of the Qur'an—it is true also of the Torah in Hebrew but not of the Christian Bible—extends to the very letters of the text [of the Qur'ān]. This is the key to understanding the so-called Abbreviated Letters. The pertinent fact to take into account is that there are 14 such letters given privilege by being uttered in preface to certain *surat*, which is to say 14 letters from an alphabet of 28. The symbolism is lunar. Each letter corresponds to a day of the lunar

the Islamic calendar *allows* the slip of time. The Metonic cycle of 19 solar years...a calculation of when the occurrence of eclipses returns to the same days of the solar year—is but a near approximation; in fact it is slightly short of the true conjunction of solar and lunar cycles. The Qur'an alludes to this... this, we might say, is exactly why the *surat* [sic. *suwar*] of the Qur'an are not all of equal length, because although each letter is a lunar day, there is an inexorable and unavoidable diminishing and decline as time moves on.

In addition to the shortening of moments and the rushing of time as it unfolds, the quality of time also deteriorates with its passing. This concept is squarely opposed to the modern notion of progress and the entire range of concepts associated with biological evolution. Within the general flow of time, each Prophetic cycle restores time to a pristine stage, and hence the best time is that when a Prophet is physically present on Earth. "The best of times is my time," Prophet Muhammad is reported to have told his Companion 'Abd Allah bin Mas'ūd, "then that which comes after it; then that which follows that."17 One can also have a glimpse of this degeneration of time—and consequently all things existing in time—from the powerful description of the Day of Doom, Resurrection, and the graphic details of Hell and Paradise found in al-Wāqi'ah—a sūrah which is reported to have aged the Prophet:18 When that which must come, comes—that in whose coming there is no doubt—abasing [some], exalting [others]; when the earth will be shaken with a severe shaking; and when the mountains will be shattered into [countless] shards scattered like [fine] dust; then shall you be [divided] into groups. 19 In this three-fold division of humanity, the people of the highest station, al- $muqarrab\bar{u}n$, are mostly from older times.

cycle of 28 days. In 14 of these days the moon waxes and in 14 it wanes, light and dark, revealed and concealed... Every letter of the Holy Qur'an represents a day of a lunar phase, and the entire text represents the complete duration of time, the exhaustion of all lunar cycles." Ibid, 172-73.

 [&]quot;Khayr al-qarūni qarnī, thumma'l-ladhīna yalawnahum, thumma'l-ladhīna yalawnahum", Bukhārī: 3651, on the authority of 'Abd Allah bin Mas'ūd.

^{18.} Ibn 'Abbās reported that once Abū Bakr aṣ-Ṣiddīq said to the Prophet, "O Messenger of Allah, you have aged!" The Prophet replied, "I have been hastened in age by [the suwar] Hūd, al-Wāqi'ah, al-Mursalāt, 'Amma yatasā'alūn and ash-Shamsu kuwwirat. Tirmidhī, Sunan, 3298. 19. Al-Wāqi'ah: 1-7.

The Qur'ān condemns the practice, prevalent among pre-Islamic Arabs, of ascribing to time what happens to man, good or bad, thereby giving time something of a divine nature: They say our life is only the life of this world; we die and we live and nothing kills us except dahr—and they have no knowledge of this; it is but their conjuncture.²⁰

Differentiated into day (nahār) and night (layl), time assumes a distinct order and numerous specific characteristics. Often mentioning them together, the Qur'ān presents the day and the night to humanity as two signs (āyatayn), of which the sign of night has been dimmed while that of day has been made resplendent so that ye may strive for your Sustainer's bounties and count and reckon years. Early Muslim reflections on the order of creation of day and night include a saying of Ibn 'Abbās in which he responded to the question as to which of the two were created first by reciting have not those who disbelieve seen that the heavens and the earth were sewn together and we ripped them apart (Q. 21:30), and then asked: "Was there anything but darkness between the two? And this so that you know that the night was there before the day." The priority of the night is signifi-

^{20.} Al-Jāthiah: 24. Commenting on this verse, Imām Bukhārī quotes the hadīth in which God commands the believers not to blame dahr "for I am dahr"; many scholars have noted that this hadith does not actually identify Allah with dahr; rather, it is emphasizing that He is the real cause (al- $f\bar{a}$ 'il) as opposed to 'time'; for a detailed discussion see Lisānu'l-'Arab, op. cit. In later centuries, dahr (and dahriyya) will assume many different meanings, including "materialism", a connotation of the original "long duration of time"; this semantic link as explained by al-Baydāwī arises from the concept that dahr is a space of time in which this world is living, overcoming the course of time (see "Dahriyya" in EI^2). In philosophical discourse dahri will come to denote "a man who believes in the eternity of the world whether past or in the future, denying, as a result of this opinion, resurrection and a future life in another world; secondly, the *mulhid*, the man who deviates from the true faith". In *Kalām*, the term denotes eternity of the world (meaning a denial of creation in time), a concept most mutakallimūn reject, affirming the beginning in time of bodies and the world created by God, Who alone can be said to be Eternal. Al-Ghazālī in his Munqidh min al-Dalāl considers the dahriyya a sect of the ancients who denied the Creator Who governs the world and the existence of a future world, professing that the world has always been what it is, of itself, and that it will be so eternally. (For this and other details on the subsequent use of the term, see EI^2).

^{21.} Al-Isrā: 12.

^{22.} As-Suyūţī, Jalāl al-Dīn, Kitāb al-Hay'ah as-Saniyyah fi'l-Hay'ah as-

cant, because a day in the Islamic calendar begins at sunset.

Certain times are more blessed than others, just as certain places are more blessed than others. This feature of time (and space) is in perfect harmony with the overall Islamic cosmological scheme of which orientation is a distinct characteristic: the entire cosmos displays an orientation ingrained in its creation. The Qur'an explicitly states that everything existent in the heavens and the earth extols its Creator, willingly or under compulsion.²³ Those created beings which have been granted a certain degree of freedom exercise this legislative freedom within a specific field by aligning themselves with or against their *fitrah*, the original Divine pattern on which they have been created. This preference is a permanent quality, something integral to their beings, and not an acquired disposition. In reference to time and space, the exalted nature of certain times and certain places is a direct result of their hallowing by the Creator. Thus most classical commentators of the Qur'an maintain that the ten nights mentioned in al-Fajr (Q. 89:2) are the first ten nights of Dhu'l Ḥijjah, which have been exalted over other nights.²⁴ Likewise, the Qur³ān and Prophetic traditions mention other times: the four sacrosanct months, 25 the Day of 'Arafah, the night of qadr (laylatu'l-qadr)—the blessed night²⁶ during which the Qur'ān was first sent down from the heavens²⁷—a night that is better than one thousand months.²⁸

The night is a veil²⁹ and a sign ($\bar{a}yah$) darkened by the Creator that people might take repose therein. Say: See ye, had Allah made the night per-

Sunniyyah (The Radiant Cosmography in the Cosmography of Tradition). A critical Arabic edition with translation and commentary, based on nine of approximately sixty extant manuscripts, by Anton M. Heinen (Beirut: Orient-Institut der Deutschen Morgenländischen Gesellschaft, 1982), 22; hereafter al-Hay'a as-Saniyya.

^{23.} Āli 'Imrān: 83; ar-Ra'd: 15.

^{24. &}quot;Ibn 'Abbās said that Allah's Messenger said: 'among [all] the righteous deeds there is none that is loved by Allah more than those performed during these [ten nights of Dhu'l Ḥijjah]'. People asked: 'Not even jihād in the path of Allah?' [He said]: 'Not even jihād in the path of Allah, except by the one who went out with his life and possessions and did not return with anything' [that is, he was martyred]." Ṣaḥāḥ al-Bukhārī, 969.

^{25.} Rajab, Dhu'l Qa'dah, Dhu'l Ḥijjah, Muḥarram.

^{26.} Ad-Dukhān: 3.

^{27.} *Al-Qadr*: 1.

^{28.} Al-Qadr: 3.

^{29.} al-Furqān: 62; al-Nabā': 10.

petual until the Day of Qiyāmah, the Qur'ān asks disbelievers rhetorically, who other than Allah could have brought to you a ray of light? Do ye not hear? Say: See ye, had Allah made the day perpetual until the Day of Qiyāmah, who other than Allah could have brought night for you that you may rest therein? Do ye not see? It is but His Mercy that He made the day and the night [alternating] so that you may rest [during the night] and seek His bounties [during the day], that you might be grateful. The night is for repose. It is also a felicitous time for the recitation of the Qur'ān, when the heart and the tongue are in consonance, and for supererogatory prayers. 32

In the overall scheme of Islamic cosmology, the alternation of the day and the night is not merely a physical phenomenon produced by the revolution of the earth; it is a potent sign³³ testifying to the Wisdom, Power, and Might of the Creator, *Who brings out the day from the night and night from the day*³⁴ and *Who covers the night with the day and day with the night*.³⁵

Water and Winds

Hydrogen and oxygen, two elements which exist in a gaseous state in the atmosphere, combine at a precise angle (104.5°) to form liquid water, without which life is impossible. ³⁶ Water occupies a central position in the

^{30.} *Al-Qaṣaṣ*: 71-73; *al-Furqān*: 62; also *an-Nabā*²: 11 wherein the day is mentioned as a time for seeking sustenance.

^{31.} Al-Muzzammil: 6.

^{32.} Al-Isrā: 79.

^{33.} Al-Baqarah: 164; Āli-ʿImrān: 190; Yūnus: 6.

^{34.} Āli-ʿImrān: 27; Lugmān: 29; al-Fāṭir: 13.

^{35.} Al-Zumar: 5.

^{36.} Represented chemically as H_oO, the water molecule has remained the focus of scientists for centuries. In the eleventh century, Ibn Sīnā and al-Bīrūnī corresponded about the intriguing properties of this molecule; water expands upon freezing, because ice is less dense than water [see Seyyed Hossein Nasr and Mehdi Mohaghegh (eds.), al-As'ilah wa'l-Ajwibah (Kuala Lumpur: ISTAC, 1995); an English translation is being serialized in *Islam & Science*]. This singular property allows ice to float over vast reservoirs of water in oceans which would otherwise freeze solid, killing all marine life in winter and making the life cycle impossible. Since the advent of modern science, chemists and physicists have been engaged in studying water as a chemical substance which displays numerous unique qualities. These studies have led to the discovery of a hydrogen bonding: weak chemical bonds which produce attractive forces between oxygen and hydrogen atoms, raising the boiling point of water. The use of advanced technological tools have helped scientists to study the

Qur'ānic account of the elements that fill the cosmos. Taken as a whole, the Qur'ānic descriptions of water are far more numerous than mentions of any other material substance of the cosmos. It was water which had the singular honor of having Allah's Throne upon it.³⁷ This small molecule is that from which every living thing has been created (Q. 30:21); it is the purifier used for ritual ablution and bathing; without it, earth becomes barren; it is essential for humanity, yet it is impossible for humanity to collect all the water it needs as it must be regenerated through an intricate water cycle, which process remains fundamentally beyond human control. The Qur'ān draws attention to the process of regeneration of water as a sign of Allah's Mercy and Generosity, for He makes life possible through this process.³⁸ The descent of water from the sky is a reason for human beings to be thankful to Him: *Have you ever considered the water which you drink? Is it you who cause it to come down from the clouds—or do We send it down? And were it Our will, We could make it bitter and salty; why, then, do you not give thanks?*³⁹

An important aspect of the Qur'ānic verses mentioning water is the dual nature of its coming down from the sky: when it is sent in measured quantities, it is a Mercy, but when God decides to punish a nation, He sends it down to drown them, as in the case of the people of Nūḥ. The powerful and graphic description of the making of the Flood, which would drown all save those who were being carried on a vessel made of planks and nails (alwāḥ wa dusur),⁴⁰ opens up a higher level of reflection for those who wish to reflect on final causes and the role of elements in the cosmos: And [long] before those [who now deny resurrection] did Nūḥ's people call it a lie; and they gave the lie to Our servant and said, "He is mad!"; and he was repulsed;

intricate lattice structure of water crystals; spectroscopic studies have produced vast amounts of data; and X-ray crystallography has been used to study other properties of this small molecule without which life cannot exist. Despite its minute deciphering, modern science shows no interest in understanding anything higher than the physical aspects of water.

^{37.} $H\bar{u}d$: 7.

^{38.} *Al-Baqarah*: 22, 164; *al-An^cām*: 99; *Ibrāhīm*: 32; *an-Naḥl*: 10; *Ṭā Hā*: 53; *al-Ḥajj*: 5, and many others.

^{39.} *Al-Wāqi* ah: 68-70.

^{40.} This diminutive description of Nūḥ's Ark draws attention to the real cause of protection: it was *not* the Ark, a contrivance made of planks and nails, but Allah's Mercy and Wisdom that saved Nūḥ and those who were with him. Amīn Aḥsan Iṣlāḥī, *Tadabbur al-Qur'ān* (Lahore: Farān Foundation, 1998), Vol. 8, 98; henceforth *Taddabur*.

thereupon he called out to his Sustainer, "Verily, I am defeated; come Thou, then, to my succour." And so We causes the gates of heaven to open with water pouring down in torrents; and caused the earth to burst forth with springs; so that the waters met for a purpose preordained; And We bore him on a [vessel] made of [mere] planks and nails, floating under Our watch—a recompense for him who had been rejected with ingratitude.⁴¹ In the service of its Creator, water acts as a tool for punishing transgressors.

This dual function of elements is present in winds as well; they can be winds of God's Mercy as well as of His Wrath. They carry rain-bearing clouds as well as torrential currents that pluck men out as if they were uprooted palm-trunks. ⁴² In adh-Dhāriyāt (The Dust-Scattering Winds), an oath is taken on these winds: By the winds that scatter dust far and wide; which carry the burden; which speed along with gentle ease, then apportion [Allah's] decree; Verily, that which you are promised is true indeed, and verily, judgment is bound to come. ⁴³ In another passage, the Qur'ān mentions swift winds whose reins have been let loose: By the emissary winds whose reins have been let loose; By the raging dust-storms; By the winds which scatter; thus separating—a clear separation; then they send down a reminder as a warning or as an excuse; Indeed, that which you are promised will come to pass. ⁴⁴

Like all other elements of the cosmos, the Qur'ān speaks of winds as if they have a certain degree of consciousness of their existence; they follow

^{41.} Al-Qamar: 9-14. Also see $H\bar{u}d$: 25-48, where the story of Prophet Nūḥ and the Flood is given in greater detail.

^{42.} Al-Qamar: 20.

^{43.} *Adh-Dhāriyāt*: 1-5.

^{44.} Al-Mursalāt: 1-7. Like many other Makkan suwar, the condensed nature of its verses and the vocabulary used pose even more difficulties for translation than usual. The word mursalāt literally means "those which have been let loose", or "sent forth" and some commentators have taken this to mean the angels, but subsequent verses which explain what has been sent forth do not allow this identification, as Imām Iṣlāḥi has pointed out (cf. Taddabur, vol. 9, 131). The second word in the first verse, wa'l-mursalāti 'urfā, brings forth a distinct image—as if these winds are like charging horses with their forelocks lifted upward. This imagery is carried over to the next few verses, where words such as 'asfun (swiftly running), nashrun (to spread, distribute, scatter), and farqan (to decipher) further strengthen the imagery of blowing winds. The muqqasim 'āliyah of all the oaths in the first six verses is the Day of Qiyāmah: Indeed, that which you are promised will come to pass.

commands of their Creator, they bring warnings and good news,⁴⁵ they are both a witness and a means to affect the state of the physical world for specific ends. And unto Sulaymān [We made subservient] the stormy wind, so that it sped at his behest toward the land which We have blessed,⁴⁶ and unto Sulaymān [We made subservient] the wind; its morning course a month's journey and its evening course a month's journey.⁴⁷

Yet another function of the winds is to bring glad tidings to those who are in dire need. Thus they carry not only life-nurturing rains but also the fragrance of a long-lost son from the tunic which would serve as a secondary cause for the restoration of a father's eyesight.⁴⁸

Seen in the purely physical aspect, these descriptions and functions of winds and water are subject to certain laws—the "laws of nature"—which give them and the entire physical cosmos an operating consistency and regularity which can be studied with the help of physical sciences. These laws, it should be emphasized, are not really laws of nature if nature is to be taken as some autonomous entity, capable of enacting its laws; precisely speaking, these are laws of the Creator, His custom, *sunnatu*'*Llāh*, upon which nature operates. Thus, water and winds, like all other elements of the cosmos, function according to these laws and allow humanity a certain degree of latitude to study these laws and formulate principles, but these laws are not immutable; they cede to the Will of their Creator when He desires so. Thus, fire normally performs its usual function of burning, but when it is commanded to *Be cool to Ibrāhīm*,⁴⁹ it does so; likewise, the noble Virgin conceives without having been touched by a man.

Mountains

And they ask you about mountains, say: 'My Sustainer will scatter them like dust [far and wide] and leave the earth level and bare; you shall see no crookedness and no height.⁵⁰ This is a characteristically Qur³anic way of using elements of the cosmos as evidence in support of its message. The specific theme here is the destruction of the entire cosmos on the Day of *Qiyāmah*. Because of their apparent solidity, height, and grandeur,

^{45.} Al-A'rāf: 57; al-Furgān: 48; an-Naml: 63; ar-Rūm: 46.

^{46.} Al-Anbiyā': 81; also And We made subservient to him the wind, so that it sped at his behest withersoever he willed (Ṣād: 36).

^{47.} Sabā: 12.

^{48.} Yūsuf: 94.

^{49.} Al-Anbiyā: 69.

^{50.} *Ṭā Hā*: 105-107.

mountains are often considered indestructible, but the Qur'ān affirms that their apparent strength is but an illusion for, like, everything else in the cosmos, their existence is dependent on the Will of the Creator.

Considering their importance in the physical cosmology, it is not surprising that the Qur³ān contains numerous references to their purpose, function, and utility in the overall cosmic scheme. They have been set on earth like pegs so that it does not move.⁵¹ They provide places of refuge and protection;⁵² they have been made beautiful with streaks of white, red, and black of various shades;⁵³ and they are the abode of creatures that benefit, such as the bee.⁵⁴ Beyond their physical cosmological functions, however, the Qur³ān mentions other characteristic features: like everything else in the cosmos, they extol their Creator⁵⁵ when commanded; they joined Dāwūd in his hymns;⁵⁶ and, despite their solidity, strength, and firmness, they are not able to bear the Qur³ān: *Had We sent down the Qur³ān on the mountain, thou wouldst indeed see it humbling itself, breaking asunder for awe of Allah.*⁵⁷

The Qur³ān thus makes the mountains both a witness and a proof of the Divine creative act, the purposefulness of creation, and its ultimate dissolution on a Day when mountains will be like tufts of wool;⁵⁸ instead of being firm, they will move;⁵⁹ will be shattered into shards;⁶⁰ convulse and become like sand-dunes;⁶¹ their solid mass turning into fluffy carded wool, which will fly hither and thither.⁶² These powerful descriptions of the state of mountains were not taken as metaphors by the first genera-

^{51.} *Al-Anbiyā*²: 31; *Luqmān*: 10; *al-Mursalāt*: 27. It is noteworthy that in these verses and several other verses referring to the firm anchoring of mountain, the Qur³ān uses *rawāsī* (sing. *ra³sīyah* from the root *w-s-r*), rather than *jibāl* (sing. *jabal*). *Ra³sa³sh-shay*³ means 'something has been firmly established', 'has become fixed,' 'has been made stationary'. *Lisān*, vol. 14, 321.

^{52.} An-Nahl: 81.

^{53.} Al-Fātir: 28.

^{54.} An-Nahl: 68.

^{55.} Al-Ḥajj: 18.

^{56.} Al-Anbiyā': 79; Sabā: 10; Ṣād: 18.

^{57.} *Al-Ḥashr*: 21.

^{58.} *Al-Ma^cārij*: 9.

^{59.} Aṭ-Ṭūr: 10; at-Takwīr: 3.

^{60.} Al-Wāqi cah: 3.

^{61.} Al-Muzzammil: 14.

^{62.} Al- $Q\bar{a}ri^cah$: 5.

tion of the bearers of the Qur'ān; rather, they moved them, informed their worldview, and led them to reflect on the message of the Qur'ān. Subsequent cosmological writings of Muslim scientists and philosophers made use of these in their own cosmological treatises.

Oceans

The mass of water collectively called bahr (pl. $bah\bar{u}r$) in the Qur'ān can be differentiated in any account of geographical descriptions of the Earth as rivers, seas, and oceans, but for our present description of the sacred cosmology, it is the use of this word and concepts and images associated with it that are our focus. Allah has made oceans subservient to humanity so that human beings can benefit from this body of water. They obtain meat from it;⁶³ it carries their vessels;⁶⁴ and it contains precious stones.⁶⁵

Beyond these physical descriptions, however, is a different set of concepts and images associated with the word *bahr*: the vast body of water—which in some traditions is referred to as existing in seven layers corresponding to the seven skies⁶⁶—not only provides humanity with physical sustenance; it also stands as a witness to the Ultimate Reality, the Creator and His creation as well as to the Day when *oceans will boil over*⁶⁷ and *burst beyond their bounds*.⁶⁸ If all the water of oceans were to become ink and if all the trees on earth were to become pens, they would not be sufficient to exhaust the words of God.⁶⁹ Like winds and rains, oceans also obey Allah's commands; they give way to His Prophet when commanded, and drown Pharaoh and his army,⁷⁰ preserving his corpse as a sign.⁷¹

The Cosmos and its Elements as Proofs and Witnesses

As mentioned previously, the Qur'ān primarily uses the cosmos $(\bar{a}f\bar{a}q)$, the human self (nafs) and history $(\bar{a}th\bar{a}r)$ as sources from which it draws proofs and arguments for its message. The three interconnected parts of the message of the Qur'ān are (i) the Oneness of the Creator $(Tawh\bar{a}d)$; (ii) Prophecy $(Ris\bar{a}lah)$; and (iii) the Return $(Ma'\bar{a}d)$. We have already seen

^{63.} An-Nahl: 16.

^{64.} Al-Isrā': 66.

^{65.} Ar-Raḥmān: 24.

^{66.} al-Hay'a as-Saniyya, 35-6.

^{67.} At-Takwir: 6.

^{68.} Al-Infițār: 3.

^{69.} Al-Kahf: 109; Luqmān: 27.

^{70.} Al-Bagarah: 50; al-A'rāf: 138.

^{71.} Yūnus: 92.

how various elements of the cosmos are described in the Qur'ān in their dual roles as discernible physical entities, regulated through Divine laws (often misnamed laws of nature), and as signs ($\bar{a}y\bar{a}t$) pointing to something beyond. This tripartite message is conveyed by the Qur'ān in numerous ways. Sometimes the Qur'ān draws attention of humanity to its message through gentle persuasive language, urging human beings to use their intellect to observe the signs scattered in and around them; sometimes the message is conveyed in beautiful metaphors; at times the tone becomes harsh with severe warnings; then there are elaborate descriptions of the life of the blessed in the Hereafter which urge human beings to strive for the ever-lasting abode of bliss and not for the fleeting worldly life.

Tawhīd, the uncompromising, absolute Oneness of the Creator, is the primary foundation of the Qur'ānic message; the other two basic teachings of the Qur'ān (Prophecy and the Return) emerge from it. And Your God is the One God; there is no deity other than Him, the Qur'ān states categorically, the Most Gracious, the Dispenser of Grace. This is stated as a matter of fact, as a self-evident truth, and yet the Qur'ān provides numerous proofs for this foundational statement of its message both as an argument against (ḥujjāh) those who do not believe and as means for strengthening the faith of those who do. Drawn from the three aforementioned realms, these proofs are presented as material for reflection for those who have eyes to see and hearts to reflect:

Indeed, in the creation of the heavens and the earth; in the succession of night and day; in the ships speeding through oceans, carrying what is beneficial for humanity; in the waters which Allah sends down from the sky, giving life thereby to the earth after it had been lifeless and with which He causes all manner of living beings to exist in abundance; and in the movement of the winds and in the clouds running their appointed courses between the heavens and the earth—[in all these] are signs for those who use their intellect.⁷³

Here we have a succinct description of the various elements of the cosmos presented as points of departure for people who reflect on the signs of the Creator. The creation of the heavens and the earth, mentioned at the beginning of this verse, points to both their coming into existence from non-existence and their composition; the former testifies to the infinite Power and Might of the Creator; the latter to His inimitable Skill

^{72.} *Al-Baqarah*: 163.

^{73.} Al-Baqarah: 164.

(san'at) and infinite Wisdom (hikmah). The remarkable harmony of innumerable elements and forces present in the cosmos could not have come into existence had there been more than one creator; in that case there would be more than one operative volition, resulting in the destruction of order and eventually the existence of the cosmos. Without directly mentioning here the most beautiful Divine Names (al-Asmā' al-Ḥusnā)—such as al-Bārī' and al-Mubdī', which evoke the infinite and absolute creativity of God—the verse refers to the coming into existence of the heavens and the earth as proof of Allah's Oneness and His absolute Sovereignty. The bounteous generosity of the elements of the cosmos (waters bring life to earth, ships carry what is useful for humanity, the winds bring rain) point to His inexhaustible Wisdom and Mercy. Furthermore, the cosmos and its elements testify that there is, indeed, a purpose in their creation, for such a vast, complex, and interconnected cosmos cannot be pointless.

The succession of night and day, their regularity, their contrast in color, function, and effects on humanity and other things existing in the cosmos is a proof of the harmonious functioning of various elements of the cosmos, despite their opposite natures.

Water exists in multiple forms and serves multiple functions: as oceans, it is the vast network of "highways" for ships which travel, carrying that which is useful for humanity; as rain it comes down from the sky, giving life to lifeless earth. All manner of life ($kulli\ d\bar{a}bah$) comes into existence through water.

The movement of winds and clouds (taṣṛīfiʾr-riyāḥi waʾs-saḥāb) are also mentioned as signs. Sometimes winds carry rain-laden clouds; at other times they scatter clouds so that they do not bring rain to the barren earth; for some people winds bring Divine Mercy, for others His retribution. Their movement sets apart the sea for Mūsā but drowns Pharaoh and his army. When humid, winds nourish vegetation, fruits, and crops; when dry and hot, they help crops and fruits to ripen. Cold and dry winds of autumn turn green leaves yellow and scatter lifeless creatures. Winds pollinate and distribute. And they do all of this according to the plan and command of a Wise and Powerful Creator, the Qurʾān tells us, for they have been made subservient (musakhkharāt) between the earth and the skies.

Unlike the worldview created by modern science, the Qur'ānic view of the elements of the cosmos does not make them subservient to humanity; rather they remain in the service of their Lord, Who created them and set on tasks for His purpose. They benefit humanity and their existence and functioning can be studied by human beings through an understanding of the laws prescribed by the Creator for their existence, but they are not in human control by any means; the control of the elements remains in the hands of the Creator.

In addition to their physical descriptions and functions, the Qur'ān contains numerous allegorical and metaphorical references to the elements of the cosmos. The ships and the oceans are physical, but, metaphorically speaking, one's life is like a ship traveling through a vast ocean of time. At times, this ship comes to stormy waters, rendering a person incapable of carrying on life; at such times, human beings call their Creator from the depths of their beings, asking for help and support. At other times, the ship of life floats through bounteous waters, bringing happiness and joy and many a man then forgets that this joyful existence has been bestowed upon him by the Creator.⁷⁴

Water pouring down from the sky is physical. It has the capacity to bring forth plants and vegetables, but its ability to do so depends on the receptivity of earth; some regions of earth are more receptive to it than others and benefit from rain, while others remain unreceptive and do not bear fruits. The guidance of the Qur³ān is like rain: some remain blind to it, driving no benefit.

Winds are physical; they blow whence they are directed, bringing good news or punishment, but there are also winds of Mercy blowing in the hearts of those who believe and remain steadfast in their beliefs and servitude to their Creator.

The alternation of the night and the day is an observable phenomenon, but embedded into this physical phenomenon are numerous chemical, physiological, and botanical processes—from the mechanisms associated with the recuperation of the human body to photosynthesis—without which life would simply vanish. But the night also brings dreams, psychic states opening our consciousness to higher, supra-intellectual realities; metaphorically speaking, the light of the day is the invisible inner hope and joy that moves our limbs and bodies to perform the thousand and one functions necessitated by the sheer demand and requirements of life.

Then there is the remarkable pairing in the cosmos. This pairing is present at various levels of existence in different domains, in qualities, properties, and characteristics; in physical elements and in non-physical

^{74.} Yūnus: 12; ar-Rūm: 33; az-Zumar: 8, 49.

things: the night and the day; the sky and the earth; the sun and the moon; dry and wet; hot and cold; happiness and sadness; male and female. In fact, there exists not a single thing, measure, property, or force in the entire manifest cosmos that is not paired, as if every existing thing is perpetually testifying to its own insufficiency by existentially pointing to, and yearning for, its other half: Of everything We have created pairs, so that you might draw remembrance; Limitless in His glory is He who has created pairs in whatever the earth produces, and in their own beings and in that of which they have no knowledge; And of all fruits He made pairs.

This pairing makes each half of a pair complementary to the other, although they possess opposite properties. Taken as a unit, the manifest cosmos as a whole shows a remarkable yearning for its other half—the yet-to-be manifested life in the Hereafter. The Qur'ān calls this world ad-Dunyā—derived from the root d-n-w, meaning "that which is near"—while its pair is al-Ākhirah, from the root a-kh-r: the latter, the ultimate, that which is yet to come.

The elements of the cosmos are both proofs and witnesses for the Hereafter (al-Ākhirah), which is infinitely better than this world. This testimony (shahādah) of the elements and, in fact, of the entire cosmos to the Hereafter, is present in various forms in the Qur'ān, ranging from oaths to rational arguments drawn from physical properties of the elements. In fact, the very act of creation testifies to the coming of a moment when Allah will fold it back, as this folding back is the other half of the act of Creation. Once reduced to the non-existence whence it came, the cosmos will complete its cycle and usher humanity into another, ever-lasting abode: Have they not seen how Allah initiated creation and how He repeats it? Indeed, this is a light [matter] for Him. Say unto them: travel through the earth and see how He created in the first instance, and thus, too, will Allah bring into being a second time; for verily, Allah has power over everything.⁷⁸

Taken as a whole, this entire cosmic scheme of the Qur'ān establishes an inalienable link between the manifest cosmos and its Creator. Furthermore, built into this Qur'ānic description of the cosmos is a teleology which anchors the physical cosmos in a metaphysical realm, thereby establishing an incontrovertible nexus between God and the cosmos, on

^{75.} *Adh-Dhāriyāt*: 49.

^{76.} Yā Sīn: 36.

^{77.} Ar-Ra'd: 3. Also al-An'ām: 43; an-Najm: 45; al-Qiyāmah: 39.

^{78.} Al-' $Ankab\bar{u}t$: 19-20.

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the one hand, and whatever exists in the cosmos and its rightful place and $raison\ d'\hat{e}tre$, on the other.

(Concluded)