

## CHAPTER EIGHT

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# Experimental Science and Religion: The Cosmic Laws

When one considers the high position given by Islam to the contemplation of God's creation, one realizes the woeful position of those whose hearts, ears, eyes and minds are closed to the distinct signs of God, even though these are displayed before them, day and night, throughout the universe.

And how many signs in the heavens and the earth do they pass by? Yet they turn away from them. (12:105)

Some of these people may have knowledge of the signs of God through the laws they discover relating to matter, energy and biology, but this knowledge does not take them beyond the superficial external aspects, or transport them from the wonders of the creation to the Creator. The Qur'an describes them as follows:

They know of the outer [superficial] things of this world; but of the hereafter they are heedless. (30:7)

In fact, this crossing from the observed physical, psychosocial and biological phenomena to the Creator marks the basic difference between the practice of non-Muslim experimental scientists and Muslim contemplation. Indeed, the early steps of contemplation that involve the contemplation of humankind's outer environment are based on conscious and close observation using the senses of hearing, sight, smell, taste and touch, and is a similar kind of observation to that used as an initial step in the scientific method. In experimental science, only empirical evidence based on observation is accepted; the results produced are then used for generalizations, hypotheses

and applications. Similarly, to verify their hypotheses, the experimental scientists go back to a new phase of observation and examination. In his book *Human Behavior*, L. Malpass mentions how Alfred North Whitehead likens experimental science to an aeroplane which takes off from the solid ground of observation to fly into the thin air of generalizations and theories, only to land again on the ground of observation and perception through the senses.<sup>1</sup>

Another similarity between the Muslim's contemplation of the universe and the research of the experimental scientist is that in their initial observation, they are not looking for the diverse and unrelated detailed components of the objects of study, but for their general and more permanent aspects, such as the laws that govern their functions. The reason for this is that, irrespective of belief and by their very nature, human beings reject chaos and ambiguity, and tend to impose order and clarity on the countless stimuli with which they are continually faced. Even in the simple sensory perception of incomplete or vague forms, individuals in laboratory experiments were found to complete spontaneously the gaps or unclear parts in the figures in order to obtain the familiar form of a circle, a triangle or any other symbol like the flag of a certain country or the insignia of a certain association. This tendency of human beings to perceive sensory patterns as meaningful well-organized wholes rather than as disconnected parts is in fact the phenomenon which incited German psychologists to establish the psychological perspective known as the Gestalt – a German term that can be translated as the 'whole'.

The same phenomenon can be seen in how people apprehend what they perceive with other senses or through their higher mental processes, which they need for problem-solving, abstraction and concept-forming. For instance, when people look at the universe, they instinctively begin to search for the laws that govern its various phenomena in order to be able to anticipate their incidence within the orderliness of this framework and do away with the frustrating ambiguity.

What moves the heart of believers most are the secrets they learn about the Divine laws that govern God's creation, whether it is the discovery of the chemical language of a tiny ant or the discovery of the

orbit of a huge planet. This innate nature, which God implanted in the hearts of all human beings, is perhaps the reason why some present-day scientists speak a similar language to that of worshippers. Here, for example, is what an American professor of biology, Cecil Hamann, says about the Baltimore bird:

What about the nest of the Baltimore bird? Who taught this bird that fine art? Why do all nests built by these birds look alike? If you say it is the instinct, then that is one way out of the question; but it is an inadequate answer. What is an instinct? Some people say it is the behavior which the animal does *not* learn. Is it not logical, then, to see the power of God manifested in these creatures which He created according to laws of which we hardly know a thing about?<sup>2</sup>

When we read what the contemplative Muslim scholars have been writing, since the earliest generation of Islam, we can be easily astonished by their precise observations, especially when compared with what modern scientists have learned. For instance, following the theme of birds, al-Ghazālī recorded in *Al-Hikmah fī Makhlūqāt Allāh* his detailed contemplative observations of the intricate creation of birds in a manner similar to that of modern scientists:

Know, may God bless you, that the Almighty created the bird and made it light to help it fly, with nothing heavy to weigh it down...He created feet for the bird but no hands, making the skin of the legs coarse and well wrought...for it might need to alight in places where there is water and mud...Were the legs covered with feathers, they would be harmed by wetness and dirt...all this helps the bird in its flight. He created the chest semi-circular, to make it easier to pass through the air...so are the rounded tips of the wings. The Almighty made the roots of the feathers firm, woven upright to suit the coarse skin on the wings...He protected the bird with these feathers against the heat and the cold, and provided the wings with the strongest feathers, where they are well fixed, for they are needed most, while the rest of the body is covered with a different kind of lighter feathers for warmth, protection and beauty...Then contemplate a single feather, and you will see that it is woven, like cloth,

from thin threads, strong enough to hold together, and flexible enough so that it does not break. The feathers are hollow to make flight easier...and they are not affected by wet weather, and dirt does not soil them. When sprayed with water, the slightest shake will get rid of the moisture, and the bird will be light again. The Almighty gave the bird one outlet in the body, for laying eggs and excretion, to lessen its weight. He also made the bird lay eggs and not bear offspring, for that would make the bird too heavy in flight. He created the tail feathers to help the bird fly steadily, otherwise the wings would pull right and left during flight, thus, the tail acts like a rudder that steadies the movement of a ship.<sup>3</sup>

This example shows how deep, spiritually motivated meditation can bestow on such an ancient Muslim scholar the ability and knowledge to speak about the creation of the bird and its flight as if he were a modern specialist in aerodynamics. Birds are beautiful, graceful creatures that have always fascinated people by their ability to fly elegantly through the sky, to the extent that human beings tried to imitate the creation of the birds and finally achieved this ambition by inventing the aeroplane.

The next creatures to consider are tiny insects such as ants. The following is part of Muṣṭafā Maḥmūd's summary of the recent scientific studies on these amazing creatures:

A moment's contemplation of one small ant is enough to cause great astonishment. How did this ant learn to build these complex geometrical houses, with their passageways, villages, warehouses and storage areas? How did the ant join in a community where specializations and functions are accurately assigned? How did it learn to catch other insects and herd them before it? The communication among these great numbers of ants in an organized community means that they have found some kind of a common language. The latest studies in this field show that the ants communicate among themselves, not through a spoken language or by signs, but through a chemical language. Observe an anthill. Every now and then, you will find two ants meeting and exchanging what look like kisses or whispers...In fact these are neither

kisses nor whispers, but each ant secretes in the other ant's mouth a special type of saliva with a chemical quality which means: "Let us do this or that..." There is another thing about the ants which we cannot call intellect, but looks more like insight...the ant stores up food, grains, crumbs and left-overs, then guards them against raiders in preparation for the winter which has not yet arrived...It does all this without having the ability to think or to imagine the future: its circumstances and needs. How does all this happen?<sup>4</sup>

If one compares this with the writings of contemplators of the early generations of Muslim scholars, one notices that the latter present accurate observations like that of present-day scholars. In *Nahj al-Balāghah*,<sup>5</sup> Alī ibn Abī Ṭālib said about the ant and the grasshopper:

Look at the ant with its small body and delicate form. It can hardly be seen in the corner of the eye, nor by the perception of the imagination – how it moves on the earth and leaps at its livelihood. It carries the grain to its hole and deposits it in its place of stay. It collects during the summer for its winter, and during strength for the period of its weakness. Its livelihood is guaranteed, and it is fed according to fitness. Allah, the Kind, does not forget it and (Allah the Giver) does not deprive it, even though it may be in the dry stone or fixed rocks.

If you have thought about its digestive tracts in its high and low parts, the carapace of its belly, and its eyes and its ears in its head you would be amazed at its creation and you would feel difficulty in describing it. Exalted is He who made it stand on its legs and erected it on its pillars (of limbs). No other originator took part with Him in its creation. If you tread the paths of your imagination and reach its extremity it will not lead you anywhere except to the Originator of the date-palm, because everything has (the same) delicacy and detail, and every living being has little difference.

In His creation, the big, the delicate, the heavy, the light, the strong, the weak are all equal. So is the sky, the air, the winds and the water. Therefore, you look at the sun, moon, vegetation, plants, water, stone, the difference of this night and day, the springing of the streams, the large number of mountains, the heights of their peaks, the diversity of

languages and the variety of tongues. Then woe be to him who disbelieves in the Ordainer and denies the Ruler. They believe that they are like grass for which there is no cultivator nor any maker for their diverse shapes. They have not relied on any argument for what they assert, nor any research for what they have heard. Can there be any construction without a constructor, or any offence without an offender[?]

If you wish you can tell about the locust (as well). Allah gave it two red eyes, lighted for them two moon – like pupils, made for it small ears, opened for it a suitable mouth and gave it keen sense, gave it two teeth to cut with and two sickle-like feet to grip with. The farmers are afraid of it in the matter of crops since they cannot drive it away even though they may join together. The locust attacks the fields and satisfies its desires (of hunger) from them although its body is not equal to a thin finger.<sup>5</sup>

In a similar statement which reveals the depth of his contemplation and his astute observation, Ibn al-Qayyim wrote in *Miftāḥ Dār al-Sa‘ādah*:

Think of this weak ant and its clever ways in gathering its food and storing it. You see signs and learn lessons in all that. Watch a group of ants going out to look for food. They work in two teams: one carries the food home, the other goes out searching for it. The two teams do not collide, but they look like two separate strings. If they find something too heavy to carry, a group of ants will come to help; then they divide the catch at the entrance of their house. Here is another amazing example of their cleverness: when they carry the grain to their holes, they break it into pieces to stop it from sprouting. If the grain has two halves that sprout, they will break the grain into four pieces. When the grain becomes damp, they take it outside to dry in the sun, then they take it in again. This is why you sometimes see a lot of broken grain near their holes, but you come back later to see that it is all gone.<sup>6</sup>

In his discussion on ants, Ibn al-Qayyim relates an interesting anecdote reported by a worshipper who was deeply interested in observing and contemplating ants and their activities. He carried out a scientific experiment which led him to conclude that ants have a

special language of communication, and that they impose a rigorous punishment upon the one who brings wrong information and, in doing so, misleads the community of ants. Ibn al-Qayyim wrote:

A worshipper related the following story to me: “I saw an ant finding a piece of a grasshopper and trying to haul it up but failing. Then it went away and came back with a group of ants to help. Before they arrived, I picked up the piece from the ground. When the ant and its companions returned, they all went in a circle around the place where the dead grasshopper was; but finding nothing, they went away. Then I put the slice back where it was, and the ant came back and tried to carry it away, but in vain. So, once again, it went to fetch some help, and, once again, I picked up the piece before they returned. When the group came back to find nothing, they encircled that ant, and before I could do anything to help it, they attacked it, tearing it to pieces, one limb after another, as I was watching in astonishment.”<sup>7</sup>

In his *Tafsīr al-Kashshāf* (Interpretation of the Qur’an), the Muslim scholar, al-Zamakhsharī, described insects that are so small that they cannot be seen with the naked eye and, in doing so predicted the discovery of microscopic beings.

You may have noticed inside the folds of old books a minute insect that can hardly be discerned with the sharp naked eye, except when it moves. When it stops moving it becomes invisible. If you move your hand towards it, it moves away to avoid any probable harm. Glory be to Him Who perceives the form of that insect: its organs, whether visible or not, the details of its creation, its eyesight, and hidden intentions! Perhaps there are beings extremely minute and infinitesimal in his creation. “Glory be to God, Who created in pairs all things that the earth produces as well as their own [human] kind, and things of which [they] have no knowledge” (36:36).<sup>8</sup>

In a state of profound spiritual transcendence, he then went on to say that this reminded him of a poem that he had composed. Its verses are very moving when read in Arabic. The translation is as follows:

O You Who see the mosquito  
Extending its wings in the deep, dark night,  
And see the heart veins in its neck,  
And the marrow in those thin membranes,  
Forgive a worshipper who now repents  
His going astray in the olden times.<sup>9</sup>

Such scholars did not stop at contemplating visible creatures, but went on to meditate on abstract concepts, including the process of contemplation itself. Here is what al-Ghazālī wrote while contemplating the mind and the powers entrusted to it:

The mind is not a person or an image that can be seen; it is not a sound that can be heard, nor can it be touched, smelt or tasted. Yet, it commands and is obeyed. It always seeks its growth. It can think of the invisible, and is capable of seeing it. What is too narrow for the eye is wide enough for it. What is too large for any vessel can be contained in it. It believes in matters veiled by the Almighty among and beyond His skies and beneath His earth. It can see all this more clearly than any eye can see. It is the site of wisdom and the essence of knowledge. The more knowledge it gains, the more spacious and powerful it becomes. It orders the limbs to move, but the time between the intention to obey and the action itself is too short to tell, though the readiness to move comes first.<sup>10</sup>

Al-Ghazālī went on to ponder over the wisdom of the Almighty in limiting the faculties of the mind in newborn babies. He spoke about mental development with the observational ability of a developmental psychologist:

Look and think of the implications of the child, born wanting in mind and perception. If it were born otherwise, it would fail to take in the world around it. It would be completely lost on seeing what it had not known nor seen before. It would be annoyed at seeing itself carried around, wrapped in clothing and diapers, and laid in the cradle, though it cannot do without all that owing to the frailty of its body. Similarly, it

would not be met with the tenderness and love which a child usually enjoys, whenever it insists on having its own way and choice. This shows that to have a mind and a perception that grow gradually is for the child's own good. Do you not see how God has made everything in His creation with the utmost wisdom and perfection?<sup>11</sup>

These are some examples of the profound contemplation of early scholars and worshippers which show their ability to delve into great depths to discover the laws of the Almighty in His creation. This search for cosmic laws is shared by both the contemplative worshipper and the modern scientist, despite the difference in objective and religious conviction. Indeed, the laws and principles which govern the universe are sought by modern experimental scientists to help them predict the cosmic events with great precision. Accurate prediction is also the most important evidence used in the Qur'an to establish the truth of all truths: that this universe has a Creator and a God Who holds it together by the laws that He decreed. Consequently, the Qur'an should be viewed as an invigorating inspiration that appeals to the innate nature entrusted by God in the hearts of human beings to search for these laws that regulate the universe. This is confirmed in the Qur'an:

It is God Who causes the seed and the date-stone to split and sprout. He causes the living to issue from the dead, and He causes the dead to issue from the living. That is God. How then are you diverted from the truth? He is the One Who cleaves the daybreak. He makes the night for rest and tranquillity, and the sun and the moon for the reckoning [of time]. Such is the judgment and ordering of the Exalted in Power, the Omniscient. (6:95-96)

And the sun runs its course for a period determined for it; that is the decree of the Exalted in Might, the All-Knowing. And the moon We have assigned phases to it, till it becomes like the old stump of a palm-tree. The sun is not permitted to catch up with the moon, nor can the night outstrip the day. Each swims along in [its own] orbit. (36:38-40)

These two phenomena that demonstrate the accuracy of cosmic

laws and their possible prediction are the main bases of the modern scientific method, without which no experimental science can develop. It is true that the Newtonian clockwork image of the universe has been shaken by the science of relativity and quantum physics; however, this scientific revolution does not imply necessarily that there is no order in the universe, or that if there is one, humankind is not capable of knowing it.

Both Muslim and non-Muslim researchers will receive the same material reward and renown, and both will find pleasure and exciting fulfilment in overcoming the problems of their research. However, when Muslim researchers are truly sincere in their work, their incentives for research and the consequent reward will be much more meaningful than those of their non-Muslim colleagues. Indeed, when they discover the intricate relations within the material, biological and psychosocial phenomena, and observe the work of God and His laws in them, they are actually performing the highest form of worship. To them apply the words of the Qur'an: "Those who truly fear God, among His servants, are those who are knowledgeable" (35:28). If such students sincerely direct their research to the service of God, all their efforts of observation, meditation and contemplation (performed in the laboratory or in the field) will be greatly rewarded. Unfortunately, Muslim students do not seem to understand this sacred message, nor do they realize that they will not be able to achieve much without perseverance. If Muslim researchers viewed their task of observation and contemplation as a form of worship for which they can secure the pleasure of God, then they would be more motivated.

If a believer discovers or invents something which is useful to humanity, it will be considered by God as a constant charity; he will be rewarded for it both in this life and in the hereafter – as his work will continue to benefit all those who use it. Any research performed by a Muslim is also an adherence to the Prophet's directive: "The search for knowledge is the duty of every Muslim."<sup>12</sup>

The positive relationship between refined constant contemplation (as an advanced form of worship) and the progress of scientific knowledge is confirmed by the history of progress in the experimental sciences in the Muslim world. Indeed, there is no doubt that the discoveries

and inventions made by Muslim scientists in every field taught Europe the scientific method which forms the basis of modern civilization. Similarly, there is no doubt, at least in the Muslim world, that such progress was a direct result of the Muslim scientists' deep belief in God and their observance of the teachings of their religion to contemplate the heavens and the earth. Their great discoveries and inventions were made because they were diligently searching for the signs of God's wisdom in His creation and the general laws by which He directs the universe.

In her admirable book, *The Sun of Allah Shines on the West*, the German orientalist Sigrid Hunke says:

Prophet Muhammad urged his followers to contemplate and study the wonders of creation as a means of appreciating the power of the Creator. He also assured his disciples that knowledge enlightens their path of faith. He advised every Muslim man and woman to seek knowledge, making that a religious duty. Seeking knowledge and disseminating it, he preached, is rewarded by God in the same way He rewards worshipping. The reward of learning is like that of fasting, and the reward of teaching is like that of salah or daily prayers.<sup>13</sup>

Hunke affirms that Francis Bacon, Galileo, and other Western scholars were not the ones who established the bases of the scientific method, as claimed by Western historians, but that the real forerunners and teachers of the world in this field were the Muslims. She also proves that Ibn al-Haytham was the real founder of modern physics, and that he was able to reach this position by virtue of his theoretical meditation and close observation. Indeed, while the civilized world of his time could not find an alternative to the theories of Euclid and Ptolemy, which said that the human eye emits beams of light in order to see things, Ibn al-Haytham adamantly disproved this theory. He said: "There are no beams of light emitted from the eye to effect vision. It is the visible objects which reflect the beams to the eye, effecting the vision through the lenses of the eyes."<sup>14</sup> Hunke adds:

Ibn al-Haytham achieved great success in his study of optics, and surpassed all that was known in that branch of science, thus founding a

new scientific discipline...He was the first to make experiments, culminating in his invention of the pinhole camera which was the prototype of modern cameras. Thus he proved that the light-beams travel in straight lines...He also studied the difference in density between air and water, and found an explanation for the refraction of light as it goes through transparent media of different densities. From this he was able to calculate the depth of the air-layer surrounding the earth and found it to be 15 km. Thus, he came up with a result unprecedented in precision and correctness...He also discovered the law which governs the impact of light-reflectors and invented the first type of reading spectacles...The influence of this Arab genius on the West was great. His theories have dominated physics, optics and other European sciences until the present day.<sup>15</sup>

She then goes on to enumerate the contribution of other Muslim scholars in astronomy, mathematics, medicine, chemistry, geometry and other fields. She wrote with enthusiasm about Ibn Sīnā (Avicenna) and his book *Al-Qānūn* (Canon of Medicine):

What great genius is this which embraced all these theoretical and practical aspects of medicine in all its branches, organizing them in such a unique manner, and presenting them in such an original and expressive style that made the book a unique and important achievement among books on medicine of all ages...For many centuries, that book had the greatest influence on the East and the West alike, and in a manner unprecedented in the history of medicine.<sup>16</sup>

Another unbiased orientalist who wrote about the contributions of early Muslim scholars to science during the Middle Ages, is Montgomery Watt. In his book, *The Influence of Islam on Medieval Europe*, he made the following comments on Ibn Sīnā's *Al-Qānūn*:

[It] is rightly acclaimed as "the culmination and masterpiece of Arabic systematization" (Meyerhof). It was translated into Latin in the twelfth century, and continued to dominate the teaching of medicine in Europe until the end of the sixteenth century at least. There were sixteen

editions of it in the fifteenth century, one being in Hebrew, twenty editions in the sixteenth century and several more in the seventeenth.<sup>17</sup>

Al-Balkhī has already been mentioned in connection with his contributions in cognitive psychology, his delineation of the influence of thought in initiating psychological disorders, and the use of contemplation in their treatment. He was also a Muslim scientist and thinker who offered unequalled contributions to psychiatry. Indeed, he was the first physician to differentiate between neurosis and psychosis, and to classify emotional disorders in a strikingly modern way. He combined deep thinking and contemplation with Islamic teachings to classify neuroses into four types: fear and anxiety (*al-khawf wa al-faza'*); anger and aggression (*al-ghaḍab*); sadness and depression (*al-ḥuzn wa al-jaza'*); and obsessions (*al-waswasah*). He clearly attributed the development of emotional disorders to the interaction (*ishtibāk*) between the patient's biological constitution, his environment and his inner cognitive activities. In discussing these psychosomatic aspects and individual differences, al-Balkhī said that since man is composed of a body and a soul, both may show health or sickness, balance or unbalance.<sup>18</sup> Disorders of the body include fever, headache and other physical illnesses; and disorders of the soul include symptoms such as anger, anxiety and sadness.

The titles of the eight chapters on the sustenance of the soul or psyche resemble the contents page of a modern book on psychotherapy and mental hygiene. Indeed, al-Balkhī – who was a master of Arabic prose – clearly differentiates between normal and common, and between extreme emotional reactions of ordinary people and those whose emotional nature has already become pathological. His approach is both preventive and therapeutic and includes a cognitive and psychophysiological approach. In the first two chapters, he stresses the importance of psychological health and how its disorder can be more serious than physical illnesses. The rest of the manuscript details how to overcome anxiety, depression, anger and obsessional neurosis by creative psychospiritual cognitive therapy aided by entertaining concrete illustrations.

For example, when discussing the neuroses associated with fear

and anxiety, he gives a number of vivid clinical illustrations of anxiety related to the apprehension of future problems such as losing one's job or one's health, or fear resulting from a phobia of thunder or death. Then, just like modern rational behavior therapists, he states that most of the things that people fear are not rational. To prove his point, he likens the fearful panic-stricken neurotic to a Bedouin who travels to a cold, damp country and sees fog for the first time, and thinks that it is a solid impenetrable object. However, once he enters it, he discovers that it is only damp air, no different from the air he has just been breathing.<sup>19</sup>

Apart from his well-developed therapy for neurotics, al-Balkhī also repeatedly refers to the emotional abnormalities of normal people, describing them as a diminished form of true emotional illness. He does not speak of the so-called neurotic as a 'patient', but rather as a person whose emotional overreactions have become a habit. This, as I have mentioned in an article about al-Balkhī,<sup>20</sup> is a much-needed approach in modern psychiatry and psychotherapy which, by erroneously adopting a medical model, have largely limited themselves to a therapy aimed at the 'sick' instead of one aimed at the psychological healing of 'unhappy souls'.

More importantly, from his contemplation and detailed clinical observation, he was able to classify depression into the three types mentioned in the most recent classification of psychiatric symptoms, DSM-III-R. The first type, which is referred to in the modern classification as 'normal depression', is described by al-Balkhī as the normal everyday sadness that afflicts everybody since "this world is a place which cannot be inhabited without problems and deprivation." However, what is most remarkable is that he was able to differentiate between the second and third kinds of depression – namely, between endogenous depressive disorders originating within the body as a result of internal chemical causes, and those due to exogenous or environmental factors outside the body. In the following quotation that shows his sophisticated clinical insight into these two kinds of depression, readers with psychiatric or clinical psychological knowledge will be able to appreciate the accuracy of his ability to differentiate between them.

Sadness or depression (*huzn*) is of two kinds. One kind is clearly known to have (environmental) causes, such as the loss of a loved relative, bankruptcy, or the loss of something the depressed person values greatly. The other type has no known cause. It is a sudden affliction of sorrow and distress (*ghummah*) that persists all the time, preventing the afflicted person from physical activity, or from showing any happiness, or enjoying any of the pleasures (*shahawāt*). The patient does not know any clear causes for his lack of activity and distress. This latter type depression which has no known cause in fact has its roots in physical symptoms such as impurity of the blood...and other changes in it. Its treatment is a physical medical one which aims at purifying the blood.<sup>21</sup>

These observations were left unnoticed for nearly eleven centuries only to be inappropriately attributed to Emil Kraepelin, whose work was published toward the end of the nineteenth century and who has consequently been credited for having established our modern system of psychiatric classification.

These, then, are some examples of the development of experimental science in the Muslim world, in an age when the contemplation of God's creation and the laws by which He sustains the universe formed the basis of that scientific renaissance. It was a mature, balanced civilization in which the physical and the spiritual interacted in a harmonious and homogeneous way, based on the realization of the innate dual nature of the human being as a rational animal and a spiritual being. Regrettably, modern Muslim societies have failed to uphold these values that brought supremacy to their forefathers, while Europe has built an advanced technological secular civilization, rooted in a materialistic non-religious worldview.

However, even if Western civilization has succeeded in bringing prosperity and mastery to its people, it has deprived them of satisfying their innate spiritual craving. Indeed, unlike the Islamic civilization, it dismisses the soul and has replaced religion with a new god of secular science. This denial of the soul is in fact the main reason behind the widespread unhappiness and the huge increase of cases of neuroses, psychoses, addiction, crime, suicide, divorce, abortion and the neglect

of the elderly in modern Western societies. The stark statistics of such Western social problems show clearly that Muslim societies, in spite of all their shortcomings, enjoy a much happier and more tranquil existence.

If a person's worldview does not include belief in the soul or in the hereafter, it is only natural for him (or her) to be a hedonistic animal trying to enjoy his material life and avoid any painful experiences as much as possible. But when this craving is hampered by life's problems or mere sickness and old age, such individuals will inevitably feel dejected, anxious or depressed, succumb to neurotic and psychotic reactions, or try to deny their deprivation through alcohol, drugs, or suicide. Consequently, if human beings are not believed to have been bestowed with a God-given soul, why should women be expected to bear babies of unwanted pregnancies. Similarly, if people suffer from painful or seemingly incurable diseases and do not believe in a hereafter or the everlasting life of the soul, why should they have to continue this 'senseless' suffering?

The alienation of Islam and the spiritual roots of its civilization is most unfortunate, for it has resulted in the tragic split between the physical and the spiritual, and between science and religion. Never was there such a balanced civilization as the one which prospered under the guidance of Islam, when human knowledge and religion presented themselves in an unprecedented harmony under the aegis of submission to the One Almighty God. Scientists such as Ibn Sīnā, al-Balkhī and Ibn al-Haytham entered their laboratories or hospitals, assured that they were no less esteemed or rewarded by God than worshippers who entered mosques for periods of extended meditation; in fact they earned even more reward and respect.

This may bring to mind the two Qur'anic verses (35:27 and 28) quoted earlier that mention those who acquire knowledge from deep contemplation and remembrance of the greatness of God's creation of peoples and animals of different colors and shapes. There are also a number of hadiths that strongly praise the knowledgeable person over the mere worshipper. In one of these sayings, the Prophet states that the 'alim, or the one whose deep knowledge leads him to a better appreciation of his Creator, is, in comparison with the worshipper, like the

Prophet in comparison with the weakest in faith among his Companions.<sup>22</sup> This is supported by the ancient Islamic saying: “The ink that flows from the pens of the pious Muslim scholars is better than the blood that flows from the wounds of those who are bloodstained in an Islamic holy war.” This exposition also enables a fuller appreciation of the sayings of al-Ḥasan al-Baṣrī and ‘Umar ibn ‘Abd al-‘Azīz already quoted, that “one hour of contemplation is better than a whole night’s vigil in worship,” and that “remembrance of God is a good deed, but contemplation of God’s favors is the best kind of worship.”

We can thus see the contrast between the healthy combination of science and religious belief among early Muslim scholars, and the present situation in the Western world and much of the international scientific community. Sadly, many ‘secularized’ Muslim scholars have also chosen to follow and adopt the Western model. Nevertheless, and ironically, at the time when Muslims are shying away from the bold Islamization of their human, social and scientific disciplines, the Western world is beginning to recognize the social defacement caused by the schism between science, religion and secularization. Many of their thinkers speak openly against this unnatural split. For instance, in his bestseller, *People of the Lie*, the renowned American psychiatrist Scott Peck states that the main reason for the psychological and psychiatric problems he discusses in his book is this rift:

The major reason for this strange state of affairs is that the scientific and religious models have hitherto been considered totally immiscible – like oil and water, mutually incompatible and rejecting.

In the late seventeenth century, after the Galileo affair proved hurtful to both, science and religion worked out an unwritten social contract of nonrelationship. The world was quite arbitrarily divided into the ‘natural’ and the ‘supernatural’. Religion agreed that the ‘natural world’ was the sole province of the scientists. And science agreed, in turn, to keep its nose out of the spiritual – or for that matter, anything to do with values. Indeed, science defined itself as ‘value free’.<sup>23</sup>

In one of his more recent books, appropriately titled *Denial of the Soul*, Scott Peck exposes the reasons for the rejection of the ‘soul’ in

Western science. He strongly attacks this atheistic position as well as the predicament of the religious American professionals who do nothing about it:

The word ‘soul’ is probably in the vocabulary of every second-grader...Then why is it that (it) is not in the professional lexicon of psychiatrists, other mental health workers, students of the mind, and physicians in general?

There are two reasons. One is that the concept of God is inherent in the concept of soul, and ‘God talk’ is virtually off-limits within these relatively secular professions. Religious though individuals in these professions might be personally, they would not want to offend their secular colleagues. Nor, for that matter, would they care to lose their jobs. The fact is that to speak of God or the soul in their professional gatherings would be politically incorrect.

The other reason is that these professionals properly have a taste for intellectual rigor, and the soul is something that cannot be completely defined...It is not the secularists who worry me in relation to the widespread denial of the soul...It is the religious majority who do not take their religion seriously.<sup>24</sup>

In *Timeless Healing*, Benson also blames vehemently “the modern world’s replacement of faith with science.” He even goes so far as to attribute a genetic aspect to belief in God in order to explain why atheists who go against their genetic code of belief lead a miserable and unfulfilled life. He also explains this hereditary link in terms of the Darwinian evolution, which ironically carries most of the responsibility for the antireligious attitude among Western scientists! This is significant as it approaches the Islamic belief that faith in God is an integral part of human nature (*fitrah*), although Islam goes further stating that it originates from the spirit (*rūh*) that God breathed into Adam, and is not merely a biological coincidence. Benson writes:

Even when we (as scientists) acquire new information, even when we conquer mysteries, we feel empty and unfulfilled. And faith is the only long-term solace. In part that is because faith in an Infinite Absolute is

the only adequate counterforce to the ultimate facts of disease and death.

That is why I argue that our genetic blueprint has made believing in an Infinite Absolute (God) part of our nature. By the process of natural selection, mutating genes deemed faith important enough to the survival of our forefathers and mothers that we were endowed with the same tendencies. Ironically then, it can be argued that evolution favors religion, causing our brains to generate the impulses we need to carry on – faith, hope, and love becoming part of the neuromatrix with which we approach living.<sup>25</sup>

It is with great interest that one notices that recent discoveries in secular Western science, which originally came to demote and replace religion, are, in turn, causing a new scientific revolution and a return to this earlier position. Ironically, this process is spearheaded by physics, the ‘king’ of the exact sciences. No physicist can tell us in better words about this new paradigm than Fritjof Capra, who writes in his Foreword to Ronald Valle and Rolf von Eckartsberg’s *Metaphors of Consciousness*:

Physics has played a major role in shaping the old [Newtonian] paradigm...it has been the shining example of an ‘exact’ science, and has served as a model for all other sciences. The paradigm that is now shifting comprises...values that have dominated our society for several hundred years...They include belief in the scientific method as the only valid approach to knowledge, and the split between mind and matter, [and] the view of nature as a mechanical system.

In the twentieth century, however, physics went through several conceptual revolutions that clearly revealed the limitations of the mechanistic world-view and that led to an organic, ecological view of the world, showing great similarities to the views of mystics of all ages and traditions.

In modern physics, the question of consciousness has risen in quantum theory with the problem of observation and measurement. The recognition that human consciousness determines, to a large extent, the properties of the observed atomic phenomena has forced physicists to

accept the fact that the sharp Cartesian division between mind and matter, between the observer and the observed, cannot be maintained.<sup>26</sup>

An optimist might hope that such inspiring words would change the hearts of secular and overconfident Western scientists, who still think that they are detached observers of social and physical phenomena and that God has nothing to do with their empirically produced results. Unfortunately, only very few scientists, having deeply penetrated the outer layers of their specialization to arrive at its very core, are beginning to question their previous arrogant position of subduing nature. Benson expresses this idea succinctly: “Polls tell us that the majority of [Western] scientists call themselves atheists. But there is an old saying: ‘If a little science takes one away from God, a great deal of science brings one back to God.’”<sup>27</sup>

It is obvious from the writings of Western thinkers such as Scott Peck, Benson and Capra that an appropriate reform which will bring happiness to humanity cannot be achieved fully unless scientific progress is based on a balance between human endeavor and divine guidance. Indeed, this is the only way that scientists will return to and rediscover the love for, commitment to and unity with all of God’s creation. In this respect, the Qur’an declares: “And He [the Almighty] has subjected to you all that is in the heavens and on earth. Behold, in that are signs for those who reflect” (45:13).

However, the materialistic secular worldview has sadly inverted this warm attachment between humankind and nature to become a perpetual war and struggle. Every discovery or invention is sensationally announced in the media as a “defeat of nature” as though nature is a constant enemy. Discussing this very issue, Sayyid Quṭb writes:

The Westerners, the heirs of the misguided Romans, always use the phrase “defeat of nature” instead of “utilizing the forces of nature.” This expression is indicative of the misguided secular view, which is estranged from God’s divine guidance. But the true Muslim, whose heart is close to his Merciful and Compassionate Lord, whose soul is close to the soul of all creation which glorifies God, the Lord of the universe, is a person who believes that God is the Creator of all these forces,

and he does not need to fight them, or be their opponent. God created all these forces in accordance with one and the same law, so they can cooperate to fulfil the goals for which they are destined. He subjected them to man from the start and made it possible for man to discover their secrets and laws. Man should thank God whenever he is given a chance to get help from one of these forces. God is the One Who subjects these forces to man; it is not man who conquers and defeats these forces.<sup>28</sup>

The modern world urgently needs to terminate this war by reuniting science and nature in eternal harmony. Then, once that long overdue reconciliation is realized, genuine scientists and scholars will no longer harbor any enmity against the universe nor any desire to conquer nature. They will be like Ibn al-Haytham, Jābir ibn Ḥayyān and al-Khwarazmī, who attained their great scientific achievements by contemplating God's creation with open hearts and discerning minds.

In their close relationship with all the elements of God's creation, Muslim scientists of the past were in fact influenced by the example and sayings of the Prophet. Indeed, he often spoke about inanimate objects in nature with the feeling of sharing with them submission to the Almighty God. Once, for instance, during his Hijrah to Madinah, he addressed the new moon with intimate affection combined with love and reverence for God Who created both the moon and himself and to Whom both were echoing His praise. He said: "O crescent of good and guidance, my faith is in Him who created you. [O crescent] Our Lord and yours is God."<sup>29</sup> The Prophet also addressed Mount Uhud in Madinah in the most affectionate words and said to his Companions: "Uhud is a mountain that loves us and we love it."<sup>30</sup>

If such love and affection can be directed towards inanimate things in nature, the reader can imagine the genuine love that the Prophet had for plants, animals and other human beings. It is reported that the Prophet said that a woman would be thrown into hell for having locked up her cat until it died of thirst and hunger.<sup>31</sup> On the other hand, a prostitute would be admitted to paradise because she climbed down a well to collect water for a thirsty dog in the desert.<sup>32</sup> It is thus very difficult for Muslims to regard nature as an enemy to be conquered rather than a friend to be appreciated.