

هٰذَا يَسْتَوِي الَّذِينَ يَحْسِبُونَ وَالَّذِينَ لَا يَحْسِبُونَ ط

Peace Classic Islamic Series

Quranic Science

Afzalur Rahman



Quranic Sciences

Afzalur Rahman

Peace Publications

42-Manzoor Manzal Urdu-Bazar Lahore

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PREFACE

'In the name of Allah, Most Gracious, Most Merciful'.
'And He (Allah) taught Adam the names of all things.'
(2:31) 'And He taught man that which he knew not.' (96:5)

This book is an attempt to introduce Muslim youth in particular and mankind in general to the wealth of knowledge that sprang from the teaching of the Qur'an and influenced human studies and culture in diverse ways - - - that led to scientific inventions and growth of knowledge in the Muslim world between the 7th and 14th centuries and brought about the Renaissance in Europe and introduced the Europeans to the fundamental elements (ie. knowledge, enquiry, reason and freedom) - - - which opened the door for modern scientific inventions.

The Qur'an clearly establishes the fact that science and the Qur'an are two aspects of the same Truth and there is no contradiction between them. The first revelation of the Qur'an inspired the Prophet of Islam to acquire knowledge and emphasised the importance of learning in human life. (96: 1-5) It also advised him to pray to Allah for increase in knowledge. (20: 114) According to the Qur'an, only men of knowledge really fear Allah most. (35: 28) because they observe and see Signs and Attributes of Allah both in the Qur'an and in the material universe. They reflect, think and understand the parables of the Qur'an and His manifestations all around them and draw right and beneficial conclusions from them. (29: 43)

The Qur'an makes it absolutely clear that the whole material structure is full of His Signs but only men of knowledge observe them and understand them. It invites them to meditate on it (4: 82) and on His creation: Do they not look at the camels, how they are created? And at the sky, how it is

raised high? And at the mountains, how they are fixed firm?
And at the earth, how it is spread out?(88: 17-20)

Thus the Qur'an introduces new dimensions into the study of religion and its philosophy and seeks to bring men of knowledge (scientists) closer to Allah through the study of His Attributes and manifestations in the material world.

We hope and pray this introductory study of the Qur'an as a science will initiate and encourage investigation and research in this direction and lead to the revival of scientific knowledge among the Millet-e-Islamia as it did in the early period of the Islamic history.

Afzalur Rahman

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INTRODUCTION

The Qur'an and Science

The Qur'an has added new dimensions to the study of physical phenomena and helped man's mind to go beyond the barriers of the material universe. It has shown him that matter is not to be despised as something mean or low, since it has signs leading man towards God and His Mysteries and Attributes. All the universe with its vast spaces is the Creation of God, and the Qur'an invites man to study it and discover for himself its mysteries and wonders and endeavour to use its widespread resources for his benefit. Thus the Qur'an takes man to God by means of His Creation and concrete realities that are found in the earth and the heavens. This is what true science does : it observes and then deduces physical laws on the basis of that observation and experiment. Science thus reaches the Creator by observing with great precision and exactness the laws governing natural phenomena and the Qur'an points to this Great Intellectual Reality through His Creation.

The denial of this Reality leads to anarchy and confusion and robs individuals of peace and tranquility, leaving them feeling that life is empty. The denial of the Creator by scientists leads to the use of His resources for the destruction of the person and values of man. He may fully reap the benefits from the bounties of God and enjoy a life of luxury and plenty but, in this state of ingratitude to the Creator, he is deprived of real peace of mind and happiness. For material

abundance and richness does not provide full mental and spiritual satisfaction to man. Questions such as: Who are we? From where have we come? And to where will we go? What is this universe? Who created it and who controls it? What will become of it? What is the purpose of our creation? Are we just like other creatures? All these and many other similar questions will remain unanswered and will continue disturbing the peace of the human mind. (I)

Man's mind remains on the lower level of that of the beasts until he recognises his Creator. He will eat, drink and multiply like an animal and die like an animal, grabbing other people's property and possessions by force. Social justice in the means of livelihood and in human life in general can only be restored through the belief that there is only One God-Tawhid.

I. The Role of Matter

Matter or material wealth itself is neither bad or evil. What is bad or evil is the philosophy behind materialism — that nothing exists beyond the material universe. As a materialist, all the efforts of a man are towards acquiring and amassing material wealth, even when it is meant disregarding other people's rights. All his energies are spent in satisfying his lust and desires, completely ignoring the possibilities of another level of life, where he may have a better reward for sacrifices made in this worldly life. This attitude of life makes man selfish, greedy and ignoble.

The other side of the picture is that of a man who fully realises the importance of the material means in his life and

I. Abdel Monem Khallaf, *Islamic Materialism and its Dimensions*, Cairo, 1971, PP.83–184

makes full use of them, exploiting their potentialities and powers and benefiting from them, but recognises them all as gifts of the Creator and has due regard for human values and other people's rights and obligations. A man with this philosophy considers material wealth as a means and not an end in itself. Through its use, he can acquire better moral and spiritual qualities. In other words, he uses material objects to gain moral excellence and has no love for them in themselves. Therefore, he will neither disgrace any honour, despise any moral values nor suppress any rights of other people in the act of acquiring material wealth but will gladly show preference to others over his own interests and welfare. He will value the reward of the Hereafter more than the benefits of this life. This is the right approach to the material world and is the basis of real and lasting happiness for man, being fully in conformity with the teaching of the Qur'an as well as with man's reason and logic.

This approach to matter neither bores the righteous nor makes him despise matter but rather makes him see the wonders and secrets in the Creation of God, and his excitement at these wonders brings him back to God and makes him a better worshipper. Likewise, the scientists, awe-stricken by the majesty and grandeur of physical phenomena and by the fine balance and regularity in their laws, is brought back to a vision of Unity – Tawhid – Where his thought comes to rest. In fact, it is through the study of matter and the observation of its mysteries and secrets that one sees the real Glory and Majesty of the Creator. Matter displays God's Signs to man, testifies to His Being and guides man's heart, mind and tongue to praise Him.

But man often gets so absorbed in material things that his morals get lost in the concern for material necessities in this life. He is misled by his desires and becomes satisfied with his

limited outlook and rarely bothers to think beyond this world. The Qur'an tries to introduce such people, in a very simple and straightforward way, to the idea of the Creator. It invites them first to look round them at their material environment and then gradually takes their minds upwards to different levels of understanding of the realities of this universe. Thus through knowledge and understanding, it brings them closer to the realities of the Creator, where they see Marks and Signs of the Creator in every thing and realise that their ultimate destiny is beyond the material level of this universe. (I)

2. The Cause of all Causes

Observation shows extreme stability and balance in the laws of the universe. It is, in fact, a reflection of the Attributes of its Creator and Master. Secular materialism fails to comprehend the world beyond the borders of its material structure, but the Qur'an invites the human mind to know and understand its real value and power by first studying and observing the physical phenomena of the universe and then reflecting on these wonders and mysteries, thus leading the mind on to imagine the Majesty and Grandeur of its Creator – God. Who is the Creator and Controller of all the laws and phenomena of the universe. Who has made these laws and can change them whenever He Wills, not being bound by any law or limitation as we humans are. He can create things and worlds whenever He Wills : “ To Him is due the primal origin of the heavens and the earth: when He Decrees a matter, He says to it: ‘ Be ’ ! and it is.” (2:117) And there is nothing beyond His Power : “ If He so pleased, He could blot you out and bring in a new creation. Nor is that (at all) difficult for God.” (35:16–17) And in Surah Al-Waqi'ah we read: “ It is We Who have created you. Will you then admit the Truth? Do you then see? – the (human

seed) that you emit — is it you who create it, or Are We the Creator? We have Decreed death to be your common lot, and We are not to be frustrated from changing your forms and creating you (again) in (forms) that you know not.” (56:57–61)

All the processes of creation in the universe are completely under the control and direction of its Creator Who has given it the perfect form. Its laws and phenomena, which pervade with regularity and precision the huge spaces as well as the small particles in the universe, follow one and the same pattern and order. God has, in fact, created the universe with millions and millions of galaxies of stars and planets, which follow the order ordained for them with perfection. And this stability and perfection, according to the Qur'an, is a reflection of the Attributes of God: “ He Who created seven heavens in harmony. You can see no fault in the Beneficent One's Creation; then look again: can you see any fault? Then look again and yet again; your sight will come back to you weakened and worn out.” (67:3–4)

Everything in the universe follows the Law of its Creator, “ Who created, and gave to each (created) thing its order and proportion, and further ordained laws (for each), and gave (it) guidance (regarding its course).” (87:2–3) “ The sun and the moon follow courses (exactly) computed; and the stars and the trees bow in adoration. And the sky He has raised high and set up the balance (for the operation of the heavenly bodies in their orbits). And He spread out the earth for (His) creatures.” (55:5–7,10) The Decree of the Creator was issued for the heavens and the earth: “ Then He lifted Himself to the heaven when it was smoke and said to it and to the earth: ‘ Come you together, willingly or unwillingly.’ They said: ‘ We come willingly.’ So He completed them as seven heavens in two days (periods), and He assigned to each

heaven its duty and command.” (41:11–12)

The Qur’an stresses the seriousness of this whole Creation, for obviously it was created neither without any purpose nor for mere sport by the All-Wise God: “Not without purpose did We create heaven and earth and all between ! That were the thought of unbelievers.” (38:27) It was created neither for sport nor for fun: “Not for (idle) sport did We create the heavens and the earth and all that is between ! If it had been Our wish to take (just) a pastime, We should surely have taken it from the things nearest to Us, if We would do (such a thing)!” (21:16–17) The Qur’an asserts that such ideas can only come to those people who believe neither in God nor in the Day of Judgement. They should know that this huge universe with all its wonders and secrets was not created by any playboy for his sport but was created by the All-Wise and All-Just God. It cannot be expected of Him that this whole universe will be in vain – that good and evil and virtue and vice will meet with the same fate. These are but the vain desires and fancies of the unbelievers, because the entire universe and all in it is created in Truth and Justice: “We created not the heavens, the earth and all between them, merely in (idle) sport. We created them not but for just ends; but most of them do not understand.” (44:38–39) And in *Surah Al-Hijr* we read: “We created not the heavens, the earth and all between them, but for just ends. And the Hour is surely coming.” (15:85) This is because God is the Truth and Final Reality and all else is falsehood: “Such is God, your Real Cherisher and Sustainer; apart from Truth, what remains is (but) error. How then are you turned away?” (10:32)

Thus a believer stands on firm ground and sees and speaks with reason and convincing argument about the Creation and its Creator. In his Judgement, God is the Creator of the

universe, the Ultimate Reality and the Cause of all causes. He was when there was nothing and He will be when there will be nothing. A nonbeliever, on the other hand, stands on shaky ground and speaks on the basis of guesswork or uncertain assumptions. His vision is narrowed and blocked by the screen of the material structure and he fails to see anything beyond it. There is a great difference between the believer and the nonebeliever: the former thinks freely and steps out of the boundaries of the material world and sees life before the beginning and after the end of the universe as two sides of the same picture; while the latter, a prisoner in the material universe, sees it as eternal and permanent. He fails to understand that eternity and permanence are attributes of God alone, Who is the Sovereign of the whole universe: "To Him belongs the dominion of the heaven and the earth; it is He Who gives life and death; and He has Power over all things. He is the First, and the Last, and the Outward and the Inward, and He has full knowledge of all things." (57:2-3)

The Qur'an[✓] tries to lift man up, to raise his status, by enabling him to see and understand the true Attributes of God and then reflect on His Majesty and Omnipotence: "There is no God but He: That is the witness of God, His angels and those endued with knowledge, standing firm on justice." (3:18) This verse clearly establishes the fact that those who have knowledge and understanding are able to see beyond the borders of the material structure of the universe the Real Authority that is controlling and directing the whole. He is the Reality and all other things are just passing shadows. And those who fail to see this Fundamental Truth in the universe have lost the sense of judgement and power of understanding which was given to them by God: "Behold! Your Lord said to the angels: "I will create a vicegerent on earth.... And He taught Adam the names (and nature) of all

things.” (2:30–31)

After man was created, he was not left ignorant to wander around on the earth helpless but was given knowledge and understanding of the elements of the universe so that he could explore and use the hidden treasures of the earth and the heavens for his benefit. ‘ The names ’, as quoted above, signify the nomenclature through which man is able to see and know the nature and characteristics of things. “ In fact, the whole information man has about things is really based on his ability to assign names to them. Hence, the teaching of the ‘ names of all things ’ to Adam was meant to impart the knowledge of them to him.” (2) This wealth of knowledge raised man’s status above the rest of the creatures, which were now under his complete control, ready to be used by him in his service.

This was really a great honour for man: “ We have honoured the sons of Adam.” (17:70) And then he was given power over all the treasures of the heavens and earth: “ It is He Who has created for you all things that are on the earth.” (2:29) And “ He has subjected to you, as from Him, all that is in the heavens and on earth.” (45:13) And the same applies to the sun, the moon and the stars: “ And the sun, the moon and the stars are in subjection by His Command.” (16:12) The day and the night are made to serve man: “The night and the day has He (also) made subject to you.” (14:33) The sea is made for man’s service: “ It is God Who has subjected the sea to you, that ships may sail through it by His Command that you may seek of His bounty, and that you may be grateful.” (45:12) Thus the entire creation on and above the earth has been made to serve the needs of man.

2. Abul Ala Maududi, *The Meaning of the Qur’an*, Vol.I.P.67

The law of God operating in the universe has made it possible for man to make use of the outward as well as inward treasures of the earth. All these favours are bestowed upon him by God so that he may be grateful to Him for His gifts and favours and not live rebelliously in His Kingdom.

Man is not only given charge of the treasures of the heavens and the earth but is also given the potentialities to go beyond the borders of the earth and observe the manifestations of God: "O assembly of Jinn and men! If it be you can pass beyond the zones of the heavens and the earth, pass you! Not without authority (or power) shall you be able to pass!" (55:33) Thus it is a challenge as well as an invitation to man to conquer the barriers of space and explore the heavens. But he is clearly told that it will not be possible without authority (and or) power from God.

He is also reminded at the same time that in the hustle and bustle and struggle of life, he should not forget his ultimate destiny. He may utilise all the resources of the earth and the heavens that he can obtain to satisfy his primary needs, as well as his finer sense of beauty and culture, and to enrich his civilisation, but the important thing is that he must not lose himself in these things. He must remember that this life is temporary, a passing event, and that his ultimate goal is with his Lord and his final happiness will depend on how he spent this life – whether in obedience to the Law of God (like all other creatures) or in disobedience to Him (like the accursed Satan). Final success is for those who enjoy this life to the full without forgetting the life beyond the material level: "But seek, with the (wealth) which God has bestowed on you, the home of the Hereafter, nor forget your portion in this world; but do you good, as God has been good to you." (28:77) For such people is reserved special favour of God and a special status: "(To the righteous soul will be said:) 'O (you) soul, in (complete) rest and satisfaction!

Come back you to your Lord, well pleased (yourself), and well-pleasing to Him! Enter you, then, among My devotees! Yes, enter you My heaven!" (89:27-30)

Thus the *Qur'an* presents man with the keys of both the terrestrial and celestial sciences and provides him with the equipment to look for and search for everything in order to uncover and reveal the mysteries of both the worlds. It encourages him to get everything that he possibly can in the world and use it for his benefit. It also dispels all natural fear of the massive material forces and urges him to make proper use of them, for they are created for his service. It shows him how, through the proper use of material resources, to gain entrance into the celestial world beyond the borders of the terrestrial sphere and even beyond cosmic space. The same truth is put by F.Schoun, when he says that Paradise is both our own inner essence and that of the nature of things. To submit to the natural law, therefore, is our greatest happiness, while opposing it can only lead us into the "blind alley" of our own individuality. Since lack of happiness can only be hell, it is thus unreasonable to revolt against the law of our own existence. (2)

Is there any objective nobler than this? Or any dignity greater than this? Man is offered the kingdom of the heavens through the enjoyment of his material and physical pleasures. How can any intelligent and wise being reject this noble offer? Truly those are the losers, who are completely absorbed in the physical pleasures of life and are unable to see anything beyond the material structure of the universe. They blindly follow their vain desires and reject the honour and dignity offered to them. They prefer to remain on a lower level by rejecting the opportunity to perfect life, and fail to use their

2. Dimensions of Islam, London, 1970, p.40.

powers and energies to seek the higher world beyond the material bounds of this universe. By not using their material talents for the purpose for which they were granted, they render themselves deaf and dumb like the material tools and resources which they are using, and keep themselves imprisoned within the bounds of the terrestrial world. No, they are even worse than that, because they are created with ability and power to think and understand, while stones do not possess those powers: "Thenceforth were your hearts hardened: they became like a rock and even worse in hardness. For among rocks there are some from which rivers gush forth; others there are which, when split asunder, send forth water; and others which sink for fear of God." (2:74)

In fact, such people fall below the status of human beings, no matter what progress they may have made in the sciences, technology or administration; and however far they may have advanced into cosmic space and launched rockets and satellites, they do not come up to the human level, but fall far below even the animal level, no, even lower than the animals: "Many are the Jinn and men who have been made for Hell: They have hearts wherewith they understand not, eyes wherewith they see not, and ears wherewith they hear not. They are like cattle; nay more misguided: for they are heedless (of learning)." (7:179) They spend their lives eating, drinking and grazing like a herd of sheep and never rise to the level of reasoning, judgement and freedom to study the mysteries underlying the physical phenomena of the universe. The fact is that they neither see it nor even try to understand it — they are completely blind and ignorant and unable to appreciate either their potential ability to see beyond the material things of life or the extent of the universe and the Omnipotence of its Creator. These ignorant people have been supported in their attitude by the modern theory of evolution, for, as S.H.Nasr has pointed out, this

theory gave man a formula by which to explain everything from the lowest level without referring to any higher cause, thus reducing all knowledge to materialism. (3)

It is very surprising that there exists any man with this kind of material mind which remains content with such a low and narrow life, while he is being constantly challenged by the universe, and openly invited by the *Qur'an*, to follow his nature in seeking the hidden mysteries of the universe. But it seems he is too much involved in the daily routine of the material life and finds no time to think of or discover the great secrets of the universe for which he was created. Such people spend all their time in the petty ornamentation of this life and its rivalries and disputes: (1) "But most men understand not; they know but the outer (things) in the life of this world; but of the end of things they are heedless." (30:6-7)

3. The *Qur'an* and the Universe

Now the question arises: Is there any reliable place beyond the material level where the human mind can really find peace and rest? And is there any depth beyond the depths of the universe wherein man can deeply penetrate and settle down? The *Qur'an* offers a satisfactory and convincing answer to these questions. Truly speaking, there is no simple philosophy of life that can take man into the universe and beyond it, except the *Qur'an*. It has clearly shown God with His perfect Attributes as our goal beyond the universe and has left no doubt about it. It has given clear arguments with reference to the material forces and the physical phenomena in the universe to prove its point and has avoided abstract concepts or attestations of its points by means other than the

3. Encounter of Man and Nature, 1968, p.74

senses. The *Qur'an* has not adopted any new method or technique in this matter, but has pointed out the existence of what is beyond the universe in the same way as it has pointed out the existence of the universe. It has used in regard to what is beyond matter the same arguments and reasoning that man acquired through his experience in the study of the universe. It has invited man to understand God and His perfection through the perfection and excellence of His Laws and manifestations in the material world. There is complete stability and unity in the laws of the universe. The entire cosmos is remarkably homogeneous and there is absolute uniformity in its laws. In other words, the reasoning of the human mind applies to the entire universe. His experience on the earth has taken him beyond the barriers of its space onto the moon and Venus and Mars. And he has found the same elements with the same characteristics there: matter, power and energy, which show that scientific reasoning throughout the universe is the same.

The human mind by itself fails to go beyond this point in understanding the significance of existence in this universe, as well as beyond it. However, it also cannot conceive of an impassable barrier between existence and what is beyond it, because by doing so it would close the door to its understanding of what is absolute existence, absolute perfection and eternity. But the *Qur'an* provides guidance to solve this mystery of existence as well as what is beyond this existence. Its reasoning is simple and straightforward. It is derived from the universe, covering material existence and what is beyond. In other words, its reasoning comprehends the whole universe, interior as well as exterior. There are no barriers between man and the Creator which he cannot cross (55:33) And the reasoning is simple, plain and decisive. No doubt or suspicion is left in the minds of the believers regarding what is beyond the material structure. It

clearly points out the difference between the attitude of the believers and those who are absorbed in the limited world of matter, showing the deficiency and narrowness of the latter's approach.

A great marvel of the *Qur'an* is that its reasoning and argument satisfies people of all shades of opinion and degrees of intellect and keeps them content and provides them with a source of joy and pride in belonging to God and receiving His Gifts of varying nature and scope and finally His *Ridhwan* (Pleasure) and His Audience. There is no limit to man's ever-increasing degree of excellence. It is an everlasting extension of life in the Presence of God, seeking perfection from Him. This reasoning is the basis of the whole structure of the universe of which man is a tiny part. However, he has not been left alone to be swallowed up and absorbed in the hugeness of space or lost in the narrow valleys of his errors and lusts but has been guided all through his life by the Messengers of God.

The *Qur'an's* integral philosophy of life presents complete picture, including belief in matter and its values as well as belief in the world beyond matter and its values. This philosophy of life is so simple that it satisfies the ordinary man-in-street as well as feeding the curiosity of a philosopher such as Iqbal, seeking perfection of his ego; it meets the aspirations of an imaginative, love-thirsty mystic like Ba Yazid Bustami; it encourages and quenches the scientific thirst for knowledge and reasoning of scientists like, Al-Kindi, Ibn Sina, Ibn Rush and Al-Biruni. Thus, in a way, Islam provides the lost link between the human mind and its desired mission, between the religious mind and the scientific, and thereby links religion with science — here religion is considered science and science religion, there being no conflict between the two, for the three mental faculties of

man meet, i.e., contemplation, attestation and belief.

The *Qur'an* provides a complete picture of the material universe and what is beyond in a scientific and rational manner, appealing to the scientific mind as well as to the ordinary layman. It starts with the material and physical aspect of the universe, with its wonders, mysteries and values. And then it tries to prove the existence of God through the material forces in the universe, reflecting on the Powers and Attributes of the Creator Who created this huge universe with its balanced and stable laws: "See you not that God merges night into day and merges day into night; that He has subjected the sun and the moon (to His Law), each running its course for an appointed term; and God is well acquainted with all you do? This is because God is the (only Reality, and because whatever else they invoke besides Him is falsehood He is the Most High, Most Great." (31:29–30) It continues to hammer home on this argument until the human mind is completely overpowered by it: "See you not that ships sail through the ocean by the Grace of God? – that He may show you of His Signs? Verily in this are Signs for all who constantly persevere and give thanks. When a wave covers them like the canopy (of clouds), they call to God, offering Him sincere devotion. But when He has delivered them safely to land, there are among them those who halt between (right and wrong). But none reject Our Signs except only a treacherous ungrateful wretch!" (31:31–32)

The *Qur'an* encourages believers to strive hard in the acquisition of material means and invites them to study all its laws and sciences to benefit from them. It has made it obligatory to study every aspect of the material sources of the universe and to unveil and disclose all its secrets and mysteries and to exploit them and use them in their service. With these instruments, how can a believer, whether a scholar

or a philosopher, feel mentally or psychologically averse to the arguments and reasoning of the *Qur'an*? It is the only Book which meets every man at his own level of intellect and reasoning and provides him (or her) with an integral philosophy which covers both the world of matter and that of spirit; the only philosophy in which there is no conflict between matter and spirit, or between work and virtue, or worship and science.

4. Attestation of the Creator's Existence

Man has now realised his age-long desire to go beyond the barriers of the earth in order to find out the mysteries and wonders of the universe. This has brought him closer to the realities behind the creation of this world. The deeper he goes into the universe and studies other worlds of the Creator, the more will he be impressed by the balance and uniformity which he will observe everywhere. There is no variation in the laws, which reflect the unity of the universe and point to the Great Reality and Unity of its Creator. This discovery is bound to affect the reasoning of man about the universe, life and its Creator. His increasing power will offer him greater opportunities to study the physical forces and the physical laws operating in the universe and thus increase his knowledge of the universe and its Creator. He will be able to overcome the shortcomings and deficiencies which used to obstruct his vision and his power to understand the material structure of the universe. His mastery over the physical world will thus bring him nearer to the realisation of the fact that all this universe with its magnificence and awe-inspiring organisation cannot have come into existence of its own accord, and then have been maintained with so much precision and accuracy without some Being controlling it. One comes to this conclusion through observation of the laws and systems operating in the universe. The myth of the

eternity and permanence of the universe explodes as soon as man masters these forces. They are bound to the Laws of the Creator and themselves are nothing and even have no freedom of choice as do the humans who have learned to control them. Therefore these forces can be neither eternal nor perfect, for they have been conquered by man, who is himself neither eternal nor perfect. This shatters all ideas and philosophies about the divinity of physical forces: the sun, the moon and the stars. The *Qur'an* points to this fact by showing man that all these forces are created for his service and he is not to be afraid of them or worship them but must make proper use of them for the benefit of civilisation: "It is He Who has created for you all things that are on the earth." (2:29) And in *Surah Luqman* we read: "Do you not see that God has subjected to your (use) all things in the heavens and on the earth? And has made His bounties flow to you in exceeding measure, both seen and unseen? Yet there are among men those who dispute about God, without knowledge and without guidance and without a Book to enlighten them!" (31:20)

The word *sakhira* means to make subject or serviceable. It can mean two things. First, things may be put under the complete control of man and he can use them in any way he wishes. Second, it can mean that there is a stable and regular system of laws by which things operate and which man can benefit from. Many of the things of the heavens and the earth are made serviceable to man in the first, and many in the second, form. Many living things, and also things such as vegetation, earth and mineral wealth, are subject to man in the first sense, while the sun, the moon and many other and other galaxies are used by man in the second sense. The visible or 'seen' bounties of God are those which man can feel, see or know by other senses while 'unseen' ones are those which are quite unknown to him. There are

innumerable things in his own body and in the universe which are working for his benefit but which man does not know about. His Creator has appointed many things for his safety, for his livelihood, his growth and development and his welfare which are all the time operating within his self and outside his self. As man advances in knowledge, he unfolds and discovers many of God's bounties which were previously hidden from him. But he does not know how many more are still working for him in an unseen way. However, increase in scientific knowledge will reveal many of these mysteries and secrets to man and bring him closer to God.

Man begins to wonder who has provided him with such powers and the ability to go deeper into the secrets of the physical world. Who has given him the ability to overpower these forces and harness them for his own use? Why has he been endowed with such high qualities that all the forces, laws and mysteries of the universe yield to him without resistances? Why has man been provided with these opportunities to constantly move forward? It points without doubt to the fact that man's destiny has a special significance and a definite purpose. It all points to one reality that his destiny is with God and that he is expected to act as His agent on the earth, to be an image of the Creator, imitate His Attributes and overcome his own weaknesses to come nearer to God's Perfection. And as the objective is the ultimate Perfection of the universe, man's destiny and goal lies in constant effort. (53:39) Denial of this Reality which is behind all the laws, mysteries and physical phenomena of the universe will, in fact, be a denial of man's own mind, which has enabled him to acquire and understand the knowledge, sciences and laws of the physical world and then use them in his service.

The true scientist studies physical laws, phenomena and systems of the universe and come to no other conclusion but that these are the creation of Almighty God and a reflection of His Grandeur and Perfection. He continues his probing into the depths of the universe to discover more and more wonders of God's Creation to use for his own benefit. This knowledge shatters all tendencies to separate the spiritual and material aspects of life. The study of the physical manifestations of God in the universe leads man towards God and builds up a proper relationship between the material universe and the spiritual world. This change of attitude and emphasis opens up new vistas and new horizons of excellence for man, enabling him to advance into the higher levels of Reality. In other words, better understanding of the material structure of the universe and the laws and phenomena operating in it gives man a better understanding of the status of its Creator and brings him closer to Him.

This brings man to the conclusion that the human mind, which is gradually conquering all the elements and forces of the universe and is steadily advancing higher and higher in spreading its influence and control over these physical laws, is, in fact, a reflection of the Supreme Mind Who controls, governs and directs all physical phenomena and systems in the universe. It also means that the Supreme Mind has created humans for this very purpose so that they may comprehend Him through the study, control and use of these forces and laws in the universe cooperating with him and not obstructing him in his efforts to control them. Man in himself was created weak and feeble, but through the Mercy and Favours of God he has been given the gift of knowledge and intellect by the use of which he can gain control over physical forces and use their laws. The *Qur'an* reminds man of this in these words: "Verily We created man from a drop of mingled sperm, in order to try him; so We gave (the gifts).

of hearing and sight (for observing the manifestations of the Creator). We showed him the Way: whether he be grateful or ungrateful (rests on his own free will).” (76:2–3)

This is the argument against those who deny the existence of their own minds with which they understand and comprehend the physical laws and systems of the universe and who argue and advance reasons for denying the existence of the Supreme Mind which has created his mind and all the universe with its wise, stable and balanced laws? This, therefore, leaves no doubt that the human mind, whether it admits it or not, is a reflection of the Supreme Mind which has created the universe and is controlling and directing its laws and systems all the time. The physical observation of the universe provides a clear proof of the existence of its Creator, Whose manifestations and Attributes are diffused throughout the universe in the form of perfect, stable and balanced laws, phenomena and systems. The *Qur'an* refers to this fact in these words: “Then, by the Lord of heaven and earth, this is the very Truth, as much as the fact that you can speak intelligently to each other.” (51:23)

This verse of the *Qur'an* points to the same Reality of God in an other context: that God is the Final Authority and the only Reality in this universe and that His Law of Retribution is constantly in operation. Just as the physical laws operate in the physical world without any change or defect, so do the Moral Laws, and no one can escape from their effects. The history of man, as well as the operating of physical laws in this universe, bears ample testimony to this undeniable fact. And no intelligent man who studies physical laws or human history can come to any other conclusion but this: that the existence of God is a fact. The *Qur'an* clearly shows that the method of reasoning of the Supreme Mind which controls the whole material structure and its laws is the same throughout

this universe and the human mind follows the same reasoning in arriving at the Truth. The measure of right and wrong, good and bad is always exactly the same. This is a clear indication that the human mind is guided and directed in its life by the same Truth that pervades the universe. In other words, it is a part of the Supreme Measure and of the Truth that holds the universe. It is a part of the Unitary System of the universe and a reflection of God's Light, showing His knowledge, Love, Peace and Perfection in miniature. The *Qur'an* refers to this Truth in these words: "It is He Who has taught (him) the *Qur'an* (knowledge of science). He has created man and has taught him speech (and intelligence to distinguish between right and wrong and good and bad). The sun and the moon follow courses (exactly) computed; and the stars and the trees, both alike bow in adoration. And the sky has He raised high, and He has set up the balance (of justice), in order that you do not transgress (due) balance. So establish weight with justice and fall not short in the balance." (55:2-9)

These verses show how the entire system of the universe is the result of God's Creation and is operating according to His Plan. There is no one in the universe who has any power to interfere with or change this system or its laws. And the whole system of the universe is based on the principle of justice. Everything from the stars down to the vegetation on the earth is controlled and maintained by an excellent law of balance and justice, without which none of them could exist for a moment. And man, being a part of the whole system, must also operate justly in the sphere over which he is given control and power. Otherwise he will be working against the entire system of the universe as well as against his own nature and will have to bear the consequences of such an action.

Thus it is an invitation to man to be faithful to his own

nature by obeying its laws and to the laws of the universe in using it for his benefit. This also shows that the Creator had intended that the wonders and mysteries of the universe be discovered by man so that through them he might know Him. Thus God wanted man to probe into the universe and unveil its secrets: "I was a hidden treasure, and I yearned to be known." And man's efforts to go beyond the bounds of the earth are perfectly in line with the intention of his Creator. Man has acquired through his efforts what the *Qur'an* had already invited him to make use of.

But whatever man does is in the Sight of God Who sees everything and knows everything: "In whatever business you may be, and whatever portion you may be reciting from the *Qur'an*, and whatever you may be doing. We are witness thereof when you are deeply engrossed therein. Nor is hidden from your Lord (so much as) the weight of an atom on the earth or in heaven. And not the least and not the greatest of these things but are recorded in a Clear Record." (10:61) And again in *Surah Al-Saba* we read: "He knows all that goes into the earth, and all that comes out thereof; all that comes down from the sky and all that ascends thereto... By Him Who knows the unseen, from Whom is not hidden the least little atom in the heavens or on the earth; nor is there anything less than that, or greater, but is in the Clear Record: that He may reward those who believe and do good deeds." (34:2-3) These verses clearly show that every movement in the universe is fully in the Knowledge of the Creator: "It is He Who is God in heaven and God on earth; and He is full of Wisdom and Knowledge. And blessed is He to Whom belongs the dominion of the heavens and earth and all between them; with Him is the Knowledge of the Hour (of Final Judgement): and to Him shall you be brought back." (43:84-85)

This is a unique and beautiful description of the nature and scope of the knowledge and Power of the Creator and the relationship between it and God's Silent Book, ie., His material universe and the world beyond it. The *Qur'an* has described the material universe and invited man to study and understand this wonderful world of God and, through it, to go beyond these material limitations and find the Realities behind the world of matter, its Creator, His Attributes and His Perfection, and then from all this to try to understand his own final Goal.

5. Relationship between Man and God

There is a very close relationship between man and God and there are no barriers in this relationship. God is closer to man than his own soul or jugular vein. (50:16) Therefore a man who is true to his own nature cannot deny Him or His Existence but must recognise Him according to his own reasoning. The denial of His Existence is, in fact, a denial of his own existence and nature. He is like one who has fallen from his own state of nature and will be lost or scattered into pieces by the wind (22:31) All his efforts will be in vain as far as his final end is concerned (11:16;39:65) His actions and works will be valued no more than scattered dust (14:18) just as a mirage in the desert is really nothing (24:39)

But for those who are true to their nature and, through their study and observation of the physical phenomena in the universe, come to the right conclusion about the general pattern, reach their destination safely. They will have the best of this life and the best of the life beyond this universe. They will be protected from all harm (2:201) and will be admitted to an eternal life of bliss. There they will find no distinction between individuals but on the basis of the piety and goodness that they attained in their worldly life (49:13).

Their souls will be completely protected from the influence of evil and they shall have neither fear of anything nor shall they grieve (2:62:2:112)

This Message of the *Qur'an* is universal (3:19–85) The same Message was given to the Messengers of God before Muhammad (42:13) that the Lord of the universe is One God and all mankind is a single brotherhood. (49:10) So no divisions should be made in Din (Way of Life) and brotherhood. This faith has destroyed all distinctions of race, colour and language and made virtue the basis of status (49:13) and banished all divisions of time and space and brought all mankind to one centre, unchangeable and unchanging – Tawhid (39:23;40:66) This Message is everlasting through all ages and offers justice that gives security to all alike, without distinguishing between aliens and relatives (4:135) or friend and foe (5:9) because mankind is one brotherhood living happily under the guarantee of security of their Lord. (21:92) It is a clear and open invitation to all to realise that they all belong to one community and have one common ancestor and one Way of living (Din), a Message that was given to all Messengers by the Creator. It is a remedy for all human evils of strife. Intolerance, narrow-mindedness and war, for it offers equality and freedom to all in matters of faith. (2:256)

6. *Qur'an's* Attitude to Matter

Introduction: In our previous discussion we have established how the material structure of the universe provides proof of the existence of God; the Unity of the standard of right and wrong, of good and evil; the unity of the universe; the unity of reasoning between the Supreme Mind (the Creator) and the human mind and the close relationship between the word of the *Qur'an* and the laws of the universe. In this section, an

effort will be made to explain the relationship between matter and human beings and how the Divine Soul has raised human status and given it new dimensions in the worlds both of matter and of spirit.

The *Qur'an* describes the origin of man in a simple way and shatters the theories and ideas of the secularists, which are based on mere guesswork and a few rotten bones. It clearly establishes the fact that the Creator of all forms and shapes is behind all affairs in this world. He is observing, controlling and directing it all the time. It does not teach blind materialism, that fails to see and feel the Hand of its Maker, but points to the eternal presence of God, Who is in full control of His Creation: "With Him are the keys of the unseen, the treasures that none knows but He. He knows whatever there is on the earth and in the sea. Not a leaf does fall but with His Knowledge. There is not a grain in the darkness (or depths) of the earth, nor anything fresh or dry (green or withered), but is inscribed in a Record Clear (to those who can read and understand)." (6:59)

Undoubtedly God's Knowledge comprehends everything that is on the earth or in the heavens. He gives attention to all the things, happenings and mysteries of the universe, and all things are fully recorded, arranged and classified in a definite way ordained by God. There is no slackness, delay or omission in His ordained methodology of work. And He pays equal attention to all things and leaves out nothing in His planning, however small or insignificant in the sight of people: "God disdains not to use the similitude of things, the lowest (as a gnat) as well as the highest." (2:26) All things are of importance in His Sight, whether they are small or great; they all form part of the material structure of the universe and play their role in it. It is only human beings that ignore such things or happenings in the universe and fail to

comprehend their significance or draw right conclusions from them. However, Islamic material sciences follow the guidance of the *Qur'an* and pay due attention to every small particle of matter, study it and draw right conclusions through knowledge and observation. These see clearly everything God has created in the universe and try to understand and comprehend its function and object as ordained by its Creator. Thus *Qur'anic* guidance and direction keeps the Muslim mind on the highroad of scientific enquiry and research and keeps it from falling into the ditches of superstition or the valleys of vain mythology or legends (as often happens in the world of art and poetry). It gives him the right direction through knowledge and helps him to draw the right conclusions through reasoning and observation of God's wonders and secrets in the material structure of the universe.

(a) The Wonder of Material Creation: The creation of man is a wonderful thing and the wonder is not in any way reduced even if he were created from a material or inanimate object. In a way, his creation from matter is a more wonderful feat of creation than his creation from some independent spirit or heavenly body. This is because the *Qur'an* emphasises the wonderful creation of the material structure itself and shows how the whole universe with its diverse features and designs is a marvel of God's creation. This material structure is full of innumerable wonders and secrets of God's Presence and the human mind cannot help believing in the Hand that lies behind this design.

Thus the material world and its multifarious wonders and mysteries are more inspiring to thought and to reason than the wonder of the creation of man (with a spirit hardly comprehensible). The *Qur'an* points to this reality in these words: "Assuredly the creation of the heavens and the earth is a greater (matter) than the creation of man: yet most men

understand not.” (40:57) This clearly shows that the material world of God, with all its stars and galaxies, contains far more of the wonders and mysteries of His Creation than does the creation of man. There are countless mysteries in the universe which man has not been able to comprehend but this does not mean that they don't exist. Likewise, mere lack of comprehension and understanding concerning God should not lead man to doubt or deny the existence of God.

These mysteries and secrets in the material world are the manifestations of God's Presence and the proof of His Existence. They bear testimony to the Grandeur and Omnipotence of their Creator. The *Qur'an* refers to this process of creation and its control in these words: “Is it not His to create and to govern?” (7:54) And in *Surah Al-Furqan* we read: “It is He Who created all things, and ordered them in due proportion (and measure).” (25:2) And in *Surah Al-A'la* we have these words: “Who has created, and given (to each created thing) its form and nature, and measure, and then gave it guidance.” (87:2–3) These verses clearly show that God is not only the Creator but also the Sovereign and Ruler. He is directing and controlling all the events in the universe and nothing can happen without His Command or Knowledge. And His Command is instantly obeyed and there is no question of disobedience: “And when He decides upon an affair, He says to it, ‘Be’, and it is.” (40:68) And in *Surah Ya Sin* we read: “Verily, when He intends a thing, His Command is, ‘Be’, and it is!” (36:82)

(b) The Creation of Man: The origin of man, like that of other life, belongs to the world of matter and observation. The *Qur'an* has used these material wonders and miracles of God's Creation to prove the Existence of the Creator. It has shattered into pieces the myth of the meanness of matter and its lowness as compared to the spirit. This idea of the

Greek and Hindu philosophers had darkened the vision of man and confused him by teaching the dogma of the blindness and lowness of matter as against the goodness and excellence of the spirit. The mind was completely misled from its right course of enquiry into the meaning of life. The *Qur'an* provided it with guidance as to how to study and interpret the story of life and its Creator properly and reach the right conclusion.

Modern science is still baffled by the mystery of life and its origin and is confused in its own methodology and reasoning and is following the wrong track and reaching the wrong conclusions. The scientific mind can get out of the complications with which it has entangled itself by observing this simple fact: the origin of life is neither more surprising nor greater nor more difficult to understand than the creation of the heavens and the earth. The whole universe with its wonders and mysteries points to its Creator. Man is a tiny creation. If God can create all those wonderful worlds of stars and galaxies, why can't He create man or any other form of life? Of course, Omnipotent God can create anything He likes. This is the way the *Qur'an* solves difficult problems in a simple and straightforward way. "Certainly the creation of the heavens and the earth is a greater (matter) than the creation of man but most men understand it not." (40:57) The *Qur'an* appeals to the people to think and reflect on the fact that God can create such a wonderful and huge world so why can't He create a tiny human being! "See they not that God, Who created the heavens and the earth, has the power to create the like of them (anew)?" (17:99) Then the *Qur'an* asks people for judgement: "Are they more difficult to create, or the (other) things We have created? We created them out of a sticky clay!" (37:11) The *Qur'an* then concludes the argument in these words: "What! Are you the more difficult to create or the heavens

(above)?" (79:27) And in *Surah Luqman* we read: "And your creation and your resurrection are only as (the creation and the raising of) a single soul." (31:28)

(c) *Qur'anic Reasoning*: In fact, there are no logical grounds for a scientific mind (or a religious mind) to differ from the reasoning of the *Qur'an* in finding the means by which life has come into matter, whether in the form of the plants or the higher life of animals or man, for it is all in response to the Command of the Creator. It should neither lower man's status nor belittle the Greatness of its Maker but, on the contrary, the creation of such a marvellous thing from clay should lead one to reflect on the Omnipotence of God Who has created man, whom everything else is commanded to obey and respond to and whom they are made to serve. This should also remove from the mind of man the idea that the material world is something mean and despicable and not fit for a noble being and the soul has been imprisoned in the material body as a punishment (as the Buddhist and Hindu Philosophies teach). The *Qur'an* has given us this new philosophy and science and man must now think on these lines and confirm it by observation and experiment. For the *Qur'anic* mind, nothing in the world, including life, is difficult to understand or is a cause of more surprise or wonder than anything else, because they are all the result of God's omnipotence. The scientific mind should not therefore feel more bewildered or inspired at the creation of life, or the human soul, than at the creation of anything else in the universe. It should be more surprised at the creation of matter because it was created out of nothing, whereas man, or life, was created out of matter.

The difficulty of the scientific mind is that it wants to solve all problems independently of God or His Order. It cannot go beyond the point where it is already standing: the

borderline between the inanimate and the animate, and investigate the latter, without referring to the Will or Command of God. In fact, the existence of the body and soul of man is evidence of the Presence of God, the Omnipotent Creator. As the process of creation and change in the physical world is the same as that in life, the *Qur'an* refers to the different forms of creation together: "And among His Sign is this: You see the earth barren and desolate; but when We send down rain to it, it is stirred to life and yields increase. Truly, He Who gives life to the (dead) earth can surely give life to (men) who are dead. For He has power over all things." (41:39) And in *Surah Ya Sin* we read: "And He makes comparisons for Us, and forgets his own (origin and) creation. He says: 'Who can give life to (dry) bones when they have decayed?' Say: He will give them life Who created them the first time! For He is Knower of every creature! Who has created for you fire out of the green tree, and behold! You kindle therewith (your own fires)! Is not He Who created the heavens and the earth able to create the like thereof?' Yes, indeed! For He is the Creator Supreme, of skill and Knowledge (infinite)!" (36:78-81)

The whole process of creation of human beings and their progeny is nicely explained in these words: "He began the creation of man with (nothing more than) clay, and made his progeny from a draught of despised fluid; then He fashioned him in due proportion and breathed into him something of His Spirit. And He gave you (the faculties of) hearing and sight and feeling (and understanding): Little thanks do you give!" (32:7-9) Man's status is raised by being inspired by God, which is his most important means of learning. The angels were commanded to obey him: "And when I have fashioned him (in due proportion), and breathed into him of My Spirit, fall you down in obedience to him." (15:29) This verse clearly points out the superiority of man over the

angels.

But, as explained earlier, the *Qur'an* sees the whole process of creation, as one and the same thing and as a material process in response to a direct Command from God. It grows and develops and different species maintain and continue themselves according to the laws made by their Creator; "O mankind! If you have a doubt about Resurrection, (consider) that We created you out of dust, then out of sperm...that We manifest (Our Power) to you." (22:5) Then man is reminded that the One Who created him has power to recreate him after his death: "From the (earth) did We create you, and into it shall We return you, and from it shall We bring you out once again." (20:55) This process of life continues with its wonders and mysteries at the Command of God. Man and his spirit are both creations by His Command and reveal the marvel of the Creation, a subject for the study and research of man, which should bring an immediate and automatic acknowledgement of the creative power of God.

The Command and Will of the Creator is the Origin and Source of all life, and of the designs for the formation of matter in the universe: this Command brings into being the process of formation: "It is God Who originates creation and repeats it: then how are you deluded away (from the Truth)? (10:34) And in *Surah Al-Ankabut* we read: "See they not how God originates creation, then repeats it: Truly that is easy for God." (29:19) The mysteries of creation may confuse the scientific mind but it is all easy for God, Who simply says 'Be' and everything is there.

The *Qur'an* also gives an explanation of this creative process: "To Him will be your return – all of you. The Promise of God is true and sure. It is He Who begins the process of creation, and repeats it, that He may reward with justice

those who believe and do good deeds; but those who reject Him will have draughts of boiling fluids, and a grievous penalty, because they did reject Him.” (10:4) Then in *Surah Al-Rum* we have these words: “ It is God Who begins (the process of) creation; then repeats it; then shall you be brought back to Him, On the Day that the Hour will be established, the guilty will be struck dumb with despair... Then those who believed and did good deeds, shall be made happy in a garden.” (30:11–15)

Thus, in a way, the *Qur'an* states the scientific fact of the process of creation. There should neither be humiliation nor a sense of meanness in the creation of life from matter, nor a denial of the Existence of the Creator. Only an empty mind or an unrealistic scientific mind can deny His Existence. The *Qur'an* gives the true picture of such minds in these words: “ Were they created of nothing, or were they themselves the creators? Or did they create the heavens and the earth? Nay, they have no firm belief. Or are the treasures of your Lord with them, or are they the managers (of affairs)? Or have they a ladder, by which they can (climb up to heaven and) listen (to the secrets)? Then let (such a) listener of theirs produce a clear proof... Or is it that the Unseen is in their hands, and they write it down?” (52:35–41) Without knowing and recognising the Reality of the phenomena in the universe, people often make stupid remarks: “ Or you cause the sky to fall in pieces, as you say (will happen), against us; or you bring God and the angels before us, face to face.” (17:92) Such remarks are uttered by those who are ignorant of the Grace and Mercy of their Lord.

(d) Man's Position Due to Learning: The *Qur'an* teaches that religious advancement is through the medium of learning. It has placed great emphasis upon learning. In fact the whole philosophy of the *Qur'an* is based on learning, which raises

human status. The Creator's first Command to man was to learn: "Read! In the name of your Lord, Who created – man, out of a (mere) clot of congealed blood. Read! And your Lord is Most Bountiful, – He Who taught (the use of) the pen – taught man that which he knew not." (96:1–5) Thus the very first Revelation to the Prophet Muhammad commands him to read and acquire knowledge of the Secrets and Attributes of God, because without it he cannot know God and the Secrets of His Omnipotence and Omniscience. This clearly shows that God intended man to know Him through His manifestations and wonders in the material universe. Then he was taught the secrets of the names of things in God's Creation and the rest of creation was ordered to obey him and cooperate with him in whatever he wanted them to do (2:31;7:11). Observation of the secrets of God's Creation in the material structure abolishes all distinction between material and spiritual and opens all the doors of progress to infinity. Through the study and understanding of this universe man can rise to any height of material, spiritual and moral excellence and to eternal bliss.

When man refuses to follow this line of action through the study of matter, he loses his status and falls into the depths of ignorance. Then he starts making unscientific interpretations of life and the universe, which are out of keeping with the *Qur'an*, and looks for other things to find faith in, as if the material world with all its wonders and marvels was not enough to give him faith in God. With this attitude he ignores the values of the material world and fails to see the wonders that are hidden in the physical world. This leads him to the world of imagination and illusion, away from the world of reality and the concrete facts of life which provide proof of the existence of God.

In fact the material structure presents to the human mind amazing and wonderful example of God's miraculous Power but most people ignore it: " And how many Signs in the heavens and the earth do they pass by? Yet they turn (their faces) away from them!" (12:105) And in *Surah Yunas* we read: " Say! 'Behold! All that is in the heavens and on earth;' but neither Signs nor Warners profit those who believe not." (10:101) Such people pass swiftly through the wonderful world of God without seeing or noticing His innumerable and widespread mysteries and secrets. They show total disregard of the material wonders which reveal God's Grandeur and Omniscience.

Man's superiority over the angels and other creatures was established on the basis of his having knowledge of the Attributes of God through the study of the physical phenomena in the universe. People who reflect on these marvels of God's creation and realise the benefits of the laws of the material universe on the one hand and see the invisible Hand of God behind all these on the other, will have real faith in the Existence of God. Thus the Unity of the learning of the *Qur'an* and of the sciences will be established. This will also banish all artificial barriers between belief in matter and belief in the spirit, because it will establish unity of thought and belief on the basis of material phenomena, showing thereby that the Source of everything, material and spiritual, is God and His Command or Will.

Reasoning: The *Qur'an* laid the basis of inductive reasoning. It brought man out of the ancient world of abstract thought which did not take him beyond the vague religious beliefs and abstract thinking and gave him the opportunity to take decisions based on the concrete situation of life through observation and reasoning.

The *Qur'an* also provides the necessary link between the ancient and the modern world. As far as the source of the revelation is concerned Muhammad stands in the old world; but as far as the spirit of his revelation is concerned he stands in the modern world. The modern world thus found the new philosophy of life suitable to meet and solve new situations from the *Qur'an*. This was the birth of inductive method of reasoning. It is the study of, and reflection on, the concrete that leads man beyond the physical boundaries of this universes. (55:33) Thus the *Qur'an* lays the basis of knowledge on the concrete facts visible through sense-perception.

The *Qur'an* constantly appeals to reason and lays emphasis on acquiring knowledge and experience from history (*tarikh*), physical world (*afaq*) and self (*anfus*) for God reveals His Signs in inner (*anfus*) as well as outer (*afaq* and *tarikh*) experience and it is the "duty of man to study and observe the knowledge yielding capacity of all aspects of human experience." However, it does not mean 'complete displacement of emotion by reason'. It simply means an encouragement to human 'critical' attitude towards mystic experience by showing him that the age of non-rational or supernatural decision has ended in human history and now he has to depend on his own personal resources for acquiring knowledge. This kind of attitude develops a psychological force against the growth of non-rational authority. This naturally opens up fresh areas of knowledge in the world of man's inner experience as well as outer experience through critical observation. The *Qur'an* has provided immense stimulus to man to tap the three important sources of knowledge: self, human history and the physical world.

The finality of the prophethood put a seal to the 'ready-made' and 'non-rational modes of consciousness'

through which psychic energy found its expression in the early stages of human development and opened the door for intellectual reasoning through observation and experience. The abolition of priesthood and hereditary kingship was another step towards this direction.

The Reality of time and the concept of life as a continuous movement in time is also given by the *Qur'an*. The thought of the universe as a mere "collection of finite things" and time as a "series of mutually exclusive moments" confuses the human mind and staggers the intellect for it leads man nowhere. Man must cross these barriers in order to achieve his real object and acquire a true conception of the universe. The *Qur'an* guides man to that end by showing him that his destiny is with God. (41:21;30:11) It definitely directs his energies and efforts in the right direction, pointing out to him that his destiny is not with the stars and the moon but with God, thus giving him scope for an infinite spiritual life. This offers him a long but successful intellectual journey to his final object – God Himself. This philosophy provides man with the possession and enjoyment of an infinite ideal, both in the world of pure intellect and in religious psychology, as against the finite and limited goal of the Greek. In other words, it proves the insufficiency of the static view of the universe and provides a dynamic rather than a fixed goal for man.

The *Qur'an* thus provides new dimensions to the human struggle in the world of space and time, dimensions which were totally unknown to any world-view before it. It conceives of a world of time and space which is continuously expanding, that is, the idea of a growing universe. Thus Muslim philosophy and thought grows and develops on a "Dynamic conception of the universe." (4)

4. Allama Muhammad Iqbal, *The Reconstruction of Religious Thought in Islam*, pp.124–45

The *Qur'an* gives some indication of another source of knowledge for man with reference to "Divine Time" as compared to "human time" in the study of history and emphasises that man should reflect on the experiences of past and present nations: "We sent Moses with Our Clear Signs (and the Command), 'Bring out your people from the depths of darkness into light, and teach them to remember the Days of God (*ayyam Allah*)'. Verily in this there are Signs for such as are firmly patient and constant, — grateful and appreciative." And in *Surah Al-A'raf* we read: "Of those We have created are people who direct (others) with Truth, and dispense justice therewith. (But as for) those who reject Our Signs, We shall gradually bring them down, in ways they perceive not; and though I grant them respite, verily My Plan is strong (and unfailing)." (7:181–183) And in *Surah Al-i-Imran* we have these words: "Many were the Ways of Life that have passed away before you; travel through the earth, and see what was the end of those who rejected Truth." (3:137) And in the same *Surah* we read: "If a wound has touched you, be sure a similar wound has touched the others. We alternate the days of success and reverses among people." (3:140) And the whole philosophy is summed up in these words: "Every nation has its fixed period." (7:34)

It may be added here that the interest of the *Qur'an* in history extends beyond the mere narration of historical generalisations. It has helped to evolve important principles of historical criticism in order to obtain accuracy in the recording of facts which form the material for the study of history as a science. The development of the historical sense in Islam is a very interesting subject. The *Qur'an* exhorts man to study and reflect on the history of nations and people in order to get exact information about events. This approach made history a true science.(4)

Dr Iqbal refers to the ultimate aim of man, which he can find through observing the Signs of God (Ultimate Reality) in "the Sun, the moon", the lengthening of shadows "the alternation of night and day", and "the diversity of human colour and language." In fact, the entire physical world, full of wonders and secrets which appeal to human sense-perception is a pointer to that Ultimate Reality. A believer must reflect on these Signs and study them and must not pass by them like a blind and deaf person; for if he does so he will fail to notice the Signs of life in these physical phenomena and will for ever remain blind to the Eternal Reality. Thus Islam, by emphasising the keen scrutiny and observation of the concrete facts in the universe and therefrom reaching the Final Truth, gave a death blow to the abstract thought of the Greek philosophers.

QURANIC SCIENCES

PART 1

1. Cosmology
2. Astronomy
3. Astrology
4. Physics
5. Mathematics

1

COSMOLOGY

Cosmology is the starting point of all sciences in Islam and it deals with the creation of the wonderful world of God, Who is One, both transcendent and immanent. "There is no deity but One God, and Muhammad is the Messenger of God." This doctrine is the central theme of all scientific knowledge, because, "All the cosmos was created by One God and, in spite of its vastness and hierarchic structure, reflects the Unity of God." The Qur'an mentions this great Reality of the Universe in these words, "God! there is no god but He, the Living, the Self-Subsisting, the Eternal. No slumber can sieze Him, nor sleep. His are all things in the heavens and the earth. Who is there Who can intercede in His Presence except with His Permission? He knows what (appears to His creatures as) before or after or behind them. Nor shall they compass anything of His Knowledge except what He wishes. His Throne extends over the heavens and the earth and He feels no fatigue in guarding and preserving them for He is the Most High, the Supreme in Glory." (2: 255)

This clearly shows that God is the Controlling Authority, the Central point in the Cosmos, and that the latter "is directly related to the principles of the Islamic Revelation and to the metaphysics which issues forth from the esoteric Message of the Qur'an and the inner teachings of the prophet which are its complements." (1) The study of the cosmos ultimately

brings man back to where he started : the knowledge of God's Unity and that the whole universe is under His direct Command and Control and that He is fully aware of what is happening on the earth and in the heavens. "He it is Who Created the heavens and the earth in six periods, and is firmly established on the Throne (of Authority). He knows what enters within the earth and what comes forth out of it, what comes down from heaven and what mounts up to it. And He is with you wheresoever you may be. And God sees well all that you do. To Him belongs the Dominion of the heavens and the earth; and all affairs are referred back to God. He merges night into day, and He merges day into night; and He has full knowledge of the secrets of all hearts." (57: 4-5)

There is nothing in the heavens or in the earth that is hidden from God. "And verily your Lord knows all that their hearts do hide as well as what they reveal. Nor is there anything of the unseen, in heaven or earth, but is recorded in a clear record." (27: 74-75) Again, in Surah Yunus, we read these words, "And you are not occupied with any business and you recite not anything from this (Qur'an), and you perform no act but We are witness of you when you are engaged therein. And not an atom's weight in the earth or in the heaven escapes your Lord, nor what is less than that or greater than that, but it is (written) in a clear Book." (10: 61) A glimpse of the extent and vastness of God's Knowledge is reflected in the following verse of the Qur'an. "Have you not seen that God knows all that is in the heavens and all that is in the earth? There is not a secret conference of three but He is their fourth, nor of five but He is their sixth, nor of less than that or more but He is with them wheresoever they may be." (58: 7)

1. Islamic Science, p. 28-36.

The study of the Qur'an encouraged knowledge and research which led to the growth of many sciences, depicting and revealing diverse aspects of the cosmos, but these sciences were completely united through the perception of a universe created, controlled and directed by One God. As a result of this, "In all diverse forms, Islamic cosmology and cosmography have served as background, matrix and principle for the various Islamic sciences from geography to alchemy. They have made possible the linking of the particular sciences to the principles of Islamic Revelation and the creation of an integral civilisation by Islam in which the various sciences have been cultivated without disrupting its unity, a civilisation in which nature has been studied without destroying the harmony between man and his natural and cosmic environment." (1)

The Qur'an refers to the basic process of the formation of the universe and the consequent composition of the worlds in these worlds, "Then He turned to the heaven when it was smoke, and said to it and to the earth, "Come both of you, willingly or unwillingly." They said, "We (both) come in willing obedience." Then He completed them as seven heavens in two periods and He assigned to each heaven its duty and command. And We adorned the lower heaven with lights (of stars), and (provided it) with guard (in the form of atmosphere). This is the Decree of Him, the exalted in Might, full of Knowledge." (41: 11-12) There is again a reference to the process of the formation of the universe in these words, "Do not those who disbelieve know that the heavens and the earth were of one piece, then We parted them, and We made everything of water? Will they not then believe?" (21: 30)

The Qur'an mentions the creation of seven heavens on many occasions but we do not really understand the significance of "seven heavens". Does the number 'seven' mean the exact

number of heavens or does it refer to the fact of plurality of "heavens". The Qur'an does use figures to denote the plurality of a thing. Then what is the significance of 'heavens'? Does it refer to 'seven universes' or 'seven galaxies'? Anyway, the number "seven" does present the idea of the plurality, hugeness and immensity of God's Creation. (2) It is mentioned in Surah Al-Baqarah in these words, "It is He Who created for you all that is in the earth. Then He turned to the heavens, and fashioned them as seven heavens." And in Surah Al-Talaq we read, "God it is Who has created seven heavens, and of the earth the like thereof. The Commandment comes down among them slowly, that you may know that God is able to do all things and that God surrounds all things in Knowledge." (65: 12) And in Surah Nuh we have these words "See you not how God has created seven heavens in harmony? And has made the moon a light therein, and made the sun a lamp." (71:15) And in Surah Al-Mu'minun we read, "And We have created above you seven paths, and We are never unmindful of creation." (23: 17)

Another thing that we observe in the Creation, as is pointed out by the last verse, is the great proportion and harmony in the entire universe. There is a sense of unity, Oneness and extreme harmony in it all, showing the Oneness of the Law which they are all observing, "Who has created seven heavens in harmony. You can see no fault in the creation of the Beneficent; then look again: can you see any rift? Then look again and yet again, your sight will return to you weakened and weary." (67: 3-4) This points to the fundamental and universal Reality and Truth in the Cosmos that all creation, big or small, animate and inanimate, visible and invisible, anywhere in the universe, obeys One Law of One Creator and

2. A. Yusuf Ali, The Holy Qur'an, pp. 1191-1567.

Sovereign. "Verily, Your Lord is God Who created the heavens and the earth in six periods, then mounted the Throne (of Authority). He covers the night with the day, which is in haste to follow, and has made the sun and the moon and the stars all governed by Laws under His Command. Is it not His to Create and Command?" (7: 54) And in Surah Yunus we read, "Verily your Lord is God Who created the heavens and the earth in six periods, then established Himself upon the Throne (of Authority), regulating and directing all things." (10: 3) And again, we have these words, "God it is Who raised up the heavens without visible supports, then mounted the Throne (of Authority), and compelled the sun and the moon to His Law. Each runs (its course) for a term appointed. He orders the course, He reveals in detail, that you may believe with certainty in the meeting with your Lord." (13: 2)

These verses of the Qur'an leave no doubt that all things in the heavens and the earth follow the One Law of their Lord. They all obey the Decree of their Lord without hesitation. The Qur'an mentions this in these words, "And to God falls prostrate (in obedience) whosoever is in the heavens and the earth, willingly or unwillingly, as do their shadows in the morning hours." (13: 15) And in Surah Al-Nuh we read, "And to God makes prostration whatsoever is in the heavens and whatsoever is in the earth of living creatures, and the angels (also), and they are not proud. They fear their Lord above them, and do what they are commanded." (16: 49-50) And the same is mentioned in Surah Al-Hajj, in greater detail, "Have you not seen that to God pays adoration whosoever is in the heavens and whosoever is in the earth, and the sun, and the moon, and the beasts, and many of mankind. But there are many to whom doom is justly due. He whom God scorns, there is none to give him honour. Verily God does what He pleases." (22: 18) All these verses of the Qur'an establish

beyond doubt that the whole creation is a Unity and follows the One Law of its Creator, otherwise there could not be harmony, balance and perfect proportion without any defect anywhere. There is complete cooperation and accord between the various parts of the universe and all work in harmony, complementing each others' function.

In this process of creation the *Qur'an* mentions three separate levels of God's creation : in the heavens, on the earth and between the heavens and the earth. " To Him (God) belongs whatsoever is in the heavens and whosoever is on the earth and whatsoever is between them, and whatsoever is beneath the soil. " (20:6) (3) And in *Surah Qaf*, we have these words, " And verily We created the heavens and the earth, and all that is between them, in six periods, and nothing of weariness touches Us." (50:38) In *Surah Al-Furqan* we read, " We created the heavens and the earth and all that is between them in six periods, then mounted the Throne (of Authority)." (25:59,32-4) The same is referred to in another context in these words, " We created not the heavens and the earth and all that is between them but with Truth." (15:85)

All these verses together provide the following main facts. First the whole Creation was created during some period of time, here mentioned as six days (or periods). Second, there seems to be overlapping in the creation of the heavens and the earth. Third, the original creation of the universe was from some mass which was later split up into parts. Fourth, the process of creation suggests plurality of the heavens and the earth. Fifth, it also suggests an intermediary stage between the creation of the heavens and the earth. (1)

3. Maurice Bucaille, *The Bible, the Qur'an, and Science*, pp.141-42.

There is also a reference in the *Qur'an* to the possibility of man's breaking the barriers of the earth and entering the cosmos. " O You assembly of Jinn and men! If you have power to penetrate (all) regions of the heavens and the earth, then penetrate (them) ! You will never penetrate them but with strength or authority." (55:53) Thus the *Qur'an* invites and challenges man, through its revolutionary philosophy and ideas, to leave aside his prejudices, superstitions and ignorant ways of living and face Reality with an open mind, reflect, think and ponder. This acts as a stirrup for man and opens up new horizons of Knowledge for him. " Here indeed are Signs for a people who are wise and understand." (2:164;13:4;16:67) ; " Who reflect and ponder " (6:65;6:98;9:81); " who consider, contemplate and meditate" (2:266;10:24;45:13);" who see, perceive and penetrate " (7:185;30:9;50:6) Those who know are really men of knowledge and learning, for they see, reflect and ponder over the wonders of their Lord's Creation and understand its significance and learn lessons of great value, and say, " You have not created all this in vain. Glory be to you! Preserve us from the doom of fire." (3:191;38:27)

GENERAL OBSERVATIONS ON THE COSMOS

The *Qur'an* makes general observations on the cosmos in these words, " He created the heavens without any pillars that you can see." (31:10;13:2) And in *Surah Qaf*, " Do they not look at the sky above them ? How We have made it and adorned it, and there are no gaps in it?" (50:6) And in *Surah Al-Baqarah*, " It is He Who created for you all things that are on the earth; then He turned to the heavens and fashioned it as seven heavens." (2:29)

There is strict discipline and order in the heavens and all celestial bodies are subject to the Divine Laws of the

Sovereign Lord. “ (O Prophet)! Say: ‘ Who is the Lord of the seven heavens and the Lord of the Throne (of Glory) Supreme? ” (23:86) And in *Surah Rum*, “ To Him belongs everything that is in the heavens and on the earth; all are devoutly obedient to Him. ” (30:26) And again in *Surah Ibrahim*, “ And He has made subservient to you the sun and the moon both diligently pursuing their courses; and the night and day has He (also) made subservient to you.” (14:33;55:5 and 45:13)

Fixed stations (ie., phases) are appointed for the moon. “ It is He Who made the sun to be a shining glory and the moon to be a light; and measured out stages for her.” (10:5) And in *Surah Ya’sin*; “ And the moon We have measured for her stages (or stations to traverse) till she returns like the old (and withered) lower part of a date-stalk.” (36:39)

SUBJECT TO MAN’S USE

God has placed all these celestial bodies in the service of man: “ He has subjected to you the night and the day; the sun and the moon; and the stars are in subjection by His Command; surely in these are Signs for men who are wise.” (16:12) (And in *Surah Al-An’am*, “ It is He Who makes the stars (as beacons) for you , that you may guide yourselves, with their help, through the dark spaces of land and sea. We detail Our Signs for people who know.” }6:97)

The Qur’an also refers to the nature of the heavenly bodies. “ Blessed is He Who made constellations in the skies, and placed therein a lamp and a moon giving light.” (25:61) And in *Surah Nuh*, “ See you not how God has created the seven heavens, one above another, and made the sun as a (glorious) lamp?” (71:15-16) Again in *Surah Al-Nabaa*, “ And (have We not) built over you the seven strong heavens, and placed

(therein) a blazing lamp?" (78:12-13) The *Qur'an* refers to the sequence of night and day in a way that totally rejects the old belief that the earth is the centre of the universe. "He draws the night as a veil over the day, each seeking the other in rapid succession." (7:51) And in *Surah Al-Zumar*, "He makes the night overlap the day, and the day overlap the night." (39:5) Again in *Surah Ya'sin*, "And a Sign for them in the night; We withdraw therefrom the day, and behold they are plunged in darkness." (36:37) And in *Surah Al-Fatir*, "He merges night into day, and He merges day into night." (22:61)

Then the *Qur'an* mentions the world of stars in its own peculiar manner. ("And the stars, all governed by the laws under His Command. Is it not His to create and to govern?" (7:51) And in *Surah Al-Tur*, "And also you praise him for part of the night – and at the retreat (dawn) of the stars." (52:75) And in *Surah Al-Tariq* : "By the sky and the night-visitor; and what will explain to you what the night-visitor is? It is the star of piercing brightness." (86:1-3) Shooting stars are referred to in *Surah Al-Saffat*, "And they are pursued by a flaming fire of piercing brightness." (37:10)

Seven celestial bodies are referred to on various occasions in the *Qur'an* but in different contexts, "And He gave order and perfection to the seven heavens (possibly planets)." (2:29) And in *Surah Al-Muminun*, "And We have made above you seven tracts (possibly planets); and We are not unmindful of Our Creation." (23:17) And in *Surah Ha-Mim*, "So He completed them as seven heavens in two days, and He assigned to each heaven its duty and command." (41:12) And in *Surah Al-Mulk*, "He Who created the seven heavens one above another; no want of proportion will you see in the Creation of (God) Most Gracious. So turn your vision again; do you see any flaw?" (67:3) And in the same *Surah*,

“ And We have adorned the lowest heaven with lamps, and We have made such lamps as missiles to drive away the evil ones.” (67:5)

The *Qur'an* also mentions something which could possibly be called earth's atmosphere. “ And We adorned the lower heaven with lights, and (provided it) with guard.” (41:12) And in *Surah Al-Hijr*, { “ It is He Who has divided the heavens into many fortified spheres (zodiacal signs) for the sake of administration and efficient operation and adorned and decked them out fair to the beholders, and guarded them from every accursed Satan.” (15:16-17) } Again in *Surah Al-Saffat*, “ We have indeed adorned the lower heaven with beauty in the stars, and for guard against all obstinate rebellious evil spirits.” (37:6-7)

The orbits of the sun and the moon are also mentioned in several passages of the *Qur'an*. “ It is He Who created the night and the day, and the sun and the moon; all the celestial bodies swim along, each in its orbit with its own motion.” (21:33) Again in *Surah Ya'sin*, “ It is not permitted to the sun to catch up the moon, nor can the night outstrip the day; each (just) swims along in its own orbit (according) to the Divine Decree.” (36:40) And in *Surah Al-Ra'd*, “ He has subjected the sun and the moon (to His Law) ! Each one runs (its course) for a term appointed.” (13:2;31:19)

THE HEAVENS, THEIR EVOLUTION AND EXPANSION:

There are many passages in the *Qur'an* which make reference to the appointed term and 'fixed place' for the heavenly bodies, such as the sun and the moon. This suggests that these two have completed their evolution and have reached their fixed place. (13:2;31:19; and 35:13) Some passages in the *Qur'an* give the impression that the Universe is expanding

all the time. {“ With power and skill, We created the Heaven, and We are expanding it.” (51:47) } The *Qur'an* also suggests that man can penetrate the heavens. “ O you assembly of jinn and men.’ If it be you can pass beyond the zones of the heavens and the earth, pass you! (But) not without authority (or power) shall you be able to pass!.” (55:33) Man is awe-struck at the wonderful and boundless world of God and the immensity of its space. “ Even if We opened out to them a gate from Heaven, and they were to continue (for a long period of time) ascending therein, they would only say, “Our eyes have been intoxicated; nay, we have been bewitched by sorcery (at the sight) of the miraculous Universe of God.” (15:14-15)

The study of astronomy, more than any other subject, reminds man of the immense vastness of the Universe and the Might and Power of its Creator. All this multitude of heavens and celestial bodies is controlled and operated in a very disciplined and orderly way. There is perfect order and unity of purpose, which glaringly suggests the presence of a Creator who is all the time controlling, directing and managing the whole thing. The style throughout is, as usual, admonitory, inviting man to the Eternal system of Divine Worship and to the Way of His Messengers, but occasionally dropping a few hints here and there for human guidance regarding the affairs of the Universe. However, the nature and object of this digressive informative Knowledge is admonitory, so that man may always remember that the Islamic sciences are not themselves as important as the conclusion to which they lead him: obedience to the Creator and Controller of this Universe.

2

ASTRONOMY

(Astronomy is “ the science which deals with the distribution, motions, and characteristics of the heavenly bodies.”)(1) It is probably the most ancient of the physical sciences. The process of creation, discussed in the chapter on Cosmology, must have given some idea of the vastness and hugeness of the wonderful world of God. It has also shown the multiplicity of the heavens and the earth and also that there was an intermediary state in the process of creation between the creation of the heavens and the earth. (2)

We may here mention that the *Qur'an* is a book neither of astronomy nor of astrology and should not be studied as such. All these amazing manifestations in the physical world in various forms : the process of creation, the distribution of the universe into various heavens, the motion of heavenly bodies and their special characteristics, are described in the *Qur'an* not to give lessons in astronomy or astrology, but as a reflection on the Glory, Grandeur, Control and Organisation of the Creator. They suggest a marvellous sense of balance and harmony between the movements of different heavenly bodies, individually as well as in relation to the whole universe. It points to the absolutely fantastic organisation and discipline in the universe, all revealing one fundamental Truth, the Unity of the Law controlling the universe. This, however, leads to Unity of Control and Direction — the Unity of the Creator (*Tawhid*).

1. *Encyclopaedia Britannica*, 9th Edition

2. *The Bible, the Qur'an and science*, Chapter IV.

There are many verses of the *Qur'an* which give some idea of the multiplicity of the heavens and the earth. The *Qur'an* invites the attention of people towards the heavens in these words, [" Do they not look at the sky above them? How We have made it and adorned it, and there are no flaws in it?" (50:6)] The fact of the heavens standing without any support is mentioned in these words, " God is He Who raised the heavens without any pillars that you can see; and is firmly established on the Throne (of Authority); He has subjected the sun and the moon (to His Law)." (13:2) And again, we read these words, " He created the heavens without any pillars that you can see." (31:10) In *Surah Nazi'at*, we read, " On high has He raised its canopy (the heavens), and He has given it order and perfection." (79:28) In *Surah Al-Rahman* there are these words, " And the sky has He raised high and He has set up the balance (between various heavenly bodies)." (55:7)

There are several passages in the *Qur'an* which describe the wonderful Creation of God, the heavens and the earth and celestial phenomena in general as explained in the chapter on Cosmology. All these draw human attention to the Glory of God and show that all the universe, with its immense space and unlimited number of celestial bodies, which seems so huge in comparison with man's world and beyond his comprehension, is just a tiny part of the Kingdom of God. He is advised to " take a lesson in astronomy. How many spiritual journeys we can make into God's miraculous phenomena in this universe, which is simultaneously huge and orderly ! Our minds, as well as our finest and most developed machinery, fail to reach the depths of its vastness, or conceive the hugeness of its stars and planets, or comprehend the miraculous precision in their undisturbed circulation." (3)

3. Muhammad Qutb, Makkah conference.

The organisation and control of the heavenly bodies stretches human understanding, and, even imagination, beyond their ability. The *Qur'an* refers to this wonderful world of order and balance in these words, " Say, who is the Lord of seven heavens and the Lord of the Throne (of Glory) Supreme? ...Say, Who is it in Whose Hands is the dominion over all things?" (23:86-88) In *Surah Al-Rahman* we read, " The sun and the moon follow courses (exactly) computed." (55:5) The object of the motions of the sun and the moon is described thus : " He makes the night for rest and peace, and the sun and the moon for the reckoning of time: Such is the judgement and ordering of Him, the exalted in Power, All-Knowing." (6:96) And the reasoning behind the motions of the stars is explained in these words, " It is He Who makes the stars (as beacons) for you, that you may guide yourselves with their help, through the dark spaces of land and sea. We detail Our Signs for people who know." (6:97) Again, the order of their organisation is stated in these words, " And He has made subject to you the sun and the moon, both diligently pursuing their courses." (14:33) Then *Qur'an* invites human attention to the strict order, discipline and organisation of the heavenly bodies and to their miraculous movements in great precision and regularity, which contain Signs for those who think, ponder and reflect. (45:13) Such verses of the *Qur'an* surely stimulate scientific research and astronomical studies to discover more information about the Creation, characteristics and behaviour of the heavenly bodies, and the nature and effects of their movements, and their influence on physical phenomena. The more we reflect on the Signs of God in the heavens and the earth, the closer we come to the Creator of this wonderful world. The *Qur'an* confirms this in these words, " Those truly fear God, among His servants, who have knowledge." (35:28) And in *Surah Al-Rum*, we read, " Verily in that are Signs for those who know." (30:22) And " those who listen " (30:23) and

“those who are wise and understand.” (30:24-28)

And yet again we read about the movements of the heavenly bodies in a set course, {“And the sun runs its course for a period determined for it: that is the Decree of Him...And the moon, We have measured for her mansions (to traverse) till she returns like an old (and withered) palm branch. It is not permitted to the sun to catch up the moon, nor can the night outstrip the day; each just swims along in its own orbit (according to the Law of the Lord).” (36:38-40)} It is He Who made the sun to be a shining glory and the moon to be a light, and measured out stages for her; that you might know the number of years and the count of time...Thus does God explain His Signs in detail for those who know and understand. Verily, in the alternation of the night and the day, and in all that God has created, in the heavens and the earth, are Signs for those who fear Him.” (10:5-6) God’s Sign-posts are everywhere for those who have eyes to see and hearts to ponder. “And marks and sign-posts; and by the stars people guide themselves.” (16:16)

So far we have quoted verses of the *Qur’an* which describe the plurality and multiplicity of the heavens and the earth, and the balanced and controlled movements of the heavenly bodies in extreme precision and regularity according to the Law of their Creator. Now we quote passages from the *Qur’an* which describe the nature and characteristics of the various heavenly bodies. The *Qur’an* mentions the nature of the sun and the moon in these words, “Blessed is He Who has made constellations in the skies, and placed therein a lamp (ie., the sun) and a moon giving light.” (25:61) In *Surah Nuh*, we read, “See you not how God has created the seven heavens, one above another, and made the moon a light in their midst, and made the sun as a glorious lamp?” (71:15-16)

The Qur'an mentions the brightness of the stars in these words, {"By the heaven and the morning star. Ah, what will tell you what the morning star is? It is the star of piercing brightness." (89: 1-3)} Shooting stars are referred in these words, "And they are pursued by a flaming fire, of piercing brightness." (37:10) And in Surah Al-Jinn we read, "And we sought the secrets of the heavens; but we found with strict guards and flaming fires . . . and any who listens now will find a flaming fire watching him in ambush." (72: 8-9)

The Qur'an refers to the planets in a general way, without definitely pointing out the existence of any one in particular. This is because the Qur'an is not a book of astronomy, nor does it give lessons on astronomy, as pointed out before, but is a Divine Book for human guidance in the life of this world. As such, it mentions certain astronomical facts in its own way to invite human attention to the Glory of the Creator of this wonderful world of stars and other heavenly bodies, so that they may reflect on His Signs and find the true guidance from them, "Verily, We have adorned the lower heaven with ornaments, the planets." (37: 6) Again, it mentions the planets, when the universe will be destroyed and everything in it, {"When the heaven is cleft asunder, and the planets are split and scattered." (82: 1-2)} The comparison of the light of the planets with something else in the following quotation is an enternal example of the grace and beauty of Qura'nic description and its language. "God is the Light of the heavens and the earth. The parable of His Light is as a niche wherein is a lamp. The lamp is in a glass. The glass is, as it were, a planet glittering like a pearl. This lamp is kindled from a blessed tree, an olive, neither of the east nor of the west, whose oil would almost glow forth (of itself) though no fire touched it. Light upon Light. God guides to His Light whom He pleases. God sets forth parables for men, for God knows all things." (24: 35) The Qur'an also refers to

the solar system and its wonderful discipline and the unity of its operational Law. In Surah Al-Anbiyah, we read, "And it is He Who created the night and the day, and the sun and the moon. They float around (their own axes), each (strictly remaining) in its own orbit." (21: 33) They follow their own course in their own orbit without any diversion to any side. "It is not permitted to the sun to catch up the moon, nor can the night outstrip the day. Each just floats in its own orbit (according to the Divine Law)." (36: 40) These verses of the Qur'an suggest the existence of their orbits as well. Then the sequence of day and night also suggests the idea of seasons, and the different points of the rising and setting of the sun suggest the involvement of vast distances between the points. "He draws the night as a veil over the day, each seeking the other in rapid succession." (7: 54) (4) In Surah Luqman, we read, "See you not that God merges night into day and He merges day into night." (31: 29) And in Surah Al-Zumar, we have these words, "He makes the night overlap the day, and the day overlap the night." (39: 5) And in Surah Ya Sin, we read, "And a Sign for them is the night; We withdraw therefrom the day, and behold they are plunged in darkness." (36: 33)

All these verses of the Qur'an point to one Eternal Reality, that all these heavenly bodies and physical phenomena that we daily observe are subject to the Law of God. Nothing in the universe is happening on its own or merely by an automatic process of natural routine (as a natural consequence of evolution), but is controlled and directed by God and follows a set discipline and course determined by its Creator and Sovereign. Nothing happens or can happen without His Knowledge or Will and everything is running its course according to a definite and determined plan of its

4. The Bible, The Qur'an and Science, pp. 163-64.

Master. "With Him are the keys of the Unseen, the treasures that none knows but He. He knows whatever there is on the earth and in the sea. Not a leaf falls but with His Knowledge: There is not a grain in the darkness (or depths) of the earth, nor anything fresh or dry (green or withered), but is (inscribed) in a Record clear to those who can read." (6: 59) And in Surah Al-Hujurat, we read, "But God knows all that is in the heavens and on the earth. He has full Knowledge of all things." (49: 16) Thus the Creator is in full control of everything in the universe and directs its affairs all the time and nothing happens without His Command. This dispels all the theories and false ideas of the naturalists (and the secularists) that all physical phenomena happen in Nature according to the self-controlled and self-adjusting law of Nature. There is no such thing, as we have already pointed out, as Nature and natural Law. It is an abuse of the Name of God, Who controls and directs all events according to His Law.

Vast distances of space may be seen from the following verses of the Qur'an. "Would that between me and you were the distance of east and west." (43: 38) In Surah Al-Ma'arij, we read, "Now I do call to witness and the Lord of all points in the east and the west." (70: 40) And in Surah Al-Rahman, we have "He is Lord of the two easts and the Lord of the two wests." (55: 17) These suggest the extreme points of the rising and setting of the sun. The Qur'an also suggests some evolutionary stage in the creation of the solar system as well as of the universe. "He has subjected the sun and the moon (to His Law), each running its course for an appointed term." (31: 29-2) And the following verse even suggests the sun running its course to a definite place of its own." (3) (And the sun runs its course for a period determined for it; that is the Decree of Him, the Exalted." (36:38)]

Another idea suggested by the Qur'an is that the universe is constantly expanding. "With power and skill did We build the heavens, for it is We Who create the vastness of space." (51: 47) It also refers to the possibility of man conquering and going beyond the limits of his world, "O Compnay of Jinn and men! if you can penetrate (all) regions of the heavens and the earth, then penetrate (them)! You will never penetrate them but with power or authority." (55: 33)

All these and other similar passages in the Qur'an invite man's attention to the study of the universe around them and stimulate astronomical research to find the wonders of their Lord's Creation and not to deny His Existence but to strengthen their faith in Him and in His Sovereignty over all the universe. Another factor which brings into focus the practical importance of the study of astronomy to the Muslims is the "cosmic dimension of Islamic Worship" in its various forms. The times of the daily prayers and fasting have to be fixed for the whole year for all the places and countries inhabited by Muslims; and the direction of the qibla has also to be determined for every place where the Muslims live or travel to. In other words, in practice, the times and direction of the qibla have to be fixed for all countries for the convenience of the local resident Muslims and the travellers. Thus, both religious need and the mystical and awe-inspring wonderful cosmos of stars and other celestial creations of God provided the early Muslims with a strong incentive to study and organise research in this subject. (5)

The study of astronomy, more than any other subject, reminds man of the immense vastness of the universe and the Might and Power of its Creator. All this multitude of heavens and celestial bodies is controlled and directed in a very

5: Islamic Science, pp. 92-93.

disciplined and orderly way. There is a perfect order and unity of purpose, which glaringly suggests the Presence of the Creator Who is all the time controlling, directing and managing the whole affair. The style throughout is, as usual for a Book of Guidance, admonitory, inviting man to the eternal system of Divine Worship and to the Way of His Messengers, but occasionally dropping a few lines here and there depicting the glory and Majesty of His Lordship in the physical world. However, the nature and object of these digressions into informative knowledge are admonitory, so that man may always remember that the sciences are not themselves as important as the conclusions to which they lead: the need for obedience to the Law of the Creator and Master of the universe.

It is therefore no surprise that Islamic civilisation produced well-known astronomers such as Al-Biruni, Nasir al-Din al-Tusi, Qutb al-Din al-Shirazi, Habash al-Hasib, Banu Musa, Abu Ma'shar al-Balkhi, Muhammad Ibn Musa Al-Khwarzmi, Al-Farghani (Alfraganus), Al-Nayrizi (Anaritius), Abu Abdullah al-Battani (Albategrius), Abu Sahl al-Kuhi, Abd al-Rahman al-Sufi, Ibn Yunus, Ibn al-Haytham (Alhazem), Abdul Rahman Al-Khazini, Al-Zarqali (Azarquiel), Abu Bakr Ibn Tufayle, Nur al-Din al-Bitruji (Alpetragius), Mu'ayyid al-Din al-Urdi, Mahyi al-Din Al-Maghribi, Ghiyath al-Din Jamshid al-Kashani, Ulugh Beg, Qadi-zadah Rumi, Ali Ibn Amajur (Banu Amajur) and Abdul Hassan.

3

ASTROLOGY

Astrology was indentified with astronomy for ages in the past and people "attempted to assign to the material heavens a moral influence over the earth and its inhabitants . . .

Astrology is generally divided into natural astrology, the science which pradiicts the motions of heavenly bodies and eclipses of sun and moon, and judicial astrology, which studies the influence of the constellations on the destiny of men and empires." (1) }

Well-known Muslim astrologers, who were also astronomers, practised and studied astrology as a science, without indulging in predicting, on the basis of the movements of the heavenly bodies their evil influence on men or events on the earth. } "It was in fact the profound symbolism inherent in astrology which made its integration into Islamic civilisation, and especially into certain aspects of Islamic esotericism, possible, despite the obvious external difference between the astrological attempt to predict future events and the Islamic emphasis upon the omnipotent character of the Divine Will." (2) }

The majority of Muslim scientists denounced the judicial side (i.e., foretelling future events) of astrology and demonstrated that it had no scientific basis. Famous Muslim scholars and

scientists opposed this function of astrology and they included men like Abu Sina (Avicenna), Ibn Rushd (Averroes), Al-Ghazzali, Al-Biruni; and Nasr Al-Din al-Tusi. Many of them were attracted only to the cosmological symbolism of astrology and abstained from casting horoscopes and foretelling the future of individuals. (2) There is no doubt that common astrologers in seeking their livelihood or worldly reputation, did use and practise this side of astrology, "but on the highest level, namely in metaphysical and gnostic works, the powerful symbolism of astrology has been integrated perfectly into Islamic esotericism. In these works, astrology is revealed to be, in its symbolic aspect, a means whereby man rediscovers his own cosmic dimension and becomes aware of his own angelic and archetypal reality and the influence of this reality upon his terrestrial existence." (2)

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1. Encyclopaedia Britannica, Vol. 11.
 2. Islamic Science, pp. 126-31.

PHYSICS

Natural science is generally "understood to refer to the study of organised bodies and their development, while physical science (or physics) investigates those phenomena primarily which are observed in things without life." (1) In Islamic sciences, there was no such distinction, and the study of physics formed a part of the principles of natural philosophy and were discussed by famous Muslim scientists, under the heading 'natural philosophy'. Ibn Sina discussed this subject extensively in his Shifa (cure) and also in fann (scientific technique). Al-Kindi, Nasr Al-Tusi, Ali-Riza, Al-Biruni, al-Baghdadi, Mulla Sadra and Sabziwari also wrote on this subject in their scientific works. Muslim scientists, theologians, and even gnostics, took great interest in the principles of natural philosophy because of the tremendous interest the Qur'an had created in it through its description of the wonderful world of God. Among other things, they showed great interest in "such questions as the nature of time, space, matter and motion. As a result, several different schools of thought developed concerning the principles of physics and natural philosophy itself, schools experimenting with natural forces and those which sought to provide a purely symbolical science of the natural world and to aid man in the contemplation of nature as the theophany of Divine Names and Qualities, of Realities which stand above and beyond nature." (2) Ibn Sina, Al-ma'sumi, Al-Nazzam

and Al-Baqillani highlighted the most important and basic questions on this subject "which reveal the profundity with which the basic concepts of physics of the day were discussed and analysed." The last two mentioned above " were more directly interested in questions of physics and their writings contain numerous pages devoted to a 'philosophy of nature' based upon the atomistic point of view." (2)

However, the source of incentive to all research on this subject, as on other subjects, was the Qur'anic studies. The Qur'an has dealt very extensively with the physical world in various ways which bring home to man Glory and Majesty of God, as has already been discussed and explained in the section on astronomy. These descriptions of the physical world greatly influenced the early Muslims, who became pioneers in formulating the principles of natural philosophy. The Power and Majesty of the Creator is explained earlier (2: 255), and a beautiful passage of immense significance in the physical and philosophical world, which gives some information about the nature of God, the Creator, is given here: "God is the Light of the heavens and the earth. The parable of the Light is as if there were a niche and within it a lamp: the lamp enclosed in glass; the glass as it were, a brilliant star (or planet); lit from a blessed tree, an olive, neither of the east nor of the west, whose oil would almost glow forth (of itself) though no fire touched it. Light upon light. God guides to His Light whom He pleases. And God speaks to mankind in parables, for God is the Knower of all things." (24: 35)

This passage gives some idea of the nature and extent of the universe and its Creator. It has been the source of inspiration

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1. Encyclopaedia Britannica, Vol. XIX.
 2. Islamic Science, pp. 135-50.

to generations of men and women in the field of natural philosophy and in the physical world of God, and every generation has added to knowledge and broken new ground in these sciences. Even to an ordinary student of science it provides some information about everyday physical phenomena: light, lamp, glass, shining star, etc; leaving aside their mystical and natural philosophical meaning. This and other similar passages in the Qur'an invite human attention to the various aspects and phenomena daily happening and observed in the physical world. This led to the study of sciences, including physics, in Islam and produced many scientists of encyclopaedic knowledge who contributed richly to the various branches of physics.

LIGHT

Muslims made great contributions to this branch of physics. It was the direct result of Qur'anic studies that encouraged Muslim scientists to observe and ravel into the mysteries behind the colourful and shining phenomena in the physical world. The obvious field was the spectrum of light, which was daily observed even by the common people. The passage of the Qur'an quoted above (24: 35) must have stimulated research into various aspects of light, including optics, the spectrum, reflection and refraction, and inspired many men of learning to go deeper into these physical phenomena and discover the wonders of God. Al-Kindi, Al-Haytham, Al-Nayrizi and many others must have read this Qur'anic passage scores of times and received fresh inspiration every time to boost their research into optics.

They must also have noted and compared the nature of moonlight and sunlight. "Blessed is He Who made constellations in the heavens and placed there a lamp and a moon giving light." (25: 61) And, in Surah Yunus, we read,

“It is He Who made the sun to be a shining glory and the moon to be a light (of beauty)”. (10: 5) Then the following verse of the Qur’an must have given Muslims cause to think about the function of Light in various fields. “ ‘Let us borrow a light!’ It will be said to them: ‘Turn you back to the rear! Then seek a light where you can!’ ” (57: 13) And in Surah Al-Tahrim, we read these words, “Their light will run forward before them and by their right hands, while they say, ‘Our Lord! perfect our light for us.’ ” (66: 80) Again, in Surah Al-Taubah, we read, “They would like to put out the Light of God with their mouths, but God will not allow but that His Light should be perfected.” (9: 32) This verse draws attention to the spiritual as well as physical, significance of light and must have provided a lot of material for research to the theologians and the scientists alike. And so does the following verse, “The parable is that of a man who kindled a fire; when it lighted all around him, God took away their light and left them in utter darkness. So they could not see.” (2: 17) Another parable is given in, “The lighting all but snatches away their sight; everytime the light (helps) them, they walk therein, and when the darkness grows on them, they stand still. And if God willed, He could take away their faculty of hearing and seeing.” (2:20)

The verse in Surah Al-Ahzab invites attention to yet another marvel of human physical sight in these words, “Then when fear comes, you will see them looking to you, their eyes revolving, like (those of) one over whom hovers death.” (33: 19) And in Surah Ya’Sin, we read, “And had we willed, We verily could have blotted out their eyes so that they should grope for the way. Then how could they have seen?” (36: 66) In Surah Al-Anfal, we read, “And remember when you met, He showed them to you as few in your eyes, and We made you appear as contemptible in their eyes, that God might accomplish a matter already enacted.” (8: 44) And a

verse of *Surah Al-Ma'idah* says, "When they listen to that which has been revealed to the Messenger, you see their eyes overflow with tears because of their recognition of the Truth." (5:86) And *Surah Al-Tawbah* says, "They turned back, their eyes streaming with tears of grief." (9:92) "And eyes feel the effect of coolness when pleased." "This is near to the cooling of their eyes, the prevention of their grief, and their satisfaction." (33:51) And in the story of the Prophet Moses, "So We brought you back to your mother, that her eye might be cooled and she should not grieve" (20:40 and 28:13) And in *Surah Ta Ha* we read, "And I endued you with love from Me in order that you may be reared under Mine eye." (20:39) And in *Surah Al-Furqan* we read, "And those who pray, 'Our Lord! Grant us wives and children who will be the comfort of our eyes.'" (25:74) And eyes feel the reverse effect, as also shown earlier, with grief, "And his eyes became white with sorrow that he was suppressing." (12:84) The effect of sorcery on the eyes is mentioned, "So when they threw, they bewitched the eyes of the people, and struck terror into them: for they showed a great feat of magic (by turning ropes into snakes), and We inspired Moses, saying, 'Throw thy rod' behold! it (turned into a huge snake and) swallowed up their show of falsehood." (7:116-117) The *Qur'an* also mentions distances in terms of light years, "He rules all affairs from the heavens to the earth : in the end will all affairs go up to Him, on a Day the space whereof will be as a thousand years of your reckoning." (32:5) In *Surah Al-Ma'arij* we read, "The angels and the spirit ascend to Him in a Day the measure whereof is as fifty thousand years (of your reckoning)." (70:4) And in *Surat Al-Hajj* there are these words, "Verily a Day in the Sight of your Lord is like a thousand years of your reckoning." (22:47) The figure of one thousand and fifty thousand is symbolical and reflects the immensity of time in space. The same impression is conveyed by the following

verses of the *Qur'an*. "Verily your Lord is God, Who created the heavens and the earth in six days." (10:3) And in *Surah Al-Furqan* we read, "He Who created the heavens and the earth, and all that is between, in six days." (25:5 and 32:4) And *Surah Qaf* says, "We created the heavens and the earth and all between them in six days, nor did any sense of weariness touch Us." (50:38)

The following verses also give some idea of time in space, though of less magnitude as compared to the above-mentioned verses of the *Qur'an*. "Take the parable of one who passed by a hamlet, all in ruins to its roofs. He said, 'Oh ! How shall God bring it (ever) to life, after its death?' But God caused him to die for a hundred years, then raised him up again. He said, 'How long did you tarry (thus)?' He said, 'Perhaps a day or part of a day.' He said, 'Nay, you have tarried thus a hundred years; but look at your food and your drink; they know no sign of age; and look at your donkey... that We may make of you a Sign unto the people.'" (2:259) And in *Surah Al-Mu'minun* are these words, "He will say, 'What number of years did we stay on earth?' They will say, 'We stayed a day or part of a day; but ask those who keep account.'" He will say, 'You stayed not but a little... if you had only known.'" (23:112-114) God raised the companions of the cave from their long sleep of about three hundred years and, when they woke up, "Said one of them, 'How long have we stayed (here) ?' They said, 'We have stayed (perhaps) a day or part of a day.' (At length), they said, 'God (alone) knows best how long you have stayed here.'" (18:19) Surely the perception of time in the above-mentioned verses of the *Qur'an* is very different from that experienced on the earth.

Then there is another measure of time for the nations and peoples of the world who have stayed on the earth, ruled and

then died away and been replaced by others. The *Qur'an* refers to this "time of nations" by the word *Ayyamullah* (Days of God). In *Surah Yunus* we read, "Do they then expect (anything) but (what happened in) the days of the men who passed away before them?" (10:102) And *Surah Al-i-Imran* says, "Such days of varying fortunes We give to nations and nations by turns : that God may know those that believe." (3:140) These verses of the *Qur'an* clearly refer to some kind of time very different from our time. This must have drawn considerable attention from the Muslim scientists and led to greater research in that direction. Then the idea of the speed of light is given by the verses of the *Qur'an* regarding lightning. It pierces through the ears of the listener the moment it flashes but the sound is heard a little afterwards. /

The following verses of the *Qur'an* have added microscopic dimensions to the element of time. "And the decision of the Hour (of Judgement) is as the twinkling of an eye, or even quicker, for God has Power over all things." (16:77) And *Surah Al-Qamar* has these words, "And Our Command is but a single act...like the twinkling of an eye." (54:50) In *Surah Qaf*, we read, "For We are nearer to him (ie., man) than his jugular vein." (50:16) Again, in *Surah Al-Waqiah* we have these words, "But We are nearer to him than you, and you see not." (56:85) This is mentioned in another context in the following verse. "Which of you can bring her throne before they come to me in submission?" A powerful Jinn said, 'I will bring it to you before you rise from your place. Verily ! I am strong and trustworthy.' One who had knowledge of the Book said, 'I will bring it to you within the twinkling of an eye'" (27:38-40) And above all these timings of light is the Divine Light (24:35), which is beyond human comprehension and measurement . "No vision can grasp Him, but His grasp is over all vision. He is above all

comprehension, yet is acquainted with all things ” (6:103) “ for God sees well all that they do” (2:96), “ for in God’s Sight are all His servants” (3:15), and “ surely God is Observer and Seer of His servants.” (35:31)

The description of shadows, everlasting, near the everflowing streams, is graceful and picturesque and invites human attention to the wonders of the reflectionary process in that atmosphere of quiet and peace. “ Do they not look at God’s Creation, how, even among inanimate things, their very shadows turn round, from the right to the left, prostrating themselves to God, and that in the humblest manner?” (16:48) In *Surah Al-Furqan* we read, “ Have you not turned your vision to your Lord? How He does prolong the shadow! If He willed He could make it stationary! Then do We make the sun its guide. Then We draw it in towards Ourselves, a contraction by easy stages” (25:45) And in *Surah Al-Ra’d*, we read these words, “ And to God falls prostrate whosoever is in the heavens and the earth, willingly or unwillingly, as do their shadows in the morning and the evening hours.” (13:15) In the same *Surah*, we read, “ A parable of the Garden... underneath it rivers flow; everlasting are its food and its shadows.” (13:35)

The *Qur’an* also refers to the spectrum of light in various contexts to draw attention to the Glory of God and His wonderful world which He has created for the use and benefit of mankind. “ And among His Signs... the variations in your languages and colours. Verily in that are Signs for those who know.” (30:22) In *Surah Al-Nahl*, we have these words, “ And the things on this earth which He has multiplied in varying colours: verily in this is a Sign for those who take heed.” (16:13) *Surah Al-Fatir* says, “ Have you not seen that God causes water to fall from the sky? With it We then produce fruits of various colours; and in the mountains

are tracts white and red, of various shades of colour, and black intense in hue. And so of men and beasts and cattle, in like manner, are they of various colours." (35: 27-28) Again, in Surah Al-Zumar, we read, "See you not that God sends down rain? . . . Then causes to grow, therewith, produce of various colours . . . Truly! Herein is a reminder for men of understanding." (39: 21) In Surah Yunus, we read, "When the earth has taken on her golden ornaments and is embellished (in beautiful colours) . . . Thus do We explain the Signs in detail for people who reflect." (10: 24) Again, in Surah Al-Hajj, there are these words, "See you not how God sends down water from the sky, and forthwith the earth becomes clothed with green?" (22: 63)

There are many passages in the Qur'an which throw light on this aspect of God's vast Creation and show the beauty of diverse colours in various forms and combinations in His Universe.

HEAT

The Qur'an mentions heat and its sources in various contexts to draw human attention to His Power and Grandeur so that man may use these sources of power for his benefit and be grateful to his Lord. He reminds them not to forget the Real and Original Source of Power." The same Who produces for you fire out of the green tree, and behold! you kindle with it your own fire!" (36: 80) In Surah Al-Waqiah, we have these words, "See you the fire which you kindle? Is it you who grow the tree which feeds the fire, or do We grow it? We have made it memorial (of Our Handiwork) and comfort for the dwellers in the wilderness." (56: 71-73) And Moses said to his wife, 'Wait you! I perceive a fire; perhaps I can bring you some burning brand therefrom.' " (20: 10) And again, "Moses said to his wife, 'I perceive a fire . . . I will bring you

a burning brand to light our fuel, that you may warm yourselves.' ” (27: 7 and 28: 29) { And in Surah Al-Nahl, we read, “He made for you garments to protect you from heat.” (16: 81) And in this respect the Qur’an points out, “Nor is the chilly shade equal with the full heat of the sun.” (35: 21) }

The Qur’an invites people to reflect on the diverse uses and benefits of heat in a graceful and meaningful passage quoted above (24: 35) and there are many other verses which point to this aspect of heat. “ ‘Bring me a block of iron.’ At length, when he had filled up the space between the two steep mountain-sides, he said, ‘Blow (with your bellows)’, then when he had made it (red) as fire, he said, ‘Bring me, that I may pour over it, molten copper.’ ” (18: 96) In Surah Al-Ra’d, we read these words, “that which they smelt in the fire in order to make ornaments and tools.” (13: 17) And the following verse draws attention to still another aspect of it. “There will be sent, against you both Jinn and men, heat of fire and flash of copper, and you will not escape.” (55: 35) And Surah Al-Zumar says, “They shall have layers of fire above them and layers of fire below them. With this does God warn off His servants.” (39: 16)

Then the Qur’an points to those of His Creatures who were created from fire. “And the Jinn We did create before from the fire of scorching wind.” (15: 27) And in Surah Al-Rahman, we read, “And He created Jinns from the smokeless fire.” (55: 15) The Qur’an also mentions providing light as one of the functions of fire in these words, “There parable is that of a man who kindled a fire; when it lighted all around him, God took away their light and left them in utter darkness.” (2: 17) The Qur’an refers to state of living between extreme heat and cold. “Reclining in the garden upon couches, they will find these neither (excessive heat of) a sun nor bitter cold.” (76: 13) This verse also gives

some idea of the effects of extreme temperatures on human life. And again, in the following verse, we have "Therein they shall taste nothing cool, nor any drink except boiling water and a paralysing cold." (78: 24-25) And in Surah Al-Waqi'ah, we read, "They will be in the midst of a fierce blast of fire in boiling water, and in the shades of black smoke. Nothing will there be to refresh, nor to please." (56: 42-44) And in Surah Al-Nur, we read, "And He sends down from the sky mountain masses (of cloud) wherein is hail; He strikes therewith whom He pleases." (24: 43) All these verses clearly indicate the effects of different temperatures on human life.

There are other verses which introduce a new element into the history of the atom and give it entirely new dimensions which must have provided an extra stimulus to Muslim scientists in this field of study. Scientists and philosophers of the fame of Al-Nazzam, Baqillani, Ibn Rushd (Averroes) and Al-Ghazzali must have found material from Quranic studies for the atomistic ideas and concepts which they presented to the world. They explained the "philosophy of nature based upon the atomistic viewpoint. "And Muslim theologians "conceived of atomism in order to assert the Divine Will in the very matrix of the world." (2) Muslim scientists and scholars conceived everything as a part of the single universe governed by the Laws of its Creator and the atomistic concept was no exception. Thus Muslim scientists were the first to introduce and develop the concept of the atomic world in human history and their source was the Qur'an. A few verses of the Qur'an which could have drawn human attention to this aspect of physics are given below. "And not an atom's weight in the earth or in the heavens escapes your Lord, nor what is less than that or greater than that, but it is written in a clear Book." (10: 61) Surah Al-Saba says, "Not an atom's weight, or less than that or greater, is hidden from Him in the heavens or in the earth but

it is in a clear Record.” (34: 3)

These verses explicitly invite man’s attention to the minutest part of matter, less than an atom, and offer him an occasion to find it. There is therefore no surprise that Muslim scientists, theologians and mystics went for it in their own ways and left plenty of material on the concept of atomism for later generations to work on and discover its multifarious uses and benefits for mankind.

ELECTRICITY

There are many verses in the Qur’an which refer to lightning and cloud-formation, leading to electrification. “Or like a rainstorm from the sky wherein is darkness, thunder and the flash of lightning. They thrust their fingers in their ears by reason of the thunderclaps . . . the lightning almost snatches away their sight from them. As often as it flashes forth for them they walk therein, and when it darkens against them, they stand still. If God willed, He could destroy their hearing and their sight.” (2: 19-20) And Surah Al-Ra’d says, “It is He Who shows you the lightning, a fear and a hope, and raises the heavy clouds (laden with rainwater). The thunder repeats His Praise, and so do the angels, with awe. He flings the loud-voiced thunderbolts, and therewith He strikes whosoever He Pleases.” (13: 13) And in Surah Al-Rum, we have these words, “And of His Signs is this: He shows you the lightning for a fear and for a hope, and sends down water from the sky.” (30: 24) And again, in Surah Al-Nur, we read, “Have you not seen how God moves the clouds, then gathers them, then makes them layers, and you see the rains come forth from between them. And He sends down from the sky mountain masses (of clouds) wherein is hail, and smites therewith whom He pleases, and averts it from whom He pleases. The flashing of His lightning nearly blinds the sight.”

(24:43)

SCALES AND MEASUREMENTS

The Muslims devoted much attention to the development of the scales as a scientific instrument of measuring the weights of various things, especially the specific weights. They received a tremendous stimulus for this scientific study from the *Qur'an*, which lays great stress on the accuracy of weights and measures (*al-mizan*). "Give full measure and full weight with justice." (6:152) In *Surah Al-A'raf*, we read, "So give full measure and full weight nor withhold from people their goods, and do no mischief on the earth after it has been set in order; that will be best for you, if you believe." (7:85) People are commanded strictly to observe these rules and under no circumstances to be unjust to others. "Give no short measure or short weight." "Give just measure and weight, and wrong not people in respect of their goods. And do no evil in the earth, causing corruption." (11:84-85)

This is because the whole system of the universe is based on justice; and injustice will corrupt and upset the right balance, thereby disturbing the whole system. "It is God Who has sent down the Book in Truth, and the balance (by which to weigh conduct and every affair)." (42:17) In *Surah Al-Rahman*, we read these words, "And the sky He has raised high; and He has set up the balance (of justice), that you may exceed not the (right) measure. So observe the measure with justice, and fall not short in the (right) balance." (55:7-9) They are further reminded to follow and maintain the Way of God brought by His Messenger. "We verily sent Our Messengers with clear proofs, and revealed with them the Book and the balance, that mankind may observe right, " We shall set up scales of justice on the Day of

Judgement, so that not a soul will be dealt with in the least unjustly. And if there be the weight of a grain of mustard seed, We will bring it (to account). And We suffice to take account.” (21:47) And God gives good news for heavy scales (of good and just deeds) and bad news for (bad and unjust) deeds in these words, “ Then those whose scales of good deeds are heavy will be successful; but those whose scales are light will be those who will lose their souls, in hell will they abide.” (23:102-103) And in *Surah Al-Qari’ah*, we read, “ Then, he whose scales are heavy with good deeds will live a pleasant life (of satisfaction and peace). But he whose scales of good deeds are light will have his home in a bottomless pit (deprived of all good).” (101:6-9 and 7:8-9)

The emphasis in the *Qur’an* on the right measure and weight (*al-mizan*) influenced whole generations of Muslims to correct them and determine standard units of measure and weight for different things. In every city, officers known as reckoners (*muhtasib*) were appointed to check that the standard measures and weights were used by the people in measuring things. Muslim scientists paid special attention to the development of scientific instruments for measuring the specific weights of different metals, minerals and alloys. Among these scientists were Al-Biruni, Abu Hatim Al-Asfazani, Abu-al-Rahman Al-Khazini, Jabir Ibn Hayyan and Al-Nayrizi.

SOUND

There are references here and there in the *Qur’an* and *Hadith* to ultrasonics, that is, sound waves with a pitch above the upper limit of human hearing, and which, therefore, cannot be heard by man. The *Qur’an* mentions the Hearing of God in these words, “ God knows best how long they stayed : with Him is the Knowledge of the secrets of the heavens and the

earth: how clearly He sees, how finely He hears everyting.” (18:26) In *Surah Al-Saba*, we read, “ But if I receive Guidance, it is because of the Revelation of my Lord to me. It is He Who hears all things, and is ever near.” (34:50) As God is the Master of all the universe, He can make people hear or make them deaf. “ God can make any that He pleases to hear; but you cannot make those to hear who are buried in graves.” (35:22) The *Qur’an* refers to the mysterious powers of hearing of the creatures it names as jinn, but even they cannot hear what is going on in the lower heaven. “ Verily, We have adorned the lower heaven with an ornament of shining planets; with security from every rebellious devil. They cannot listen to the highest chiefs for they are pelted from every side except him who snatches away something by stealth, and there pursues him a piercing, bright flame.” (37:6-10) And in *Surah Al-jinn*, we have these words, “ And we pried into the secrets of heaven but we found it guarded with strong warders and flowing fires. And we used to sit on places (high) therein to listen. But he who listens now finds a flame in wait for him.” (72:8-9) And in *Surah Al-Tur*, we read, “ Or have they a ladder, by which they can climb up to the heaven and listen to its secrets?” (52:38)

The *Qur’an* also mentions the nature of hearing of the Revelation by the Prophet. “ I have chosen you: listen, then, to the Revelation sent to you.” (20:13) And in the same *Surah*, we read, “ Be not in haste with the *Qur’an* before its revelation to you is completed, but say, ‘ O my Lord ! Advance me in knowledge.’” (20:114) The nature of all revelation to the various Messengers of God seems to be the same. “ We have sent you Revelation, as We sent it to Noah and the Messengers after him.” (6:163) This is one of the ways in which God can communicate with human beings. “ It is not fitting for a man that God should speak to him except by Revelation, or from behind a veil, or by sending a

Messenger to reveal what He pleases by His Command.”
(42:51)

There are many verses of the Qur'an which suggest diverse kinds of sounds, varying from ordinary human sound to the sound of lightning and above it to ultrasonic sound, the sound of the jinn, the sound of Revelation from God, and even the sound of the dead under chastisement, which is heard by all animals except man.

WEIGHTLESSNESS

There is possibly a reference to the state of weightlessness and the general condition of a person (or a thing) in the cosmos above the earth's atmosphere in the *Qur'an*. In *Surah Al-Hajj*, we read, “ If anyone assigns partners to God, he becomes like him who has fallen from the sky. Then either the birds will snatch him away or the wind will blow him off into a far distant place.” (22:31) The condition of a person who is climbing and finds it difficult to breathe (for lack of oxygen in the air) is described in *Surah Al-An'am* in these words, “ And whoever He wills to leave straying, He makes his breast narrow and tight, as though it were climbing up to the sky.” (6:125)

5

MATHEMATICS

Encouraged and stimulated by *Qur'anic* studies, Muslims began with the science of numbers (*'ilm al-adad*) and the science of reckoning (*'ilm al-hisab*) and these occupied a privileged position in the Islamic sciences. {The source of mathematical studies, as of other sciences, in Islam is the concept of *Tawhid* – Oneness of God. Muslims' love for mathematics is directly related to the central Figure of their Faith the One God (*Al-Tawhid*). "God is One; hence the number one in the series of numbers is the most direct and most intelligible symbol of the Source.} And the series of numbers themselves is a ladder by which man ascends from the world of multiplicity to the One. As a treatise summarising the views of the *Ikhwan Al-Safa* says, "Verily the form of numbers in the souls of men corresponds to the form of existents in the hyle. It is a sample from the upper world. Through its knowledge, the ascetic reaches gradually the other mathematical and natural sciences and metaphysics. The science of numbers is the root of the sciences, the element of wisdom, the origin of the Divine sciences, the pillar of meaning, the first elixir and the great alchemy." (1)

The symbolic role of numbers played a dominant part in the study of mathematics in the early period of Islamic history. The number One seemed prominent both as a beginning of the study and the end of the study, providing the incentive as well as the final goal. This qualitative and spiritual dimension of numbers quickly islamised the traditional Pathagorean concept of numbers in the form of already well-known and well-established 'Abrahamic

1. *Islamic Science*, pp.75-93.

Pythagoreanism', one in which the symbolic role of numbers and figures appeared in dazzling clarity, illuminated by the...Message of the One." (1) This aspect of the study of mathematics introduced order, balance and harmony in every branch of knowledge in the Islamic world. " Likewise, it is because of this element within the total spectrum of Islamic spirituality that Muslims became attracted to the various branches of mathematics early in their history and made so many contributions to the mathematical sciences for nearly a millennium." (1)

Thus the study of numbers received encouragement and incentive from the *Qur'an* which opened up vast horizons of learning in the field of mathematics. In other words, *Tawhid* is the source of all knowledge for all Knowledge springs from it and enriches the world of man. Man's ignorance is replaced by Knowledge and poverty by plenty, for it drags him out of the solitude of ignorance and leads him into the light of Knowledge, thereby illuminating his inner world of intellect with the brightness of God's Image and enriching his outer world with the material wealth (*fazl Allah*) of the earth, and thus improving the condition of man materially as well as spiritually. When man acquires knowledge of the physical world of God through studying the *Qur'an*, the material treasures of the earth automatically come into his possession, but a man of wisdom does not fall into the trap of material wealth but , instead, impressed by the Grandeur and Majesty of His Kingdom and Power, turns to Him with greater vigour and zeal. This is how (study of mathematics begins from Unity and ends with Unity for Unity leads to multicplicity which rolls back to Unity after wandering around in amazement and wonder through the confusion of numbers and figures; this makes man more conscious of his Lord and brings him closer to Him when he cries out, " Oh my Lord ! Advance me in Knowledge." (20:114))

Thus inspired by *Qur'anic* studies, Muslims began with the sciences of numbers and reckoning and then went on to computation and achieved great successes in this field. The *Qur'an* mentions numbers in different contexts, "Then We drew (a veil) over their ears, for a number of years, in the cave, (so that they heard not); then We roused them, in order to test which of the two parties was best in calculating the terms of years they had tarried." (18:11-12) In the same *Surah*, we have, " Said one of them, ' How long have you stayed here?' They said, ' We have tarried a day or some part of a day.' At length, they said, ' God alone knows best how long you have stayed here." (18:19) And again, in the same *Surah*, we read, " Some say, ' They were three, the dog being the fourth among them, and some say, ' They were five, the dog being the sixth, ' guessing at random. Yet others say, ' They were seven, the dog being the eighth. ' Say you, ' My Lord knows best their number." (18:22) In *Surah Al-Mu'minun*, there are these words, " He will say, ' What number of years did you stay on earth?' They will say, ' We stayed a day or part of a day; but ask those who keep count.' He will say, ' You stayed but a little, if you had only known." (23:112-114)

And, regarding the Blessings of God, " But if you count the Favours of God, never will you be able to number them." (14:34) And in *Surah Al-Nahl*, we read, " And if you would count the Favours of God, never would you be able to count them." (16:18) The use of numbers is also mentioned in regard to some forms of worship. " Fasting is prescribed for a fixed number of days; but if any of you is ill, or on a journey, the prescribed numbers (should be made up) from days later...God desires for you ease: He desires not hardship for you; and (He desires you) to complete the prescribed period." (2:184-185) Again, in the same *Surah*, we read, " Celebrate the praises of God during the appointed days.

But if anyone hastens to leave in two days there is no blame on him and if anyone stays on, there is no blame on him, if his aim is to do right." (2:203) And with regard to instructions about divorce laws, " O Prophet, when you divorce women, divorce them at their prescribed periods, and count (accurately) their prescribed period...Thus when they fulfil their prescribed term, either take them back on equitable terms or part with them on equitable terms." (65:1-2) Again, in *Surah Al-Ahzab*, we read, " O believers ! When you marry believing women, and then divorce them before you have touched them, no period of *iddat* (waiting) have you to count in respect of them." (33:49) And in *Surah Al-Talaq*, we have, " Such of your women as have passed the age of monthly courses, for them the prescribed period, if you have any doubt, is three months, and also for those who have no courses. And for those with child their period is until they deliver their burdens." (65:4)

The *Qur'an* mentions calculations and reckoning on various occasions and in different contexts. " So make no haste against them, for We do but count out to them a (limited) number (of days)." (19:84) Again, in the same *Surah*, we read, " Indeed He takes an account of them all, and has numbered them all exactly. And each of them will come to Him singly on the Day of Judgement." (19:94-95) And *Surah Al-Jinn* says, " Then they will know who it is that is weakest in his allies and least important in point of numbers." (72:24) In the same *Surah* are these words, " And He surrounds all their actions, and He keeps count of all things." (72:28) *Surah Al-Tawbah* says, " They allow it one year and forbid it another year, in order to adjust the number of months forbidden by God and to make such forbidden ones lawful." (9:37) And, in *Surah Al-Muddaththir*, we read, " And We have set none but angels as guardians of the Fire; and We have fixed their number only as a trial for

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unbelievers.” (74:31) In *Surah Hud* are these words, “Nor shall We delay it but for a term appointed.” (11:104)

The *Qur'an* refers to the punishment of disbelievers in these words, “And they say, ‘The fire shall not touch us but for a few numbered days.’” (2:80) And in *Surah Al-Baqarah*, we read, “This is because they say, ‘The fire shall not touch us but for a few numbered days.’” (3:24) And in *Surah Hud* are these words, “And if We delay the penalty for them for a reckoned time, they are sure to say, ‘What keeps it back?’” (11:8)

Reckoning is referred to by the *Qur'an* in certain other contexts. “The (brothers) sold him for a low price, a number of silver coins; they held him in such low estimation.” (12:20) In case of evidence, it is said, “And take for witness two just persons from among you, and keep your testimony upright for God.” (65:2) *Surah Al-Baqarah* says, “And get two witnesses, out of your men, and if there are not two of your men, then a man and two women, such as you choose, for witnesses.” (2:282) And in *Surah Al-Nisa*, we read, “And if any of your women are guilty of lewdness, call four reliable witnesses from amongst you against them.” (4:15) And in *Surah Al-Nur* we have, “And those who accuse chaste woman but bring not four witnesses, flog them with eighty stripes and never afterwards accept their testimony.” (24:4) And in the same *Surah*, we read, “As for those who accuse their wives but have no witnesses except themselves; their solitary evidence can be accepted if they bear witness four times swearing by God that they are telling the truth. And the fifth oath, involving the curse of God on themselves if they tell a lie. But it would avert punishment from the wife, if she bears witness four times before God that her husband is telling a lie; and the fifth oath that the wrath of God be upon her if he speaks the truth.” (24:6-9) Again, in the same

Surah , are these words, “ Why did they not produce four witnesses? Since they produced not witnesses, they verily are liars in the Sight of God.” (24:13) And *Surah Al-Ma'idah* says, “ O you believers ! When death approaches any of you, take witnesses among yourselves at the time of bequest, two witnesses, just men from among you, or others from outside if you are journeying through the earth, and the calamity of death befalls...but if it is afterwards ascertained that these two were guilty of the sin (of perjury), let two others take their place of those nearly related, and let them swear by God.” (5:109-110)

And, in some other contexts, “ For those who take an oath for abstention from their wives a waiting for four months is ordained; if then they return, God is Forgiving and Merciful...Divorced women shall wait concerning themselves for three monthly periods...Divorce is only permissible twice: after that, the parties should either hold together on equitable terms, or separate with kindness...When you divorce women, and they fulfil the term of their *iddat* (waiting), either take them back on equitable terms or release them on equitable terms...When you divorce women, and they fulfil the term of their *iddat* (waiting), do not prevent them from marrying their husbands if they mutually agree on equitable terms.” (2:226-232) And regarding suckling the children, “ Mothers shall suckle their children for two whole years; that is for those who wish to complete the suckling.” (2:233) Regarding *iddat* of widows, “ If any of you die and leave behind them widows, they shall wait concerning themselves for four months and ten days. And when they have fulfilled their term, then there is no blame on you if they do anything with themselves in decency...And do not resolve on the tie of marriage (with such women) until the term prescribed is fulfilled. Know that God knows what is in your heart.” (2:234)

All these problems are very personal and delicate and involve many social, moral and legal matters. Men are therefore advised to be very considerate, kind and generous, especially in dealing with their wives. These matters also involve a lot of calculations and counting of periods of waiting in the case of widows as well as of divorced women. Men are again and again advised to resolve their disputes with their wives with kindness and on equitable terms, and if they have finally decided to divorce their wives they must release them with kindness and on equitable terms, without injuring their feelings or damaging their interests. Likewise, in suckling their children by their divorced wives, they are reminded to be considerate and to take into account the feeling of their children's mother. All such verses must have inspired Muslim mathematicians to work on the two aspects of mathematics, the science of numbers (*ilm al-adad*) and the science of reckoning (*ilm al-hisab*) and to solve the most delicate problems relating to social matters in the light of Divine Guidance.

The *Qur'an* mentions mathematical problems on several occasions in its description of the sun and the moon. {“ It is He Who made the sun to be a shining glory and the moon to be a light, and measured for her stages, that you might know the number of years and the reckoning of time. God created not all that but in Truth.” } (10:5) In *Surah Bani-Israel*, there are these words, “ We have made the night and the day as two of Our Signs. Then We have obscured the Sign of the night, and the Sign of the day We have made to enlighten you, that you may seek Bounty from your Lord, and that you may know the computation of the years, and the reckoning (of time). All things have We explained in detail.” (17:12) In *Surah Al-An'am*, we read, “ He has made the night for rest, and the sun and the moon for the reckoning (of time).” (6:96) These and many other verses of the *Qur'an* draw

man's attention on the one hand to the Glory and Majesty of God and on the other to His visible Signs, the sun and the moon and their role in indicating the computation of years and the counting of time. Thus man's relationship to the Divine keeps the qualitative aspects of the numbers and figures fresh and alive for him, while man's absorption with the quantitative aspect of computation does not eclipse or mar their symbolic effect. The Muslim scientists proved this by their encyclopaedic contribution to the science of mathematics while at the same time, keeping their close relationship with God.

The Qur'an also refers to the multiplicity of God's Creation. "Your Lord is God, Who created the heavens and the earth in six days." (7: 54) In Surah Hud, we read, "He it is Who created the heavens and the earth in six days." (11: 7) And in Surah Al-Furqan are these words, "He Who created the heavens and the earth and all that is between, in six days." (25: 59) And in Surah Al-Sajdah, we read, "It is God Who has created the heavens and the earth, and all between them, in six days." (32: 4) And Surah Qaf says, "We created the heavens and the earth and all between them in six days, nor did any sense of weariness touch us." (50: 38) These verses have given new dimensions to the meaning of time, as discussed in the sections on astronomy and physics. They explicitly show that numerical magnitudes in the Sight of God are totally different from the way they appear to us. Six days in the Sight of God may mean thousands of millenniums of man's years. More light is thrown on this aspect of time in the following verse, "Verily a day in the Sight of your Lord is like a thousand years of your reckoning." (22: 47) In Surah Al-Sajdah, we read, "In the end will all affairs go up to Him, on a Day the space whereof will be as a thousand years of your reckoning." (32: 5) And again, in Surah Al-Ma'arij, we read, "The angels and the spirit ascend to Him in a Day the

measure whereof is as fifty thousand years.” (70: 4)

These verses must have provided new material and new dimensions to the mathematicians, encouraging them to go deeper into the world of numbers and figures and to find new methods and new techniques to get the right answers to their problems. They must have striven to penetrate into the Truth of the Qur'an and made every effort to understand its true significance and to find and calculate appropriate devices to explain it. Naturally, this must have led them to find new fields and new ideas in the world of mathematics in line with the Divine Knowledge. This may, perhaps, be one of the factors that established mathematics as the “root of all sciences, the element of wisdom and the origin of the Divine Sciences,” and gave it the “privileged position” in the Islamic sciences. (1)

Again, in the process of the creation of the heavens and the earth, the Qur'an offers mathematicians plenty of food for thought. “Then He turned to the heaven, and fashioned it as seven heavens. And He is Knower of all things.” (2: 29) In Surah Al-Talaq, we read, “God it is Who has created seven heavens, and of the earth the like thereof,” (65: 12) In Surah Al-Mu'minun, there are these words, “Who is the Lord of the seven heavens and the Lord of the Throne Supreme?” (23: 86) And, again, Surah Nahl says, “See you not how God has created the seven heavens one above another?” (71: 15) These and many similar verses inspire man with the Divine Knowledge and make him realise the perfection of the design and pattern of His Creation. These also encourage him to bring exactness and perfection to his own knowledge and bring it in line, though on a humbler and much lower level, with the Divine Perfection.

The Qur'an refers to the manifold increase in the grain crop

in these words, "The likeness of those who spend their wealth in God's Way is as the likeness of a grain which grows seven ears, in every ear a hundred grain; God gives increase manifold to whom He pleases. God is All-Embracing, All-Knowing." (2: 261) And in Surah Yusuf, we read, "The King said, 'I saw in a dream seven fat cows, whom seven lean ones were eating, and seven green ears of corn and another seven dry,' " (12: 43) This invites attention, especially the first verses, to the statistical problems involved in agricultural production, as well as in horticulture, and was likely to help stimulate research into finding statistical formulas for increasing agricultural and horticulture yields.

Numbers and figures are also mentioned in other contexts. "Verily the number of the months with God is twelve months (in a year) so ordained by Him the Day He created the heavens and the earth." (9: 36) With regard to the Omnipotence of God, we read, "And if all the trees in the earth were pens, and the sea, with seven more seas to add to its supply, were ink, the words of God could not be exhausted." (31: 27) And in Surah Al-Kahf are these words, "Though the sea become ink for the words of my Lord, verily the sea would be used up before the words of my Lord were exhausted, even if we brought the like thereof to add to its supply." (8: 109) Undoubtedly this verse introduces a new element into the world of mathematics and takes man into the realm of philosophy and metaphysics. The mathematician is invited into the world of multiplicity to solve its diverse problems but, overpowered by the Grandeur and Glory of God, he is forced back to the Divine Theosophy – Tawhid – for further enlightenment and the enrichment of his knowledge. In other words, the mathematician is invited by Unity to go into the world of multiplicity but he comes back to Unity with greater and stronger faith in it.

There is ample scope for research for the mathematician in the laws of inheritance, according to which, "there is a share for men and a share for women of that which parents and near relatives leave, whether the property be small or large . . . a determinate share." (4: 7) The details of shares are given in these words, "God thus directs you as regards your children's (inheritance): to the male, a portion equal to that of two females, and if there be women more than two, then their share is two-thirds of the inheritance; and if there be one (only), her share is half. And for the parents (of the deceased), a sixth share of the inheritance to each, if he left children; if no children, and the parents are the only heirs, the mother has a third; and if he left brothers (or sisters) the mother has a sixth, after any legacy he may have bequeathed, or debt (has been paid) . . . In what your wives leave, your share is a half, if they leave no child; but if they leave a child, you get a fourth, after payment of legacies and debts. In what you leave, their share is a fourth, if you leave no child; but if you leave a child, they get an eighth, after payment of legacies and debts."

"If the man or woman whose inheritance is in question has left neither ascendants nor descendants, but has left a brother or a sister, each one of the two gets a sixth; but if more than two, they share in a third, after payments of legacies and debts; so that no loss is caused to anyone. A Commandment from God." (4: 11-12) And again, in the same Surah, we read, "God directs (thus) about those who leave no descendants or ascendants as heirs. If a man dies childless, leaving a sister, she shall have half the inheritance, and he would have inherited from her had she died childless. If there are two sisters, they shall have two thirds of the inheritance (between them). If there are brothers and sisters, (they share), the male having twice the share of the female. Thus does God make clear to you His Law, lest you err." (4: 176)

These verses must have created plenty of interest in the mathematical aspect of the laws of inheritance and their economic and moral effects on Muslim society.

Then in various forms of worship (*ibadah*) there is need for calculation and the necessary statistics, for instance, the timings of daily prayers. "Indeed prayer is a prescribed duty that should be performed at the appointed times by the believers." (4:103) In *Surah Bani Israel*, there are these words, "Establish prayer from the declining of the sun to the darkness of the night." (17:79) And in *Surah Ta Ha*, we read, "And glorify your Lord with His Praise (i.e., prayer) before the rising of the sun and before its setting, and glorify Him during the hours of night and at the extreme of the day." (20:130) The timings of the daily prayers are stated in these verses of the *Qur'an* and each prayer must be offered at its proper time, otherwise it loses its significance. It must have provided the mathematicians with a strong incentive, not only to fix the timings of the prayer in various parts of the world, but also to find the wisdom and benefit of the time schedule of prayer. Again, their research into these two aspects of prayer must have immensely broadened their vision and brought them closer to their Creator and His Manifestations.

And the payment of *zakat* (poor-due) also needs calculations and statistical work, "Take charity (in payment of *zakat* due) out of their wealth...that you might cleanse them and purify them thereby." (9:103) It is a quality of good believers. "Those who spend their wealth to seek God's Pleasure and to strengthen (the roots of their faith in) their souls." (2:265) And in *Surah Al-Mu'minun* are these words, "The faithful pay *zakat* very humbly; and whatever they pay they pay with their hearts full of fear of God." (23:4) This compulsory levy also reminds the Muslims of their social and

moral duty to God and society. The Muslims are accordingly required to calculate it carefully and distribute it carefully among those who need help from this fund. They must calculate it in accordance with the instructions of the Holy Prophet, " at the rate of $2\frac{1}{2}$ % on all types of wealth; mines and treasure-trove at 20%; irrigated land at 5%; unirrigated land at 10%; cattle varying between 1 and $2\frac{1}{2}$ % . It needs careful calculation and involves a lot of mathematical work in the assessment as well as the distribution of *zakat* among its beneficiaries.

Likewise calculations are required in the timing of fasting in the month of *Ramadan*. " O you who believe! Fasting is prescribed to you as it was prescribed to those before you, that you may attain *taqwah*...so every one of you who is present (at his home) during that month (*Ramadan*) should spend it in fasting; but if anyone is ill, or on a journey, the prescribed period (should be made up) on later days. God intends every facility for you; He does not want to put you in difficulties. (He wants you) to complete the prescribed period and to glorify Him in that He has guided you." (2:185) Again, the most perfect and balanced approach is maintained in fasting as in other forms of worship. Believers are required to observe ceremonial sanctity without undergoing any undue hardship or inconvenience. This provides ample opportunity to the mathematician to calculate the exact times of fasting in the various regions of the earth and in the various seasons of the year. At the same time, it gives men practice in attaining *taqwah* (fear of God) to become better worshippers. Fasting is also required for completing certain rites of the pilgrimage. " If anyone wishes to continue the *Umra* (visit to the Holy *Ka'bah*) on to the *Hajj* (Pilgrimage), he must make an offering such as he can afford, but if he cannot afford it, he should fast three days during the pilgrimage and seven days on his return, making

ten days in all. This is for those whose household is not in the the Sacred Mosque (*Ka'ba*). And fear God, and know that God is strict in punishment." (2:196)

Fasting is also prescribed as compensation for certain mistakes committed by individuals, " God will not call you to account for that which is unintentional in your oaths, but He will call you to account for your deliberate oaths. The expiation thereof is the feeding of ten of the needy with the average of that wherewith you feed your own people, or the clothing of them, or the freeing of a slave. And if that is beyond your means, fast for three days. That is the expiation for the oaths you have sworn. Thus does God make clear to you His Signs, that you may be grateful." (5:92) The penalty for a hasty and foolish act of divorce (*zihar*) is also fasting if a man is unable to expiate it in other ways. " But those who divorce their wives by *zihar*, then wish to go back on the words they uttered, (the penalty) in that case is the freeing of a slave before they touch each other...And if any has not the capability, he should fast for two successive months before they touch each other. But if any is unable to do so, he should feed sixty needy ones. This, that you may show your faith in God and His Messenger." (58:3-4)

In all these verses about the various forms of worship (*ibadah*), there is incentive for research into mathematical as well as statistical problems and, at the same time, plenty of opportunity to reflect on the Majesty and Grace of the Creator. It provides a scientific balance between the material pursuits of life and the spiritual quest for peace in Unity (*Tawhid*). Man, while engaged in scientific work, keeps a constant link with his Creator, and his worldly engagements not only do not hinder his spiritual progress but actually aid in strengthening his faith (*iman*) in the Creator and make him

a better and more sincere worshipper of God.

Mathematics is involved in diverse ways in other contexts as well in the Qur'an. With regard to the final accounting, it says, "For those who wander astray from the Way of God is a penalty greivous, for that they forget the Day of Reckoning." (38:26) In the same *Surah*, we read, "Such is the promise made to you for the Day of Account." (38:53) And in *Surah Al-Mu'min* are these words, "I have indeed called upon my Lord and your Lord (for protection) from every arrogant one who believes not in the Day of Reckoning." (40:27) Then man is reminded that God is quick in taking account, and that he should not, therefore, be careless in his actions. "But if they deny the Signs of God, God is swift in calling to account." (3:19) In *Surah Al-i-Imran*, we read, "Those who believe in God, in the Revelation to you and in the Revelation to them, bowing in humility to God; they will not sell the Signs of God for a miserable gain! For them is a reward with their Lord, and God is swift in account." (3:199) And in *Surah Al-Ma'idah* are these words, "And fear God; for God is swift in taking account." (5:5) And in *Surah Al-Ra'd*, we read, "Where God commands, there is none to put back His Command; and He is swift in calling to account." (13:41) *Surah Al-Nur* says, "But he finds God ever with him, and God will pay him his account; and God is swift in taking account." (24:39)

The duty of the Messenger is to convey the Message but the accounting is in the Hands of God. "You are not accountable for them in anything, nor are they accountable for you in anything." (6:52) In *Surah Al-Ra'd*, we read, "Your duty is but conveyance of the Message ; it is Our duty to call him to account." (13:40) And in *Surah Al-Shu'ara*, are these words, "Their account is only with my Lord, if you could but understand... I am sent only to warn

plainly in public.” (26:113-115) And *Surah Al-Ghashiyah* says, “Therefore remind them, for you are one to admonish. You are not a warder over them...for to Us will be their return, then it will be for Us to call them to account.” (88:21-26) God is very just in reckoning and each soul will be rewarded for what it has done. “That God may repay each soul what it has earned. And verily God is swift at reckoning.” (14:51) In *Surah Al-Baqarah*, we read, “To these will be allotted what they have earned; and God is quick in reckoning.” (2:202) And in *Surah Al-Mu'min* are these words, “That Day every soul will be requited for what it has earned; no injustice will be done (to any soul) on that Day. Indeed, God is quick at reckoning.” (40:17) God may grant provision to any of His servants beyond measure “For God does provide for those whom He pleases, without measure.” (24:38) And again *Surah Al-Mu'min* says, “Such will enter the Garden (of bliss); therein they will have abundance without measure.” (40:40) And in *Surah Al-i-Imran*, we read, “For God provides sustenance to whom He pleases without measure.” (3:37 and 2:212)

The righteous will be rewarded with a good reward and the evildoers will be rewarded with an evil reward. “For those who answered God’s Call is bliss; and for those who answered not His Call, if they had all that is in the earth, and as much more, (in vain) they would offer it for ransom. For them will be a terrible reckoning.” (13:18) *Surah Al-Inshiqaq* says, “Then he who is given his Record in his right hand, soon will his account be taken by an easy reckoning, and he will return to his people in joy. But he who is given his Record behind his back, soon will he cry for death, and he will be thrown in the blazing fire.” (84:7-12) And in *Surah Al-Talaq*, we read, “How many people revolted against the Command of their Lord and of His Messenger, and We called them to a severe account and punished them with exemplary

punishment.” (65:8)

The account will be taken from every soul with complete justice and no wrong will be done to anyone. “ We shall set forth scales of Justice for the Day of Judgement, so that not a soul will be dealt with unjustly in the least. And if there be (no more than) the weight of a mustard seed, We will bring it (to account). And enough are We to take account.” (21:47) In *Surah Al-Zilzal*, we read, “ Then shall anyone who has done an atom’s weight of good, see it ! And anyone who has done an atom’s weight of evil shall see it (in his account).” (99:7-8) This is because nothing can remain hidden from God. “ And not an atom’s weight in the earth, or in the heaven escapes your Lord, nor what is less than that or greater than that, but are recorded in a clear Record.” (10:61) And in *Surah Al-Saba* are these words, “ He is the Knower of the Unseen; not an atom’s weight, or less than that, or greater, escapes Him in the heavens or in the earth, but it is in a clear Record.” (34:3) More light is thrown on this aspect of mathematics in *Surah Al-An’am*. “ Give full measure and weight with justice.” (6:152 and 11:85) And in *Surah Al-A’raf*, we read, “ Give just measure and weight, nor withhold from the people the things that are their due.” (7:85) And in *Surah Al-Shura* are these words, “ It is God who has sent down the Book, in Truth, and the balance (to weigh with Justice).” (42:17) And in *Surah Al-Hadid*, we read, “ We sent before Our Messengers with clear Signs and sent down with them the Book and the balance, that mankind may observe right measure.” (57:25)

These verses clearly lay down the fundamental principle of justice (*al-mizan*) for mathematicians well as for statisticians. They must work out and calculate their accounts with the utmost accuracy so as to be fair to all parties involved. It does not give any allowance for discrepancy or inconsistency

in accounts and demands a hundred percent accuracy and correctness. This spirit was infused by the *Qur'anic* studies. The mathematicians are required to be exact and accurate in their accounts, not only for the sake of the parties involved, but also for obtaining correct information on the basis of the figures and numbers supplied to them and for the sake of doing justice to all under all circumstances. Thus the *Qur'anic* studies might well have stimulated research into equations and other mathematical problems on these lines. It encouraged them not only to work out their figures exactly on the basis of their data, on scientific lines, but also maintained their close relationship with the Creator through their results. That is why it is claimed that mathematics occupies a 'privileged' position in the Islamic sciences.

There are other verses of the *Qur'an* which confirm this opinion and could have stimulated similar research. "No burden do We place on any soul, but that which it can bear." (6:152) In *Surah Al-Baqarah*, we read, "No soul have a burden laid on it greater than it can bear." (2:233) Again, in the same *Surah*, are these words, "On no soul does God place a burden greater than it can bear. It gets every good that it earns, and it suffers every ill that it earns." (2:286) There is complete justice and balance in the Kingdom of God and He demands that it must be maintained in every field of human activity and particularly so in the field of numbers and figures, which form the basis of all industrial and scientific work. And, above all mathematicians and accountants is God Himself, the Best of Accountants. "But God suffices in taking account." (4:6) And in *Surah Al-Ahzab*, are these words, "And enough is God to take account." (33:39) And, again, *Surah Al-Nisa*, says, "And God takes careful account of all things." (4:86) "Thus the very same Islamic philosophy of the Unity of God (tawhid) pervades the science of mathematics and numbers, the same

harmony, balance and awareness of the effusion of multiplicity from Unity and the return of all mutliplicity to Unity which characterise Islamic spirituality and are manifested in the most direct manner in Islamic art and architecture. Nowhere is the sacred character of mathematics in the Islamic world view more evident than in art, where, with the help of geometry and arithmetic, matter is ennobled and a sacred ambience created wherein is directly reflected the ubiquitous Presence of the One in the many." (1)

It was this incentive given by *Qur'anic* studies that led to great works of research in the field of mathematics and enabled Muslim scientists to invent new techniques in this field. They developed Arabic numerals from the Indian numerals and invented zero and also developed the science of algebra. Among the notable mathematicians can be mentioned the names of Khwarizmi, Abdul Hasan Al-Uqlidusi, Abdul Hasan Al-Nasawi, Jabir Ibn Hayyan, Shams Al-Din Al-Buni, Al-Karaji, Al-Biruni, Ghiyath Al-Din Jamshid Al-Kashani, Shaykh Baha Al-Din Amibi, Mulla Muhammad Baqir Yazdi, Tusi, Abdul Abbas Ibn Banna Al-Marrakushi, Ibn Hamzah Al-Maghribi, Abdul Abbas Ibn Al-Haim Al-Misri, Badr Al-Din Al-Maridini, Banu Musa, Abul Abbas Al-Nayrizi, Abu Abdullah Al-Mahani, Abul Wafa Al-Buzjani, Abu Sahl Al-Kuhi, Abdul Jud, Khayyam, Al-Battani, Habash Al-Hasib, Abu Nasr Al-Araqi, Abu Muhmud Al-Khujandi, Ibn Yunus, Qarbani, Abu Jafer Al-Khazini, Abdul Hasan Al-Basti Al-Qalsadi, Thabit Ibn Qurra, Muhammad Ibn Shakir, Ali Ibn Umar Al-Katibi, Qutb al-Din Al-Shirazi and Jabir Ibn Aflah.

PART II

1. History
2. Anthropology ✕
3. Geography

6

HISTORY

The Qur'an suggests an entirely new approach to the study of history. It disapproves of the study of the history of mankind either as one of continued progress and growth starting from scratch or as mere progress in terms of material and architectural advancement. Both these approaches to the study of the history of mankind are not only contrary but also contradictory to the Islamic concept. This approach will admire and praise all the old civilisations of the Pharoahs, Babylonians, Assyrians, Greeks and Romans. The present civilisation of the West according to this measure, is considered the best and the most refined; even better than the generation of the Prophet and his companions.

Islam has its own criterion to judge mankind, irrespective of its material progress. Whether a nation is great or small, advanced or backward, civilised and cultured or uncivilised and uncultured depends on how far it comes up to that measure set by the Qur'an. "We have indeed created man in the best of moulds. Then We debase him to be the lowest of the low; except those who believe and do righteous deeds." (95:4-6) Thus, according to the Islamic viewpoint, man has only two states of being on the earth, irrespective of his material progress or scientific and technological advancement. He is either 'in the best of moulds' or 'the lowest of the low'. He is in the 'best of moulds' when he believes in God and follows His Guidance; and he is 'the lowest of the low' when he disbelieves in God and rejects His Guidance. This clearly points out that the material and even scientific progress of any civilisation, however great and impressive, is not the criterion or measure of human progress. The true criterion or measure is whether it is based on Divine Law or not. Islam studies human history on these lines, and

all those people who dominated the earth during their time merely by the force of their material power and strength and did not believe in God were ignorant and agnostics (*jahiliyyah*). According to this standard, old cultures like the Pharoahs, Babylonians, Greeks and Romans are considered ignorant (*jahiliyyah*) cultures, while it regards the Prophet's generation as the best of generations.

This is because Islam does not confine human history within its worldly limits and pass judgement on the achievements of different nations in relation to this alone and then conclude whether they are refined, progressive or reactionary. On the contrary, it takes into account their secular and anti-secular achievements when passing judgement on them because these two aspects of their life are inseparable. History must be studied in its totality and only then can judgement be passed on various peoples. Islam studies history, from first to last and then judges it at both ends. The *Qur'an* mentions it in these words, "It is He Who has created you; and of you some are believers and some are unbelievers. And God sees well all that you do." (64:2) In *Surah Hud* we read, "It is He Who created you from the earth and made it a living place for you. So ask for His Forgiveness and turn to Him in repentance." (11:61) Both people who believe and those who don't believe can build great civilisations and make material progress but the former use all their wealth and progress to bring them nearer to God, whereas the latter use it to take them away from God and closer to the evil ways of life.

But God honours and raises in rank only those who believe in His Message, "God will raise up to suitable ranks and degrees those of you who believe and who have knowledge." (58:11) And in *Surah Al-i-Imran*, we read, "So neither lose heart nor fall into despair; for surely you will gain mastery, if you are true believers." (3:139) These verses of the *Qur'an* clearly

explain that the material achievements of man alone are not enough for his ultimate and true success. It is only one of the criteria; the proper use of the material resources and the powers of the world can help in building up real progress. As God created man for His particular Purpose, He fixed His Own Criterion to judge his achievements. The *Qur'an* speaks of previous nations and peoples from this point of view. It mentions how nation after nation rose and perished but only those who believed in God's Prophets were successful. There were others who neither believed in God nor did they follow His Guidance. Although they developed their sciences, gained military and political victories and made great material progress, all this did not much benefit them because they did not follow the Divine Knowledge, which aims at man's good in the Hereafter as well as in this world. Therefore, judging by this standard, many of the ancient civilisations, such as the Pharaohs, Babylonians, Assyrians, Greeks and Romans are considered representatives of ignorance and agnosticism. No other lesson may be learned from these nations but that nothing can avail those who do not believe in Divine Knowledge.

The *Qur'an* describes the sad end of all such nations. "And have not those people who inherit the earth after its former occupants learnt a lesson from the fact that, if We pleased, We could seize them for their sins? But they neglect the realities that teach a lesson and We seal their hearts; then they do not listen to anything. These people whose stories We thus relate to you can serve as examples to you. Their Messengers came to them with clear Signs, but they would not believe in what they had rejected before. Behold, this is how We seal the hearts of the disbelievers. And We found in most of them no respect for any covenant: nay We found that most of them were rebellious and disobedient."
(7:100-102)

Thus Muhammad set a new pattern for the study of human history. He showed that it was not a boring tale of past nations nor a glorious record of their achievements but a very serious and a sad story of man's failure. It is a pity that no succeeding nation has ever learnt a lesson from the mistakes of the fallen nation it replaced. There would be great guidance for the people if they considered seriously the question of why those people, who were ruling over the land before them and were prosperous and flourishing, were utterly ruined and totally destroyed. The answer would show them their erroneous thoughts and deeds which resulted in their ruin. According to the Divine Law, the fall of a nation takes place when it neglects to learn a lesson from the history of the former people and from the ruins of their monuments, but tries to delude itself." (1)

Thus it can be seen how Islamic historiology, though keeping in view what other historiologies mention and cherish, is altogether different in its approach and method. The core and substance of Islamic historiology is the worship and obedience of God. The *Qur'an* sums up this principle in these words, "I have only created the jinn and men that they may worship and obey Me." (51:56) And in *Surah Al-Bayyinah*, we read, "And they have been commanded no more than this : to worship, offering Him sincere devotion, being true in faith." (98:5) This concept of Divine worship is considered by secular societies, including modern western societies, to be too narrow, limited and restricted, but in fact, it is all-comprehensive and embraces all areas of human activity. This concept has certainly become weaker and narrower during the past few generations, when worshipping has been confined to mere rituals, but this is not the true concept of worship in Islam. It covers every aspect of man's life; his

1. *The Meaning of the Qur'an*. Vol.IV:p.57.

beliefs, actions, thoughts, feelings and behaviour. The *Qur'an* refers to this concept of worship in these words, "My prayer and my rites of worship and my life and my death are all for God, the Lord of the Universe, Who has no partner." (6:162-163)

This verse clearly explains that man's entire life, and even death itself, is for God, the Lord of the World. Thus the Islamic concept of worship encompasses all that man feels, thinks and does. It requires from every believer that he, with his body and soul, mind and heart, should commit himself wholly to God and God's Commands. This is further explained in *Surah Al-Baqarah*, "O Believers, enter completely into Islam and do not follow the footsteps of Satan for he is your open enemy." (2:208) It clearly shows that Islamic historiological methodology is very comprehensive and ignores nothing from other types of methodologies. It records everything, without neglecting or omitting anything, but judges and assesses it all by the Divine Scale, because everything and every soul is from God and is to return to Him. All our devotions must therefore be to God, for all life is to end on this earth except the Person of God. "Travel through the land and see for yourselves the wretched end of such people, who lived during the eras before your time. This is a clear warning for the people and a guidance for those who fear God." (3:137-38)

The fact about nations' lives, civilisations and achievements will remain unchanged in the Islamic historiological methodology. All their works of art, architecture, philosophies, science and military expeditions will be described without any effort to undermine or undervalue them. The *Qur'an* has described the history and civilization of the previous nations as they were without eliminating or ignoring anything from their material, cultural or political

achievements. It mentions the 'Ad people who rejected the call of their Prophet who said to them, "Do you build on every high place a monument for vain delight? Do you seek for yourselves fine buildings, that perhaps you may last for ever? And when you sieze by force, do you sieze as tyrants? Now fear God, and obey me." (26:128-31) Likewise the people of Thamud rejected their Prophet when he said to them, "Will you be left secure, in the enjoyment of all that you have here? Gardens and springs and corn-fields, and date-palms?...And you carve houses out of rocky mountains with great skill. But fear God and obey me." (26:146-50) And the people of Pharaoh rejected Moses when he prayed, "Our Lord ! You have indeed bestowed on Pharaoh and his chiefs splendour and wealth in the life of the world, Our Lord, so that they lead men astray from your Way. Our Lord! Destroy their riches and harden their hearts so that they believe not till they see the painful doom." (10:88) The *Qur'an* mentions the material achievements of those people on different occasions, while describing the struggle of God's Messengers to deliver the Divine Message to their people. "Before them (were many who) rejected Messengers – the people of Noah, and 'Ad, and Pharaoh the lord of Stakes (showing power and orrogance), and Thamud, and the people of Lut, and the Companions of the Wood; – these were the factions. Not one of them but did deny the Messengers, therefore My Punishment came justly and inevitably on them." (38:12-14) Pharaoh boasted of his achievements in these words, "O my people ! Does not the dominion of Egypt belong to me and these rivers flowing underneath my (place)? What ! Can you not then see." (43:51)

Thus historical events are described as they were and the peoples of history are judged, and their achievements and progress assessed and evaluated, by the Divine Standard. Did they spend all their efforts and lives for the Cause of God

and meet their deaths in the same Cause? Or did they endeavour and spend their lives as disbelievers and died as such? When we assess the lives and achievements of the people in history such as the 'Ad, Thamud and others, by the same standard, we have to conclude that they lived and died in ignorance (as the lowest of the low). (1)

The Qur'an provided a great stimulus to the study of history in a fair, objective and an impartial way through its study of the rise and fall of previous nations in an objective and impersonal manner. As discussed before, its love for Truth without adding anything to it or taking anything from it taught the followers of Muhammad great impartiality and independent judgement in relating events in history. They took great care in finding out the genuineness or otherwise of an event or document, and then reported it as it was, without any addition to, or subtraction from, it. The Qur'an also taught them historical chronology from which they developed a new methodology of giving chronological order to historical events. Thus it was mainly due to Quranic studies that the Muslims were able to systematise historical happenings and bring them closer to astronomical basis. Yet another great contribution of the Qur'an was to enable Muslim scholars to see the unity and continuity of historical development and study it as a process of historic growth. In other words, it enabled them to deal with the history of man as a science and explain the events of history as a philosophic conception of the stream of history.

Their enthusiasm to find the Truth, which was encouraged and initiated by the Qur'an, led them to collect historical data and then to judge their authenticity and correctness. They had to devise standards and criteria. Particularly in the study of the life history of the Prophet, they were extremely cautious in collecting material, events, verbal statements and

took great pains to test the authenticity of each according to very strict standards. The biographical study of the Prophet developed into a complete science and culture of history. This sense of objectivity, impartiality and independent judgement in the historical perspective of the Muslims was the direct result of Muhammad's teaching, through his greatest miracle, The Qur'an. Historical chronology was also the direct result of Quranic studies, which teach discipline, rationalisation and systematisation of every field of study in life. Thus the basis for modern historiography and the scientific study of history were laid by the descendants of Muhammad, who were educated, inspired and encouraged by Quranic studies to acquire knowledge and spread it in all directions for the benefit of mankind.

The desire to diffuse knowledge of the Qur'an and the Sunnah led the companions of the Prophet to establish centers of learning, but fear of committing mistakes about the Prophet's sayings made their studies accurate, fair and genuine. They were warned by the Prophet, "If anyone tells a lie about me intentionally, let him be sure of his place in hellfire. This had a great effect on his followers, who never reported anything about which they were doubtful. And in order to find the exact wording and text" the criticism of hadith was carried out, without fear or favour. One finds that a father graded down his own son, a son criticised his father, a brother criticised his own kin and friends criticised their dear ones without any fear or favour except the fear of God." Thus the criticism of hadith as to what was right and what was wrong began in the lifetime of the Prophet. Many companions of the Prophet, including Ali, Abdullah bin Amr, Umar, Ubai bin Ka'b, began investigation and verification of hadith in his lifetime. They were very careful in ascribing to the Prophet and fully scrutinised such statements before reporting them. Abu Bakr, Umar, Ali, Ibn Umar and 'A'ishah

were the pioneers in the field of investigation and verification of the statements ascribed to the Prophet before accepting or reporting them. (2)

Later on, this laid the basis for the very stringent rules for acceptance of any statement as a hadith of the Prophet. Gradation of hadith into groups and a methodology of quotations in hadith literature were introduced to check the authenticity and genuineness of any hadith and to stop unauthentic hadith getting into literary circles. Many rules, including continuity of the chain, had to be preserved; a saying must not be an isolated one nor have any hidden defect. Then again, a hadith might be rejected owing to some defect in one of its narrators, weakness owing to discontinuity of isnad or weakness owing to incidental reasons. Thus knowledge of encyclopaedic dimensions was built up on the study of hadith and their correct and authentic narration, genuine and true hadith having been preserved and wrong or false ones discarded. The same spirit of research and enquiry to find the true facts and to report them impartially and objectively in a systematic way to posterity was applied to the study of history.

A word about Islamic methodology in the study of history which needs more emphasis: as pointed out before, methodology will provide us with a measure according to which we can assess and evaluate historical men and events. Here the basic question arises: What is the ultimate goal of human life on this earth? If there is no clear concept of life, then history will merely be a collection of events and stories, which, in fact, is no history at all. History signifies interpretation of historical events after examining various

2. M. M. Azami, Studies in Hadith Methodology and Literature, pp. 46-80.

facts and investigating the chronology of those facts. But what is to be the basis of interpretation and what is to be the criterion of measuring and assessing those events?

According to secularists and materialists, the ultimate object of human life on the earth is to build materialistic civilisation and enjoy life to the best of our ability and resources. This is the basis of their assessment of individuals and nations. Such historiography will be occupied with recording and measuring their material progress, military power, political influence and providing facilities for the enjoyment of the physical pleasures of life. It may, however, give little space to the immaterial values of life, such as art, thought, moral and human values which will form a very insignificant part of its study. Islamic historiography, on the other hand, adopts quite a different method but without ignoring anything which other historiographies do mention and desire. As it is based on belief in the Unity of God, it considers that the aim of all human life on earth is the worship of God. This is the bedrock of Islamic historiography, as pointed out before, and everything is judged and assessed on this basis. (2)

The Qur'an, which is full of historical accounts of previous nations, must have provided the early Muslims with very strong stimulus for the study of history. The Qur'an describes the lives, civilisations and rise and fall of many nations and draws the attention of man to the fundamental fact that all life on the earth must one day end and return to its Lord. Nations have come and gone but the person of God is ever-living and eternal. "If a wound has touched you, be sure a similar wound has touched the others. These are the vicissitudes of time that We alternate among the people; this has been done so that God may know from among you those who believe and choose the righteous witnesses of the Truth." (3: 140) This points to the Reality behind human

creation and also provides an important principle to assess and evaluate previous nations and measure their achievements. This is the basic principle of assessment which was given to all Messengers of God. "We sent Moses with Our Signs and the Command, 'Bring out your people from the depths of darkness into the light (of knowledge) and teach them to remember the Days of God.'" (14:5)

The *Qur'an* also points to another fact of history and explains the wisdom of this process of change in the lives of nations in these words, "And if God had not repelled one nation by another, the earth would have been corrupted." (2:251) This is further explained in these words, "And if the Truth had followed their desires, verily the heavens and the earth and whosoever is therein would have been corrupted." (23:71) This explains how nation after nation came upon the scene, made progress in the various fields of human activity, then followed their vain desires and became corrupt. Then they were replaced by other nations who were better in many ways but they gradually followed the same corrupt ways and were destroyed. This is the whole history of man and it must have naturally inspired Muslims to study the facts of history and bring it up to date in a scientific and systematic way.

Then the *Qur'an* mentions briefly how each nation lived, prospered and died by following wrong ways of life. "Has not the story reached them of those before them?...The people of Noah, and 'Ad and Thamud; the people of Abraham, the men of Midian, and the cities overthrown. To them came their Messengers with clear Signs. So God surely wronged them not, but they did wrong themselves." (9:70) And in *Surah Ibrahim* we read, "Has not the story reached you, (O people), of those who went before you? Of the people of Noah, and 'Ad and Thamud?...None knows them

but God.” (14:9) And in *Surah Al-Furqan* we have, “ And the people of Noah...also ‘Ad and Thamud, and the Companions of the Rass and many a generation between them. To each one, We set forth parables and examples; and each one We broke to utter annihilation (for their sins).” (25:37-39) Such verses of the *Qur’an* and many others which describe the history of each nation, its culture, civilisation, architectural achievements, military ventures and political power provided great stimulus to historical studies which led to development of Islamic historiology, with a new methodology and new principles of assessing the value of any historical event of nation. And it produced men like Ibn Khaldun, Al-Masudi, Miskawayh, Ibn Khallikan, Al-Biruni, Al-Maqrisi, Yakat and Ibn Asakir, not to speak of earlier writers of the fame of Ibn Ishaque, Ibn Hasham, Ibn Athir, Abu Al-Fida, Al-Dhahabi, Al-Tabari, Al-Kalbi, Al-Waqidi, Ibn Sa’d and Ibn Al-Muqaffa.

7

ANTHROPOLOGY

Muhammad applied the same principles to the study of anthropology. According to the Islamic approach the first man and Woman were created and given proper Divine Guidance and instruction in order to enable them to lead the life of true and obedient servants of God. And all mankind sprang from one pair of parents, who were given True Knowledge of God and His creation. The *Qur'an* refers to this incident of history in these words, "Just recall the time when your Lord said to the angels, 'I am going to appoint a vicegerent on earth'...After this He taught Adam the names of all things." (2:30-31) And in *Surah Al-Nisaa* we read, "O mankind! Reverence your Guardian-Lord, Who created you from a single person, created, of like nature, his mate, and from them twain scattered (like seeds) countless men and women. Fear God." (4:1)

These verses establish without any shadow of doubt, first, that all of mankind have sprung from one and the same parents and are not the result of any Darwinian process of evolution. The first man and woman were human like us. At first, one human being was created and then from him the human race spread over the earth. Secondly, he was given Knowledge of God and understanding of the life he was going to lead on the earth. In other words, the first human pair was fully equipped with Knowledge to solve the problems of their environment according to their needs and demands. They received Guidance from God and lived a successful and peaceful life in accordance with Divine Law. This totally rejects the idea of man's evolution from another species and also that in the beginning he lived in ignorance and gradually learned better and more cultured ways of living. Thirdly, man made progress and lived a decent and

civilised life so long as he obeyed the Divine Law and established virtue, goodness and justice in his individual life as well as in the social life of the community. But as soon as he forgot the Way of God, and followed the ways of Satan and the desires of his self, he began to drift towards a life of obscenity, oppression and exploitation. Fourthly, man is not the child of his environment but, on the contrary, his beliefs, thoughts, actions and philosophy of life mould his environment to serve his ideological purpose.

The concept that environment enslaves man and shapes his life may appeal to an agnostic or to an irreligious man. But a man who believes in God and whose life is regulated by Divine Law cannot be influenced by such vain ideas. For him, it is the doctrine of *Tawhid* (Unity) and not the environment, that moulds and shapes his life, feelings, thoughts, etc. Islamic history shows how this belief created a nation which is described by the *Qur'an* in these words, "You are the best of nations, raised for mankind." (3:110) However, this does not mean that the environment has absolutely no influence on man. It has its due influence where it can, but wherever *Islam* went, it absorbed the best that it could find in each environment and reshaped it in line with its doctrine of *Tawhid*. It mended the aberrations of the environment, turned them in the right direction and made them compatible with Islamic principles, values and concepts.

Thus the light thrown on the creation of man by the *Qur'an* is more authentic, reliable and important than the derived knowledge, from excavated bones, mostly based on guesswork. " Besides, the revealed knowledge raises the status of man from the helpless and low creature of evolution to the noblest creature of God, His vicegerent on the earth, whom the angels and everything on the earth and in the heavens were made to obey." (40:64 and 38:26)

8

GEOGRAPHY

Muhammad was not a geographer, nor was geography his aim, but the Divine Book which he was given is so comprehensive and vast in knowledge that it stimulated man's curiosity, effort and enquiry in all branches of study, including geography. Not only the earth but the whole universe became a subject of study for him. He realised his own position as vicegerent of the Creator and that, as such, he must exercise some control over the earth and try to harness the natural forces for his own benefit. Invigorated and inspired by this type of *Qur'anic* teaching, Muslims went ahead to solve the mysteries of nature and space, which was a very obvious field of study. The *Qur'an* repeatedly invites man to travel round the earth and see the fate of those who disobeyed God's Commandments. "Do they not travel through the earth and see what was the end of those who were before them?" (12:109) And in *Surah Al-Hujj*, we read, "Do they not travel through the land, so that their hearts (and minds) may thus learn wisdom and their ears may thus learn to hear? Truly it is not their eyes that are blind, but their hearts which are in their breasts." (22:46)

There are many geographical tracts of land mentioned in the *Qur'an* which invite human attention and stimulate research into finding such places to study their nature of habitation. In the story of Zul-Qurnain, quite a few places are mentioned towards which he marched with armies and which have remained a source of excitement and wonder for the geographers. "One such way he followed, until, when he reached the setting of the sun, he found it set in a spring of muddy water." (18:86) Then he visited another place, "until, when he came to the rising of the sun, he found it rising on a people for whom We had provided no covering

protection against the sun.” (18:90) Another of his journeys took him to a place, “ a tract between two mountains. He found, beneath them, a people who scarcely understood a word.” (18:93) Then he was asked by those people to build a strong fortification to protect them from the Gog and Magog people. He thereupon asked... them to help him with men and he would build it for them. “ Bring me blocks of iron.” At length, when he had filled up the space between the two steep mountainsides, he said, ‘ Blow with your bellows.’ Then, when he had made it red as fire, he said, ‘ Bring me, that I may pour over it, molten lead.’ Thus were they made powerless to scale it.” (18:96-97)

Then the incident of the companions of the cave attracted a good deal of attention from Muslim geographers. Where were those mountains and those caves in which those young believers hid themselves? It must have led to considerable research to find those mountains and caves. Again, in the incident of the Prophet Moses and the man whom God had taught Knowledge, it was a challenge for the geographers to locate the place of junction of the two seas where Moses was expected to find the man of Knowledge.” (18:60) There are innumerable verses of the *Qur’an* which attract the attention of the geographers and must have led to great research in this field. The *Qur’an* mentions how the companions of the rocky tract cut through mountains to make their rock edifices (15:82) This again throws out a great challenge to the geographers and provides a basis for their research.

Many verses of the *Qur’an* draw the attention of the scholars to the multifarious functions and benefits of the mountains. They stabilise the motion of the earth and keep it in a steady position, “ Who has made the earth firm to live in...set thereon mountains immovable.” (27:61) The *Qur’an* mentions the stabilising function of the mountains with

special emphasis on various occasions. God has spread the earth as a spacious carpet under man's feet and has placed huge mountains as a steadying force to keep the earth from rolling or shaking about and thereby disturbing the peaceful life of mankind." (16:15) In *Surah Luqman*, we read these words, "He set on the earth mountains standing firm, lest it should shake with you." (31:10 and 78:7)

Then mountains are a source of a great many other benefits, including influencing the climate of a region, attracting rainfall, and providing raw-material for various other things. The *Qur'an* mentions this in these words, "It is God Who made out of the things He created, some things to give you shade; of the mountains He made some for your shelter; He made you garments to protect you from the heat, and coats of mail to protect you from your (mutual) violence." (16:81) In *Surah Al-Nur*, we read, "See you not that God makes the clouds move gently, into a heap? Then will you see rain issue forth from their midst. And He sends down from the sky mountain masses (of clouds) wherein is hail; He strikes therewith whom He pleases and He turns it away from whom He pleases." (24:43) And again, in *Surah Luqman*, we have these words, "And He created through it beasts of all kinds. We send down rain from the sky, and produce on the earth every kind of noble creature, in pairs." (31:1 and 79:33) All these contain wonderful reflections of the Creation of God for the geographers to go deeper into these mysteries and reveal the boundless uses and benefits of these natural bounties of the Creator.

The *Qur'an* also mentions the uses of forestry and plantation in these words, "Who sends you down rain from the sky? With it We cause to grow well-planted orchards full of beauty and delight. It is not in your power to cause the growth of the trees in them." (27:60) In *Surah Al-Nahl*, we read, "It is

He Who sends rain from the sky; from it you drink, and out of it (grows) the vegetation on which you feed your cattle (16:10) And in *Surah Ya'Sin*, we read, "The same Who produces for you fire out of the green tree, when behold! you kindle therewith (your own fires)." (36:80) Again, in *Surah Al-An'am*, we have, "It is He Who sends down rain from the skies; with it We produce vegetation of all kinds; from some We produce green crops out of which We produce grain, heaped up (at harvest); out of the date palm and its sheaths come clusters of dates hanging low and near; and then there are gardens of grapes, and olives, and pomegranates, each similar in kind yet different in variety; when they begin to bear fruit, feast your eyes with the fruit and the ripeness thereof. Behold! in these things there are Signs for people who believe." (6:99) Man is all the time reminded of the Blessings and Grace of God, Who has given him so much bounty for his use on the earth. The benefits of the sea are mentioned in these words, "It is He Who has made the sea subject, that you may eat thereof flesh that is fresh and tender, and that you may extract therefrom ornaments to wear; and you see the ships therein that plough the waves, that you may seek (thus) of the Bounty of God and that you may be grateful." (16:14) Navigational possibilities are mentioned in these words, "And marks and sign-posts; and by the stars men guide themselves." (16:16)

Thus there is no shortage of material and fuel for the geographers with which to continue their research into the wonders and mysteries of God's Creation. In fact, the Qur'an is a constant source of joy, inspiration and knowledge for men of God who see God's Signs in every part of His Creation. "And the earth, We have spread it out, and set therein mountains standing firm, and produced therein every kind of beautiful growth (in pairs) to be observed and commemorated by every devotee turning to God. And We

send down from the sky rain charged with blessings, and We produce therewith gardens and grain for harvests; and tall and stately palm-trees, with shoots of fruitstalks, piled one over another; as sustenance for God's servants." (50:7-11)

How beautifully the *Qur'an* describes the different stages of the moon, the changing seasons and the duration of the day and night. "It is He Who made the sun to be a shining glory and measured out stages for it; that you might know the number of years and alternation of the night and the day; and in all that God has created, in the heavens and the earth, are Signs for those who fear God." (10:5-6) The same reality of the day and the night is gracefully summed up in these words, "And a Sign for them is the night; We withdraw therefrom the day, and behold they are plunged in darkness. And the sun runs a course for a period determined for it: that is the Decree of Him, the exalted...And the moon, We have measured for her mansions to traverse till she returns like the old and withered lower part of a date-stalk. It is not permitted to the sun to catch up to the moon, nor can the night outstrip the day: each just swims along in its own orbit according to the Law of God." (36:37-40)

The *Qur'an* refers to another wonderful system of God where the two types of water, sweet and saltish, mingle together and yet remain separate in the high seas. "It is He Who has given independence to the two seas (though they meet); one palatable and sweet and the other bitter and saltish; yet He has set a barrier between them, a partition forbidden to be passed." (25:53) The *Qur'an* also refers to the ocean water currents and other benefits of the sea. "He has let free the two bodies of flowing water, meeting together: Between them is a barrier which they do not transgress...Out of them come pearls and coral." (55:19-22)

Then the *Qur'an* mentions the environmental factor and its influence on the physical features of God's Creation, "And so amongst men and crawling creatures and cattle, are they of various colours. Those truly fear God, among His servants, who have knowledge." (35:28) And in *Surah Al-Rum*, we have these words, "And among His Signs is the creation of the heavens and the earth, and variations in your languages and your colours. Verily in that are Signs for men of knowledge." (33:22)

These verses of the *Qur'an* and many similar passages describing the wonderful world of God stimulated the scientific study of geography and they discovered scientific facts in the alternation of the day and the night, in the movements of the moon round the earth, and the circular conception of the earth and its multifarious functions and implications for man. The diameter of the earth and its distance from the moon and the sun was calculated by them. These and other geographical facts which were absolutely unknown to the Greeks or the Roman were found by the Muslims. And the Muslims began the scientific study of geography as a direct result of the *Qur'anic* teaching and not through the influence of the Greeks as is claimed by the Europeans and blindly quoted by Muslim writers in their works.

Among other factors that stimulated geographical research among the Muslims was the annual pilgrimage to the Holy City of Makkah. The Muslims conceived Makkah as the central point of the world and tried to find easily accessible routes, and the distances and directions of different cities and towns from the central point. It was also necessary to find the correct direction of each place from Makkah so that the Muslims could offer their daily prayers facing the direction of Makkah. As the Muslims influence and faith spread to far

distant places in the north, east, west and south, efforts to find the direction and location of each region from Makkah became all the more necessary. This led to the determination of points of longitude and latitude of hundreds of towns and cities with greater exactness and accuracy than before. The invention of the compass was also made possible by this urge to find the correct direction of Makkah from different parts of the world. Again, the daily prayers necessitated the proper timing of each prayer and proper times of fast. This urge to worship God at proper times and to fast for His pleasure during the correct timing of the day in the different parts of the world led to great efforts and research into these subjects.

Hitti rightly admits the influence of worship and the *Ka'bah* in stimulating scientific studies by the Muslims in the field of geography. "The institution of the Holy Pilgrimage, the orientation of the mosques towards Makkah and the need for determining the direction of the *Ka'bah* at the time of prayer gave religious impetus to the Muslims' study of geography. Astrology, which necessitated the determining of the latitudes and longitudes of all places throughout the world, added its scientific influence. Moslem traders between the seventh and ninth centuries reached China on the east both by sea and by land, attained the island of Zanzibar and the farthest coasts of Africa on the south, penetrated Russia on the north and were checked in their advance westward only by the dreaded waters of the "sea of Darkness" (the Atlantic). (1)

The main stimulus to acquire knowledge of everything, including geography, came from the *Qur'an* and the *Hadith* of the Prophet, which led the Arabs to find knowledge from

1. Philop K. Hitti, "*History of the Arabs*," p.383.

the four corners of the world. In this search they found instruments and tools in Greek literature which proved very useful to them in their quest for geographical knowledge. As they advanced in geographical knowledge, these tools enabled them to make their studies more systematic and scientific. But this in no way means that their geographical studies were stimulated by the Greeks, because the stimulus to knowledge had already been provided by the Revelation which encouraged them to acquire all the existing knowledge through translating useful works of other peoples. However, they continued their studies of different regions and lands and discovered new fields of geographical knowledge unknown to previous nations, including the Greeks and the Romans.

We may add that another factor which provided a further stimulus to geographical study was the realisation on the part of Muslims that they were the rightful inheritors of the earth and all its wealth and that it was therefore their duty to see that all its wealth and potential resources were properly exploited and utilised. The *Qur'an* mentions this in these words, "It is He Who had made you His agents, inheritors of the earth; He has raised you in ranks, some above others, that He may test you in the gifts He has given you." (6:165) And in *Surah Yunus*, we read, "Then We made you heirs in the land after them, to see how you would behave." (10:14) Again, we have these words, "It is He Who has created for you all things that are on the earth." (2:29) Such verses of the *Qur'an* inspired the early Muslims with great zeal to find the treasures and lands which God had given them in inheritance. This Divine impetus took the Arabs to different lands and regions to spread the Message of their Lord and also quickened their pace of geographical research to find other lands which they had inherited.

The *Qur'an* appeals to men of knowledge and understanding to look deep into the creation of the earth and the heavens and study the significance of the wonders of the world of God. "Behold! In the creation of the heavens and the earth; in the alternation of the day and the night; in the sailing of the ships through the oceans for the benefit of mankind; in the rain which God sends down from the skies, and the life which He gives therewith to the dead earth; in the change of the winds and the clouds which they trail like their slaves between the sky and the earth; here, indeed, are Signs for wise people." (2:164) This is mentioned with the same vigour and force in *Surah Al-i-Imran* in these words, "Behold! In the creation of the heavens and the earth, and the alternation of night and day, there are indeed Signs for men of understanding, who celebrate the praises of God, standing, sitting, and lying down on their sides, and contemplate the wonders of creation in the heavens and the earth (with the thought), 'Our Lord! Not for nothing have you created all this.'" (3:190-91)

This, in fact, is the central theme and criterion of assessment of a believer. He inherits all the wealth of the earth and the heavens and makes full use of it for the benefit of mankind but, at the same time, he does not forget his own position on the earth. He reflects on all the treasures and wonders of the universe and sings the praises of his Lord Who has created all these wonderful things. Surely men of knowledge and wisdom can find many Signs and benefits for mankind from the Creation of God. "And it is He Who spread out the earth, and set thereon mountains standing firm, and flowing rivers; and fruit of every kind He made in pairs, two and two; He draws the night as a veil over the day. Behold! Surely, in these are Signs for those who reflect." (13:3)

Such passages of great beauty and inspiration are repeated in the *Qur'an* on several occasions, thus stimulating research in the geographical field, and, at the same time, reminding man of his position on the earth and his duty as the vicegerent and servant of God. No wonder Islam produced geographers of the fame of Al-Khwarizmi, Al-Biruni, Al-Maqdisi, Al-Battani, Al-Yaqubi, Al-Qudamah, Ibn Rustah, Abu Zayd al-Balkhi, Al-Istakhsi, Ibn Hawqal, Ibn Batuta, Al Hamadani, Yaqut Ibn Abdullah Al-Hamawi, and the greatest geographer of all times, the encyclopaedist Al-Masudi. (2)

2. *History of the Arabs*, p.392.

PART III

Natural History

1. Introduction
2. Geology ✕
3. Mineralogy ✕ ✓
4. Biology ✓
5. Botany ✕
6. Zoology ✕

9

NATURAL HISTORY

INTRODUCTION: Natural history is another important integral part of the sciences in Islam. It studies the descriptive aspect of the physical world in the same context: that all things are God's Creation and man can find many Signs of God in their study. The study of these sciences really revives religious consciousness in the hearts of the learners and makes their hearts feel the Greatness and Grandeur of God and they consequently fear and love Him all the more. This is the methodology of the Qur'an, to expose God's phenomena clearly before the eyes of men, so that they may see with their own eyes and try to understand the whole philosophy of His Creation. (1) The Qur'an mentions this in very simple words, "Soon shall We show them Our Signs in the furthest regions of the earth, and their own souls, until it becomes manifest to them that this is the Truth." (41:53) This leaves no doubt in the mind of a believer that science and religion in Islam are one and the same thing. One leads the other and both are inextricably linked together, one helping and complementing the other. Science reveals the wonders of God's world and fills the hearts of the believers with awe and fear, while religion draws the attention of the believers and invites them to look around, discover and reflect on the mysteries of the Creator.

Everything is God's, Who is the Sole Owner and Sovereign of this world, and the word 'nature' has no place in the universe of God. "To God belongs the dominion of the heavens and the earth; and God has Power over all things." (3:189) And in Surah Al-Ma'idah, we read, "For to God belongs the

1. Muhammad Qutb, Paper read at the Education conference, Makkah. 1977

Kingdom of the heavens and the earth and all that is between. He creates what He pleases. For God has Power over all things.” (5:19 and 5:123) And again, we find these words, “ To God belongs the dominion of the heavens and the earth. He creates what He wills and plans.” (42:49) This verse makes it absolutely clear that God is the Creator of all things. It is He Who has created all matter, given it different shapes and forms and bestowed on it different properties and qualities. It expands with heat and contracts with cold. When water freezes, it expands and increases in size. The chemical reaction of an element, when mixed with other elements, varies with different elements: Who has created this wonderful liquid, commonly called ‘water’? It is made up of two elements, one of which (hydrogen) is inflammable, while the other (oxygen) is non-flammable, i.e., it does not itself burn but helps other elements to burn; yet when the two are made into the compound we call water, they extinguish fire. Who else other than God could create elements with such amazing properties and characteristics?

And yet when the Name of God is mentioned in connection with these things, the ungrateful ones say it is to “ introduce a supernatural element into a purely mechanical process” (Darwin) and some remark that “ man now fully equipped with knowledge and sole master of his environment, must of necessity assume the power which, in times of ignorance and helplessness, he attributed to God, and become himself God” (Julian Huxley). How ignorant is man in spite of his advancement in knowledge and science! And how proud and boastful he is, even though he is quite helpless when compared to other things and creatures in the world of God! He can neither create a tiny thing by himself nor can he subdue powerful and strong animals without God’s Help. The Qur’an reminds man of his weak and helpless position in the wide world of God in various ways, so that he may think,

and so understand his true position and be grateful to God. The Qur'an mentions the gift of fire in these words, " See you the fire which you kindle. Is it you who grow the tree which feeds the fire, or do We grow it? " In Surah Al-Mulk, man is reminded of the water-supply. " Say: ' See you. If your stream be some morning lost (in the underground earth), who then can supply you with clear-flowing water?" (67:30) Then men are reminded of His Grace in the domestication of wild animals, which have so many benefits for them, " See they not that it is We Who have created for them — among the things which Our Hands have fashioned — cattle, which are under their control? And that We have subjected them to their use?" (36:71-72) Man is challenged in Surah Al-Hajj, to create a tiny thing, if he can. " O Men! Here is a parable set forth! Listen to it! Those on whom, besides God, you call, cannot create even a fly, if they all joined together for this purpose! And if the fly should snatch away anything from them, they would have no power to release it from the fly. Weak are both those who petition and those whom they petition!" (22:73) Thus all powers of creativity go back to the Creator, Lord of the Universe, Who is the Controller and Director of everything that happens, on the earth and in other parts of the universe. No other being has any share in this with Him. What height of ignorance is this? And what anomalous behaviour! You mention the Name of God and they are alarmed at this "introduction of a supernatural element into a purely scientific process". Is it not strange and also self-contradictory? You attribute all creativity to Nature and then claim that its mention is harmful to scientific research? Is it possible for you to define Nature? How and when did it assume this role of creativity? Is Nature the sole creator of the universe? Should all now believe in Nature as the Creator and forget God, the Sole Creator? What a nonsensical, ambiguous and vague idea! Why and what authority have these crazy people to change the

age-old Name of the Creator without any scientific evidence or justification? Is not giving things false names contrary to the true scientific spirit? The fact is that they have no basis at all, not to mention a scientific basis.

The *Qur'an* deals with such crazy people and their crazy ideas in a very graceful but scientific way. “ It tells them to produce authoritative evidence in support of their claim.” Say: ‘ Do you see what it is you invoke besides God? Show me what it is they have created on earth, or have they a share in the heavens? Bring me a Book (as written evidence revealed) before this, or any remnant of knowledge (in support of what you say), if you are telling the Truth” (46:4) If you fail to produce any scientific evidence in support of your claim, then surely, as an honest searcher for truth, you must weigh carefully the facts before you. “ Is then He Who creates like one that creates not? Will you not remember (this and) receive admonition?” (16:17) The *Qur'an* then points to the hard reality of their hearts, which are without any belief or firm idea of anything. “ Were they created of nothing, or were they themselves the creators? Or did they create the heavens and the earth? Nay, they have no firm belief.” (52:35-36) If it is not so, do they have any source of knowledge wherefrom they can get the secrets of the heavens regarding the creation and spread them among the people? (52:38) Finally, the *Qur'an* appeals to their sense of reason and better judgement to leave such hair-splitting theories and admit the Truth. “ It is We Who have created you: why will you not witness the Truth? Do you then see? The (human seed) that you throw out – is it you who create it, or are We the Creators? We have decreed death to be your common lot, and We are not to be frustrated from changing your forms and creating you again in (forms) that you know not. And verily you know the first form of creation. Why, then, do you not reflect? See you the seed that you sow in the

ground? Is it you that cause it to grow, or are We the Cause? Were it Our Will, We could crumble it to dry powder, and you would be left in amazement.” (56:57-65)

The *Qur'anic* methodology gave birth to Islamic methodology which, in turn, laid the basis for the scientific methodology of research through the Unity of the Creator leading to the Unity of the entire universe, its creative process as well as its maintenance and direction. The *Qur'an* is the incentive behind all Islamic scientific research and investigation into the hidden mysteries and wonderful treasures of the physical world of God. Scientific research enables man to see and verify the amazing and awe-inspiring Power of God and this strengthens the faith of the Muslim scientist in God and makes him a better believer and worshipper of God. This is why it is said that in Islam there is no contradiction or conflict between religious faith and science. Both are one and the same thing – Islam is science and science is Islam, each strengthening the other.

GEOLOGY

Geology studies the earth's crust, its strata, and their relations and changes. As pointed out before, one of the greatest gifts of God that Muhammad gave to the world was the search for Truth and encouragement of the effort towards practising it. No matter what the consequences for you, your family or your relatives, you must always look for Truth and support it under all circumstances. Every effort must be made to find the truth of any matter and then to follow it without fear. Thus, following the Absolute Truth in the Existence of One God, man looks for Truth in every area and field of His Creation. And this zeal opens the gateway to research and knowledge for man. In this respect, the *Qur'anic* studies provide a strong drive for research into the truth and the deeper realities behind the physical phenomena of nature, which in turn leads to discoveries of new knowledge in natural history, including geology: major transformations on the surface of the earth, its structure, weathering, fossils, rocks, etc.

It was no surprise that Muslim scientists from the very beginning showed great interest and enthusiasm in the study of geology before they turned to other areas of knowledge. It was also because of the influence of the *Qur'an* that Muslim geologists never worked outside the Kingdom of God. Therefore their relationship with God was rather strengthened through their knowledge and discovery of new geological facts. They had no need to wander around into the alleys of ignorance or so-called 'horizontal biological evolution', as the secularists do, to fill the gap which they had themselves created "by banning the Divine Cause from the natural order." (1) They knew in the light of their *Qur'anic* studies, that their course was set straight and never

felt any doubt about the direction of their research because geological knowledge confirmed what they believed and thereby strengthened their faith in God and His Way of life.

The *Qur'an* mentions the general stability of the earth's crust in these words, "Who has made the earth stable to live in and made rivers in its midst and set thereon mountains standing firm; and placed a barrier between the two seas? Can there be another god besides God? Nay, most of them know not." (27:61) In *Surah Al-Mulk*, we read, "It is He Who has made the earth manageable for you, so walk through its tracts and enjoy the sustenance which He has given; but unto Him is the Resurrection." (67:15) These verses of the *Qur'an* clearly explain the Authority and Command which is managing the entire scene and leaves no doubt as to the Presence and Existence of God. It also makes clear that it is God and God alone who made this earth steady and stable so that mankind could live here peacefully and without any disturbance or fear. This is further explained in these words, "After that, God extended the earth. He drew out its water and its pasture. And He firmly fixed the mountains for the use and convenience of you and your cattle." (79:30-33) This verse refers to the great many benefits of the mountains, for they serve as the main reservoirs for the storage and gradual distribution of water, the very basis of the life of man and cattle. Again, it shows that everything on earth has been made and arranged to serve the convenience of man and the lower forms of life which depend upon him. The earth and its actual and potential resources are exploited by man's own intelligence and initiative, which are also gifts of God. (2) It also reminds man that the central point of Islamic philosophy and science, that all these wonders in the physical world are

1. *Islamic Science*, pp.51-54.

2. Yusuf Ali, *The Holy Qur'an*, p.79.

the creation of One God, must remain dominant in every field of study.

The *Qur'an* also draws attention to the phenomenon of the folds in the earth's crust in the formation of the mountains. "And He has set up on the earth mountains standing firm, lest it should shake with you; and rivers and roads, that you may guide yourselves." (16:15) In *Surah Al-Zariyat*, we read, "And We spread out the spacious earth; how excellently We do spread it out." (51:48) And in *Surah Nuh* are these words, "And God has made the earth for you as a carpet (spread out), that you may go about therein, in spacious paths." (71:19-20) This function of the mountains in the stability of the earth's crust is explained more clearly in the following verse, "Have We not made the earth as a wide expanse and the mountains as pegs?" (78:6-7) In these verses of the *Qur'an*, there is a reference in very beautiful and graceful words as a figure of speech: the earth is spoken of as a spacious carpet spread out under our feet and the mountains are called as pegs to act as a steadying agent to keep the carpet from rolling or shaking because of its movements (round its own axis as well as round the sun).

The *Qur'an* mentions this again in *Surah Al-Ghashiyah* in these words, "(Do they not look) at the mountains, how they are fixed firm? And at the earth, how it is spread out." (88:19-20) The following verse is more specific in pointing out the exact function of the mountains. "He set on the earth mountains standing firm, lest it should shake with you." (31:10) In all these verses, man is reminded of the gifts and bounties of his Lord so that he may benefit from them and be grateful to Him. Their very existence on this earth would not have been comfortable and easy had it not been for God's Mercy in making this earth habitable and stable for them, and providing for their sustenance on it.

The *Qur'an* also mentions the nature and some of the characteristics of rocks in these words, "Thenceforth were your hearts hardened: they became like a rock and even worse in hardness. For among rocks there are some from which rivers gush forth; others there are which, when split asunder, send forth water; and others which sink for fear of God." (2:74) And in *Surah Bani Israel*, we read, "Say: 'Nay! Be you stones or iron, or created matter, which, in your minds, is hardest (to be raised up)?" (17:50-51) And in *Surah Al-Ahzab*, we read, "We did indeed offer the trust to the heavens and the earth and the mountains; but they refused to undertake it, being afraid thereof; but man undertook it. He was indeed unjust and foolish." (33:72) And in *Surah Al-Fil* are these words, "He sent against them flights of birds, striking them with stones of baked clay." (105:3-4) The following verse seems to show that the intensity of heat is increased many times if stones are put into the burning fire, "Save yourselves and your families from a fire whose fuel are men and stones." (66:6) From some stones water comes out when they are broken. "We said, 'Strike the rock with your staff.' Then gushed forth therefrom twelve springs." (2:60 and 7:160) In *Surah Al-Qamar*, we read, "And We caused the earth to gush forth springs." (54:12)

There seems to be a reference to earthquakes. "When Our Decree was issued, We turned (the cities) upside down, and rained down on them stones of clay, layer on layer." (11:82) And in *Surah Al-Hijr*, we read, "And a mighty blast overtook them before morning. And We turned (the cities) upside down, and rained on them stones hard as heated clay. Verily, there are Signs for those who read and understand Signs." (15:73-75) And in *Surah Al-Zariyat* are these words, "We are sent to a guilty people, that we may bring on them stones of clay." (51:32-33) And in *Surah Al-A'raf* are these words,

“ When We shook the mountain over them as it were a covering, and they thought it was going to fall on them.” (7:171) And in *Surah Al-Ankabut*, we read, “ Against some We sent a violent tornado (with showers of stones); some were caught by a mighty blast; some We caused the earth to swallow up.” (29:40)

There are quite a few passages in the *Qur'an* which suggest that the rocks in the mountains are alive and feel as living beings do. “ Had We sent down this *Qur'an* on a mountain, surely, you would have seen it humble itself and cleave asunder for fear of God. Such are the parables which We explain to men, that they may reflect.” (59:21) And in *Surah Sad*, we read, “ It was We Who made the hills hymn the praises of their Lord with him (Prophet David) at nightfall and sunrise.” (38:18) And in *Surah Saba* are these words, “ We bestowed Grace before on David from Us, saying, ‘ O you mountains! Hymn you back the praises of God with him.’” (34:10) And again, in *Surah Al-Anbiyah*, we read, “ And We subdued the mountains and the birds to hymn praise along with David.” (21:79) And *Surah Al-A'raf*, says, “ When His Lord manifested His Glory on the mountain He sent it crashing down (into dust).” (7:143) And in *Surah Al-Ra'd*, we have, “ If there were a *Qur'an* with which mountains were moved, or the earth were cloven asunder...(this *Qur'an* would be the one).” (13:31) In *Surah Ibrahim* we read, “ Verily they have plotted their plot, but their plots were within the Sight of God, though their plots were such as to shake the mountains.” (14:46) And in *Surah Maryam* are these words, “ At it, the skies are almost torn, the earth is split asunder and the mountains fall in utter ruin.” (19:90)

The ultimate end of the mountains together with the earth on the Day of Judgement is described in very painful and

awe-stricken words on many occasions in the *Qur'an*. "They ask you concerning the mountains. Say, 'My Lord will uproot them and scatter them as dust; and leave it as an empty plain; nothing crooked or curved will you see in their place.'" (20:105-107) In *Surah Al-Naml*, we read, "And you see the mountains and think them firmly fixed, but they shall pass away as the clouds pass away." (27:88) And in *Surah Al-Ma'arij* are these words, "The Day when the sky will become as molton copper, and the mountains become as flakes of wool." (70:8-9) And *Surah Al-Takwir* says, "When the sun is folded up; when the stars fall, losing their lustre; and when the mountains vanish like a mirage." (80:1-3) All these verses of the *Qur'an* point to the utter destruction of the present form of the mountains, which will be broken into pieces and turned into dust or flakes and pass like clouds. This also points to another eternal reality of this world, that the universe and all that it contains belongs to the Creator, Who can destroy it whenever He pleases and create another world altogether different from it." Do you feel secure that He Who is in heaven will not cause you to be swallowed up by the earth when it shakes as in an earthquake?" (67:16) It is therefore necessary that man must live in this world fully realising his own delicate and temporary role within the Law of his Creator.

The *Qur'an* mentions something which resembles the human experience of inconvenience and discomfort at high altitudes, "Those whom He wills to lead astray, He makes their bosom close and narrow, as if they had to climb up to the skies." (6:125) The *Qur'an* also mentions some change in the crust of the earth, its being reduced or contracted. "See they not that We gradually reduce the land from its outlying borders." (21:44) We already know that the resources of the earth and the heavens are completely made subject to man and he is endowed with the power and ability to use it for his

benefit, In *Surah Qaf* are these words, "And He has subjected to you, as from Him, all that is in the heavens and on earth: behold, in that are Signs indeed for those who reflect." (45:13) In *Surah Luqman*, we read, "Do you not see that God has subjected to your use all things in the heavens and on earth, and has made His Bounties flow to you in exceeding measure, (both) seen and unseen? Yet there are among men those who dispute about God, without Knowledge and without Guidance, and without a Book to enlighten them!" (31:20) And in *Surah Al-Hajj* are these words, "See you not God has made subject to you all that is on the earth?" (22:65) These verses make it crystal clear that all that is in the heavens and on earth belongs to God and He has subjected its use to mankind. All its resources, visible as well as invisible, are there for him to use and benefit from. He should, however, remember that he is not the owner but only an agent of the Owner. He should therefore live here and use the things given but never dare claim his own independence or sovereignty over these things.

These studies produced scientists of great fame, who were true worshippers of God and fully conscious of His Majesty, as well as of the wonders of His Creation. They had fully realised that, "The seven heavens and the earth, and all that is therein, declare His glory. There is not a thing but celebrates His praise; and yet you understand not how they declare His Glory." (17:44) They also knew with full understanding that, "To Him belongs the dominion of the heavens and the earth." (57:5) And *Surah Maryam* says, "There is none in the heavens and the earth but comes to the Beneficent as a servant." (19:93)

Thus men of great learning who were also sincere worshippers were produced by the *Qur'an*. They included geologists such as Al-Biruni, Jala al-Din Al-Suyuti, Abdul Latif Al-Sadani and Ibn Sina.

MINERALOGY;

The science of minerals is one of the important fields of study in natural history which has received a tremendous boost from the *Qur'an*. It is very intimately related to alchemy, chemistry and metallurgy on the one hand and medicine on the other. (1) Muslim mineralogists received great encouragement for their research work from their *Qur'anic* studies. The *Qur'an* refers to the wonderful colour schemes and shades that are found not only in vegetation but also in rocks and minerals. "See you not that God sends down rain from the sky? With it We then bring out produce of various colours. And in the mountains are tracts white and red, of various shades of colour, and black intense in Hue." (35:27)

There is a reference to the use of iron in *Surah Saba*, "We made the iron soft for him, (commanding), 'Make you coats of mail, balancing well the rings of chain armour.'" (34:10-11) And the use of copper is mentioned in these words, "And We made the fountain of copper gush forth for him." (34:12) And in *Surah Al-Kahf*, we read, "Bring me blocks of iron.' At length, when he had filled up the space between the two mountain-sides, he said, 'Blow (with your bellows).' Then, when he had made it (red) as fire, he said, 'Bring me molten copper to pour thereon.'" (18:96) And *Surah Al-Hadid* says, "And We sent down iron, in which is (material for)mighty war, as well as many benefits for mankind, that God may test him who helps Him and His Messenger, though unseen." (57:25) This verse clearly mentions the object of man while engaged in his multifarious pursuits of life: to follow the Guidance of God's Messengers

1. *Islamic Science*, pp.52-54.

and help them in the establishment of a system of virtue, goodness and justice on the earth, so that people may live happily in peace and security. This spirit pervades the entire hierarchy of Islamic sciences and teaches mankind the Unity of all that is in the heavens and the earth under the One Law of its Creator, One God.

Then the *Qur'an* also refers to precious metals in various contexts. "They will be adorned therein with bracelets of gold and pearls." (22:23) In *Surah Al-Dahr* are these words, "And amongst them will be passed round vessels of silver and goblets of glass, crystal-clear, made of silver." (76:15-16) Again, in the same *Surah*, we read, "Upon them will be fine silk and heavy brocade, and they will be adorned with bracelets of silver." (22:21) And in *Surah Al-Rahman* are these words, "Out of them come pearls and coral; then which of the favours of your Lord will you deny?" (55:22-23) This verse is a reminder to man that all these minerals and other material goods that they find from the earth for their use are some of the favours of their Lord and they must be grateful to Him. "(in beauty they are) like rubies and coral. Which of the favours of your Lord will you deny?" (55:58-59)

People are especially attracted by the precious metals, gold and silver, because of their beauty in ornament and their value. The *Qur'an* therefore mentions these two metals in particular, but with a word of warning to the greedy and niggardly. "And there are those who bury gold and silver and spend it not in the Way of God; announce to them a most grievous penalty." (9:34) *Surah Al-i-Imran* has these words, "Fair in the eyes of people is the love of things they covet:... heaped up hoards of gold and silver...such are the possessions of this world's life. But with God is the best of abode." (3:14) Again, in the same *Surah*, we read, "As to

those who disbelieve and die in disbelief, the whole earth full of gold would not be accepted from any such if it were offered as a ransom. Theirs will be a painful doom and they will have no helpers." (3:91) These verses explain the eternal measure of value of Islam and also make it clear that there is no conflict between material and spiritual life.

Then the *Qur'an* mentions these metals in other contexts in these words, "They will be adorned therein with bracelets gold." (18:31) In *Surah Al-Fitir*, we read, "Therein they will be adorned with bracelets of gold and pearls." (35:23) And in *Surah Al-Zakhruf*, "To them will be passed round dishes and goblets of gold." (43:71) And were it not that all people might become of one (evil) way of life, We would provide to those who disbelieve in the Beneficent, silver roofs for their houses and stairs of silver whereby to mount. And silver doors for their houses and couches of silver whereon to recline. And ornaments of gold. Yet all that would be nothing but a provision of the life of the world." (43:33-35)

These verses contain a lesson of wisdom for those who really fear God and reflect on His Signs and follow the Way of His Messenger. They are indicators of the superior motive of every seeker of Knowledge and Truth in the Kingdom of God. They are also pointers to the fact that believers in the Truth of the Messenger of God found an incentive in their *Qur'anic* studies to look for His Signs in the physical world. These verses of the *Qur'an* make it absolutely clear that man may use anything he wishes and may engage himself in any work, business or worldly activity for his benefit. It is well and good, for he is trying to improve the quality of his living on the earth. But he must not forget that all those things, things of beauty and colour, which he is using in the satisfaction of his multifarious needs, are created by God, for which he must be thankful to Him. And the best way to do

that is to obey the Law of God, which is sent to mankind through His Messenger. All this might well have stimulated research into various fields of knowledge, including mineralogy, and produced scientists like Al-Kindi, Al-Jahiz, Nasr Ibn Yakub Al-Dinawari, Muhammad Ibn Zakariyya Al-Razi, Muhammad Ibn Ahmad Al-Tamimi, Ibn Sina, Al-Biruni, Maslamah Ibn Waddah Al-Qurtubi Al Majriti, Abdul Abbas Al-Tifashi, Nasr Al-Din Al-Tusi, Abdul Qasim Al-Qazani (Kashani), Qazwini, Hamdallah Mustaawfi, Shams Al-Din Al-Akfani, Ibn Al-Athir, Ibn Al-Jawzi and Daud Al-Antaki.

BIOLOGY

The science of biology deals with the phenomena manifested by living matter.. (1) The living matter ranges from the lowest form of life of the plants to the highest form of life of man on the earth. There are other forms of life known to man, such as jinns and angels, but these fall outside our scope because our knowledge does not comprehend that life. Even stones seem to possess life.

In Islamic sciences, natural history has always been studied as a unity and in terms of the interrelatedness of all things, the world of God, according to Islam , being an organic unity. And “ natural history has always played a central role as the integrating and all-embracing matrix within which particular descriptive sciences of nature have been cultivated, from mineralogy to zoology. It has sought to integrate particular forms of knowledge of the natural order into universal principles of a metaphysical and cosmological nature. And it has sought to study nature not only with respect to other physical and biological forms and vis-a-vis man’s relation to these forms but most of all as the ‘Signs’ or portents (*ayat*) of God, to be contemplated rather than simply analysed.” (2)

It is the influence of *Qur’anic* studies which has kept Muslim scientists and all their knowledge within the realm of godliness. It provides them with an incentive, being the ideal which governs their beliefs as well as their scientific activities. During their biological research they are fully conscious of God’s Power of creativity, and new knowledge in this field only brings them nearer to their Lord, unlike the atheists and

1. *Encyclopaedia Britannica*, vol.III.

2. *Islamic Science*, pp.49-71.

modern western scientists, who only study natural history on one level and never get the true picture of nature " as a totality and an organic whole " in the universe of God. (2) Blinded by their narrow approach, they fail to notice the wonders and miracles of their Creator in every part of His Creation. What part of the living organism does not stir consciousness? Who makes the seed sprout forth from the earth? Who pushes the stem upwards, contrary to the earth's gravitational pull? Who makes the flower blossom and bear fruit? Who gives it colour, taste and smell? Who else does all these things except God? The whole universe is full of the mysteries and wonders of His Creation and is an open reminder of the Creator for those who have eyes to see and hearts to think and reflect.

The *Qur'an's* stimulus produced scientists of great fame in natural history. Among them were Abu Qutaybah, Al-Qazwini, Al-Dimashqi, Al-Masudi, Al-Jahiz, Ibn Sina, Al-Farabi and Abdul Latif.

ORIGIN OF LIFE

According to the *Qur'an*, all life on earth began with water, " Do not the unbelievers see that the heavens and the earth were joined together (as one unit of creation), before We parted them. And We made every living thing from water? Will they then believe?" (21:30) This verse plainly presents the Islamic viewpoint with regard to the origin of life on the earth. It leaves absolutely no doubt that life on the earth was created from water by the Command of God. And then gradually it took different forms and shapes in course of time according to the Law of its Creator. However, it shows that the element of water is essential for all kinds of life. Our daily observation of the magic of rainfall in giving life to dead earth is well-known to everyone. The *Qur'an* invites man's

attention to this daily happening. “ He has sent down water from the sky. Thereby We have brought forth divers kinds of vegetation.” (20:53) In *Surah Al-An'am* are these words, “ He it is Who sends down water from the sky, and therewith We bring forth vegetation of all kinds. We bring forth green crops, out of which We produce grain, heaped up (at harvest); Out of the date-palm and its sheaths come clusters of dates hanging low and near; and the gardens of grapes, and the olive and the pomegranate, alike and unlike.” (6:99) The *Qur'an* throws light on the same reality in another way in *Surah Al-Nahl* “ And God sends down rain from the skies, and gives therewith life to the earth after its death. Verily in this is a Sign for those who listen.” (16:65) And in *Surah Al-Hajj*, we read, “ You see the earth barren and lifeless, but when We send down water thereon, it does thrill and swell and put forth every kind of lovely growth (in pairs).” (22:5)

13

BOTANY

The *Qur'an* mentions in great detail the wonders of God's vegetable Kingdom and how it grows out of water. A barren and dead land becomes living, full of every kind of vegetable, when it receives rainfall. "And among His Signs is this : you see the earth barren and desolate; but when We send down rain to it, it is stirred to life and yields increase." (4:39) In *Surah Al-Qaf*, are these words, "And We send down from the sky rain charged with blessing, and We produce therewith gardens and grain for harvests; and tall (and stately) palm-trees, with shoots of fruit-stalks, piled one over another, as sustenance for God's servants. And We give new life therewith to land that is dead." (50:11) And in *Surah Al-An'am*, we read, "It is He Who produces gardens, with trellises and without, and date-palms, and crops of diverse flavour, and the olive and the pomegranate, similar (in kind) and different (in variety)." (6:141) And in *Surah Al-Nahl* are these words, "It is He Who sends down rain from the sky; from it you drink, and out of it grows the vegetation on which you feed your cattle. With it He produces for you corn, olives, date-palms, grapes, and every kind of fruit. Verily in this is a Sign for those who reflect." (16:10-11)

The vegetable kingdom of God is not only full of varieties of fruits and other crops but also maintains a strict balance and fixed pattern. There is diversity of colours, fruits, flowers and crops, but within the strict discipline and order of God. "And the earth We spread out like a carpet; set therein mountains firm and immoveable; and produced therein all kinds of things in due balance." (15:19) In *Surah Al-Qamar*, we read, "Verily, all things have We created in proportion and measure." (54:49)

Again God refers to His many Signs for the people in the growth of various kinds of fruit and crops which are watered by the same water but possess different colours, tastes and flavours, “ And behold! There are different regions on the earth close to one another: there are vineyards, cornfields, and the groves of palm-trees with single or double trunks. All are irrigated with the same water, but We make some more tasteful than others. Most surely there are many Signs in all this for those who understand and use their common sense!” (13:4)

Then the *Qur'an* draws man's attention to the amazing process of reproduction in the vegetable kingdom. But it refers only to the sexual process of reproduction without mentioning the other type i.e., the asexual process of reproduction. This is because the former is the “ biological process whose purpose is the appearance of a new individual identical to the one that gave it birth, whereas the latter is not really reproduction at all but mere multiplication.” (1) “ It is God Who has sent down water from the sky and thereby we have produced pairs of plants, each separate from the others.” (20:53) In *Surah Luqman*, we send down rain from the sky, and produce on the earth every kind of noble plants in pairs.” (31:10) And again, in *Surah Al-Hajj* are these words, “ But when We pour down rain on it, it is stirred (to life), it swells, and it puts forth every kind of beautiful growth (in pairs).” (22:5) And in *Surah Al-Ra'd*, we read, “ And pairs, two two.” (13:3) And in *Surah Al-Shu'ara* are these words, “ Do they not look at the earth, how many noble things of all kinds We have produced therein in pairs. Verily, in this is a Sign, but most of them do not believe.” (26:7-8)

1. *The Bible, the Qur'an and Science*, pp.185-97.

The reproductive process reaches its peak with the germination of these seeds. The *Qur'an* refers to this marvel of God's wonders in the world of vegetation in these words, "God causes the seed grain and the fruit-stone to split and sprout." (6:95) The *Qur'an* also mentions the existence of the components of a pair in the vegetable world. "Glory be to Him, Who created in pairs all things that the earth produces, as well as their own (human) kind and (other) things of which they have no knowledge." (36:36) (3) The most important thing to remember in this respect is that God is the Controller of the striking and magnificent processes of reproduction in their various forms in the vegetable kingdom. This is the cornerstone of Islamic science and of all fields of study, and all Muslim scientists have again and again emphasised this point. In fact, these amazing, noble and beautiful examples in the vegetation world only help to increase man's belief and faith in God and His creative Power. And the *Qur'an* mentions these wonderful and impressive facts of life only to bring home to man Grandeur and Majesty of its Creator.

It is no surprise that *Qur'anic* studies produced so many scientists in this field of the calibre of Jabir Ibn Hayyan, Abu Nadir Ibn Shumayl, Abu Zayd Al-Ansari, Ibn Al-Sikkit, Abu Sa'd al-Asmai, Ali Ibn Rabban al-Tahari, Hunayn Ibn Ishaq, Razi, Abu Hanifah al-Dinawari, Ibn Sins, Ibn Bajjah, Ibn Rushd, Ibn al-Awwam, Ghafiqi, Ibn Al-Baytar, Abdul Al-Latif Al-Baghdadi, Al-Qazwini, Shams al-Din Al-Nuwayri, Hamdullah Mustawfi, Al-Juzali, Umar Ibn Al-Wardi and Mulla Sadri. (2)

2. Islamic Sciences.

ZOOLOGY

The science of animal life receives no less attention in the *Qur'an* than those of other aspects of life. Again, this aspect of life reveals the Glory and Majesty of the Creator in new dimensions and draws man's attention to the animal kingdom so that he may observe, study and reflect upon the Wonders of his Lord, benefitting from them as well as Glorifying His Name for His immeasurable Bounties and Gifts. There are numerous passages in the *Qur'an* which throw light on animal life in various contexts. It recalls to man's mind the origin of all life on the earth in these words, "We made from water every living things. Will they not then believe?" (21:30) Then in *Surah Al-Nur*, we read, "And God has created every animal from water: of which there are some that creep on their bellies; some that walk on two legs; and some that walk on four. God creates what He pleases; For verily God has Power over all things." (24:45)

The *Qur'an* mentions some of the animals and their uses and benefits for mankind and describes the animal kingdom, with its wonderful diversity, beauty and charm. A few passages of the *Qur'an* are reproduced here to show the Grace and Beneficence of the Creator to man. The production process in the animal world is referred to in these words, "That He did create in pairs male and female, from a small quantity of liquid when it is poured out." (53:45-46) In *Surah Al-Zukhruf*, we read, "That He has created pairs in all things, and has made for you ships and cattle on which you ride." (43:12) In *Surah Al-An'am*, different kinds of cattle are mentioned in which are great benefits for mankind. "Of the cattle are some for burden and some for meat...(Take) eight (head of cattle) in (four) pairs; of sheep a pair, and of goats a pair...of camels a pair, and of oxen a pair."

(6:142-144) In *Surah Al-Nahl*, we read , “ He has created cattle, whence you have clothing and food, and there are other benefits also for you in them; they look pleasant when you drive them to the pasture in the morning and bring them home in the evening. They carry your burden to far-off lands, which you could not reach without painful toil. Indeed your Lord is All-Compassionate and All-Merciful. He has created horses, mules and donkeys so that you may ride on them, and that they may add splendour to your life. And He creates for you many other things, of which you have no knowledge at all. God has taken upon Himself to show the Right Way, but there exist crooked ways too.” (16:5-9)

The *Qur'an* also mentions the existence of animal communities like those of humans which are well-developed in their organisation and planning. “ As regards Signs, look around, there is not an animal (that lives) on the earth, nor a being that flies on its wings, but (forms part of) communities like you. (You will see that) We have left out nothing in predetermining the courses of their lives; then to their Lord they will be gathered.” (6:38) There is also reference in the *Qur'an* to the behaviour of different species of animals. It describes the community of bees in these words, “ And behold! Your Lord has inspired the bee with this; ‘Build your hives in the mountains, trees and in what man builds; then drink nectar from every kind of fruit, and follow the ways made by your Lord.’ From its belly comes out a fluid of different colours wherein is healing for mankind. Verily in this is a Sign for those who reflect.” (16:68-69) The community of spiders and their behaviour is mentioned in these words, “ The parable of those who take protection from other than God is that of a spider, who builds (to itself) a house; but truly the weakest of houses is the house of a spider; if they but knew.” (29:41) The community life of ants is referred to in *Surah Al-Naml* in these words, “ At last,

when they (Prophet Sulaiman and his army) reached the valley of the ants, one of the ants said, ‘ O Ants! Get into your dwellings lest Sulaiman and his armies crush you (under their feet) without knowing.’ (27:18) And then bird-life is described. How are birds poised in the atmosphere of the sky? “ No one can hold them up except God. There are many Signs in this for those who believe.” (16:79) And in Surah Al-Mulk, we read, “ Do they not observe the birds above them, spreading their wings and folding them in? None can uphold them except (God) Most Gracious. Truly it is He that watches over all things.” (67:19) And the *Qur’an* mentions yet another most revealing and inspiring benefit of cattle in these words, “ And surely there is an instructive Sign for you in cattle. We give you to drink of that which is in their bellies between the excretions and blood, a milk pure and pleasant to those who drink it.” (16:66) In this verse is a reference “ to the most wonderful process of the formation of pure milk in the bellies of she-cattle, for the fodder they eat turns to blood, filth and pure milk, which is altogether different from the first in its nature, colour and usefulness.” These revelations by the *Qur’an* about the initial process of milk formation were totally unknown to man before the modern discoveries in the field of chemistry and physiology about the digestive system. Therefore the existence of this information in the *Qur’an* “ can have no human explanation, and must have been a Revelation from God to His Prophet Muhammad.” (1)

MAN’S CREATION

The *Qur’an* devotes considerable attention to the Origin of man and mentions the fact of his creation on several occasions in different contexts for the benefit of mankind. “It is He Who has created you in diverse stages.” (71:14) He is also reminded of his humble and lowly origin. “ O Man!

What has seduced you from your Lord Most Beneficent. It is He Who created and fashioned you in due proportion and gave you a balanced form.” (82:6-7) And in *Surah Al-Tar’iq*, we read, “He (man) is created from a drop of liquid emitted, proceeding from between the backbone and the ribs.” (86:6-7) The fertilisation process takes place with a very small quantity of liquid, not visible to the naked human eye. “Then We placed him (man) as (a drop of) sperm in a place of rest firmly fixed; then We made the sperm into a clot of congealed blood; then We fashioned the clot a little lump (foetus); then We made out of that lump bones and clothed the bones with flesh, and then We developed out of it another creation. So blessed be God, the Best of Creators.” (23:13-14) And in *Surah Al-Qiyamah* are these words, “Was he (man) not a drop of sperm emitted (in lowly form)? Then he became a clot; then God shaped and fashioned him in due proportion. And made of him a pair, the male and female. Is not He (Who does so) able to bring the dead to life?” (75:37-40)

The *Qur’an* refers to the composition of the fertilising liquid on several occasions with regard to man’s production. “We created man from a drop of mingled sperm; in order to test him. So We gave him (the gifts of) hearing and sight.” (76:2) This verse also gives the fundamental reason of his creation which man should not forget if he wants to remain on the right course (of success) in this world. And in *Surah Al-Sajdah*, We read, “And made his progeny from a refined extract of the nature of a despised fluid. But He fashioned him in due proportion, and breathed into him something of His Spirit. And He gave you (the faculties of) hearing and sight and feeling (and understanding). Little thanks do you give! (32:8-9) Again, in *Surah Al-Mursalat*, we have, “Have We not created you from a fluid (held) despicable? Which was laid up in a safe abode for a fixed term? Thus We

arranged. How excellent is Our arrangement!" (77:20-23) The next stage of the lodging of the egg after its fertilisation in the female organ is mentioned in these words, " And We cause whom We please to rest in the womb for an appointed term, then do We bring you out as babes, then (foster you) that you may reach your age of full strength; and some of you are called to die, and some are sent back to the feeblest old age, so that they know nothing after having known (much)." (22:5) Then the process of nourishment of the fertilised egg is referred to in the *Qur'an* in these words, " Who created man out of mere congealed blood (while clinging to the uterus in the womb)." (96:2)

Thus the *Qur'an* clearly points to the various stages of man's development in the womb: fertilisation by a small quantity of invisible liquid, the composition of the liquid, the lodging of the egg in the female genital organs, the evolution of the embryo, the appearance of senses and of sexual organs, etc. All these references to the process of egg fertilisation and its growth by stages in the womb is a clear indication that Muhammad was given this knowledge by the Creator Himself so that man may realise, and reflect on, his position in relation to God and learn a lesson for his right guidance and follow the Right Way.

This also clearly solves many of the problems and questions that may arise in the minds of some people. Who is the Maker and Controller of this complicated process and creates innumerable sperms in a small drop of liquid? How do they fertilise the egg and Who makes them come together at certain times but not at other times? How does the composition of the fertilising egg take place and Who controls the whole process of fertilisation? Who controls the amazing and wonderful process of the lodging of the egg

after its fertilisation in the female organ and its stages of development there? Who gives the diverse characteristics, shapes, colours and qualities to it? Who develops it into a new form (i.e., man) from the embryo? Then Who gives it senses, sexual organs, faculties of hearing, sight and understanding? These and many other questions remain unanswered if you believe in something other than God. Deep study of animal life and its process of creation brings man straight to His Creator because without the existence of God, Omnipotent and All-Powerful, such a wonderful animal kingdom is beyond human comprehension and understanding. Every intelligent man with some common sense will come to the same conclusion: "Our Lord! You created not all this in vain. Glory be to You! Protect us from the penalty of the fire." (3:191)

These studies inspired great Muslim scientists, including Abu Nadr Ibn Shumayle, Al-Asmac, Ibn Al-Arabi, Abu Ubayd Ibn Sallam, Abu Hatim Al-Sijistani, Bishr Ibn Al-Mu'tamir, Abu Ishaq Al-Nazzam, Al-Tahiz, Al-Kindi, Al-Farabi, Ibn Qutaybah, Buzurg Ibn Shahriyar Ramhurmuzi, Ibn Sina, Ibn Bajjah, Ibn Rushd, Al-Qazwini, Al-Dimashqi, Al-Nuwayri, Al-Jildaki and Kamal Al-Din Al-Damiri.

PART IV

1. Economics
2. Agriculture
3. Horticulture
4. Irrigation
5. Commerce

ECONOMICS

The economic problem of man has always attracted great attention from individuals as well as communities and various attempts have been made to solve this difficult but important problem; but they have either utterly failed or only partially succeeded in finding an equitable and balanced solution of this long standing problem. Most of these attempts have gone to the one extreme or the other and have lost their true balance. They have either gone to far in protecting the rights of the individual and have completely ignored the common good of society (as in the capitalist system) or have totally undermined the rights of the individual (as in communist system). Islam, on the other hand, respects the liberty of the individual without damaging the common good of society. It strikes a just and equitable balance between the individual rights and the rights of society. In fact, it provides us with economic principles to organise society in such a way in which there is no conflict between individual liberty and common good of society. It combines the advantages of both communism and capitalism without their evils and provides opportunity for work and full employment without fear of reduction in the rate of investment or in the growth of capital in the community.

ECONOMIC PRINCIPLES

The supremacy of God, as pointed out earlier, is the basis of everything in Islam, no matter of what nature, whether spiritual, economic, political or economic. God is the Creator and Owner of everything on the earth. He has created all things for all mankind: "His is the Sovereignty of the heavens and the earth, and all affairs are referred back to God." (57:5) And in *Surah Al-Baqarah* we read, : "He it is

Who created for you all that there is on the earth.” (2:29) Thus it is the birthright of every individual to make efforts to get his share of this Divine Inheritance and no one can claim this on the basis of his colour, creed or race alone. All individuals enjoy this right equally and no one can be deprived of this by law or otherwise, or can be given precedence over others. There is absolutely no distinction between people or any restriction on any individual, race or group, for making efforts to earn a living in any way they like. All enjoy equal opportunities in the field of economics as to how they earn their living. Likewise, there is no distinction between people on the basis of their colour, creed or race, which can create special rights giving anyone a monopoly of any particular means of production, consumption, exchange or distribution. All people enjoy an equal right to endeavour to get their share of the sustenance of God on the earth. It is the duty of the Islamic State to ensure that all its citizens enjoy equal opportunities and a fair chance to earn their livelihood. (1)

This freedom of work and enterprise to make one's living is secure and guaranteed by the Islamic State so long as these activities are within the law and do not involve any indecency or wrong doing. Whosoever strives to make a decent living through honest and hard work will find ample opportunities in this system; but a dishonest person or company will find it difficult, or rather impossible, to prosper in such a system. People who venture into activities involving fraud, dishonesty, unfair means, cheating, corruption, exploitation, smuggling, etc. will not gain anything but punishment. (2)

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1. Abul Ala Maududi, *Islamic Way of life*, pp.66-80.
 2. *Islam in Focus* , pp.126-30

MAIN FEATURES OF THE ECONOMIC SYSTEM

The economic system of Islam is basically different from other economic systems in its nature, form and purpose. It tries to solve the difficult economic problems of man by adopting the Golden Mean between the two extremes of Capitalism and Communism, retaining the virtues of both without including any of their evils. It allows neither unrestricted freedom to damage the interest of the community and the individual, nor does it recommend totalitarian regimentation so as to destroy the personality (ego) of the individual, which is the central figure and source of strength of its system.

The individual is given freedom of enterprise and work so that he may freely exercise his right to earn his living and organise his activities in a manner conducive to the development of a spirit of cooperation and help in place of unhealthy competition and rivalry. Moral education and training changes the entire outlook of the individual. He feels no rivalry towards other members of society but, instead, regards it as his moral and religious duty to help his co-workers in their economic struggle, or at least not to obstruct them in their struggle for life. This attitude generates feelings of love, cooperation, help, sacrifice and brotherhood among individuals and leads to the maximum productive effort on the part of the community as a whole, with its benefits of prosperity, plenty and betterment of all. This policy meets the desires of the community as well as of individuals, in all areas, without neglecting one or over-emphasizing the other. In this system, no rights are lost and no liberty curtailed; no part of wealth is taken away unlawfully by force; consequently, the pests of greed and rivalry — selfishness and self-interest — disappear or are channelled in healthy directions. (3)

Islam has its own philosophy of life, according to which the life of a Muslim in this world is a temporary phase in his eternal life in the Hereafter. He Must, therefore, use every moment of this life to improve his permanent life, and this requires him to use all his mental and physical faculties to the maximum possible limit. This is because he cannot improve his eternal life without making the maximum use of this life. In other words, his success in the Hereafter is dependent on the utilisation of the resources of this world in the best and right way. The Holy Qur'an refers to the wealth a man earns by hard and honest efforts as 'blessings of God', 'favours of God', 'clean things', 'wealth of God', etc. It also recommends him to work hard in this world for the betterment of his life in the Hereafter: "But seek the abode of the Hereafter in that which God has given you and neglect not your share of the world." (28: 77) And God's Messenger made honest effort compulsory for a Muslim: "Next to obligatory prayers is the obligation of earning an honest living." (4)

This leaves no doubt that even if the purpose of this life is the attainment of real success in the Hereafter, a Muslim is urged and required to make every effort diligently and honestly to exploit the physical resources of the world for his use and the use of other members of the community. It is only by serving others that he can achieve his goal in the Hereafter. This makes people responsive to the needs of others and encourages them to sacrifice some of their personal interests for the sake of the community, thereby saving them from 'the misery of selfishness, greed and injustice. This is the true conception and reality of human effort and the wealth it earns. (2)

3. A.A.Mansur, Islam Allah's Eternal Jurisprudence, pp. 150-69

4. S. D. Islahi, Islam at a Glance, pp. 122-28.

This is why the Qur'an regards wealth as a trial for people: to see who uses it properly to improve his eternal life in the Hereafter and who spends it on the lustful desires of his worldly self and earns the wrath of God: "It is He, Who has made you vicegerents on the earth, and raised some of you above others in rank so that He may test you in that He has given you. Indeed your Lord is quick in punishment; yet He is also Forgiving and Merciful." (6: 165).

This verse clearly establishes, first, that everything in the universe belongs to God and all mankind together are His vicegerents on the earth. They are holding all possessions in trust from God and must, therefore, use and exploit them according to the Guidance and instructions from God. Secondly, God has placed this trust of property and power in the hands of people in different degrees; some are given more, others less and still others have almost nothing. He has made it quite clear that the worldly life is simply a trial and all the above-mentioned things given to people in varying degrees are only instruments of the test. Records are kept on how they make use of these things and powers in accordance with the terms and conditions of the trust. The result of this test will determine each man's (and woman's) rank in the Hereafter. (5) All this presupposes complete freedom of faith, practice, enterprise, type of occupation and struggle for livelihood of the individual in the economic system of Islam.

This concept also makes struggle and effort for existence on the earth a key factor in the life of an individual. It condemns the monastic attitude to life and encourages positive effort to enter into the economic field with full vigour and power in order to fulfil the terms of the trust and the duties of the vicegerency on the earth. This attitude,

5. The Meaning of the Qur'an, Vol. 111. p. 174.

therefore, opposes both extreme views, of monasticism on the one hand and secularism or materialism on the other. It neither lays too much emphasis on the spiritual development of a man, regarding all economic activity as a vice and economic struggle as sinful, nor does it confine all its attention to the mere acquisition of material things by fair or foul means, while ignoring or paying very little attention to the spiritual or moral aspect of man. It adopts a balanced course of action in every area of life. It suggests a golden mean between these too divergent views and emphasises that success is neither in the former nor in the latter but in a true harmony and balance between them. One should neither give one's self entirely to spiritual activities, while disregarding the needs of the body, nor should one judge everything by its economic benefit while ignoring the moral values of life.

It emphasises that the success of the individual and of society depends upon adjustment between the spiritual and the material needs of man. It must keep a right balance between the needs of the body and of the soul in order to protect its personal interests, as well as the welfare of society and must not forget that human progress depends upon the successful co-ordination of, and harmony between, the spiritual and material aspects of life. When the spiritual life is separated from the economic struggle of man, he loses the balance which is essential to maintain stability in the economic system. As a result, people experience rivalry and antagonism, instead of co-operation and mutual love, between the two concepts of life, thus causing disruption and chaos in society.

Islam teaches him to keep the balance and to maintain his moral and spiritual values while continuing to strive on the economic level. But it condemns the other two opposing views. Monasticism is rejected as an unworkable philosophy

of life: "But monasticism they invented . . . We did not prescribe it to them . . . (We Commanded) only seeking the Pleasure of God; and they observed it not as they should have done." (57: 27) The words, "We did not prescribe it to them" clearly shows that this conception of life is unnatural and that God has not created man with this instinct but that he forced it upon himself. God certainly requires that man should renounce the idle pleasures and vain desires of this world and turn to the path which leads to God's Pleasure. But God does not recommend or require gloomy lives in the darkness of caves, nor perpetual engagement in the corners of mosques or churches. Service to God is given in pure and chaste lives in the struggle and turmoil of this world. (6)

And again: "He has chosen you for His service and has not laid on you any hardship in your religion." (22: 78) This means that "the Creed you have been given is very simple and straightforward and the Laws and regulations you have to obey are practical. You are free within their bounds to make as much progress as you can. This verse was to stress that the lives of the Muslims were free from all those useless and unnatural restrictions which had been imposed upon former communities by their priests and law-givers." (7) In Surah Al-A'raf we read: "He relieves them of their burdens and frees them from the shackles that bound them." (7: 157) This relief was from the burdens that had been laid on them by the legal hair-splittings of their jurists and by the exaggerated piety of their spiritual leaders, and by the superstitions, restrictions and regulations imposed by their common people." (8)

6. A. Yusuf Ali, The Holy Qur'an, p. 1507.

7. The Meaning of the Qur'an, Vol. VII. p. 227.

8. The Meaning of the Qur'an, IV. p. 77.

The Holy Messenger of God categorically stated that there was no room for a life of asceticism in Islam. It is narrated by Abu Hurairah: "Islam is very easy and simple and whosoever creates difficulties in it will be overpowered by them. Adopt the middle way in life and remain close to moderation and be happy" (Bukhari). It is reported that the Holy Messenger said, "I am sent to you with an easy and convenient religion." (Mishkat) And he was also reported to have said that "the best religion is that which is easy and convenient." (Mishkat)

These verses of the *Qur'an* and sayings of the Holy Messenger of God show that asceticism is not the right approach to human life for it is not only unnatural but also retrogressive. It destroys the natural instincts of man and thereby hinders the progress of his culture and civilization. "The problem of the natural relationship of man and woman is the most fundamental problem of civilisation, and on its right and rational solution depends the well-being, prosperity and stability, or otherwise, of man's communal life on the earth. One kind of relationship between the sexes is of animal or purely sexual nature: its only object is the propagation of the race. The other relationship is the human one, which aims at bringing the two sexes together for co-operation in attaining the common goals of life according to the inherent abilities of each. To secure this co-operation, sexual love acts as a binding force between the male and the female; and, thus, the animal and human factors not only impel man to work for the advancement and preservation of civilisation, but also, to supply individuals to carry out this function. Hence, the prosperity and stability, or otherwise, of civilisation wholly depends on a balanced and proper co-operation of the two elements." (9) A life of asceticism

9. Abul Ala Maududi, *Purdah and the Status of Women in Islam*, p.87.

is a complete negation of this purpose of life.

Likewise, Islam also condemns the other extreme view of life, namely, that mere gratification of economic needs is the whole object of life: "And those who desire nothing but the life of the world, such is their sum of knowledge." (53:29-30) And in *Surah Yunus* we read: "The fact is that the ultimate abode of those who expect not to meet Us, and are well pleased and satisfied with this worldly life and pay no heed to Our Signs, shall be hell, in consequence of the evils they earned (because of their erroneous creed and wrong conduct)." (10:7-8) There is no doubt that "if a man leads his life on the presumption that there is no other life, he will have no fear that he shall have to render a full account of all his deeds in this world. Therefore his sole aim in this life will be to win, by hook or by crook, prosperity, happiness, fame and power in this world." (10) This attitude will naturally lead men to wrong ways and incur God's Displeasure. Islam suggests a balanced course between these two divergent conceptions of life: "O Lord, give us what is good in this world and also what is good in the Hereafter and save us from the punishment of the Fire." (2:201) Good (*hasanah*) here refers to economic prosperity which is acquired by rightful means and without exploiting one's fellow-beings. It is earned through just and honest means and is also for the satisfaction of personal needs and the betterment of society. Man is advised in this verse to pray to God to give him the best of both worlds: Prosperity and happiness in this world and success in the Hereafter.

Man is plainly told in the following verses of the *Qur'an* to benefit from the Treasures of God to the fullest extent and thereby enjoy the physical pleasures of life which may add to

10. *The Meaning of the Qur'an*, vol.v.p.12.

his spiritual life as well: "Eat of the pleasant and pure things that God has bestowed on you." (5:5) Again: "O Muhammad, ask them, 'Who has forbidden the decent garments that God has created for His servants and (who has forbidden) the good and pure things of life bestowed by Him?'" (7:32) The argument implied in the question is this: As God Himself has created all the pure, good and nice things for His servants, it cannot be His Will to make these unlawful for His servants. Therefore, if a religious, moral or social system makes these things unlawful or detestable or considers them impediments in man's spiritual evolution and progress, this very thing is a clear proof of the fact that that system is not from God." (11)

The Holy Prophet explained this principle in these words: "The best of you is one who leaves not this world for the Hereafter, and the Hereafter for this world, and is not a burden on the people." The Messenger of God has here impressed upon the believers the desirability of true harmony between the moral and economic sides of the struggle for life. A man should neither be so entirely of this world, that, in the acquisition of the material means of life he forgets God, nor should he incline so much towards the spiritual life that he ignores the economic struggle, but should keep everything in its proper perspective. It is also reported from the Holy Prophet: "Do your work in the world in such a way as if you were going to live for ever; and work for the Hereafter as if you were going to die tomorrow." He rejected all the wrong conceptions of religion which people had formed for themselves and remarked that religion did not teach hatred of the world and, furthermore, that hatred of the world did not in itself make a man pious or righteous.

11. *The Meaning of the Qur'an*, vol.v.p.12.

Thus Islam tries to co-ordinate in a most balanced way the economic and spiritual aspects of man, for a defect in one leads to a defect in the other. As a result, we find men who, while engaged in the economic pursuits of life, are not unmindful of the existence of God in their life. The Holy *Qur'an* praises these men: "Men whom neither merchandise nor sale can divert from God's remembrance, nor from regular prayers, nor from practising regular charity." (24:3) The Messenger is advised to maintain this true harmony in life in these words: "And keep yourself wholeheartedly content with those who call on their Lord morn'g and evening; and do not let your eyes overlook them, seeking the pomp and glitter of this life." (18:28)

This is the true conception of life which teaches the believers to maintain true harmony and balance in life: neither to hate nor to love this world too much. It makes economic satisfaction of economic needs a prerequisite for the moral and spiritual uplift of man; for so long as the common man does not have his basic needs satisfied, he can neither become a good citizen nor can his moral standards improve. It is also a fact that poor people have neither religion nor moral standards. Therefore Islam has made provision for the basic needs of every individual in its economic system. The words of the Holy Prophet that 'poverty takes man to the boundary line of disbelief' refer to the needs of each individual.

This is undoubtedly the most important contribution of Islam to the civilisation of man. It teaches man to improve his material life in order to improve his spiritual life. This moral conception of life has given a workable mean between diametrically opposed views of life. On the one hand, it declares that everything of this world is for the use of man, and, on the other, it lays emphasis on the responsibilities of man; just as he is responsible for himself, so is he responsible

for his family and for his relations, and then for his nation and all humanity. When he himself benefits from his own wealth, he must, in like manner, let others benefit from his wealth. Thus, by diverting the selfishness of man into unselfish channels, and by harmonising the material with the spiritual aspects of life, Islam has given humanity a practical solution to the most complex and difficult problem. It has enabled man to profit from the material and spiritual aspects of life in order to establish an economic system on the basis of justice and equity; and this objective is achieved in so simple a manner by moral education and training that the individual, instead of indulging in rivalry and greed, becomes a co-operative and useful member of society.

Islam also imposes moral duties upon both the employee and the employer. The employee is commanded by God to do his work diligently, efficiently and honestly. It is reported that the Messenger of God said that if anyone undertakes any work, God loves to see him do it nicely and efficiently for He is Good and Beautiful and He loves to see things done in a beautiful and nice way. When the work is finished, the employee is entitled to a just and reasonable wage for his work. The employer is bound by law to pay a fair wage as soon as the work is done. It is reported by Abdullah bin Umar that God's Messenger said, "Give the labourer his wages before his sweat dries." (Ibn Majah) And Abu Hurairah reported God's Messenger as saying, "There are those whose adversary I shall be on the Day of Resurrection; one of them is a man who hired a worker and, after receiving full service from him, did not give him his wages." (Bukhari) (12) With these comments, however, the basic features of the economic system of Islam are summarised below:—

12. For details see *Economic Doctrines of Islam*, Vol.I. of the author.

1. INDIVIDUAL LIBERTY

The individual enjoys complete liberty to do anything or adopt any profession or use his (or her) wealth in any manner he (or she) likes within the law of the land. "Islam allows a person to create as much wealth as he can by his knowledge, skill and labour, through means that are not unsocial and immoral, and it envisages a natural inequality of energy and aptitude which necessarily results in the inequality of material or social rewards. But as all society is one organism, it prohibits all those means that lead to the concentration of wealth in a few hands. It is a *Qur'anic* injunction that economic life must be so organised that too much wealth does not remain locked up in private treasures. Like all religions, Islam inculcates charity, but it goes further than any other creed by imposing a capital levy on all surplus that remains unutilised in single hands for a whole year. Then the Islamic Law of inheritance is used as a means of dispersion of capital, creating a comparative equality of opportunity for a number of individuals to start life again on the basis of individual initiative and personal effort." (13)

And there is absolutely no doubt that "if the system, as visualised by Islam, is truly and wholly established in society and all its departments are organised in the right places, a social system will grow in which there will be neither big millionaires nor paupers and destitutes. The great mass of people will be moderately well off." (14)

2. RIGHT TO PROPERTY

Islam has recognised individuals' right to own property, but

13. Khalifa Abdul Hakim, *Islam and Communism*. pp.167-68

14. Abul Kalam Azad, *Tarijaman-ul-Qur'an*. vol.II.p.132.;

subjects it to such limitation as to render it absolutely harmless to the common good of society. It has, however, established and developed such an intimate relationship between the individual and society that they work together without any apparent clash between them. It maintains that the individual has two simultaneous capacities: capacity as an independent individual and his capacity as a member of the community. His response to either capacity may at times be greater than his response to the other one, but he will finally combine and harmonise both. The social concept based on such a belief does not separate the individual from his community nor does it regard them as two conflicting forces trying to overcome one another.” (15)

This system is based on the concept of harmony between capitalism and communism, combining the merits of both without having their drawbacks. It allows private ownership in principle with certain restrictions which make it quite harmless. Islam gives full play to individuals' natural desire to ownership and tries to satisfy the propensities of human nature in a way that is best for both the individual and the community. (16) Thus Islam has set a pattern of private ownership that is compatible with the public interest. It has given due consideration to the instinctive tendency towards ownership that is common to all mankind and that gives meaning to life and creates for man an aim and an end towards which he strives.” (16) Man is naturally inclined to wealth in its various forms and this is recognised by Islam: “ Beautiful for mankind is love of the joy (that comes) from women and children, and hoarded heaps of gold and silver,

15. Muhammad Kutb, *Islam the Misunderstood Religion*, pp.154-56.

16. Abdul Azim Mansur, *Islam Allah's Eternal Jurisprudence*, pp.150-52.

choicest horses, cattle and cornfields. That is the comfort of the life of the world.” (3:14) And in *Surah Al-Hadid* we read: “ And know that the life of this world is ...rivalry in respect of wealth.” (57:20)

Islam recognises the individual’s right to ownership, and this concept forms the basis of economic life in a Muslim society. This right of the individual is fundamental and is recognised by the *Qur’an*: “ And in their wealth and possession the beggar and the needy have due share.” (51:19) And in *Surah Al-Nisaa* we read: “ And for men is the benefit of what they earn; and for women is the benefit of what they earn.” (4:32) And again in the same *Surah*: “ And give to the orphans their property, and substitute not worthless (things) for (their) good ones.” (4:2)

These verses explicitly recognise the right of the individual to own, inherit and sell his property as and when he likes. It also recognises all other rights which go along with the right of ownership, eg., the safety of the property from theft, dacoity and other forms of unlawful possession of someone’s property by force or deceit. It gives a guarantee for the safety of the property of individuals and recommends heavy punishment for offenders: “ And for the thief, man or woman, cut off their hands as a punishment for what they have earned, and an exemplary punishment from God.” (5:41) Again, the individual who owns property also enjoys the right to inherit property from his relatives. This right of inheritance is recognised by Islam and, obviously, it can only be recognised if people have the right of ownership: “ There is a share for men in what has been left by parents and near relatives, and there is a share also for women in what has been left by parents and near relatives, whether it be little or much; for this share has been prescribed (by God).” (4:7)

Islam regards possession and ownership of property as a natural instinct in man and therefore it does not think it proper or equitable to destroy or suppress it. It feels that there is no harm in private ownership because it will stimulate individual efforts for the acquisition of wealth and will thereby greatly benefit society. And it is also the natural corollary of the soul of justice that society should also play its part in benefiting the individual. It would be injustice to the individual if he were left to toil and sweat to benefit society without any reciprocal compensation from the latter. If social justice is to be established in society, it is absolutely essential that its rights and duties be equally shared by the individual and society. If the individual works for the uplift of society, it is the obligatory duty of the latter to provide necessary facilities to the former so that he may not be hampered in his work. And obviously the ownership of property is one of those things which can greatly assist the individual in his efforts to acquire more wealth.

However, it may be pointed out that this right of ownership is not absolute. Islam recognises this right of the individual but does not leave him entirely free to use this right in any way he likes. It does not favour the expansion of private property to an extent that may endanger the very foundation of the Islamic system and thus destroy its real object. Therefore, it has subjected it to such limitations as to render it absolutely harmless. It has authorised the community to enact the necessary legislation to organise private ownership and to change it whenever the public interest demands it. (45) The individual enjoys certain rights but he has also certain obligations and duties to society which has conferred these rights on him. He has undoubtedly the right to own property, to purchase or to sell it and to inherit it; but this right is accompanied by

certain duties and obligations which he owes to society. In other words, the individual's right to property is not absolute but restricted and limited by the obligations which it carries with it.

The individual must realise that he is only a trustee who is holding the property, which, in fact, belongs to the community; as such he must willingly accept the restrictions placed by the latter on its use. The individual is, however, free to use, and benefit from, his property, provided, in the enjoyment of his rights, he does not encroach upon others' rights or damage the common good of society. The limitations are merely to check such tendencies on the part of rebellious or evil-minded owners in society. The gentle and honest property owners enjoy their rights freely and without restrictions, unaffected by these limitations.

This is how real balance is established between the two conflicting views of individual and public ownership, the individual enjoys his right of ownership, while the community reserves the right to forfeit or limit this right in cases of abuse or misuse. And, in fact, it is the only policy that can really guarantee complete social justice in the proper use of property and other forms of wealth.

Another principle likely to affect the use of wealth is its sphere of circulation. Islam wants wider circulation of wealth so that it is spread out in the community and not confined to a small group of people. The laws of inheritance and charity (compulsory as well as optional) partially assist in widening the area of circulation of wealth but still there is a likelihood of centralisation of such resources. Therefore, Islam has issued instructions and empowered the community to take the necessary steps whenever it feels the need of such measures: "Whatsoever God may restore to His Messenger...is

due to God and to His Messenger...the orphans and the needy...so that it may not be confined to the (few) rich among you.” (49:7) As society is one organism, Islam likes to keep a steady flow of wealth in all the parts, in order to maintain its vigour and strength, like the circulation of blood in a healthy body. It is a sign of a healthy society. This is why Islam organises it in such a way that the wealth remains in wider circulation and is not locked up in private treasures. It encourages people through moral education to give away their wealth (above their needs) to the poor and the needy in the community, merely for the Pleasure of God. Then it imposes a compulsory levy of *zakat* on all surplus wealth for the use of the poor and the destitute. The law of inheritance further helps by spreading wealth among the relatives of the deceased. (17)

It may be added that both private and public ownership are limited within their respective spheres but are linked in a well-balanced and equitable manner so that the former is neither unnecessarily suppressed nor let loose so as to damage the interests of others or endanger the common good of society. Private ownership is generally allowed to a great extent in the field of production but is restricted in the field of distribution, especially when it is likely to interfere with the rights and interests of other members of the community. But no private ownership is permitted in things of great value and benefit to the community. On the whole, the entire superstructure of the Islamic system is built upon the freedom of the individual to create and possess wealth, and state interference is very much limited to things of extreme necessity to the community. (17)

17. For details see *Economic Doctrines of Islam*, vol.I.of the author.

3. ECONOMIC INEQUALITY WITHIN NATURAL LIMITS

Islam recognises economic inequalities among people but does not let them grow wider; it tries to maintain the differences within reasonable, equitable and natural limits. The existence of economic inequalities among people is not only natural but essential for the purification of 'self' and the development of the human personality (ego); without its existence, the individual would be deprived of an important but basic means of achieving this goal. He is left free to achieve the highest possible ideal through helping others, without expecting any reward except the Pleasure of God. There are immense opportunities for him to develop high qualities of love, fraternity, a spirit of natural help and co-operation. Islam, therefore, permits private ownership and economic inequalities within reasonable limits in society in order to provide an opportunity to the individual for the development and utilisation of his noble qualities.

The people whose means of sustenance is scarce should thereby learn to be patient, tolerant and content; while others who have abundant resources should develop their hidden qualities of gratefulness, kindness, benevolence and sacrifice. If economic inequalities were abolished by artificial means, as the communists would have it, the individual would not get any chance to develop these noble qualities in himself, and, in fact, a very great stimulus in economic struggle would be removed; and as a result, the individual would be deprived of a vast field of action which nature has provided for his development.

It is said that inequitable distribution of wealth can only be remedied through equal redistribution. But this hypothesis, as has been proved even under the communist system, is

unnatural and impracticable. It is absolutely essential for the success and progress of every society that the natural differences in ability, intelligence and efficiency which are found among people, in the nature of their work, in the responsibilities of their office, in the service which they have rendered to the community, and its nature, and in their economic needs should be maintained, up to a limit, in their remuneration. Just as there is variation in nature and its manifestations and in the ability and intelligence of different persons, similarly the maintenance of this difference, to the same degree, in their remuneration is indispensable. There cannot be equality in the physical, ability, intelligence and other qualities of people, and, naturally, there cannot be any possibility of economic equality. (18)

The *Holy Qur'an* recognises these economic inequalities: "It is He, Who has made you the vicegerents on the earth, and raised some of you above others in ranks so that He may test you in what He has given you." (6:165) And in *Surah Al-Zukhruf* we read: "And We raised some of you above others in ranks, so that some may take others in service." (43:32) These verses of the *Qur'an* have stated three fundamental realities clearly visible in the life of man. First, it is a reality that everything of the earth and of the universe belongs to God and that man is His vicegerent on the earth who has been entrusted with many things here for his use and proper exploitation. Secondly, God has assigned different ranks to His representatives regarding His trusts. Some are entrusted with huge fortunes and endowed with greater ability and capacity for work and some with lesser fortunes and lesser ability for work than others. Thirdly, it has also been made clear to them that this life is merely a trial. Through the things and powers He has bestowed upon men, God will one Day judge them concerning those trusts and how they used them.

The *Holy Qur'an* refers to this fact of life as a trial for the individual; to see how far he is able to utilise the opportunities and the powers provided to him for the refinement of his 'self' and the betterment of the community. And this is the real purpose for which Islam maintains economic gradation in society and does not favour its abolition. It may here be pointed out that Islam does not recommend or recognise the class system as such; It is merely stating the facts of life. There is no doubt that people differ in rank and livelihood in every society; even in communist countries, people don't all receive the same wage, and conscripted people do not all get equal rank in service. The inevitable fact is that differences among people in rank, in earning and, consequently, in wealth do exist everywhere.

So long as difference in wealth and rank do not lead to the emergence of class systems, the rulers and the ruled, the masters and the servants etc., and all are treated alike before the law of the land; and do not create an unbridgeable gulf and inequitable barriers between the rich and the poor, it is permissible and lawful in Islam. (19) Islam recognises these natural differences among people, but tries to maintain them at a reasonable level, and does not allow them to outstrip the natural limits so as to divide society into sections, where the prosperity of one means the poverty of the other, and thus become the cause of natural tyranny and oppression among the people. It takes certain moral and legal measures to keep these inequalities within their natural limits. It teaches people to regard the existence of differences in wealth as a means by which God may try them in this world. It is a part of their faith that they are on trial here in their respective economic gradations. God, by granting abundance of wealth and power to some, observes how they spend and use it;

18. Muhammad Qutb, op, cit.,pp.162-64.

whether they regard it as their personal property acquired through their own efforts and intelligence, or think of it as a blessing of God and that others also share in it. On the other hand, the poor are also under trial in their straitened circumstances, a trial as to whether they lose their faith in God and become ungrateful and also hateful and envious towards the rich or keep their faith and remain patient and tolerant in their present condition.

EQUITABLE DIFFERENCES

Islam permits differences in wealth within reasonable limits but does not allow these differences to grow so wide that some people spend their life in luxury, while the great majority of people are left to lead a life of misery and hunger. This difference in wealth and rank must not exceed natural and reasonable limits, because if it does, it will be the beginning of the end of that society, as referred to in the *Qur'an* in these words: "And when We wish to destroy a town, We give Commands to its well-to-do people who transgress therein; thus the word proves true against them, so We destroy them utterly." (17:16) These people widen the gulf between the rich and the poor and cause the growth of inequalities in wealth beyond natural and equitable limits. As a result, mutual rivalries and hostilities of the groups within the community gradually destroy the economic life of the people.

The Holy Prophet was referring to this condition of society, which leads to unnatural inequalities and thereby to its destruction, when he said: "If anyone spent a night in a town and remained hungry till morning, the promise of God's protection for that town came to an end." (Masnad Imam Ahmad) He is also reported to have said that, "No one's faith among you is reliable until he likes for his brother (in

Islam) what he likes for himself.” (Bukhari) There is no doubt that Islam does not like differences in wealth or rank between different people beyond a certain point. This is because it breeds enmity and hatred and leads to a bitter class conflict among the various sections of the community which ultimately shatters its foundation. When economic inequalities turn into inequitable trends and the ‘have nots’ become powerless slaves in the hands of the ‘haves’ of society, it is a signal for the destruction of those people. Islam would under no circumstances allow such a situation to arise, much less to continue for any length of time in a society. It would take the necessary steps to keep economic inequalities from going beyond reasonable and natural limits. In fact, such a situation would never arise in a fully functioning Islamic society, where the law of *zakat* and the Law of Inheritance are in operation, along with an abundance of charitable funds from the surplus wealth of people (*Al-Afw*).

To sum up, though Islam accepts natural differences in wealth among people, it favours equality in their basic needs and advocates a ‘right to a livelihood’ for all its members. The wealth of the rich is not meant to aggravate the poverty of the poor, for it is on trust from God and should be used under His Guidance, as reflected in the *Qur’an* and the *Sunnah*, for removing or lessening the poverty of the poor. In fact, the prosperity of the rich should be considered a boon and not a burden for the poor members of the community. If the rich do not show any sense of responsibility in the use of their wealth, then it is the duty of the state legally to force them to abide by its principles; and if the state treasury is not enough to meet the needs of the poor, then it has the legal right forcibly to take a part or whole of the surplus wealth (*Al-Afw*), as the case may be, in order to meet the basic needs of the people, even though

they had paid all their economic obligations. For, according to the *Hadith* of the Holy Prophet, "in one's wealth there is a due share besides *zakat*." It may, however, be pointed out that it is not necessary that all should have the same or similar means of livelihood; what is required, and is absolutely necessary, is that all should have sufficient to meet their basic needs. (17)

4. SOCIAL SECURITY

The Islamic state is legally and morally responsible for the provision of basic needs to its members. And it is the distinctive feature of the state that, along with social utility services, it takes the responsibility of public maintenance as well. Every citizen is guaranteed his basic needs. The principle of public maintenance pervades the whole fabric of Muslim society. The individual is held responsible for his person, his family, his near relatives, the society in which he lives and, finally, for the whole of humanity. Islam gives such moral education and training to its members that they seek wealth not only for themselves, but also to help other members of their families and the poor destitute members of the community. The Holy Prophet described the individual responsibility for protecting social welfare in these words: "Those who honour the boundaries ordained by God and those who don't are like the people who together bought a boat. Some of them occupied the upper part of the boat and some the lower part. Those who were occupying the lower part of the boat had to go upstairs to fetch their water; they thought that it would be much better if they were to make a hole in their part (to get the water); thus they would be saved from the trouble of going upstairs and disturbing the people living there. If the people would let them do what they wanted, they would all be destroyed; but if they stopped them from doing this, they would not only save themselves,

but also save all the other people occupying that boat.” (19)

The Holy Prophet has in these words very explicitly described the relationship between individual welfare and the common good of society; the action of a few individuals can, sometimes, ruin the whole community. If a few individuals were allowed to accumulate the greater portion of the wealth of the community and waste it on the luxuries of life or hoard it, and thereby deprive the vast majority of the people of their due share, it would be bound, sooner or later, to wreck the entire economy. The Islamic state, under these circumstances, has a duty to perform. In fact, no one can be absolved of his responsibility to the community, for every individual is regarded, at one and the same time, as a guardian and as a ward in an Islamic society. The Holy Prophet described this dual responsibility of the individual in these words: “ Everyone among you is a guardian and, as much, is accountable for his wards (on the Day of Judgement).”(19)

Likewise, society is also accountable and answerable to God for the weak and the poor living in its fold. It is responsible for strengthening the weak and providing adequate means to the poor to enable them to meet their basic needs. It is also the duty of society not to let the gap between the rich and the poor widen beyond natural limits; and if it does, it must take necessary steps to narrow down the differences in wealth to the natural and equitable limits. It must also protect the wealth and property of the weak and the orphans from the hands of aggressors.

The Islamic society is also responsible for providing the necessities of life to the poor and the destitute in the

19. *Bukhari and Muslim*, quoted by Sayyed Qutb, op.cit., p.130.

community. If there are not sufficient funds in the treasury, the state can levy taxes on the wealthy to meet the requirements of those in need; for if one individual is left hungry or naked or shelterless on any day, the whole community will be answerable to God on the Day of Judgement. It is, therefore, absolutely necessary that the community should endeavour to develop a spirit of brotherhood, natural love and co-operation among its members in order to eradicate poverty. It is a grave sin and a crime to leave the poor and the destitute in their wretched condition: "Have you seen one who denies the (Day of) Judgement? That is he who repels the orphan and encourages not the feeding of the needy." (107:1-3) It is one of the qualities of the sinful, who will be thrown into hell: "This was he that...would not encourage the feeding of the needy! So no friend has he here this Day." (69:33-35)

These verses of the *Qur'an* merely point out the apparent signs of the grave situation of a community, where poor and destitute people starve while the rich indulge in luxuries, for such a situation, if left unremedied, will ultimately destroy the entire community. Therefore, it cannot be tolerated by Muslim society, which takes every possible step to eradicate such evil. The *Holy Qur'an* emphasises that the poor have a right in the wealth of the rich (51:19) and the Holy Prophet explained this right of the poor by saying that all the riches and luxuries of the wealthy are the products of the labour of the poor workers. Therefore, it is required of every individual to help those of his fellow men (and women) who stand in need of such help. When individual resources are spent or found to be inadequate to meet the needs of the poor and the destitute, Islamic society must mobilise its resources to help them. Thus Islam endeavours to organise social maintenance in all possible forms on the basis that individual and social objectives are the same. Therefore, those in

different areas of activity also co-operate, which increases their effectiveness in solving problems.

5. SOCIAL JUSTICE

The establishment of a system of social justice on the earth was one of the important functions of the Messengers of Allah. They were sent from time to time for the guidance of man to enable him to establish such a society. Muhammad was the last of the line of Messengers: "We surely sent Our Messengers with clear Signs and revealed with them the Book and the Balance (of Right and Wrong), that man may stand forth in justice; and We sent down iron, in which is (material for) mighty war and many uses for men." (57:25)

Three things are mentioned in this verse. These are the Book, the Balance and iron, which represent respectively Divine Guidance, Justice and the authority of the Law to maintain sanctions against those who break the laws. In other words, this verse explains the great function of God's Messengers, and to achieve their objective, they are given the Book and the Balance, so that they may check any unnecessary excesses of the people and keep them evenly balanced. It should not be forgotten that balance (justice) is not merely moral and spiritual, but covers every aspect of human life. It is necessary to establish justice throughout the entire social life of man; and as the maintenance of harmony and moderation in the economic field is almost impossible without strength, the importance of political power is emphasised in this verse.

Just as Islam wants to maintain a balance in the relation between God and man, similarly, it wants to establish a balance (i.e., justice) in regulating the relations of human beings, in order to protect it from the evil consequences of

excesses in the economic field. This is why Islam wants to establish justice in the entire social life of man, and not just in any one aspect of it.

PRODUCTION: Islam forbids its followers to exploit other people or to use unjust methods in acquiring wealth, but it allows them the use of all good means to acquire wealth. It also admits the right of the individual to own property and work in freedom, but does not tolerate the misuse or abuse of these rights. In other words, it does not discourage people from earning wealth and getting rich through just and lawful means; what it does not like is the use of wrong and unjust means to earn wealth.

The *Holy Qur'an* makes it obligatory for every Muslim to struggle hard according to his ability and power to earn his living. It tells him that the whole world is full of the means of sustenance and it is for him to find them out through his own efforts. The Holy Prophet emphasised the importance of human endeavour by saying, "Seeking a lawful livelihood is the greatest duty of the Muslim after the duty of (daily) prayer." And on another occasion, he said, "When you have finished the morning prayer, do not rest until you have worked for your living." While demanding hard and constant effort from men in seeking their livelihood, Islam enjoins them to adopt just and equitable means and to avoid unlawful and wrong ones.

Islam adopts the same attitude towards capital formation. It does not forbid saving; what it prohibits is hoarding or accumulation of wealth for anti-social activities. It advises people to keep their wealth in circulation either by consuming it, or by investing it, or by giving it over to others who have little or no means of livelihood. The levy of *zakat* is a strong preventive measure against those who merely want

to hoard their wealth.

CONSUMPTION: The same principle of justice governs activities of people in the fields of consumption. It forbids both miserliness and extravagance and suggests a middle course between the two extremes: “And do not tie your hand to your neck nor stretch it without any restraint lest you should become blameworthy and left destitute.” (17:29) and again in *Surah Al-Furqan* we read: “And they who, when they spend, are neither extravagant nor miserly, and there is ever a just mean between the two.” (25:67) The Holy Prophet explained this in these words: “Moderation between income and expenditure is half the pleasure of the economic life.” In order to achieve its objective in this field, Islam forbids all methods of expenditure which cause moral or social injury. It suggests that the surplus wealth of people is better spent in the service of virtue, righteousness, public welfare etc, instead of on luxuries.

DISTRIBUTION: The main principle governing the field of distribution is justice and benevolence in order to achieve a two-fold objective; first, that wealth may not be concentrated in few hands but continue circulating in the community; secondly, that the various people who have participated in the production of national wealth should be justly and fairly rewarded. It does not permit inequalities of wealth to grow beyond a certain point and tries to keep them within reasonable limits. And, in order to check the growth and concentration of wealth, it prohibits accumulation and hoarding of wealth and insists upon its expenditure on the welfare of the community.

Its basic concept of wealth is that all “the means of living which God has created on this earth are meant to satisfy the real needs of mankind. If, therefore, by sheer good luck one

find himself possessing more of these means than his requirements justify, it only implies that a surplus which was really the portion of others has reached him. Why should he therefore hold it for himself? He should transfer it to those who need it. Islam demands that this surplus should be given over to the community for meeting the needs of the poorer people, so that the national wealth may continue circulating among all classes of people. Moral education makes people conscious of this fact of life, while legal measures ensure the balanced flow of wealth in the community and check its undue concentration at any particular point. (20)

EXCHANGE: Islam applies the same principle to all the forms of exchange. It allows those forms of exchange which are based on justice and fair play and prohibits others which are either unjust, or are likely to lead to quarrels and litigation, or resemble gambling, or contain an element of interest (*riba*) or deceit, or where the gain of one is based on the loss of another. These measures are recommended partly to purify all the forms of exchange from unhealthy and socially harmful elements and partly to introduce very strictly the principle of justice in the entire field of exchange.

6. SOCIAL AND INDIVIDUAL WELFARE

Islam recognises social and individual welfare as complementary rather than competitive and antagonistic and accordingly it tries to harmonise their conflicting but complementary interests. It considers the good of the individual as the good of society and vice versa; if the individual prospers, society prospers, and if society prospers, the individual is better off. But this is possible only when individuals maintain complete harmony between their

20. Abul Ala Maududi, *Economic Problem of man*, p.25026.

individual good and the social good, so that in acquiring their individual needs they do not, directly or indirectly, damage the good of others. If they themselves benefit, they also let others share in that benefit; and if they cannot derive any benefit from any enterprise, they complete it for the sake of others, who may benefit from it. This is how every individual shares in the welfare of others and how individual and social welfare become complementary in the economic system of Islam. In other words, individual and social welfare is closely linked.

Thus the economic system of Islam is based on the concept of complete harmony between individual and social good. It neither separates the individual from society, nor does it regard his welfare as conflicting with that of society. As the objective of the Islamic state is equitably to provide and distribute the means of sustenance among its members according to their needs, it finds no difficulty in determining the form of its organisation of distribution. It matters little whether the means of production are entrusted to the individual or to the community. Whoever is entrusted with the means of production is supervising it as a trustee and has the right to benefit from it along with others. so long as he co-operates with the state in attaining its above-mentioned objective and is helpful in creating that atmosphere which guarantees social welfare and progress for all. It is not important in this system who owns the means of production; what is important is the objective. If it can be achieved by distributing the means of production, etc., among individuals, then they are distributed among them; on the other hand, if it is better achieved through communal ownership, they are entrusted to the community. (21)

21. Muhammad Qutb, *Islam the Misunderstood Religion*, pp.154-55.

Islam adopts practical methods of educating and training its members in order to maintain harmony in its system and tries to sublimate the human instinct of selfishness. Greater stress is laid on moral reformation and the creation of the right moral attitude towards life among its members, so that the evil of greed in their minds should be not only subjugated but sublimated to the heights of spiritual joy and material success. Along with moral teaching, it also introduces certain restrictions to check the uncompromising forces and evil desires in society. Its legal measures are of two types, (a) Positive and (b) Negative. (a) Positive measures include payment of *zakat* at the rate of 2½% on all savings for the benefit of the poor and the needy in the community. Distribution of all property of deceased among his rightful heirs according to the Laws of Inheritance. (b) Negative measures are meant to restrain people from such activities as are harmful to society: prohibition of interest (in all forms), accumulation of wealth, and all antisocial and harmful activities, such as gambling, speculation, blackmarketing, profiteering, exploitation, immoral earnings, income from corruption, dishonest and deceitful dealings, luxurious and extravagant living, drinking of alcohol and individual monopolies in social wealth. These legal measures are the boundaries of the economic system of Islam but the main reliance is placed on the moral training of the people. (22)

22. For details see *Economic Doctrines of Islam*, vol.I. of the author.

AGRICULTURE

The study of the *Qur'an* also provided a stimulus to human efforts towards the development of agriculture for the benefit of mankind. The Islamic philosophy of worship (*'ibadah*), that every effort and activity of man which is undertaken in the obedience of God and His Commandments is a virtuous act, was a source of encouragement and inspiration for the Muslims to undertake the work of research in every field, including agriculture, irrigation and horticulture.

AGRICULTURE

Agriculture was the basic industry and formed the backbone of the Islamic world, for it provided the important crops of food as well as rawmaterial for the manufacturing industries of the time. Muhammad greatly encouraged efforts in this direction. Once he said that even if you knew that the world would end tomorrow, you should plant a tree. He also said, "If anyone has land, he should cultivate it, or lend it to his brother (but should not let it remain uncultivated)." (Mishkat) In order to encourage people to cultivate unused lands, Muhammad said, "He who develops land which has no owner has the best right to it." There is reserve land (for anyone) except what belongs to God and His Messenger." (Mishkat) Many companions of the Prophet were engaged in agriculture in Medinah, including Ali ibn Abi Talib, Umar Al-Aas, Rafey Bin Khadij and Zubair, and they all used manure to increase their crops.

The *Qur'an*, which contains beautiful passages about farming and the growth of cornfields and vineyards, gave a tremendous boost to this activity. It suggested ways of

increasing their crops many-fold and improving their quality as well as their quantity. This religious aspect encouraged and incited the Muslims to take a more active part in agriculture and to try to improve and expand it. Many verses of the *Qur'an* helped to intensify human efforts in the direction of agricultural industry. "The parable of those who spend their wealth in the Way of God is that of a grain of corn: it grows seven ears, and each ear has a hundred grains. God gives manifold increase to whom He pleases." (2:261) There is a suggestion of a rich and bumper crop for those who make sincere efforts in practical life.

There are innumerable passages in the *Qur'an* which describe the Wonders of God in the growth of various kinds of vegetation. "It is He Who sends down rain from the skies; with it We produce vegetation of all kinds: from some We produce green crops, out of which We produce grain, heaped up at harvest." (6:99) In *Surah-Qaf* are these words, "And We send down from the sky rain charged with blessing and We produce therewith gardens and grain for harvest." (50:9) And again, we read, "And We split the earth in fragments and produce therein corn and grapes and nutritious plants." (80:26-27) This verse refers to the process of ploughing and cultivating the fields with hard labour by the farmers and the sowing of the seeds, and then God sends rain from the clouds to yield them rich crops of grain and fruit. And in *Surah Al-Nahl* are these words, "It is He Who sends down rain from the sky: from it you drink, and out of it grows the vegetation on which you feed your cattle. With it, He produces for you corn, olives, date-palms, grapes and every kind of fruit. Surely in this is a Sign for those who reflect." (16:10-11)

These and many other verses of the *Qur'an* which present the integrated view of the Islamic concept of religion and human

life greatly helped in stimulating research and work in the field of agriculture. As a result of *Qur'anic* study, research in the various fields of agriculture started at the very beginning of the Islamic Era and produced amazing results in the expansion of the agricultural industry: increase in produce, improvement in quality, as well as variety, of crops, and experiments in intensive cultivation. Muslims introduced new crops into all those lands where they went and enriched the countries, not only with these new crops and a new pattern of agriculture, but also with an entire change of pattern of food production in those regions. (1) They also improved existing agricultural technology which gave a further boost to the industry. In fact, "Islamic agriculture contains a precious treasury of know-how concerning the wise use of the soil, water, plants and animals." (1) Many scientific works of importance were written by the Muslims on agriculture. The famous names in this area are Yuhannah Ibn Masawayh, Hunayn Ibn Ishaque, Ahmad Ibn Abi Bakr Ibn Wahshiyyah, Abul Hassan Al-Qurtabi, Abdul Qasim Al-Zahrawi, Abdul Rabman Ibn Wafid Al-Lakhmi (Abencenif), Abu Umar Ibn Hajjaj Al-Ishbili, Abdullah Ibn Bassal of Toledo; Abdul Khayr Al-Ishbili, Abu Zakariyyah Ibn Awwam, Umar Ibn Yusuf and Al-Abbas Ibn Ali.

1. *Islamic Science*. op.cit.,p.218.

HORTICULTURE

Agriculture and horticulture are closely allied activities and the growth of one leads to the growth of the other and vice versa. This industry also received a great stimulus from *Qur'anic* studies. Fruits have always formed an important part of the daily diet of people and Muslims were no exception. With them it received special attention because of the encouragement it received from the *Qur'an*. There are many graceful and inspiring passages in the *Qur'an* which draw attention to the growth and development of horticulture in its various forms. "It is He Who produces gardens, with trellises and without, and the date-palm, and crops of diverse flavour, and olives and pomegranates, similar (in kind) and different (in variety)." (6:141) In *Surah Al-Nahl* are these words, "He produces for you corn, olives, date-palms, grapes and every kind of fruit; surely in this is a Sign for those who reflect...Who sends down rain from the sky? And with it We cause to grow well-planted orchards, full of beauty and delight." (16:10-60) And in *Surah Abasa*, we read, "And (We) produce grapes and nutritious plants, and olives and dates, and enclosed gardens dense with lofty trees and fruits and fodder, for use and convenience to you and your cattle." (80:27-32)

Those verses of the *Qur'an* draw man's attention to the different types of gardens, highly cultivated gardens with lofty fruit trees such as olives and dates, carefully tended and nurtured fruit trees such as grapes and figs, and grazing fields with all kinds of fodder for the animals. This it suggests the development of various types of gardens and fruit trees by human effort. It may here be pointed out that horticulture was not confined to fruits and vegetables but was extended to cover the cultivation of all kinds of flowers. The *Qur'anic*

teaching led to the growth of not only essential crops and fruits but also to those which were a source of delight and beauty for human beings. Therefore it encouraged the growth of flowers of all kinds, together with the growth of fruit. The *Qur'anic* description of the gardens of Paradise provided a realistic imagery for the Muslims to develop their gardens on that pattern and they took great pains to develop their horticulture on those lines; they carefully arranged fruit and non-fruit trees and had canals running through their gardens and palaces as they found described in the *Qur'an*, "There is a parable of the Garden which the righteous are promised : in it are canals of water unpolluted; canals of milk of which the taste never changes; canals of wine delicious to those who drink; and canals of honey, pure and clear. Therein for them is every kind of fruit." (47:15) And in *Surah Ya Sin* we read, "Surely the companions of Paradise shall have on that Day joy in all that they do. They and their wives will be in pleasant shade, on couches reclining; every kind of fruit will be there for them; they shall have whatever they call for." (36:55-57)

These and similar other passages of the *Qur'an* gave a real boost to the growth of gardening in the Islamic world and encouraged people to do more research in the science of horticulture. It also provided a stimulus to animal husbandry, which is allied to agriculture and almost inseparable from it. In those days, agriculture and animal husbandry were practised by the same people. This industry, together with agriculture, also received a tremendous boost from *Qur'anic* studies. "Of the cattle are some for burden and some for meat...Take eight (head of cattle) in (four) pairs; of sheep a pair, and of goats a pair...of camels a pair, and of oxen a pair." (6:142-44) Then the *Qur'an* mentions the various uses of the animals to mankind. "And cattle He has created for you: from them you derive a warmth, and numerous

benefits, and of their (meat) you eat. And you have a sense of pride and beauty in them as you drive them home in the evening, and as you lead them forth to pasture in the morning. And they carry your loads to lands that you could not (otherwise) reach except with great trouble to yourselves. Verily your Lord is Most Kind, Merciful. And He has created horses, mules, and donkeys, for you to ride and for ornament. And He has created other things of which you have no knowledge.” (16:5-8)

The *Qur'an* invites human attention to how God provides Sustenance in ways in which there are many Signs of His Wonders. “And verily in the cattle there is a lesson for you. We give you to drink of that which is in their bellies, from between the refuse and the blood, pure milk agreeable to the drinkers.” (16:16) In the same *Surah*, we read, “And God has given you in your houses an abode, and has given you (also) of the hides of the cattle, houses (tents) which you find light to carry on the day you travel and on the day of pitching camp; and of their wool and their fur and their hair, rich stuff and comfort for a time.” (16:80) And in *Surah Al-Mu'minun* are these words, “And verily in the cattle there is a lesson for you. We give you to drink of that which is in their bellies, and many uses have you in them, and of them do you eat. And on them, as well as in ships, you ride.” (23:21-22)

Thus *Qur'anic* study stimulated research in multifarious aspects of animal husbandry: cattle farming, dairy farming, sheep rearing for meat and for wool, etc.

IRRIGATION

Water has always been the deciding factor of the success of agriculture. People have therefore made efforts to harness water sources for agricultural purposes. In the Arab peninsula, the demand for it was all the more intensified because of the nature of the soil. Here, again, the *Qur'an* provided a further stimulus to the Muslims. "And He has set up on the earth mountains standing firm, lest it should shake with them; and rivers and roads; that you may guide yourselves." (16:15) In *Surah Al-Baqarah*, attention is indirectly invited to this need in a parable. "Does any of you wish that he should have a garden with date-palms and vines and a stream flowing underneath, and all kinds of fruits, while he is stricken with old age, and his children are not strong to look after themselves?...that it should be caught in a whirlwind, with fire therein, and be burnt?" (2:266) It reminds them of the previous nations who had great irrigational systems but were destroyed for their sins. "See they not how many of those before them we did destroy?...Generations We had established on the earth, in strength such as We have not given to you...for whom We poured out rain from the skies in abundance, and gave fertile streams flowing beneath their feet: Yet for their sins We destroyed them." (6:6) Pharaoh was proud of his system of canals, "O my people! Does not the dominion of Egypt belong to me, (witness) these streams flowing underneath my palace?" (43:51) Then the beautiful picture of Paradise with canals flowing underneath also suggested research in irrigation which was fully utilised by the early Muslims. In *Surah Al-i-Imran* are these words, "For such the reward is forgiveness from their Lord, and gardens with canals flowing underneath." (3:136) And in *Surah Al-Tawbah*, we read, "God has promised to believers, men and women, gardens

under which rivers flow, to dwell therein, and beautiful mansions in gardens of everlasting bliss.” (9:72,22:14,18:31) God also promises material advancement for the righteous in the life of this world in these words, “ He will send rain to you in abundance; give you increase in wealth and children; and bestow on you gardens and bestow on you canals (of flowing water).” (71:11-12) The *Qur'an* also draws attention to the fact that the sources of power and water are made subject to men, so they should use them for their own benefit. “ It is God Who has made the ships subject to you, that you may sail through the sea by His Command; and the rivers (also) are made subject to you.” (14:32)

Such verses of the *Qur'an* activated immense research in this field and encouraged Muslims to build huge dams, irrigation systems and wells of different types according to the nature of the land and the availability of water. Great projects of irrigation were under taken by the Muslims all over the empire, which practically revolutionised the agricultural industry. Many water-raising devices, underground irrigational methods, water-storage dams and other irrigation technology was developed by the Muslims as a result of this stimulation by the *Qur'an*. The *Qur'an* gave them a new philosophy of life which enabled them to enjoy the benefits of both worlds. “ Do you not see that God has subjected to your (use) all things in the heavens and the earth? And has made His Bounties flow to you in exceeding measure (both) seen and unseen?” (31:20) And in *Surah Al-Jathiyah* are these words, “ And He has subjected to you, as from Him, all that is in the heavens and on the earth. Behold! In that are Signs indeed for those who reflect.” (45:13)

It may be noted here that all these Bounties are a special Favour to man from his Creator and Lord, that he exploit and harness the sources of power and water in the earth for

his benefit and for the enrichment of the whole of mankind. Thus the believers enjoyed the fruits of their labour as well as the Pleasure and Blessing of their Lord, for every act of a believer is an act of *'ibadah* and , therefore, a virtuous deed. This was, in fact, additional encouragement to the Muslims to struggle for material advancement.

COMMERCE

Qur'anic studies also stimulated commerce and trade by encouraging the spirit of adventure and enterprise. In Islam there is no demarcation between what is spiritual and what is material, for all actions performed in obedience to the Command of God are acts of virtue and *'ibadah* (worship). If you are following the Ways of God in every field of activity, no matter whether you are praying in the mosque, working in the fields, journeying on the high seas on your usual trading missions or busy in teaching lessons to the children, all these activities are a part of your religion and, as such, are counted as *'ibadah* (worship) in the Sight of God. "And when the prayer is finished, then you may disperse through the land, and seek of the Bounty of God, and remember God much, that you may prosper." (62:10) During the annual ceremony of Pilgrimage, Muslims are permitted to trade and do other business to increase their incomes. "It is no sin for you that you seek the Bounty of your Lord (by trading during Pilgrimage)." (2:198) This verse removes the misconception that doing business or trading, being a worldly thing, is therefore not allowed during the period of Pilgrimage. It shows that if a person observes the Divine Code of Law and then does some trading or business to make his living, he is, in fact, seeking the Grace of God. And there is nothing wrong in seeking the Grace of God together with seeking His Pleasure.(1)

Trade and commerce was given a tremendous boost by the *Qur'an*, and the early Muslims spread far and wide in search of God's Bounty. It was a very practical and effective way of taking the Message of God to other people and to other

1. *The Meaning of the Qur'an*, vol.I. pp.152-53.

lands. Muslims were encouraged to travel around on the earth to do business and to see for themselves other people and their ways of living, and that provided great opportunities for the work of *Da'wah* among other people. Islam could not have spread so suddenly in such a short period to distant lands in the North, South, East and West, if the Arabs had not left their townships for trading purposes and gone to countries such as China, the East Indies, Malaya and the Philippines. It was the Arab traders who went to these distant lands and, by their personal example of honesty and piety, spread the Message of God among those people. In the background of all these trading adventures and enterprises was the *Qur'anic* stimulus, which, so to speak, pushed Muslims out of their homes towards foreign lands, apparently for business trips but, in fact, for the much nobler and higher objective of the work of *Da'wah* among other peoples and nations.

The *Qur'an* encouraged Muslims in many ways to traverse the land of God and find the wonders of His Creation. "It is He Who has made the earth subservient to you, so walk through its tracts and enjoy of His Sustenance." (67:15) And in *Surah Nuh*, we read, "And God has made the earth a wide expanse for you, that you may go about therein, in spacious roads." (71:19-20) In *Surah Al-An'am* are these words, "It is He Who has made you His vicegerent on the earth." (6:165 and 35:39) As vicegerent of God on the earth, the early Muslims thought it their religious duty to traverse every part of it to see what was happening there. This urge of duty took them to far-distant places, and, as good Muslims, they never went without any purpose but developed commercial relations with other people. It was a natural corollary to their quest for foreign lands that they were encouraged by the *Qur'an* to seek the Bounty of God wherever they went. "While the sign of the day We have

made to enlighten you, that you may seek Bounty from your Lord.” (17:12) The *Qur’an* further encouraged them to go on journeys for many purposes and to seek guidance from the stars if they had any trouble in finding their way to foreign lands. “ It is He Who has set for you the stars that you may guide your course by them amid the darkness of land and sea.” (6:97) Together with this, they were invited to make journeys by sea and land and to find out for themselves what God had provided for them. “ Do you not see how God has made serviceable to you whatsoever is in the heavens and whatsoever is in the earth, and has made His Bounties flow to you in exceeding measure, both visible and invisible?” (31:20) It is therefore man’s duty to go out and look for the Bounty of God. “ See you not that God has made subject to you all that is on the earth, and the ships sail through the sea by His Command?” (22:65)

Man is encouraged to make sea voyages and exploit the wealth of oceans for his benefit for the winds are made to help him in sailing his ships to foreign lands, “ He it is Who enables you to traverse through land and sea; so that you even board ships;...they sail in them with a favourable wind.” (10:22) And in *Surah Al-Saba*, we read, “ And to Solomon We made the wind (obedient): whereof the morning course was a month’s journey and the evening course a month’s journey.” (34:12) The early Muslims took full advantage of the favourable trade winds and made voyages to the east and the west throughout the year and organised wide commercial relations on an international scale, both over land routes and by sea. The *Qur’an* mentions the benefit of the favourable (trade) winds for the encouragement of the believers in these words, “ Among His Signs is this, that He sends as heralds winds to make you taste His mercy...that the ships may sail at His Command, and that you seek His Grace, and in order that you may be grateful.” (30:46)

God's Grace is universal and benefits equally all His creatures, but the attitude of the believers is diametrically different from that of other people. They always maintain their close contact with their Creator, in plenty as well as in adversity, and are grateful to Him for His Bounty. Whether they are engaged in commerce or other pursuits of life, on sea or on the land, they always remember their Lord and are grateful to Him, for they know that all things are by the sheer Grace of their Lord and that their ultimate abode is with Him. Another verse reminds people of their Lord's Favours to them. "Your Lord is He that makes the ships go smoothly for you through the sea, in order that you may seek of His Bounty. Truly He is ever Merciful toward you." (17:66) And in *Surah Al-Nahl*, we read, "And you see the ships therein that plough the waves, that you may seek (thus) of the Bounty of God, and that you may be grateful." (16:14) These verses were a source of joy and encouragement to the early Muslims in their sea adventures to foreign lands to expand their commercial business on an international basis. Muslim ships had reached the shores of China, Korea, the East Indies and the Philippines as early as the tenth century and, much earlier probably in the eighth century, the shores of the east coast of Africa, Madagascar and India.

All this was motivated by *Qur'anic* studies, partly for trade relations, partly to introduce the Message of God among those people, and partly to get to know those lands and their people, all of which contributed to the universal brotherhood of man and was also their responsibility as vicegerents of God. There are many verses in the *Qur'an* which draw man's attention to the sea voyages and sea trade and encourage him to utilise the facilities provided by God. "It is God Who has subjected the sea to you, that ships may sail through it by His Command and that you may seek of His Bounty, and that you may be grateful." (45:12)

Likewise a tremendous boost was given by the *Qur'an*, to trade through land routes. "He Who has made for you the earth as a carpet spread out, and has enabled you to go about therein by roads (to seek God's Bounty)." (20:53) And in *Surah Al-Zukhruf*, we read, "Who has made the earth a resting place for you, and has made roads (and channels) therein for you, that you find your way (while seeking God's Grace in other lands)." (43:10) This gave a new incentive to the Muslims to spread to other parts of the world and develop relationships with other people by land and sea and build huge commercial concerns for this purpose. Their ships and trading caravans moved to other lands through out the year and developed trade on a very massive scale. And all parts of the known world were linked by sea and land routes by the early Muslims.

It is an historical fact that the Muslims excelled in the field of commerce, trade and industry, and dominated the oceans of the east and west, including the Mediterranean Sea, from the beginning of the eighth to the end of the fourteenth century. In the words of Philip K. Hitti, "During all the first part of the Middle Ages, no other people made as important a contribution to human progress as did the Arabs...Arab ships travelled to the east as far as China, the East Indies and the Philippines in the Pacific and to the island in the middle of the Atlantic ocean in the west. According to Ernest-Renan, "Their passion for travel is one of the most striking traits of the Arab character, and one of those which have helped them to make their deepest mark on the history of civilisation, up to the time of the great impetus in Spanish and Portuguese navigation, in the fifteenth and sixteenth century, no people had contributed as much as the Arabs to broadening man's conception of the universe and to giving him an exact idea of the planet on which he lives, which is the prerequisite of all real progress." (2)

The fact is that the Muslims had developed marine techniques long before the fourteenth century. They had used the compass, unknown to the western world, centuries before this period. "The Arabs invented the mariner's compass, and voyaged to all parts of the world in quest of knowledge or in pursuit of commerce. They established colonies far to the south in the Indian Archipelago, on the coast of India, and on the Malayan Peninsula. Even China opened her barred gates to Muslim colonists and mercenaries. They discovered the Azores, and, it is even surmised, penetrated as far as America. Within the confines of the ancient continents they gave an unprecedented and almost unparalleled impulse, in every direction, to human industry. The Prophet had inculcated labour as a duty; he had given the impress of piety to industrial pursuits; he had recommended commerce and agriculture as meritorious in the Sight of the Lord. These precepts had their natural result, the merchants, the traders, the industrial classes in general, were treated with respect." He continues, "In the days of their prosperity, the Spanish Arabs maintained a merchant navy of more than a thousand ships. With Constantinople they possessed a great trade, which ramified from the Black Sea and the eastern shores of the Mediterranean into the interior of Asia, and reached the ports of India and China and extended along the African coasts as far as Madagascar." In the midst of the tenth century, when Europe was about in the same condition that Caffraria is now, enlightened Moors, like Abdul Cassem, were writing treatises on the principles of trade and commerce." (3)

2. Quoted by Haidar Bammate in 'Contributions of Muslims to Science.

3. Ameer Ali, *The Spirit of Islam*, pp.391-92.

All this was the direct result of *Qur'anic* studies which drew people's attention to the Divine invitation to go abroad and search for the Bounty of God in other lands and among other people and also to spread the Message of God among them. This drove them out in pursuit of commerce and trade by land and sea to other parts of the world and thereby laid the foundations of the great commercial success which they enjoyed for centuries, together with other people of the world for themselves. "Travel through the earth and see how God did originate creation." (29:20) These and many similar verses in the *Qur'an* invite human attention to travel to other areas of the earth and meet other people and learn lessons of wisdom from them and also seek the Bounty of God through these travels. However, one must observe that these are not ordinary voyages but are undertaken on the invitation of the Creator of the Universe and must, therefore, carry with them special significance. As pointed out earlier, apparently these travels were made to seek the Bounty of God through commerce and trade. It was the obvious and material incentive for the people to leave their homes for a better and more prosperous life.

It also had an admonitory purpose exhorting people to learn wisdom and other great lessons through their contacts with foreign peoples and through observation of the great Signs of God on land and sea. But the most important thing of all was the potential and derived benefit of these travels and voyages. When the Muslims went to other lands and to other people, they carried with them their noble and superior beliefs, values, and ways of living. Other people would see their superior conduct as well as their moral and spiritual way of living and gradually they would try to find out and understand what made them excel other people in every department of life. Thus, slowly but surely, they would be attracted to this noble way of living and this would open the

way for the spread of the Divine Message to other lands. This is how Islam spread to the distant lands of China, the East Indies, Malaya, and the Philippines where Muslim traders went in pursuit of their commercial interests. In the course of a few decades, their good conduct and exemplary living influenced local populations so much that the latter decided to embrace the Muslim faith. Our presumption is confirmed by Browne's observation, "We flatter ourselves on the facilities of communication existing in these our lives, but it is questionable whether an idea, or a Philosophical doctrine, would travel so quickly now from Tunis to Tabriz or from Seville to Samarqand as it did in the fourteenth century, so potent was the unifying effect of Islam and its universal medium, the Arab language." (4)

4. E.G. Browne, *Arabian Medicine*. pp.107-8.

PART V

1. Archaeology
2. Architecture

ARCHAEOLOGY

Archaeology is the science of human antiquities, especially of the pre-historic period. (1) Literally it signifies the study of antiquity or ancient things, but its precise significance has been determined from time to time by the range of study and research currently in favour. To some extent, it has always been recognised as embracing whatever pertained to the early history of any nation. (2) Huge funds are spent on an international level to discover the pre-historic cultural achievements of a nation. And the standard of their progress is judged by their achievements in the fields of architecture and art. Fine buildings and statues are considered as signs of a great civilisation and of material advancement. All archaeological efforts are concentrated on projecting the whole past history of a people on these lines without having any consideration for their moral behaviour or attitude to their Creator.

The *Qur'an* refers to archaeological studies but from a different angle and with a different purpose. It invites human attention to ancient peoples, not for appreciating their monumental buildings and palaces and their huge statues, but to see how they lived in this world. Did they live as independent people on this earth without recognising the Sovereignty of the Creator or did they believe in Him and follow the Way of His Messengers? Did they follow the Divine Code of life or merely the evil desires of their self? If they obeyed the Law of God and regulated their entire life accordingly, they were successful. On the other hand, if they followed the ways of the devil, they utterly failed in the

1. *The Oxford concise Dictionary.*

2. *Encyclopaedia Britannica*, vol.II.p.333.

Sight of God, even though they might have built great civilisations and cultures and empires – they were all ignorant people and lived in ignorance (*jahiliyyah*). In spite of great material progress and achievements, people can be considered uncivilised and uncultured by the *Qur'an*. The only measure it recommends to judge the people of the past, as well as of the present, is faith: whoever believes in God and does acts of piety and goodness is successful and civilised and advanced; and whoever disbelieves is unsuccessful and uncivilised and backward. “Wealth and children are an ornament of the life of the world. But the good deeds which endure are better in your Lord’s Sight for reward, and better in respect of hope.” (18:46)

The *Qur'an* gives an example to show what type of people and what kind of action is praiseworthy and good in the Sight of God and what is considered evil and bad by Him. “Set forth to them the example of two men. For one of them We provided two gardens of grapes, and surrounded them with date-palms; in between the two We placed cornfields. Each of those gardens brought forth its produce and withheld nothing thereof. And We caused a river to flow therein. And he had abundant produce. And he said to his comrade when he spoke to him: ‘I have more wealth than you, and more honour and power in (my following of) men.’ And he went into his garden, while he thus wronged himself. He said, ‘I think not that all this will ever perish, nor do I think that the Hour (of Judgement) will (ever) come, and even if I am brought back to my Lord, I shall surely find there something better in exchange.’ And his comrade said to him, while he disputed with him, ‘Do you deny Him Who created you out of dust, then out of spermdrop, then fashioned you into a man? But He is God, my Lord, and I associate with my Lord no partner. If only, when you entered your garden, you had said, “God’s Will (be done)!

There is no power but with God!" Though you see me as less than you in wealth and children, yet it may be that my Lord will give me better than your garden, and will send on your garden thunderbolts from heaven, and some morning it will be a smooth hillside. Or some morning the water thereof will run off underground so that you will never be able to find it. And his fruit was beset with destruction. And he remained twisting and turning his hands over what he had spent on his property, when now it was all ruined on its trellises, and he could only say, 'Would that I had ascribed no partner to my Lord.' Nor had he numbers to help him against God, nor was he able to deliver himself. In this case, protection is only from God, the true One. He is best for reward and best for consequence." (18:32-44)

Thus the *Qur'an* suggests an entirely different approach to the study of archaeology from that of the West. It draws the attention of man to the events of past history so that he may study the end of the previous nations who rejected the Messengers of God and take a lesson from it for his own guidance. In *Surah Al-Mu'min*, we read, "Do they not travel through the earth and see what was the end of those before them? They were more numerous than these, and mightier in power, and in the trace (which they left behind) in the earth." (40:82) It invites them to look around and see for themselves what was the end of the evildoers. "How many a township have We destroyed which was given to wrongdoing? It lies (to this day) in ruins. And many wells are lying idle and deserted, and lofty and well-built castles! Do they not travel through the land, so that their hearts may feel (and learn wisdom) and their ears may learn to hear? Truly it is not their eyes that are blind, but their hearts which are in their breasts." (22:45-46) If you have observing eyes look again, "And how many a township did I give respite, which was given to wrongdoing? Then I grasped it.

To Me is the destination of all.” (22:48) There are numerous passages in the *Qur'an* which advise man to travel through the land and see the archaeological remains, and to study the history of the ancient people.

In every corner of the world you will find ruined and deserted palaces and castles of kings; beautifully decorated buildings and impressive gardens and wells utterly neglected and in complete ruin. The standing and broken walls of once huge buildings are enough evidence of the end of those people. These bear witness to the terrible end of those who rejected the Messengers of God and their Message. It also points to another basic reality of human history, that there are general rules and Principles of God that govern the actions of nations. A nation that obeys the Command of God, and follows His Principles, prospers in this world as well as in the Hereafter. And a nation which denies God and rejects His Law and follows the ways of the devil is destroyed by Him and suffers the evil consequences of its evildoing both in this world and the Hereafter.

There are many examples of this in the land for those who have eyes to see how many nations were destroyed before them for their evildoing. “How many towns have We destroyed (for their wrongdoing)? Our punishment took them...no plea had they but that they said, ‘Indeed we did wrong.’” (7:4-5) The *Qur'an* narrates examples of nation after nation who flourished and then ruined themselves by following wrong ways of life. It mentions the people of Noah. ‘But they rejected him, and We delivered him, and those with him, in the Ark. But We overwhelmed in the Flood those who rejected Our Signs. They were indeed a blind people!’” (7:64) In *Surah Yunus*, we read, “They rejected him, but We delivered him, and those with him, in the Ark, and We made them inherit the earth, while We

overwhelmed in the Flood those who rejected Our Signs. Then see what was the end of those who were warned but heeded not." (10:73) And in *Surah Al-Shu'ara* are these words, "The people of Noah rejected the Messengers...We delivered him and those with him, in the Ark filled (with all creatures). Thereafter We drowned those who remained behind." (26:105;119-120) The *Qur'an* then addresses the future generations and draws their attention to this historical event for them to reflect and draw useful conclusions from it. "Truly in this is a Sign; but most of them believe not." (26:121)

The people of Noah were followed by the people of 'Ad. "To the 'Ad people, We sent Hud...He said to them, 'punishment and Wrath have already come upon you from your Lord. You dispute with me over names which you have devised...you and your fathers, without Authority from God? Then wait; I am amongst you, also waiting.' We saved him and those who adhered to him, by Our Mercy, and We cut off the roots of those who rejected Our Signs and did not believe." (7:65,71-72) And in *Surah Hud*, we read, "They said, 'O Hud! No clear Signs have you brought us, and we are not the ones to desert our gods on your word! Nor shall we believe in you!'...Such were the 'Ad people. They rejected the Signs of their Lord and Cherisher; disobeyed His Messenger; and followed the command of every powerful, obstinate transgressor. And they were pursued by a curse in this life, and on the Day of Judgement. Ah! Behold! For the 'Ad rejected their Lord and Cherisher! Ah! Behold! Removed from sight were 'Ad the people of Hud.'" (11:53,59-60) Again, the *Qur'an* invites people's attention to the fate of the people of 'Ad to learn a lesson of wisdom for their own benefit. "So they rejected him, and We destroyed them. Truly in this is a Sign, but most of them believe not." (26:139)

Their descendants, the people of Thamud, also did not accept the Messenger of their Lord. "The Thamud people rejected the Messenger...But the Penalty seized them." (26:141-158) And in *Surah Al-A'raf*, we read, "To the Thamud people We sent Salih...The arrogant (among them) said, 'For our part, we reject what you believe in'...So the earthquake took them unawares, and they lay prostrate in their homes in the morning." (7:75-76,78) And in *Surah Hud* are these words, "They said, 'O Salih! You have been among us! A centre of our hopes hitherto! Do you ask us not to worship what our fathers worshipped? But we truly are in grave doubt concerning that to which you invite us'... So when Our Decree came to pass, We saved Salih, and those who believed with him, by a Mercy from Us, from the ignominy of that day...And the mighty blast overtook the wrongdoers, and they lay prostrate in their homes before the morning, as though they had never dwelt there. Ah! Behold! For the Thamud rejected their Lord and Cherisher! Ah! Behold! Removed (from sight) were the Thamud." (11:62,66-68) The *Qur'an* draws man's attention to their evil fate and advises them to learn wisdom from their past history and come to the Right Way of God's Messengers. "Truly in this is a Sign; but most of them believe not." (26:158)

Likewise the people of Madian rejected their Messengers and went the same way as the others. "To the people of Madian We sent Shu'aib...but the leaders of his people, who were unbelievers, said, 'If you follow Shu'aib, then truly we shall be the losers.' So the earthquake seized them, and morning found them prostrate in their homes. Those who denied Shu'aib became as though they had never dwelt there. Those who denied Shu'aib, they were the losers." (7:85,90-92) And in *Surah Hud* we read, "His people said, 'O Shu'aib! Does your way of prayer (religion) command you that we should leave off that which our fathers (used to) worship, or

that we should leave off doing what we like with our property? Indeed, you are the only generous and righteous man (left in the land)!...And when Our Decree came to pass, We saved Shu'aib and those who believed with him, by (special) Mercy from Ourselves. But the (mighty) blast did seize the wrong-doers, and morning found them prostrate in their homes, as though they had never dwelt there! Ah! Behold! How the Madian were removed (from sight) as were removed the Thamud!" (11:87,94-95)

And so did the people of Lut reject their Messengers. "When Our Decree came to pass, We turned (that town) upside down, and rained upon it stones of clay, layer on layer." (11:82) And Pharaoh and his people also rejected the Messenger. "Then after them We sent Moses and Aaron to Pharaoh and His chiefs with Our Signs, but they were arrogant and were a guilty people." (10:75) Thus nation after nation inherited the earth but ruined themselves by rejecting the Messengers of God and following the evil ways of the Devil. Only the believers in the Message of God were saved, while the others were all destroyed through their evil doings. Many peoples inherited the earth turn by turn but very few of them really believed in the Divine Message. The *Qur'an* points out to the people that during their trading trips they must have passed by the ruins of previous nations. "And indeed they must have passed by the town whereon was rained a shower of evil. Did they not then see it (with their own eyes)? Nay, but they fear not the Resurrection." (25:40)

Thus the *Qur'an* seems to argue with the nonbelievers that ruins are a not uncommon sight which they could have observed for themselves in their journeys to other lands. There are many places around which bear evidence of the ruins of earlier nations and which they must have seen while

journeying through neighbouring lands. “ Many were the ways of life that have passed away before you. Travel in the land, and see what was the end of those who rejected the Messengers.” (3:137;6:11) And in *Surah Al-Saffat*, we read, “ Then We destroyed the rest. Truly, you pass by their (ruined sites), by day and by night. Will you not understand?” (37:136-138) And in *Surah Yusuf* we read, “ Do they not travel through the earth, and see what was the end of those before them? But truly the abode of the Hereafter is best, for those who fear God. Will you not then understand?” (12:109;27:69) And again, in the same *Surah*, we read, “ Then see what was the end of their plot! – this, that we destroyed them and their people, all (of them). Now such were their houses – in utter ruin – because they practised wrongdoing. Truly in this is a Sign for people who have knowledge.” (27:51-52)

If you thus travel you will find that many of the ancient nations rejected their Lord and met their evil end, “ Has not the history of those before you reached you? Of the people of Noah, and the tribes of ‘ Ad and Thamud? And of those who (came) after them? Now but God knows them. Their Messengers came to them with clear (Signs), but they put their hands up to their mouths, and said, ‘ We do deny that wherewith you have been sent, and we are really in doubt concerning that to which you invite us.’ Their Messengers said, ‘ Is there any doubt about God, the Creator of the heavens and earth? It is He Who invites you that He may forgive you your sins and give you respite for an appointed term!’ They said, ‘ You are no more than human, like ourselves! You wish to turn us away from the (gods) our fathers used to worship. Then bring us some clear authority. Their Messengers said to them, ‘ True, we are human like you, but God does grant His Grace to whom He pleases of His servants. It is not for us to bring you an authority except

by the permission of God. And in God let believers put their trust ! No reason have we why we should not put our trust in God when He has shown us our ways. We will certainly bear with patience all the hurt you may cause us. For those who put their trust should put their trust in God!" (14:9-12)

These verses clearly show that the end of those who rejected the Ways of God is ruin in this world and the next, and that manifest success in both the worlds is for those who believed and followed the Ways of God. In *Surah Sad*, we read, " Before them (were many who) rejected Messengers – the people of Noah, and ' Ad, and Pharaoh, the Lord of Stakes, and Thamud, and the people of Lut, and the Companions of the Wood – these were the factions. Not one (of them) but did deny the Messengers, therefore My Punishment came justly and inevitably (on them)." (38:12-13) And in *Surah Al-Furqan* are these words, " (before this,) We sent Moses...to (Pharaoh and) the people who had rejected Our Signs. And those (people) We destroyed with utter destruction. And the people of Noah... also ' Ad and Thamud, and the Companions of the Rass, and many generations between them. Each of them We warned by examples, and each of them We brought to utter ruin." (25:35-39)

These passages from the *Qur'an* have clearly established its measure by which to judge the archaeological finds and treasures of earlier nations. Their achievements and records in the field of architecture and art and material advancement will be seen and measured on the basis of their conduct in relation to the teaching of their Messengers. If they believed in them and followed their guidance in their daily life, they would be considered civilised and cultured people and their civilisation and culture of a very high order and exemplary in every way for other nations. But if they failed to believe in them and, instead, rejected them, they would be considered

uncivilised and their civilisation of the order of ignorance (*jahiliyyah*), in spite of their material and scientific progress. This is specifically mentioned by the *Qur'an* with regard to the prosperity and wealth of previous nations who denied the Messengers of God. In *Surah Al-Zukhruf*, we read, "And Pharaoh proclaimed among his people, saying, 'O my people! Does not the dominion of Egypt belong to me (witness) these streams flowing underneath my (palace)? What! See you not then? Am I not better than this fellow (Moses), who is despicable, and can hardly express himself clearly?'" (43:51-52) And in *Surah Al-Qasas* are these words, "Pharaoh said, 'O Chiefs! No god do I know for you but myself, so kindle for me a fire, O Haman, to bake bricks out of clay, and build for me a lofty tower in order that I may survey the God of Moses. But I deem him (Moses) a liar.' And he was arrogant and insolent in the land, beyond reason — he and his hosts: they thought that they would never be brought back to us." (28:38-39)

This clearly demonstrates the attitude and behaviour of the people who denied God and stake everything on the life, enjoyment and wealth of this world and completely rejected the idea of the Day of Judgement. And the people of 'Ad were no different. "Do you build on every high place a monument for vain delight? And seek you out strongholds, that you may last for ever? And when you seize by force, do you seize as tyrants?...Fear Him Who has bestowed on you the good things that you know. He has aided you with cattle and sons, and gardens and springs"...They said, 'It is the same to us whether you admonish us or be not of those who admonish...And we shall not be doomed.'" (26:128-138) And the attitude of the people of Thamud was the same. They were proud of their worldly possessions, like the people of 'Ad, and ignored the warnings of their Messengers. "And remember how He made you inheritors after the 'Ad people

and gave you habitations in the land. You build for yourselves palaces and castles in the plains and carve out homes in the mountains. So remember all the Bounties of God, and refrain from evil and mischief on the earth." (7:74)

There are many example in the *Qur'an* referring to the history and archaeological records of man which describe the great material progress of various nations and their great political and military might and how all that came to nothing, because they did not believe in God and the Day of Judgement. Their worldly achievements did not make much mark on the scales of Truth which record only the weight of good deeds performed in obedience to the Command of God and reject all other actions as vain delight in ignorance (*jahiliyyah*). This is the standard for judging the ancient nations and their civilisations in the sight of the *Qur'an*. Any nation which satisfies this criterion is cultured, civilised and advanced and its civilisation is an exemplary one for other people in the Sight of God. On the other hand, any nation which fails by this measure is uncivilised and uncultured, and its civilisation is a mere show of ignorance in the Sight of God. All the archaeological research will follow this pattern of classification and identification of ancient civilisations and cultures for the purposes of study.

Another point that needs emphasis in this respect is that archaeological studies are initiated by the *Qur'an* mainly for admonitory purpose and therefore all research must be conducted on those lines and must have this colour from the beginning to the end. It is meant to provide some lessons of wisdom to future generations, so that they may not commit the same mistakes which their predecessors did and but direct their course of action on the Right lines in the light of the teaching of the Messengers of God. "All that We relate to you of the historical records of the Messengers is in order

that thereby We may make firm your heart. And herein has come to you the Truth and an exhortation and a reminder for those who believe.” (11:120)

In *Surah Ta Ha*, we read, “ Thus do We relate to you some part of what happened before, and We have given you from Our Presence a reminder and an admonition (for people).” (20:99) Undoubtedly, the *Qur'an* narrates the past history of man in various contexts but the central theme throughout seems to be almost always admonitory for the benefit and guidance of mankind so that they may not repeat the mistakes of their ancestors. In most cases, such narrations end with the words, “ Truly in that is a Sign; but most of them do not believe.” (26:121-158 and 11:120) However, the admonitory note is general for all mankind, though only men of wisdom who believe take any lessons from them. And in *Surah Al-Sajdah*, we read, “ Does it not teach them a lesson, how many generations We destroyed before them, in whose dwellings they do walk about? Truly therein are Signs: will they not then listen?” (32:26)

This is confirmed by many other passages of the *Qur'an* which warn people not to be misled by the apparent attractions and glitter of the material aspect of this life. “ O mankind! Fear God and fear a Day when no father can avail anything for his son, nor a son avail anything for his father. God's Promise is the very Truth. Let not the life of the world deceive you.” (31:33) And in *Surah Al-Fatir*, we read, “ O people! Certainly the Promise of God is the Truth. Let not then this present life deceive you.” (35:5) In fact, the purpose of man's creation is to test him as to how he behaves in the midst of all the enjoyment, wealth and power of this world. Does he forget himself in the pleasures of this life and deny his own Creator? Does he behave sensibly and remember his Lord and His Message, in spite of all the

pleasures and attractions of this world? This is the keynote of his creation: “He Who created death and life that He may test you, which of you is best in conduct. And He is the Mighty, the Forgiving.” (67:2) This verse explicitly spells out the object of man’s creation, and this is the measure by which to judge the previous nations studied by archaeological research in Islam. This is further explained in another verse of the *Qur’an*. “Truly We have made all that is on the earth as an ornament thereof that We may test – as to which of them are best in conduct.” (18:7)

Thus the *Qur’anic* approach to the study of archaeology is fundamentally different from the modern Western approach. The latter is totally confined to studying the material achievements of the ancient people in terms of their architecture, art and statues and measures their progress and achievements only on the basis of these material things. It pays no attention to their beliefs, morals and ways of living. Whether they believed in God or gods, whether they rejected His Messengers or accepted them, is no concern of the modern archaeologists. Whether they indulged in immoral ways of living and spent their life in obscenity and evil does not affect their archaeological conclusions because such things are not a part of their study.

ARCHITECTURE

Like every other Islamic discipline, architecture and its development was very much influenced and directed by the *Qur'an* and its philosophy of life. The spirit of Islamic faith was the unifying factor which kept together different designs of building and moulded them into a style representing the spirit of Unity in multiplicity – a unique characteristic of Islamic architecture. It also reflects the remarkable sense of harmony and equilibrium between the different, and, even opposite, elements. This is because the keynote of the Islamic sciences, including architecture, is the interdependence and interrelation of all things in the universe. There is complete equilibrium in Islamic architectural designing, as well as in city planning, between the natural environment and the natural forces and elements, like water, air and light, which are essential to human life. In planning their buildings for residence, worship or business and the streets within the town area and for other basic necessities of city life, Muslim architects made the maximum use of the natural factors available in the area. In hot areas, narrow streets were built to preserve the cool air of the night during the hot hours of the day. Where the temperatures were very high, wind towers were built to ventilate residential buildings and low basements were used during summer for spending the hot hours of noon and also for cisterns to keep water cool.

Thus Islamic civilisation recommends the maximum use of existing natural factors in its architecture, which combines beauty with efficiency, reflecting the effect of equilibrium with the environment. Under this principle, a Muslim architect would never use large glass windows in a hot environment, allowing the maximum amount of radiation through, and then use the maximum amount of external

power to keep the building cool. Likewise the use of light in Muslim architectural designs and city planning is both a reminder of the Divine Presence, a source of joy and a means of natural lighting and source of heat. Thus Islamic architecture makes use of the traditional sciences and technologies in creating an atmosphere of peace and beauty in its buildings as well as towns and, at the same time, maintains equilibrium with the natural environment, thereby reflecting the innate harmony and balance between the sciences. In short, Islamic architecture reflects two basic principles : “ to save as much energy as possible in any process and to use the most easily available form of power needing the least disturbance of the natural environment. For this purpose, maximum use is to be made of the sun to provide heating, of wind to ventilate houses or work mills and of water to provide power industry, resulting in a high degree of efficiency and utility combined with beauty.” (1)

The *Qur'an* presents the ideal architectural style which offers the maximum comforts, joy and beauty to the residents and is in complete equilibrium with the natural environment, making the maximum use of the natural factors with the least possible waste. It is described in very simple words in *Surah Al-i-Imran*, “ But those who fear their Lord, for them are gardens underneath which rivers flow, wherein they are to dwell for ever. A gift of welcome from their Lord.” (3:198) And in *Surah Al-Tawbah*, we read, “ Gardens underneath which rivers flow, wherein they abide, and beautiful mansions in gardens of everlasting bliss.” (9:72) And in *Surah Al-Sajdah* are these words, “ For those who believe and do righteous deeds, are gardens, as hospitable homes.” (32:19) In other words, their normal residence will be in gardens with all the usual facilities, comforts and peace of

1. Sayyed Hossein Nasr, *Islamic Science*, pp.227-34.

home but with the added pleasure and joy of a natural environment.

The *Qur'an* further mentions some of the additional facilities of these residential gardens in these words, "We shall soon admit (them) to gardens, with rivers flowing beneath, — their eternal home; and We shall admit them to shades, cool and ever deepening." (4:57) And in *Surah Al-Ra'd*, we read, "A similitude of the garden which is promised to the righteous! Beneath it rivers flow; everlasting is the enjoyment thereof and its shade (cool and temperate)." (13:35) This quality of their blissful residence is clearly described in this verse, "Reclining therein upon couches, they will find there neither (heat of) a sun nor (the moon's) bitter cold. The shade of the (garden trees) is close upon them and the clustered fruits thereof hang low." (76:13-14) And in *Surah Al-Mursalat*, we read, "As to the righteous, they shall be amidst (cool) shades and springs (of water). And they shall have fruits such as they desire." (77:41-42)

These descriptions of ideal buildings amidst a natural environment stimulated architectural styles in the earlier centuries of the Islamic Era and produced architectural wonders such as the Alhambra of Granada, the beautiful and massive mosques of Cordova and Seville, Medinat al-Zehra near Cordova, the Dome of the Rock of Jerusalem, the mosques of Istanbul, the Ibn Tulun Mosque of Cairo and the Taj Mahal of Agra. Innumerable mosques, palaces and castles in Spain, North Africa, India, Turkistan, Iran and other Muslim countries bear evidence of the grandeur and majesty of the architectural styles and modes which sprang from *Qur'anic* studies. The massive structural beauty and simplicity of these buildings, especially of mosques, remind one of the Majesty and Greatness of the Creator. The words of Dr. John S. Badean, President of the American University

of Cairo, truly bear witness to this fact when he remarks, " that the mosque of Ibn Tulun, with its dignity and simplicity, was the kind of place in which I could pray and worship and sense a nearness to God." (2)

Islamic architecture left an eternal mark on the architectural styles and modes of other peoples, specially the Europeans, who borrowed a great deal from the Muslims. " Pisa, Genoa, Siena, Firenze and other Italian cities may have borrowed their similar architectural practices, such as using dark and light stone alternately, from Cairo, a city with which they had close trading relations during the Middle Ages. It is known that the Crusaders, termed marauders by the Muslims, acquired ideas about fortification from the Saracens. Authorities on the history of architecture ascribe the invention of the pointed arch to the Muslim architects of Syria and Egypt. The ogee arch almost certainly, and the " Tudor " arch possibly, have a similar origin. Probably the tracery patterning of surfaces and conceivably even the bar-tracery in windows are Islamic in derivation. The *mashrabiyyah* or lattice of woodwork used to conceal the women's apartments of a house or as the screen in a mosque were copied in English metal grilles. It is said that all the domes of the European churches were copied from the Dome of the Rock of Jerusalem. These are but a few examples of how Islamic architecture influenced the architectural styles of other people and other nations in the course of generations.

If modern Governments were to follow the Islamic pattern in their town planning it would not only solve the environmental problem which is threatening town life

2. Robert L. Gulick JR. *Muhammad The Educator*. pp.85-86

everywhere but would also drastically reduce the tragic flight of population to big cities and help in building happy and peaceful communities, living in harmony with their immediate natural environment with the minimum amount of external perturbation and the maximum amount of self-sufficiency.” (1)

Among many other aspects of Islamic architecture, its identification with the environment is predominant. It is the influence of the *Qur'an* and the Islamic faith that a Muslim has always felt that his life on this earth is that of a traveller on a journey and that his permanent home is elsewhere. He has therefore tried to live in peace and harmony with his environment with the least disturbance of the latter, and his architectural designs and town planning fully reflect this philosophy of life. “ He has thus lived in equilibrium with his environment because he has submitted himself to the universal laws which dominate all levels of existence and which are the metaphysical source of the laws governing the natural world. He has lived in peace and harmony with God and His Law and therefore with the natural environment which reflects on its own level the harmony and the equilibrium of the universal order.” (1)

PART VI

1. Psychology
2. Sociology
3. Sexology

PSYCHOLOGY

INTRODUCTION:

The *Qur'an* is a book of guidance for man and invites him to the Right Way of living so that he may be able to lead a happy, virtuous and peaceful life on this earth. It is an open invitation to each individual to accept this Way of life for his own good. It is up to each individual to accept it or reject it of his own free will. The nature of this invitation and Message clearly shows that it appeals to the conscience of each person to think, understand and weigh this guidance for himself, without any external pressure, and then accept it if he finds it beneficial and reject it if he is not convinced of its Truth. However, everything is clearly explained and no doubt is left about it. The *Qur'an* makes it absolutely clear. "There is no compulsion in religion. Truth (the Right Way) is henceforth distinct from error. Whoever rejects evil and believes in God has grasped a firm handhold which will never break. And God hears and knows all things." (2:256) This is a clear indication that the creed of Islam and its Way of life is not thrust upon anyone forcibly. As already said, it is a matter of belief and concerns the conscience of each person and, therefore, cannot be forced upon anyone.

The *Qur'an*, therefore, appeals to the conscience of people and exhorts them to think and reflect carefully before rejecting and denying their Lord and Creator. "With God is the argument...Had He willed He could indeed have guided you all (by force)." (6:149) And in *Surah Al-Nahl* are these words, "And to God leads straight the Way, but there are ways that go not straight; Had He willed He would have guided you all (by force)." (16:9) Again, in *Surah Al-Dahr*, we read, "Truly We have shown him the Way Whether he be

grateful or ungrateful (and disbelieving, rests entirely on his own will)." (76:3)

The *Qur'an* then puts its argument to the people. "Is there of your partners any that can guide to the Truth? Is He Who guides to the Truth more worthy to be followed, or he who finds not the Way unless he (himself) be guided? What then is the matter with you? How judge you?" (10:35) And in *Surah Al-Naml* are these words, "Say, O Muhammad; Who is better?...God or the false gods they associate (with Him)? Is not He better Who created the heavens and the earth, and Who sends down water from the sky wherewith We cause to grow well-planted orchards, full of beauty and delight. It is not in your power to cause the growth of the trees in them. (Can there be another) god besides God? Nay, but they are a people who swerve from justice.

Is not He better Who made the earth a fixed abode (for mankind with all the things for their benefit)...(Can there be another) god besides God? Nay, most of them know not. Is not He better Who listens to the distressed (soul) when it calls on Him, and relieves its suffering?... (Can there be another) god besides God? Little do they reflect! Is not He better Who guides you in the darkness of the land and the sea...? (Can there be another) god besides God? High is God above what they associate with Him! Is not He best Who originates creation, then repeats it, and Who provides for you from the heaven and the earth? (Can there be another) god besides God? Say, Bring your proof, if you are Truthful! Say: None in the heavens and the earth knows the Unseen except God; nor can they know when they will be raised (again). Nay, still less does their knowledge reach to the Hereafter. Nay, for they are in doubt concerning it; nay, they are blind thereunto!" (27:59-66)

There could not be any comparison between God and false gods; it was so obvious, even to the polytheists and nonbelievers. However, this question was put to them to point out their mistake, for no rational person would do anything which did not have any benefit for him. If the polytheists turned away from God and worshipped other deities and presented all their requests and sacrifices to them, they must have thought there was some good for them in that. They were therefore clearly asked in these verses to think carefully and say who was better, their gods or the One God, *Allah*? They could not dare say that their gods were better. Thus this admission on their part that God was better would for all practical purposes destroy the very basis of their faith, for it was then irrational to leave the better and follow the inferior course of action. In this passage the Grandeur, Power and Majesty of God is revealed to them step by step, asking them which of these things is done by their gods and thereby totally shattering the myth of their false gods. These arguments open up vast horizons for study and research in the science of psychology.

Again, the argument of *Tawhid* (Unity) is presented to the unbelievers in another context when they refuse to believe in the Day of Resurrection. "They say, 'What! When we die and become dust and bones, could we really be raised up again? Such things have been promised to us and to our fathers before! They are nothing but the tales of the ancients!' Say: 'To whom belongs the earth and whosoever is therein, if you have knowledge?' They will say: 'To God! 'Will you not then receive admonition.' Say: 'Who is the Lord of the seven heavens, and the Lord of the Throne (of Glory) Supreme?' They will say, 'God.' Say: 'Will you not then fear Him?' Say: 'In whose hand is the dominion over all things, and who protects (all), while against Him there is no protection, if you have knowledge?' They will say, ' (it

belongs) to God.' Say: 'How then are you deluded?' (23:82-89)

The same psychological reasoning and argument is put forth to convince the unbelievers of the Truth of the Day of Judgement. They are exhorted to look into their own "souls" and their past history. "Do they not reflect in their own minds? God created not the heavens and the earth, and that which is between them, except with Truth and for a destined end. But truly many of the people deny the meeting with their Lord! Do they not travel through the earth? And see what the end of those before them. They were stronger than these in power, and they dug the earth and built upon it more than these have built. There came to them their Messengers with clear Signs (which they rejected, to their own destruction). It was not God Who wronged them, but they wronged their own souls." (30:8-9) And in *Surah Al-Naml*, we read, "Yet those who disbelieve say: 'What! When we become dust...we and our fathers...shall we really be raised (from the dead)? We were promised this, we and our fathers, before (us), These are nothing but tales of the ancients.' Say: 'Travel in the land and see what has been the end of those guilty (of sin)!' (27:67-69)

Such people are then asked to reflect on the not very uncommon happening of the dead land coming to life with rainfall every spring. "He brings forth the living from the dead, and He brings forth the dead from the living, and He gives life to the earth after it is dead. And thus shall you be brought forth (from the dead)" (30:19) And in the same *Surah*, we read, "And (He) sends down water from the sky and thereby gives life to the earth after it is dead. Verily, in that are Signs for those who are wise (and understand)." (30:24)

There are in the *Qur'an* numerous similar passages which point to new fields of research in the science of psychology. Likewise, in regard to the doctrine of prophethood, strong arguments are given which could hardly fail to appeal to the good sense of reasonable people. "When Our clear Revelations are recited to them they say, 'This is only a man who could turn you away from what your fathers used to worship.' And they say, 'This is nothing else but an invented lie!' And the unbelievers say to the Truth when it comes to them, 'This is nothing but clear magic!' But We have given them no Books which they could study, nor sent Messengers to them before you as warners. Those before them denied the Truth; these have not received a tenth of what We had granted to those; yet when they rejected Our Messengers, how (terrible) was My rejection (of them)!" (34:43-45) The people are then advised to think carefully of the consequences of their denying the Messenger of God. "Say: 'I admonish you on one point: that you awake, for God's Sake, by twos and singly, and then reflect: Your companion is not mad. He is no less than a warner to you in face of a terrible penalty.' Say: 'No reward do I ask of you; it is (all) in your interest. My reward is only due from God. And He is witness to all things'...Say, 'If I am astray, I only astray to the loss of my own soul; but if I am rightly guided it is because of that which my Lord has revealed to me.'" (34:46-50)

The same argument is repeated in another way in *Surah Yunus*. "And when Our clear Signs are recited to them, those who look not for the meeting with Us say: 'Bring us a Reading (Book) other than this, or change this.' 'It is not for me to change it of my own accord. I only follow that which is revealed to me. Lo! If I disobey my Lord, I fear the penalty of a great Day.' Say: 'If God had so willed I should not have recited it to you nor would He have made it known

to you. I have lived among you a whole life-time before it (came to me). Will you not then understand? Who does more wrong than he who invents a lie against God? But never will prosper those who are guilty.” (10:15-17)

This line of argument against those who reject the Truth of God is often taken up by the *Qur'an* in various contexts and in many different styles in order to convince the non-believers and to satisfy their consciences that the Messenger is inviting them to a way which is for their own benefit from every point of view. “And verily We have explained for mankind in this *Qur'an* every kind of similitude, but most of the people refuse (to receive it) except with ingratitude!” (17:89) The same psychological approach is apparent throughout the *Qur'an* in all matters concerning mankind and covering all fields of life, from the cradle to the grave, from spiritual and moral to political and legal matters. This provides many opportunities for man to look for new fields of study in human psychology as seen from various angles.

GENERAL: The *Qur'an* refers to some of the narrow and mean qualities of man as discussed below.

GREED: In *Surah Al-i-Imran*, we read, “And let not those who hoard up that which God has bestowed upon them of His Bounty think that it is better for them. Nay, it is worse for them.” (3:180) *Surah Al-Nisa* says, “God loves not those who are proud and boastful, nor those who are niggardly or enjoin niggardliness on others.” (4:36-37) And in *Surah Al-Humuzat* are these words, “Woe to every slanderer and backbiter who piles up wealth and keeps on counting it. He thinks that his wealth will make him immortal.” (104:1-3) And *Surah Muhammad* says, “But any who are niggardly are so at the expense of their own souls. But it is you that are needy. If you turn back, He will

replace you with some other people who will not be like you.” (47:38)

FALSEHOOD AND HYPOCRISY: This is another psychological characteristic found in humans. “ Therefore guard yourselves against the filth of idols, and refrain from all false things.” (22:30) And *Surah Al-Tawbah* says, “ So He has put as a consequence hypocrisy into their hearts until the Day when they shall meet Him, because they broke their covenant with God, and because they lied again and again.” (9:77)

EXTRAVAGANCE: The *Qur'an* has pointed out this evil in people in these words, “ And squander not your wealth in the manner of a spendthrift. Verily squanderers are brothers of the devils; and Satan has always been ungrateful to his Lord.” (17:26-27)

EXPLOITATION: *Surah Al-i-Imran* says, “ Whoso defrauds will bring his deceit with him on the Day of Resurrection. Then every soul will be paid in full what it has earned; and they will not be dealt with unjustly.” (3:161)

BACKBITING AND SLANDER: In *Surah Al-Hujurat* we read, “ O Believers! Avoid suspicion as much as possible; for suspicion in some cases is a sin. And spy not on each other, nor speak ill of each other behind their backs. Would one of you like to eat the flesh of his dead brother? Nay, you would abhor it.” (49:12)

JEALOUSY: In *Surah Al-Baqarah* we have, “ Many of the people of the Book wish to make you disbelievers after your belief, from envy.” (21:109) And *Surah Al-Nisa* says, “ Or are they jealous of people for what God has given them of His bounty.” (4:54)

CONCEIT AND VANITY: In *Surah Al-Nisa*, we read, "Verily God loves not the arrogant, the boastful." (4:36) In *Surah Bani Israil*, we have, "And walk not on the earth with insolence; for you cannot render the earth asunder, nor reach the mountains in height." (17:37)

These are some of the evils which are likely to corrupt the social norms of a society, and the *Qur'an* has very eloquently drawn the attention of the theologians, the politicians, the rulers and the psychologists to them so that they may study the problems in their proper perspective and suggest possible solutions.

RELATIONS BETWEEN INDIVIDUALS: The *Qur'an* throws plenty of light on individual relationships in various contexts. "O you who believe! Let not some men among you laugh at others; it may be that the (latter) are better than the former; nor let some women laugh at others; it may be that the (latter) are better than the (former). Neither defame one another, nor insult one another by nicknames. Bad is a name showing wickedness (used of one) after he has believed, whoso turns not in repentance, they are the evil-doers." (49:11)

Conciliation between brothers is recommended in these words: "The believers are but a single brotherhood, so make peace and reconciliation between your two (contending) brothers; and fear God, that you receive Mercy." (49:10) Whenever you meet, greet each other warmly. "And when those who believe in Our Revelations come to you, greet them, saying 'Peace be upon you.'" (6:54) "And whenever you are welcomed with a greeting, then answer back with something better than it, or at least return it." (4:86) And always co-operate in good things. Co-operate with one another in virtue and piety, but help not one another in sin

and aggression. (5:2) And “speak fair to the people.” (2:83), and “enjoin what is good and forbid what is evil.” (31:17) This is the quality of the believers, that, “They must act as friends to one another, enjoin what is good and forbid what is evil, keep up prayer and pay the poor-due.” (9:71) They always observe good manners in public. “You who believe, whenever someone tells you to make room at meetings, then make room; God will make room for you. When it is said, ‘Move up,’ then move on; God will raise in rank those of you who believe as well as those who are given knowledge. God knows what you do.” (58:11)

RELATIONSHIP OF INDIVIDUALS WITH SOCIETY: The relationship of individuals with the state is based on very strict and equitable regulations. “It is not fitting for a believer, man or woman, when God and His Messenger have decided a matter, that they should after that claim any say in their affair; and whoso disobeys God and His Messenger, he verily goes astray in manifest error.” (33:36) And in *Surah Al-Hujurat* are these words, “O you who believe! If a wicked person comes to you with any news, verify it, lest you harm some people in ignorance and afterwards repent of what you have done. And know that the Messenger of God is among you; if he were to obey you in much of your (wishes), you would surely be in trouble.” (49:6-7) People are required to safeguard public secrets and interests. “When there comes to them some matter touching public safety or fear, they noise it abroad; if they had only referred it to the Messenger, or to those charged with authority among them. the proper investigators would have known it. If it had not been for the Grace of God and His Mercy, you would have followed Satan, except a few of you.” (4:83)

THE STUDY OF HUMAN NATURE

The *Qur'an* refers to certain basic traits of human nature which often influence and determine people's behaviour in society, "The mutual rivalry for piling up (the good things of this world) diverts you until you come to the grave. Nay, you soon shall know (the reality)." (102:103) And *Surah Al-Fatir* says, "Is he, then, to whom the evil of his conduct is made alluring, so that he looks upon it as good, (equal to) one who is rightly guided? For God leaves to stray whom He wills and guides whom He wills." (35:8)

And yet another of man's peculiar characteristic is mentioned in the following verse, "And when some trouble touches man, he cries to his Lord, turning to Him in repentance; but when He bestows a favour upon him, as from Himself, he forgets that for which he cried to Him before, and sets up rivals to God that he may mislead others from God's Way." (39:8) And again, in the same *Surah*, we read, "Now when trouble touches man, he cries to Us; but when We bestow a favour upon him as from Ourselves, he says, "Only by force of knowledge I obtained it." (39:49)

EDUCATION: BASIS, PURPOSE AND MODE

The basis of all education is *Tawhid* (Unity), the beginning and end of all human knowledge. "Verily, your God is One! Lord of the heavens and the earth, and all between them. And Lord of every point at the rising of the sun." (37:4-5) And *Surah Ta Ha* says, "But the God of you all is the One God. There is no god but He. He embraces all things in His Knowledge." (20:98)⁶

The Prophets were sent by God for human guidance and their main function and purpose was to educate people properly so that they might understand and act in a better way. "It is He Who sent among the unlettered a Messenger from among

themselves, to recite to them His Revelations, to purify them (of their sins and faults) that they may grow (in rank and status), and to teach them the Book and Wisdom, although they had been before in manifest error.” (62:2) In *Surah Yunus*, we read, “ O Mankind! There has come to you a direction from your Lord and a healing for the diseases in your hearts, and for those who believe, a Guidance and a Mercy.” (10:57) And *Surah Al-Ma'idah* has these words, “ O People of the Book! There has come to you Our Messenger, revealing to you much that you used to hide in the Scripture, and forgiving much. There has come to you from God a new Light and a Clear Book, wherewith God guides all who seek His Good Pleasure to ways of peace and safety, and leads them out of darkness by His Will into the light and guides them to a straight Way.” (5:16-18) The *Qur'an* declares, “ Truth has come and falsehood has perished; truly falsehood is (by its nature) bound to perish. We send down in the *Qur'an* that which is healing and a mercy to those who believe: to the unjust it causes nothing but loss.” (17:81-82)

The *Qur'an* clearly establishes the fact that true knowledge and learning can come only through God's Messengers. “ O My people! Follow me. I show the Way of Right Conduct...And, O My people! what ails me that I call you to deliverance while you call me to the fire? You call me to disbelieve in God and to join partners with Him, partners of whom I have no knowledge, while I call you to the Mighty, the Forgiver.” (40:38,41-42) And in *Surah Al-Jathiah*, we read, “ And now We have set you on the Right Way of (Our) Commandment; so follow it, and follow not the desires of those who have no knowledge. This is a clear indication for mankind, and a Guidance and a Mercy to those whose faith is sure.” (45:18-20) And we read in *Surah Al-Najm*, “ But they have no knowledge thereof. They follow nothing but conjecture; and conjecture avails nothing against Truth.

Then refrain from those who turn away from Our Message and desire nothing but the life of this world.” (53:28-29)

These verses clearly explain that true knowledge can only come through the Messenger of God and that education and learning based on any source other than this is mere conjecture and guess-work and will not therefore be beneficial to mankind. It asserts that, “Most of them follow nothing but conjecture. Surely conjecture can by no means take the place of Truth (and knowledge).” (10:36) This type of study might well have initiated research in various ways on educational psychology among the scientists. The *Qur'an* clearly sets a pattern for such people by giving examples of virtuous and righteous people. “These are Revelations of the wise Book, a Guidance and a Mercy for the righteous, those who establish worship and pay the poor-due and have sure faith in the Hereafter. Such have guidance from their Lord, and such are the successful.” (31:1-5) And in yet stronger words, “Is he who worships devoutly during the hours of the night prostrating himself or standing (in adoration), beware of the Hereafter and hoping for the mercy of his Lord...(like one who believes not)? Say (to them): ‘Are those who know equal with those who have no knowledge?’ But only men of understanding will pay heed.” (39:9)

The *Qur'an* also asserts that those who follow the Right Way of the Messengers are far superior in faith and practice to those who follow ways of ignorance. “Say: ‘Who is the Lord of the heavens and the earth?’ Say: ‘It is God.’ Say: ‘Do you then take others besides Him for protectors, which have no power either for good or for harm (even) to themselves?’ Say: ‘Are the blind equal with those who see? Or the depths of darkness equal with light.’” (13:16) And again, in *Surah Al-Fatir*, we read, “The blind man is not

equal to the seer; nor is darkness (equal to) light; nor is the shadow equal to the sun's full heat; nor are the living equal to the dead. Truly God makes whom He pleases to hear. You cannot make those to hear who are (buried) in the graves.” (35:19-22)

Likewise the *Qur'an* gives a guideline with regard to the mode of education in order to make it more effective and useful for the community. “ Invite all to the Way of your Lord with wisdom and beautiful preaching; and argue with them in ways that are best and most gracious.” (16:125) This verse lays down in very graceful and convincing words the basic principles and method of teaching which are good for all time. “ We must invite all to the Way of God, and expound His universal Will, we must do it with wisdom and discretion, meeting people on their own ground and convincing them with illustrations from their own knowledge and experience, which may be very narrow or very wide. Our preaching must be, not dogmatic, not self-regarding, not offensive, but gentle, considerate and such as would attract their attention. Our manner and our arguments should not be acrimonious, but modelled on the most courteous and the most gracious example, so that the hearer may say to himself, ‘ This man is not dealing merely with dialectics; he is not trying to get a rise out of me; he is sincerely expounding the faith that is in him, and his motive is the love of man and the love of God.’” (1)

These instructions are very important for those who are engaged in the teaching or preaching of Islam. They are advised to take into consideration two things: wisdom and beautiful preaching. Wisdom implies that one should make proper use of discretion in his teaching or preaching and

1. Yusuf Ali. The Holy *Qur'an*, p.689.

should not blindly repeat clichés. It demands that one must give due consideration to the intelligence, capability and circumstances of the students or the audience and convey the knowledge or Message according to the needs of the occasion. Besides, one must avoid using one and the same method on each and every occasion but must carefully study and diagnose the real disease of the student or the audience and then cure it by sincerely and effectively appealing to their heads as well as their hearts.

And, 'beautiful preaching' implies two things: (1) One should not be content with convincing the addressee with arguments alone but should also appeal to his feelings. Likewise, one should not confine oneself merely to arguments in condemning evil and deviations but should try to convince the other of the abhorrence of them which lies embedded in human nature. One should also warn of the worst consequences of those evils. Besides this, one should not only try to convince the addressee rationally of the soundness and excellence of guidance and righteous deeds but should also create in him interest and love for them. (2) Admonition (or teaching) should be administered in such a manner as to show sincere concern for the welfare of the addressee. Nothing should be done or said to create the impression that the admonisher (or teacher) is looking down upon him and taking pleasure in his own feeling of superiority. On the contrary, he should feel that the admonisher (or teacher) is filled with the strong desire for his reform and welfare." (2)

'Best way' (or best manner) implies that one should have a sweet tongue, show a noble character, give reasonable and appealing arguments, and refrain from indulging in polemics, and controversy. One who discusses things with people in

2. *The Meaning of the Qur'an*, VI. pp.106-107.

the best manner does not resort to accusations, crooked arguments or taunts, nor makes fun of the opponent in order to defeat him and to win applause for his own superiority in argument. For these things will produce only obduracy and obstinacy. In contrast to this, he will try to convince the other in a simple and humble way, and when he feels that the other person has come down to crooked arguments, he will leave him alone lest the other should go further and further astray in his deviations. (2)

The use of 'wisdom' and 'beautiful preaching' is best shown in the example of the Prophet Abraham to the King of Babylon. "Have you not turned your vision to one who disputed with Abraham about his Lord, because God had granted him the Kingdom? Abraham said, 'My Lord is He Who gives life and death.' He said, 'I give life and death.' Abraham said, 'Verily, God causes the sun to rise in the east, so do you cause it to come up from the west.' Thus the disbeliever was confounded. And God guides not wrongdoing people." (2:258) This technique and method of preaching (or teaching) is natural and more likely to be effective for it avoids irrelevant and unnecessary discussions. The same method was adopted by the Prophet Moses when he was confronted with Pharaoh, "and invited him to the Lord of the Worlds. Pharaoh said, 'And what is the Lord of the Worlds?' Moses said, 'The Lord of the heavens and earth, and all between, if you had but sure belief.' Pharaoh said to those around him, 'Do you not hear?' Moses said, 'Your Lord and the Lord of your fathers.' Pharaoh said, 'Truly your Messenger who has been sent to you is indeed a madman!' Moses said, 'Lord of the east and the west and all that is between them, if you did but understand.' Pharaoh said, 'If you choose a god other than me, I will certainly put you in prison.' Moses said, 'Even if I show you something clear and convincing?' Pharaoh said, 'Show it then, if you are of the

truthful!' Then Moses threw his rod, and behold, it was a serpent manifest. And he drew forth his hand, and behold it was white to all beholders!" (26:23-33)

This line of argument in teaching (or preaching) has provided unlimited fields of research in methodology to the scientists and now it is left to them to discover and unveil oceans of knowledge yet hidden from mankind.

INDUSTRY

The *Qur'an* has also given indications of how to eliminate or minimise the tensions and conflicts which are so common in the modern industrial world. It explains its philosophy of life and its moral principles in very simple words for the benefit of mankind. "And covet not the things in which God has made some of you excel others. The men shall have their due share according to what they have earned and the women shall have their share according to what they have earned. (Envy not one another) but ask God of His Bounty. Truly! God has perfect Knowledge of everything." (4:32)

In this verse God has given fundamental moral instruction to maintain peace and good relations in the social and industrial life of modern times. God has taught people not to be covetous or envious of the possessions of others, for He has not, in His Wisdom, created all people alike. But for this disparity life would have become dull.

As God has perfect Knowledge of everything, He has created one beautiful and another ugly. He has given to one a melodious voice and to another a harsh voice. He has made one of strong physique and another of weak constitution. He has created one in straitened, and another in opulent, circumstances. He has provided one with ample resources

and another with scanty ones. A little thinking will convince a person that the variety in human culture is due only to those very differences and distinctions which are based on Wisdom and perfect Knowledge. That is why Chaos of one sort or the other results whenever people artificially try either to aggravate these differences or distinctions or to eliminate them totally. The human tendency to envy others because of their superiority in anything generates cut-throat competition, enmity, class struggle and the like, with the resulting consequences. One who suffers from such a mentality tries to grab unlawfully that which God has not given him through His Bounty. In this verse, God has advised Muslims to avoid such a mentality and keep themselves free from envying others. One should, however, pray to God for His Bounty, for He will bestow upon one whatever He considers proper for him, because He has perfect Knowledge of everything.” (3)

The *Qur'an* refers to another basic principle that insures equity and fairness in the rewards of the working people so that it may not become a source of enmity and conflict between various factions and groups in society. “ And that man can have nothing but what he strives for.” (53:39) This is the universal principle according to which all people are rewarded for whatever they do; it is true in the moral world as well as in the physical world. “ Those are a people who have passed away. Theirs is that which they earned, and yours is that which you earn. And you will not be asked of what they used to do.” (2:134;141) And in the same *Surah*, we read, “ And guard yourselves against a Day in which you will be brought back to God. Then every soul will be paid in full that which it has earned, and they will not be treated unjustly.” (2:281) And again, in the same *Surah* we read, “ On no soul does God place a burden greater than it

3. *The Meaning of the Qur'an*, Vol.II. p.120.

can bear. For it (is only) that which it has earned, and against it (only) that which it has deserved.” (2:286) This moral principle is the basis of all rewards for the work any person has done and this seems to be the only practical and equitable solution of all kinds of conflicts in the social life of people.

POLITICS: The *Qur'an* mentions how political leaders have in the past exploited people and their weaknesses and established their aggressive and oppressive domination over them. It mentions the tyrannous role of the Pharaohs, “ And Pharaoh said, “ O Chiefs! I know not that you have a god other than me, so kindle for me a fire, O Haman, to bake bricks out of clay, and build for me a lofty tower in order that I may survey the God of Moses; and truly I deem him (Moses) of the liars.” And he and his hosts were arrogant and insolent in the land without right, and thought that they would never be brought back to Us.” (28:38-39) And in the same *Surah*, we read, “ Truly Pharaoh exalted himself in the earth and broke up its people into sections, depressing a small group among them. He slew their sons and spared their women. And truly he was of those who make mischief.” (28:3-4) And in *Surah Al-Zukhruf* are these words, “ And Pharaoh proclaimed among his people, saying, “ O my people! Does not the dominion of Egypt belong to me, (witness) these streams flowing underneath my (palace)? What! See you not then?” Am I not better than this (Moses) who is a contemptible wretch and can scarcely express himself clearly?...Thus did he make fools of his people and they obeyed him. Truly they were a people rebellious (against God).” (43:51-52,54)

The *Qur'an* then mentions how God wanted to raise the depressed to power and bring down the tyrant, “ And We desired to show favour to those who were oppressed in the

land, and to make them leaders and make them heirs.” (28:5) In these verses, the whole panorama of the political scene, its corruption, bargaining techniques and mass psychology, and the use of slogans and creeds by the chiefs and leaders is summed up in a very beautiful and impressive way.

Thus the *Qur'an* refers to the arrogance of the 'Ad people, “ Do you build a landmark on every high place for vain delight? And do you get for yourselves fine strong buildings in the hope of living therein (for ever)? And when you exert your strong hand, do you exert it like tyrants? (26:128-130) And to the people of Thamud, “ Will you be left secure in that which is here before us, in gardens and watersprings and tilled fields and heavy-sheathed palm-trees, though you hew out dwellings in the mountain with great skill?” (26:146-149)-

Then the *Qur'an* gives its view of the state and its political and legal powers and functions.

SUPREMACY OF LAW: The *Qur'an* asserts the supremacy of Law in these words, “ No believing man nor any believing woman should exercise choice in their affair once God and His Messenger have decided upon some matter. Anyone who disobeys God and His Messenger has wandered into manifest error.” (33:36) In *Surah Al-Nur*, we read, “ The only statement believers should make when they are invited to God and His Messenger, so that He may judge among them, is, ‘ We have heard, and we obey.’ Those persons will be successful.” (24:51) And again, in the same *Surah*, We read, “ They will say: ‘ We believe in God and the Messenger, and we obey.’ Then a group of them will turn away even after that; those are not believers. Whenever they are invited to (come to) God and His Messenger so that He may judge among them, see how a group of them turns aside.” (24:47)

LEADERSHIP: The *Qur'an* has laid down clear instructions regarding this, " You who believe, obey God and obey the Messenger and those of you who hold command. If you should disagree over anything, refer it to God and the Messenger, if you believe in God and the Last Day." (4:59) In *Surah Al-i-Imran*, we read , " You who believe, do not take up with any persons other than your own fellows as intimates. They will continually cause you turmoil, and they like anything that will distress you." (3:118) And in *Surah Al-Nisa*, we read, " If they would only refer it to the Messenger and those charged with authority among them, those who investigate matters would have known about it." (4:83) Again, in *Surah Al-Baqarah*, we read, " When his Lord tested Abraham by means of (certain) words, and he fulfilled them, He said, ' I am going to make you into a leader of mankind.' He said, ' What about my offspring?' He said, ' My pledge does not apply to evildoers.'" (2:124)

PRINCIPLES OF GOVERNMENT: The *Qur'an* sums up the fundamental principles of Government in these words, " We verily sent Our Messengers with clear proofs, and sent down with them the Book and the Balance (of right and wrong), so that mankind may conduct themselves with all fairness and justice. We have sent down iron laden with grim violence as well as benefits for mankind, so that God may know who is supporting Him and His Messenger, though unseen. Indeed God is Strong and Powerful." (57:25) Then the *Qur'an* refers to this function of the Muslims in these words, " You are the best community that has been raised up for mankind. You enjoin right conduct and forbid indecency; and you believe in God." (3:110) And in *Surah Al-Hajj* we read, " Those who, if We give them power in the land, establish regular worship and pay regular poor-due and enjoin right conduct and forbid iniquity and wrong. And with God rests the end (and decision) of all affairs." (22:41)

Thus administration of justice and equity for all is the main function of the state. "Whenever you judge between people, you should judge with justice." (4:58) In *Surah Al-Nahl*, we read, "God commands justice and benevolence, and liberality to kinsfolk, and He forbids all shameful deeds, and injustice and wickedness. He instructs you that you may heed." (16:90) And in *Surah Al-Ma'idah* are these words, "O you who believe! Be firm witnesses for God in equity. And let not hatred of any people seduce you that you deal not justly. Be just, that is next to piety. And fear God, for God is well acquainted with all that you do." (5:9) And in *Surah Al-An'am*, we have, "Whenever you speak, speak justly, even though it concerns a near relative." (6:152)

BASIC HUMAN RIGHTS: All citizens of a Muslim state enjoy the following inviolable rights:

FREEDOM OF FAITH: "There is no compulsion in matters of faith." (2:256) And *Surah Yunus*, says, "Will you then compel people, against their will, to believe?" (10:99)

RIGHT TO PRIVATE PROPERTY: "Do not devour your property among yourselves in vanities, nor ask by it to gain the hearing of the judges that you may knowingly devour a portion of other people's property wrongfully." (2:188)

RIGHT TO DISSENT: "We read in the *Qur'an* "You who believe! Obey God and obey the Messenger and those of you who hold command. If you should disagree over anything, refer it to God and the Messenger if you believe in God and the Last Day." (4:59)

RIGHT TO PRIVACY: In *Surah Al-Nur*, we read, "You who believe! Do not enter any houses except your own homes unless you are sure of their occupant's consent, and greet them politely." (24:27)

FREEDOM OF ASSOCIATION: In *Surah Al-i-Imran*, we read, “ Let there be a community among you who will invite (others) to do good, command what is right (and good) and forbid what is wrong (and evil); they are the ones who will prosper (and succeed).” (3:104)

RESPECT FOR PERSONAL RESPONSIBILITY: *Surah Al-An'am*, says, “ Each soul earns only on its own account; no bearer of burdens can bear the burden of another.” (6:164) In *Surah Al-Fatir*, we read, “ Nor can a bearer of burdens bear another's burden. If one heavily laden should call on another to bear his load, not the least portion of it can be carried (by the other), even though he be nearly related.” (35:18)

RIGHT TO LIVELIHOOD: The *Qur'an* says, “ And in their wealth the beggar and the destitute have their right (and due share).” (51:19)

RIGHT OF THE STATE AGAINST ITS CITIZENS: The state equally enjoys certain rights over the people.

LOYALTY: In *Surah Al-Nisa*, we read, “ You who believe! Obey God and obey the Messenger and those of you who hold command.” (4:59)

OBEDIENCE TO THE LAW: We find this in *Surah Al-A'raf*, “ And do no mischief (by creating disorder) on the earth after it has been set in order; that will be best for you if you are believers.” (7:85) And in *Surah Ma'idah*, punishment is prescribed for those who create mischief and disorder in the land: “ The penalty for those who wage war against God and His Messenger, and spread mischief (and disorder) in the land, is to be slaughtered or crucified, or to have their hands and feet cut off on opposite sides, or to be banished from the

land.” (5:33)

COOPERATION IN GOODNESS AND VIRTUE: In *Surah Al-Ma'idah*, we read, “ Help you one another in righteousness and virtue, but help not one another in vice and aggression. But fear God, and indeed God is strict in punishment.” (5:2)

PARTICIPATION IN DEFENCE: In *Surah Al-Nisa*, we read, “ You who believe! What is the matter with you, that when you are asked to march forth in God’s Cause, you cling heavily to the earth? Do you prefer the life of this world to the Hereafter? But little is the comfort of this life, as compared with the Hereafter. Unless you march forth in God’s Cause, He will punish you with painful punishment and put others in your place. You will not harm Him in any way, for God has Power over all things.” (9:38-39)

WAR PSYCHOLOGY: The *Qur’an* mentions in various contexts the problems of war and their effective solution for the benefit of mankind.

Moral: The believers are told, “How often, by God’s Will, has a small force defeated a big force? And God is with those who steadfastly persevere.”(2:249) These words inspire confidence in difficult situations. Again, in *Surah Al-Anfal*, we read, “O Prophet! Rouse the believers to the fight. If there are twenty among them patient and persevering, they will overpower two hundred; if a hundred, they will overcome a thousand of the unbelievers, for they are a people without understanding.” (8:65) It further insures them that the devil’s designs are weak and will not succeed against the believers. “ Those who follow the Way of Faith fight in the Way of God, and those who follow the way of disbelief fight in the way of the devil. So fight against the helpers of

Satan with conviction that Satan's schemes are, in fact, ever weak." (4:76)

The *Qur'an* further raises the believers' spirits, "If they win, victory is theirs, and if they are killed, they go straight to Paradise." (4:74) And yet again in these words, "Indeed God has bought from the believers their persons and their possessions in return for Paradise; they fight in the Way of God, kill (the enemy) and are killed (while fighting). This promise of Paradise is the true Pledge of God made in the Torah, the Gospel, and the *Qur'an*, and who is more true in fulfilling His Promise than God? So rejoice in the bargain you have made with Him; this is the greatest success." (9:111) And in *Surah Al-Saff*, we read, "Truly God loves those who fight in His Cause in battle array, as if they were a solid cemented structure." (61:4) And the martyrs are not dead but alive, "And do not say of those who are killed in the Way of God, 'They are dead!' In fact, they are alive but you do not perceive that life." (2:154)

Those verses of the *Qur'an* provide a vast field of research to the scientist in finding out what multifarious factors play their part in strengthening and building the morale of a successful army.

The *Qur'an* mentions in this respect another factor which needs careful study by the scientists. "Remember in your dream God showed them to you as few; if He had shown them to you as many, you would surely have been discouraged, and you would surely have disputed in your decision; but God saved you." (8:43) And in the same *Surah*, we read, "And remember when your Lord inspired the angels with this, 'I am with you; so keep the believers steadfast. I am now going to fill the hearts of the disbelievers with fear; so smite their necks and beat every joint of their

bodies. This is because they have opposed God and His Messenger.” (8:12-13) The angels’ help was promised to the believers, “Remember when you said to the believers, ‘Does it not suffice you that God should help you by sending down three thousand angels? Yes, if you show fortitude and fear God in whatever you do, God will help you with, not three thousand, but five thousand, angels, making a terrible onslaught, in case of a sudden attack from the enemy’. God has told you this so that you may rejoice and your hearts be filled with peace; victory comes only from God.” (3:124-126)

WAR PREPARATIONS: The *Qur’an* points out the necessity of war preparedness not only for the defence of the country but also as a deterrent, so that the enemy may never think of war. “Not equal are those believers who sit (at home) and receive no hurt, and those who strive and fight in the Cause of God with their wealth and their persons. God has granted a great reward to those who strive and fight with their wealth and persons above those who sit (at home).” (4:95) In *Surah Al-Nisa*; we read, “Those who believe, and suffer exile and strive with God, have the highest rank in the Sight of God, they are the people who will prosper.” (9:20) And in *Surah Al-Anfal* are these words, “Let not those who disbelieve think that they can outstrip (God’s Purpose). Verily they cannot escape. Make ready for them all you can of (armed) force and of steeds of war, to cast terror into the hearts of the enemies of God, and your enemies, and others besides, whom you may not know, but God knows them. Whatever you spend in the Cause of God it will be repaid to you in full, and you will not be wronged.” (8:59-60) There is a severe reprimand for those who turn their backs in the battlefield. “O you who believe! When you meet the unbelievers in battle, never turn your backs to them. If any do turn his back to them on that day, unless manoeuvring

for battle or to join a company, he truly draws the Wrath of God on himself, and his abode is Hell, an evil refuge indeed!" (8:15-16)

The *Qur'an*, on the other hand, stresses firmness against enemies. "O you who believe! When you meet an army, be firm, and call God in remembrance much; that you may be successful. And obey God and His Messenger; and fall into no dispute, lest you lose heart and your strength depart from you; but be steadfast! For God is with those who are steadfast." (8:45-46) The same firm action is suggested against those who again and again break their treaties with the Muslims. "Truly the worst of beasts in the Sight of God are the ungrateful who will not believe. They are those with whom you made a treaty, and then at every opportunity they break their treaty, and they fear not God. If you gain mastery over them in war, deal with them so as to strike fear into those who are behind them, that perhaps they may remember." (8:55-57)

The *Qur'an* however, suggests peace if the enemy is inclined to peace. "But if the enemy incline to peace, you also incline to peace, and trust in God. Truly He hears and knows (all things). And if they intend to deceive you, then verily God is sufficient for you. He it is Who has strengthened you with His Help and with the believers." (8:61-62) But if there is any likelihood of treachery on the part of the enemy, the Muslims are allowed to throw back the treaty to them. "And if you fear treachery from any group, throw back (their treaty) to them (so as to be) on equal terms; for God loves not the treacherous." (8:58)

These are a few of the instructions with regard to the conduct of war and they are likely to initiate tremendous research into the subject by scientists to find new useful and

beneficial avenues of knowledge in them.

PSYCHIATRY – PSYCHO-ANALYSIS

There are numerous passages in the *Qur'an* which refer to the analysis of the human self in various contexts and draw man's attention to the study of this science. In fact, the *Qur'an* has initiated the study of psychiatry by dealing with man and his multifarious problems through the analysis of his mind and self. The Message of Muhammad could not have succeeded and spread in the whole of the Arabian Peninsula in less than a quarter of a century if he had not studied the psychology of the Arab people. His Message not only spread throughout the length and breadth of the Arabian Peninsula in his lifetime, but went deep into the people's hearts and infused an altogether new spirit in them, bringing new values, new ideas and new concepts of life. This was the wonder of the Book which Muhammad was given by God. It analysed the entire psychology of the people and every nook and corner of their mind was clearly revealed in the pages of the *Qur'an*. There was therefore no problem for Muhammad, for he knew where to enter, when to enter and how to enter and what to look for in the minds of his people. Every aspect of their self was an open book for him. It would not therefore be wrong for us to say that the *Qur'an* laid the foundations of modern psychiatry in the hands of Muhammad and opened the door of the human mind for further research for the benefit of mankind.

The whole *Qur'an* is full of such passages but we will quote only a few of these passages to show its methodology and approach to this subject.

1. " He has created the heavens and the earth with Truth. Far is He above having the partners they associate with Him. He has created man from a drop of fluid, yet behold! he

becomes an open disputer!" (16:3-4)

2. "How many a Sign is there in the heavens and the earth which they pass by with face averted? And most of them believe not in God without associating others as partners with Him! Do they then feel secure from the coming on them of the covering veil of God's Punishment, or the coming of the (final) Hour suddenly while they are unaware?" (12:105-107)

3. "Do they not reflect in their own minds? God created not the heavens and the earth, and all between them, but with Truth and an appointed term. Yet there are truly many among people who deny the meeting with their Lord! Do they not travel through the land and see what was the end of those before them? They were stronger than these in power, and they dug the earth and built upon it (monuments) more than these have built. There came to them their Messengers with Clear Signs (which they rejected, to their own destruction); it was not God Who wronged them, but they wronged their own soul. In the end evil will be the consequence of those who do evil; because they rejected the Revelations of God, and made a mock of them." (30:8-10)

4. "Among His Signs is this: That He created you from dust; and then, behold! You humans are scattered (far and wide)! And among His Signs is this: that He created for you mates from among yourselves, that you may find rest in them, and He has put love and mercy between you. Verily in that are Signs for those who reflect. And among His Signs is the Creation of the heavens and the earth, and the variations in your languages and your colours; verily in that are Signs for those who have knowledge. And among His Signs is the sleep that you take by night and by day, and your seeking of His Bounty (for livelihood). Verily! Herein are Signs for those

who heed. And among His Signs is this: He shows you the lightning, by way of fear and of hope, and He sends down rain from the sky and thereby gives life to the earth after it is dead. Verily in that are Signs for those who are wise (and understand).” (30:20-24)

5. How many populations have We destroyed, while they were given to wrongdoing? They lie (to this day) in ruins. And how many wells and lofty castles are lying idle and deserted? Do they not travel through the land, so that their hearts (and minds) may thus learn wisdom and their ears may thus learn to hear? Truly it is not their eyes that are blind, but their hearts which are in their breasts. Yet they ask you to hasten on the punishment! But God will not fail in His Promise. Verily a Day in the Sight of your Lord is like a thousand years of your reckoning. And to how many populations did I give respite, which were given to wrongdoing? Then I grasped them. And to Me is the destination (of all).” (22:45-48)

6. “What! Do those who commit evil deeds think that We shall hold them equal with those who believe and do righteous deeds – that equal will be (their lot), in life and death? Bad is the judgement that they make. God created the heavens and the earth for just ends, and in order that each soul may be repaid what it has earned. And none of them will be wronged.” (45:21-22)

7. “And they say, ‘There is nothing but our life of the world; we die and we live, and nothing destroys us but time. But of that they have no knowledge; they merely conjecture. And when Our Clear Signs are recited to them, their only argument is that they say, ‘Bring back our fathers then, if you are truthful.’ Say, ‘It is God Who gives you life, then gives you death; then He will gather you together for the Day

of Judgement about which there is no doubt. But most of the people do not understand (and have no knowledge).” (45:24-26)

8. “ And strain not your eyes toward that which We have given for enjoyment to parties of them, the splendour of the life of this world, through which We test them, but the provision of your Lord is better and more lasting.” (20:131)

9. “ No misfortune can happen on earth or in your souls but is recorded in a Decree before We bring it into existence: that is truly easy for God in order that you may not despair for the sake of that which has escaped you, nor yet exult over that which has been given to you. For God loves not any prideful boasters, who hoard and who enjoin the people avarice. And whosoever turns away from God, verily God is free of all needs, worthy of all praise.” (57:22-24)

PSYCHOTHERAPY

The *Qur'an* also mentions treatment of mental (and physical) distress by psychological means: “ And mention Our servant Job. Behold! He cried to his Lord, ‘ The evil one has afflicted me with distress and torment!’ And it was said to him: ‘ Strike the ground with your foot. This is spring-water wherein is a cool bath and refreshing drink (for you).” (38:41-42) In *Surah Ya Sin*, we read, “ If it had been Our Will, We could surely have blotted out their eyes; then they would have run about groping for the way. Then how could they have seen? And if it had been Our Will, We could have fixed them in their places, making them powerless to go forward or turn back.” (36:66-67) And again, in *Surah Yusuf*, we read, “ Go with this my shirt, and cast it over the face of my father; he will come to see (clearly)...Then when the bearer of good news came, he cast the shirt over his face,

and he forthwith regained clear eyesight.” (12:93-96)

In *Surah Al-Anfal* are these words, “ Remember in your dream God showed them to you as few in number, and if He had shown them to you as many, you would certainly have faltered and would certainly have disputed in the affair. But God saved you; for He knows well the secrets of all hearts. And remember when you met, He showed them to you as few in your eyes, and He made you appear as contemptible in their eyes; that God might accomplish a matter already enacted. For to God all things are brought back.” (8:43-44) Again, in the same *Surah*, we read, “ Remember He covered you with a drowsiness, to give you calm as from Himself, and He caused rain to descend on you from the sky, to clean you therewith, and remove from you the stain of Satan, and strengthen your souls, and to plant your feet firmly therewith. And remember your Lord inspired the angels (with the message), ‘ I am with you; give firmness to the believers; I will instil terror into the hearts of the unbelievers.’” (8:11-12) And *Surah Al-i-Imran* says, “ Soon We shall cast terror into the hearts of the unbelievers for they ascribe partners to God.” (3:151)

And in *Surah Al-Ahzab*, we read, “ And those of the people of the Book who aided them God did bring them down from their strongholds, and cast terror into their hearts, (so that) some you slew and some you made prisoners.” (33:26) In *Surah Al-Hashr* are these words, “ Little did you think that they would get out, while they thought that their strongholds would protect them from God. But the (Wrath of) God reached them from quarters from which they little expected it, and cast terror into their hearts, so that they destroyed their houses with their own hands and the hands of the believers. So learn a lesson, O you who have eyes!” (59:2)

These are some of the examples which show how the *Qur'an* has given indications to deal effectively and successfully with various cases by psychotherapy .These may provide the basis for scientists to work on the subject and thereby discover new areas and new fields of knowledge for the benefit of mankind.

SOCIOLOGY

The *Qur'an* is the book of guidance for man and, as such, the study of man and his social life forms its main subject. For the success of this guidance, it was essential that the guide must have a thorough knowledge of man's social problems, the nature of the people, their social, moral and religious customs, their values and way of life, in short, their whole attitude of life and all its areas of activity. This is what the *Qur'an* has done. It has studied and analysed the fundamental principles that govern, influence and mould man and his nature, ideas, values, institutions and even moral and spiritual concepts. Thus, in a way, the *Qur'an*, in addition to being a Book of Guidance, also provides a comprehensive discourse on the science of sociology. The main concepts of its sociology are summarised below.

GENERAL: The *Qur'an* briefly sums up the way by which man succeeds and the way which leads to his ruin: "Verily man is in loss, except those who believe and do good deeds, and exhort one another to truth and exhort one another to patience." (103:2-3) This is further explained in regard to social relationships, "See you one who belies religion? That is he who repels the orphan, and urges not the feeding of the needy. So woe to the worshippers who are heedless of their prayer; those who (want but) to be seen, but refuse (to meet even) insignificant neighbourly needs." (107:1-7) And in *Surah Al-Takathur*, we read, "Rivalry in piling up wealth diverts you (from more serious things) until you come to the graves. But nay, you soon shall know! Again, you soon shall know! Nay, would that you knew (now) with a sure knowledge! You shall certainly see hellfire. Again, you will see it with sure vision. Then, on that Day, you will be questioned concerning pleasure (you indulged in)." (102:1-8)

SOCIAL STRUCTURE

THE FAMILY: The family is the first and basic unit in human society and the strength and goodness of society depends on the strength and goodness of the family. Islam, therefore, lays great stress on the unity, integrity, betterment and goodness of the family and all its members.

THE FAMILY AND MARRIAGE: Islam argues that the only healthy way to build a family is through marriage. Therefore it insists on marriage. "Marry any single persons among you, as well as those of your slaves and maids who are pious. If they are poor, God will enrich them of His Bounty. God is of ample means, aware (of your condition). Yet let those who do not find (any way to) marry keep chaste until God enriches them from His Bounty." (24:32-33)

OBJECTIVES IN MARRIAGE

(a) **CONTINUITY OF THE HUMAN RACE:** The *Qur'an* says, "O people! Heed your Lord Who has created you from a single soul, and created its mate from it, and propagated many men and women from them both." (4:1) And *Surah Al-Baqarah* says, "Your wives are (meant) for you to cultivate. So go to your cultivation whenever you wish. And send good deeds before you for your souls, and fear God; know that you will (one day) meet Him. Proclaim this good news to believers." (2:223)

(b) **PROTECTION OF CHASTITY :** We read in *Surah Al-Ma'idah*, "And respectable (and chaste) believing women (are lawful to you) as well as respectable (and chaste) women from among those who were given the Book before you, once you have given them their marriage portions (i.e., mahr) and taken them in wedlock, not in illicit affairs, nor having

(them) as secret lovers.” (5:5) And *Surah Al-Nisa* says, “ So marry them with their family’s permission and give them their marriage portions (*mahr*) decently (so that they live) a protected life (in marriage), not indulging in illicit affairs, nor having secret lovers.” (4:25)

(c) SOURCE OF PEACE AND AFFECTION: In *Surah Rum*, we find, “ Among His Signs is (the fact) that He has created spouses for you from among yourselves so that you may console yourselves with them. He has put affection and mercy between you; in that are Signs for people who reflect.” (30:21) And again, in *Surah Al-A’raf*, “ He is the One Who has created you all from a single soul, and made its mate for it that he might find rest (and comfort) in her.” (7:189)

(d) SIGNIFICANCE OF FAITH IN MARRIAGE: In *Surah Al-Baqarah*, we read, “ Do not marry women who associate (others with God) until they believe. A believing maid is better than an unbelieving woman, no matter how attractive she may seem to you. Do not (let your women) marry men who associate (others with God) until the latter believe; a believing slave is better than an unbelieving man, no matter how attractive he may seem to you. Those people invite (you) to the fire while God invites (you) to the Gardens and to forgiveness by His Permission. He explains His Signs to mankind so that they may bear them in mind.” (2:221)

And in *Surah Al-Nur*, we read, “ Bad women are for bad men, and bad men are for bad women, while good women are for good men and good men are for good women.” (24:26) And again, in the same *Surah*, we have, “ An adulterous man may marry only an adulterous woman or an unbelieving one, while an adulterous woman may be married only to an adulterous man or an unbelieving one.” (24:3)

(e) **FORBIDDEN MARRIAGES:** Islam forbids certain relations as stated in *Surah Al-Nisaa*, " Do not marry any women whom your fathers have already married, unless this is a thing of the past; it is a shameful act and disgusting, and an evil way. Forbidden to you (in marriage) are your mothers, your (own) daughters, your sisters, your aunts on your father's side, as well as your aunts on your mother's side, and your brothers' and your sisters' daughters, your foster-mothers and your foster-sisters, your mothers-in-law and step-daughters who are under your guardianship (since their mothers are) wives of yours with whom you have consummated marriage (however if you have not consummated it with them, it will not be held against you), and wives of your sons who are your own flesh and blood; nor may you bring two sisters together (under one roof), unless this is a thing of the past. God is forgiving, Merciful.

Nor (should you marry any) already married except the ones under your control (as slave girls). Such is God's legislation for you. Anything beyond that is lawful to you, provided you seek them by means of your wealth in honest wedlock rather than taking them as mistresses. Since you have sought contentment (by marrying them), give them their marriage portions (*mahr*) as a duty. Yet it will not be held against you should you come to terms about it even after what has been stipulated. God is Aware, Wise.

And if you who cannot afford to marry respectable (free) believing women should then seek one of the believing maids under your control. God is well aware of your faith. You proceed one from another, so marry them with their family's permission and give them their marriage portions decently (so that they may live) a protected life, not indulging in illicit affairs, nor having secret lovers. Once they are married, should they commit some sexual offence, they should receive

half the punishment (prescribed) for free married women. That applies to any of you who worries lest he may not control his (sexual) impulses; however it is better for you to discipline yourselves. God is Forgiving, Merciful.” (4:22-25)

(f) **POLYGAMY:** Islam does not allow illicit affairs nor the keeping of mistresses but allows relationships only through marriage. Having full regard for human nature, it allows up to four wives. “ Then marry such women as may seem good to you, two or three or four(at a time). If you fear that you cannot do justice (to them), then (marry) one woman (only) or someone your right hand controls (maid). That is more likely to keep you from committing an injustice.” (4:3) And again, in the same *Surah*, we read, “ You will never manage to deal equally between your wives, however much you wish (to do so); yet do not turn completely aside (from one) so that you leave her in suspense. If you maintain proper conduct and fear God (and do your duty), God will be Forgiving, Merciful.” (4:129)

(g) **RIGHTS AND OBLIGATIONS OF EACH:** Islam gives specific rights to husbands and wives according to their respective roles in society:

(1) **GENERAL:** In *Surah Al-Baqarah*, we have, “ Women have the same rights in relation to their husbands, according to what is equitable. But men have a degree (of advantage) over them.” (2:228) And *Surah Al-Nisaa*, says, “ Men are the supporters and maintainers of women, because God has given some persons advantages over others, and because they spend their wealth on them. Therefore righteous women are devoutly obedient, and guard in secret that which God has guarded.” (4:34)

(ii) **HUSBAND’S DUTIES:** First: In *Surah Al-Nisaa*, we read,

“ Since you have thereby sought contentment with them, give them their marriage portions (*mahr*), as is stipulated. Yet it will not be held against you should you come to terms about it even after what has been stipulated.” (4:24) And again, in the same *Surah*, we have, “ Give women their marriage portions (*mahr*) as a free gift. If they themselves give some of it back to you, then take it and enjoy it with good cheer.” (4:4) Second In *Surah Al-Baqarah*, we read, “ Provide for them, the well-to-do according to his means and the straightened according to his means; a provision according to custom. This is an obligation for those who do good.” (2:236) And *Surah Al-Talaq* says, “ A man of means should spend out of his means, while anyone whose income is more limited should spend some of what God has granted him.” (65:7) Third: In *Surah Al-Nisaa*, we read, “ Treat them politely; even if you dislike them, perhaps you dislike something in which God has placed much good.” (4:19) *Surah Al-Tagabun* says, “ You who believe, some of your spouses and children may be your own enemies so be careful with them. Yet if you pardon, condone and forgive them, God will likewise be Forgiving, Merciful.” (64:14) *Surah Al-Baqarah* says, “ Once you divorce women and they have reached the end of their waiting period, then either retain them in all decency or part from them decently. Do not retain them only to cause harm to them, exceeding the limit. He who does that merely hurts himself. Do not take God’s Signs as a joke.” (2:23)

(iii) WIVES’ DUTIES: First: In *Surah Al-Nisaa*, we read, “ Honourable women are devout, guarding the unseen (rights of their husbands) just as God orders it to be guarded.” (4:34) Second: Again, in the same *Surah*, If some women fear abuse or desertion by their husbands, it is not sin for them both if they make terms of peace between themselves. Peace is better, while greed is ever present in the

human soul. Yet if you act kindly and do your duty, God is ever informed of what you do." (4:128) Third: Again in *Surah Al-Nisaa*, we read, " Admonish those women whose bad conduct you fear, and leave them alone in their beds, and even beat them if necessary. If they obey you, do not seek any pretext to proceed against them." (4:34)

(iv) RECONCILIATION: We have, in *Surah Al-Nisaa*, " If you fear a split between a man and his wife, send for an arbiter from his family and an arbiter from her family. If both want to be reconciled, God will adjust things between them. God is aware, informed (of everything)." (4:35)

(v) MARRIAGE AND DIVORCE RIGHTS: Islam gives equal rights to both the husband and the wife in marriage and divorce matters and advises kindness and liberal treatment, especially on the part of the husband.

(H) GENERAL REGULATIONS : Islam lays down certain general regulations to maintain and encourage goodness and modesty in society. " Tell believers to avert their glances and to guard their private parts; that is purer for them. God is informed about anything they may do. Tell believing women to avert their glances and guard their private parts, and do not display their charms except what normally appears of them. They should fold their veils (shawls) over their bosoms and show their adornment only to their husbands, or their fathers or their fathers-in-law, or their own sons or stepsons, or their own brothers and nephews on either their brothers' or their sisters' side; or their own womenfolk, or anyone their right hands control, or male attendants who have no sexual desire, or children who have not yet shown any interest in women's nakedness. And let them not stamp their feet in order to let any ornaments they may have hidden be noticed. Turn to God, all you believers, so that you may prosper."

(24:30-31)

In order to discourage people from acts of obscenity, punishment is prescribed for the offenders. "Flog both the adulterous woman and the adulterous man with a hundred lashes, and do not let any pity for either party distract you from (complying with) God's religion if you believe in God and the Last Day. Let a group of believers witness their punishment." (24:2)

PARENTS AND RELATIONS : The second important unit in the social structure is parents and relatives. Islam lays stress on their rights and calls for kind and benevolent treatment to them. "We have enjoined every man to look after his parents; his mother bears him with one fainting spell after another fainting spell, while his weaning takes two years. Give thanks to Me and to your parents." (31:14) And in *Surah Bani Israel*, we read, "Your Lord has decreed that you should worship none but Him, and show kindness to your parents; whether either or both of them attain old age (while they are) still with you, never say to them a word of contempt, nor scold either of them. Speak to them in a generous fashion. Serve them with tenderness and humility, and say, 'My Lord, show them mercy, just as they cared for me as a little child.'" (17:23-24)

In *Surah Al-Nahl*, we read, "God commands justice, kindness and giving (their due) to near relatives." (16:90) And *Surah Bani Israil* says, "Render your close relative his due." (17:26) And to give one's wealth away, no matter how one loves it, to near relatives." (2:177) And *Surah Al-Nisaa* says, "Show kindness to both (your) parents and to near relatives."

But obedience to parents is in meeting their worldly needs

and in kind treatment of them but not in disbelief: “ Yet if either of them should strive to make you associate anything with Me which you have no knowledge of, do not obey him, although you should still keep company with both of them properly during their life in this world.” (31:15)

THE POOR AND THE NEEDY: The third unit of the social structure is the poor and the needy who are the weakest members of society and need kindness, generosity and help from society. The *Qur'an* has given them great importance and condemned those people and societies which do not properly look after their interests. “ When near relatives, orphans and poor people are present at the division of (inheritance), provide for them out of it and speak politely to them.” (4:8) And in *Surah Al-Baqarah*, we read, “ But righteous is he who believes in God...and gives his wealth, for love of Him, to kinsfolk and to orphans and the needy and the wayfarer and the beggar, and to set slaves free.” (2:177)

And those who are not generous and kind to these people are warned of severe punishment. “ Have you seen someone who rejects religion? That is the person who pushes the orphan aside and does not encourage feeding the needy.” (107:1-7) And *Surah Al-Nisaa* says, “ Show kindness to both your parents and to near relatives, orphans and the needy.” (4:36) And in the same *Surah*, we have, “ Give orphans their property and do not substitute something bad for something good.” (4:2) And yet again, in the same *Surah*, “ Those who live on orphans' property without having any right to do so will only swallow fire into their bellies, and they will be exposed to burning flame.” (4:10)

SOCIETY IN GENERAL: The fourth aspect of the social structure is society in general. Islam gives clear instructions for good and generous treatment of all members of society.

It lays great stress on its members fulfilling the duties they owe to the community and caring for the rights of its members. They must co-operate with all in acts of virtue and goodness, and not co-operate in acts of vice and iniquity. (5:2) They must treat one another as friends (9:71) and say kind words to other people (2:83). They are required to greet others with peace and blessings (6:54) and return others' greetings with something even more courteous or at least of equal courtesy. (4:86) They are advised to set things right between their brother Muslims (49:10) and to remain a united family. (3:103) And all the Muslims are brothers (in faith) and they respect each other's feelings and ideas. (49:10-11)

The *Qur'an* mentions the rights of other people in these words, "And worship God and do not associate anything with Him. Show kindness to parents, and to your near relatives, and orphans, and the needy, and to the neighbour who is related to you and the neighbour who is not related to you, and the fellow-traveller and the wayfarer and the slaves whom your right hands possess. Truly God loves not such as are proud and boastful." (4:36) And *Surah Al-Tawbah* says, "The alms are only for the poor and the needy, and those who collect them, and those whose hearts are to be reconciled, and to free the captives and the debtors, and for the Cause of God, and for the wayfarer; a duty imposed by God." (9:60)

The Prophet made it absolutely clear by saying that, "None of you truly believes until he wishes for his brother (Muslim) what he wishes for himself." And that "the Muslim society is like a body in respect of mutual love and sympathy. If a limb of the body suffers pain, the whole body responds to it by sleeplessness and fever." And that "the relationship of one believer to another believer is like that of a building, one part

of which strengthens another.” (Mishkat)

Such teaching helps to build a society to very high standards of goodness, benevolence and justice and guarantees peace, security and happiness to all its members, who work with devotion and love for the enrichment of its culture and civilisation.

THE INTERNATIONAL COMMUNITY: This is the fifth and the last aspect of the structure of society. Islam’s international relations are based on the fact that all mankind have a common origin and, therefore, as human beings, they are all equal and must maintain friendly and cordial relations with each other on both an individual and collective level. (4:1) They must also respect their mutual agreements and treaties (6:91) deal with other people with honesty (16:92) and administer justice, even with their enemies, and must show respect for non-combatants (4:89-90), neglecting no effort in establishing and maintaining peace in the world (8:61) as members of the human brotherhood.(49:3)

EDUCATION

Islam lays great stress on the belief in the Unity of God (*Tawhid*) and the aim of its education is to produce obedient and righteous servants of God, who think, plan and act according to the Will of their Lord. In practice, its purpose is to establish a system of goodness, virtue and justice for all, so that people may lead a happy and contented life in complete security. And it lays down the standard of purity in these words, “ And your Lord do you magnify! And your garments keep free from stain! And abstain from all pollution ! And show not favour, seeking worldly gain! And for your Lord’s Cause be patient and persevering!” (74:3-7)

It shows what type of people it wants to produce through its education. "Who remain steadfast at their worship and in whose wealth is a recognised right for the beggar and the destitute; and those who believe in the Day of Judgement, and those who fear the punishment of their Lord. And truly the punishment of their Lord is that before which none can feel secure; and those who guard their chastity, except with their wives and those whom their right hands possess, for then they are not to be blamed; but those who trespass beyond this are transgressors; and those who keep their pledges and trusts, and those who stand by their testimony; and those who guard their prayers; these will dwell in gardens, honoured." (70:23-35)

Then it gives the example of those who are ungrateful to God and quite opposite to what it wants to produce. "As for man, whenever his Lord tries him by honouring him, and being gracious to him, he says, 'My Lord has honoured me!' But whenever He tries him by straitening his means of life, he says, 'My Lord has humiliated me!'" Nay! But you honour not the orphan! Nor do you encourage one another to feed the poor! And you devour heritages, with all greed, and you love wealth with abounding love." (89:15-20) These verses explain the philosophy and purpose of education in an Islamic society.

The whole organisation of an Islamic society is based on faith, and its membership is restricted to those who believe in God and act according to His Will. "Those who believed and left their homes and fought for the Cause of God, and those who gave them asylum and helped them — these are the believers in Truth. For them is forgiveness, and a bountiful provision. And those who afterwards believed and left their homes and fought along with you, they are of you." (8:74-75)

All these are “ protecting friends one of another ” (8:73) and members of the Islamic society. All others who have not entered the faith of Islam are not its members until they come into its fold and accept all its responsibilities as other Muslims do. “ But if they repent, establish regular prayer, and practise regular charity, they are your brethren in faith, Thus do We explain the Signs in detail for those who have knowledge and understand.” (9:11) The *Qur'an* mentions the main characteristics of this society. “ And the believers are but a single community.” (49:10) And in *Surah Al-Mu'minun*, we read, “ And verily this brotherhood of yours is a single brotherhood, and I am your Lord and Cherisher: therefore fear Me and no other.” (23:52)

The believers are enjoined not to make friends with those of their relatives who have not accepted this Message. “ O you who believe! Choose not your fathers nor your brothers for friends if they take pleasure in disbelief rather than faith. Whoso of you takes them for friends, such are wrongdoers.” (9:23) This clearly explains the attitude of members to non-members, even though they may be your relatives. There is no harm in treating them kindly and helping them, which is, infact, recommended (29:8), but they must not be taken as friends like members of your own community. This relationship is entirely reserved for brothers in faith who form one community. However, Islam recommends kind and liberal treatment of others. “ God forbids you not, with regard to those who fight you not for your faith nor drive you out of your homes, from dealing kindly and justly with them. For God loves those who are just. God only forbids you, with regard to those who fight for your faith, and drive you out of your homes, and support others in driving you out, from turning to them (for friendship and protection). Whoso makes friends of them...All such are wrongdoers.” (60:8-9)

These verses clearly lay down regulations with regard to membership of the Islamic society and with regard to the nature of its relationship with its members and non-members.

SOCIAL STRATIFICATION

In Islam there is no distinction on the basis of caste, race or nationality. All those who believe, no matter what race or nation they belong to, are its members and, as such, enjoy equal rights and duties with any other member. (49:10) They are linked together with the chain of faith which has developed love and affection between them and they often prefer their brethren over themselves. "But those who, before them, had homes (in Medinah) and had adopted the faith, — show their affection to such as come to them for refuge, and entertain no desire in their hearts for things given to the (latter), but give them preference over themselves, even though poverty was their (own lot). And those saved from the covetousness of their own souls — they are the ones who achieve prosperity. And those who come after them, say, 'Our Lord! Forgive us, and our brethren who came before us into the faith, and leave not, in our hearts, rancour (or sense of injury) against those who have believed.'" (59:9-10)

This gives a true picture of the deep loving relationship that exists between the members of an Islamic society. The nature of their mutual relationship and their relationship with their enemies and the standard of their virtue and goodness is described in *Surah Al-Fath* in these words, "Muhammad is the Messenger of God, and those with him are strong against unbelievers, but merciful among themselves. You see them bowing and falling prostrate (in worship), seeking Bounty from God and His good pleasure. The mark of them is on their faces from the traces of prostration. This is their likeness in the Torah and their likeness in the Gospel: like a seed which

sends forth its blade, then makes it stronger; it then becomes thick, and it stands on its own stem, (filling) the sowers with wonder and delight.” (48:29)

PROBLEM OF PEACE AND ORDER

Islam stands for peace, virtue and justice, and any who corrupts these are dealt with very severely by the Islamic society . It advises believers to live clean and pure lives free from doubt and suspicion. “ O you who believe! Avoid suspicion as much as possible; for suspicion in some cases is a sin. And spy not on each other, nor speak ill of each other behind their backs. Would any of you like to eat the flesh of his dead brother? Nay, you would abhor it. But fear God. God is Forgiving, Merciful.” (49:12)

The Prophet was asked to take a promise from the believing women, “ That they will not associate in worship any other thing whatever with God, that they will not steal, that they will not commit adultery (or fornication), that they will not kill their children, that they will not utter slander, intentionally forging falsehood, and that they will not disobey you in any just matter, then accept their allegiance and ask God to forgive them.” (60:12) If, then, any break the law, they are reprimanded. “ Those who break God’s covenant after it is ratified, and sever what God has ordered to be joined, and do mischief on earth; those are they who are the losers.” (2:27)

The believers are forbidden to take other people’s lives, commit adultery and eat up others’ property (17:31-34) and from all indecent acts. “ Say: The things that my Lord has indeed forbidden are; shameful deeds, whether open or secret; sins and trespasses against truth or reason; assigning of partners to God, for which He has given no authority; and

saying things about God of which you have no knowledge.” (7:33) And in *Surah Al-An'am*, we read, “ Say: Come, I will rehearse what God has really prohibited you from: Join not anything as equal with Him; be good to your parents; kill not your children on a plea of want; — We provide sustenance for you and for them, — come not near shameful deeds, whether open or secret; take not life, which God has made sacred, except by way of justice and law; thus does He Command you, that you may learn wisdom. And come not near the orphan's property, except to improve it, until he attains the age of maturity; give measure and weight with full justice; no burden do We place on any soul, but that which it can bear; whenever you speak, speak justly, even if a near relative is concerned; and fulfil the covenant of God. Thus does He command you, that you may heed.” (6:151-152)

Thus Islam basically depends on personal discipline and the sense of duty of each of its citizens to maintain law and order. It prepares them through its moral and spiritual education and through its rigorous programme of mental culture to spend their lives as decent and peaceful members of the Islamic society and to keep away from the boundaries of God (*Hudud Allah*). Fear of God (*taqwah*) is developed in them through its system of worship (*'ibadah*), which acts as a directive as well as a corrective force and keeps the Muslims within the Law of God. Thus moral and spiritual education and training is the main instrument of Islam to maintain peace and order in the Community, but if there are exceptions where law is broken, then it awards severe punishments as deterrents as well as atonement for the criminal. It prescribes life for life in cases of murder (5:48); a hundred stripes for adultery or fornication (24:2); eighty stripes for slander against chaste women (24:4). In fact, there are very few penal laws in the *Qur'an* for criminal offences and the main deterrent is the fear of God and His

Punishment on the Day of Judgement. " It is He Who has produced you from a single person; here is a dwelling place and a place of departure (for you). We have made Our Signs clear for a people who have knowledge and understand."
(6:98)

Thus the *Qur'an* provides a store of knowledge for study and research in the field of sociology. It gives hints and tips here and there in various contexts for the direction of mankind so that they may find light leading them onto the hidden mysteries in the world of sociology.

SEXOLOGY

Islamic education is very comprehensive and embraces all fields of study. It has broken new grounds in the fields of marital relationships and provided very useful and appropriate sex education to married couples. It has rejected views of both extremes. On one side are those who take sex as a means of satisfying their carnal desires and indulge in acts of purely sensuous lust, obscenity, licentiousness and self-indulgence and bring this relationship to shame, disgrace and mockery. And there are others who completely abstain from it and regard even ordinary talk about it as sinful and shameful. Islam has, on the other hand, suggested a 'golden mean' between these two extreme views. It says that the marital relationship is neither so sinful that one should completely abstain from it nor is it a plaything, that one should make it a source of lust and sensuousness and indulge freely with anyone and everyone. It permits sex relationships within certain limits and places certain obligations on both the husband and his wife.

UNIVERSALITY OF THE SEX RELATIONSHIP:

The sexual instinct in man, like that of hunger and thirst, is very strong and aggressive and it is necessary and desirable to moderate it in order to strike a balance between the animal and human relationships of man. The history of man shows that a slight disturbance in this relationship can do havoc with the cultural and social order. This instinct is not only strong but is also very sweet and delightful, which makes it all the more dangerous if given free licence. This instinct has been exploited under various names by evil men and women throughout the history of man: some have called it 'art', others have named it 'fine art', and still others speak of it as

‘ romantic literature ’ or ‘ aesthetics ’, which they regard as necessary for the appreciation of life and the satisfaction of the finer feelings of man. No matter what name is given to licentious and sensuous pleasure, they all lead to obscenity and indecency, and ultimately destroy that very culture in the name of which such shameful acts have been committed.

The same is the end of that culture and civilization which tries totally to suppress this instinct of man, because they are fighting a losing battle against nature. Nature does not accept defeat but totally destroys those who try to crush it. This attitude is negative and in fact a suppression of humanity. If suppressed to its limits it will crush all human qualities of perseverance, courage and valour and destroy the practical power of man, as well as his abilities to reason and think. “ Thus, the suppression of the sexual urge is tantamount to suppression of the intellectual and physical powers of man. It is subduing and crushing all his capabilities, leaving no hope of their regeneration, for the chief motivating force in man is his sexual power and ability.” (1)

It is the primary duty of every healthy and pious society to divert this instinct of man from these extremes of self-indulgence and total abstention to a state of moderation and then regulate it within reasonable, desirable, and appropriate limits.(1)

Islam has tried to regulate the relationship of man and woman on the basis of wisdom and natural reality. Its first fundamental and universal truth is stated in *Surah Al-Zariyat*: “ And of everything We have created pairs.” (51:49) And again, “ Glory to God, Who created in pairs all things that the earth produces as well as their own (human) kind and other

1. Abul Ala Maududi, *Purdah*, Lahore, 1967 pp.140-44.

things of which they have no knowledge.” (36:36) This clearly points out the fact that the mystery of sex life runs through all creation — in man, in animal life, in vegetable life, and in other forms of creation of which we have no knowledge, so much so that even the constitution of matter itself is referred to in pairs of opposite energies. Thus the whole universe is created on the relationship of pairs. “ In other words, all the parts of this great machine have been created in pairs, and all that one can see in this world is indeed the result of the mutual interaction of these pairs.”

(36) The second universal truth is that the primary and natural object of creation in pairs is the reproduction and propagation of each of their own species: “ He has made for you pairs from among yourselves, and pairs among cattle, to multiply you.” (42:11) and in *Surah Al-Baqarah*: “ Your wives are your farms.” (2:223) These verses of the *Qur’an* show, first, that as far as the propagation of the human race is concerned, man is like other animals. The sex urge is man’s animal but natural instinct to procreate and keep his race alive on the earth. It is a lawful urge and must not be suppressed, but reasonable and full opportunity should be given for its satisfaction. Secondly, the relationship of human pairs is different from animal pairs. The physical structure of human pairs is so designed as to help them in an abiding relationship, as is found between a cultivator and his farm. It binds them in a permanent and close relationship. Thirdly, the natural biological sex attraction between a human pair is very strong and is of the same nature as is found in other animals. Each member of a species feels a very powerful urge of procreation and is instinctively attracted towards other members of the opposite sex. If this urge is not properly controlled and disciplined, it can lead to sexual anarchy and make man a sheer brute animal.

INSTITUTION OF MARRIAGE

In view of the strong and powerful biological sex urge in man, it is necessary that it should be brought under some discipline and control, otherwise it could destroy the same community which it was supposed to maintain and preserve through procreation. Islam has fully recognised the value of this instinct and the probable dangers if it is left uncontrolled as in the animal kingdom. It has therefore restricted sexual relationship to matrimony. It has advocated marriage and discouraged a life of celibacy.

The normal and natural way of life for a Muslim is to get married and raise a family. This is the only course open for a Muslim, to satisfy his natural instinct of sex through conjugal relationship. It forbids sexual relations outside the bounds of marriage: "Do not come near to adultery: for it is a shameful (deed) and an evil, opening the way to other evils." (17:32) Even in marriage it places certain restrictions on Muslims. First, it prohibits certain relations for marriage. (4:24) Thirdly, it restricts the number of women one can marry at one and the same time: "If you fear that you will not be able to do justice to the orphans, you may marry two or three or four women whom you choose. But if you fear that you might not be able to do justice to them, then marry only one wife, or marry those women who have fallen into your possession." (4:3) This verse of the *Qur'an* limits the number of wives to four and that also with the provision of justice to all the wives. Thus it allows polygamy (up to four wives) provided that justice is done to all the wives. And those who cannot do justice are advised to have only one wife.

With these restrictions, Islam has closed the door to sexual excesses, perversion and even suppression and allowed

marriage in public with all other women: "And except for these (mentioned above), all others are lawful, provided you seek (them in marriage) with gifts from your property, desiring chastity, not lust." (4:24) Thus sexual relations have not only been made lawful within matrimony but have also been recommended as a good and virtuous act. The Holy Prophet strongly advised his followers to marry. "It is reported by Abdullah bin Masud that God's Messenger said, 'Young man, those of you who can support a wife should marry, for it keeps you from looking at strange women and protects you from immorality.' Anas reported God's Messenger as saying, "When a man marries, he has fulfilled half the religion. He also reported God's Messenger as saying, "Those who wish to be pure and purified when they meet God should marry free women." And Abu Umama reported God's Messenger as saying, "After fear of God, a believer gains nothing better for himself than a good wife who obeys him if he gives her a command, pleases him if he looks at her, is true to him if he adjures her to do something, and is sincere towards him regarding her person and his property if he is absent.' (Mishkat)

All these commandments of the *Qur'an* and guidance of the Holy Prophet show how Islam has tried to restrict the sexual relation to marriage only and to stop all other forms or ways outside this relationship. It has allowed the satisfaction of this natural instinct in a natural way through marriage and raising a family, which is commendable in every way. (2)

Thus Islam has very successfully satisfied the emotional and sexual aspect of man's natural instinct and at the same time reduced tension and arranged for legitimate procreation through the institution of marriage. But this is one aspect of

2. Abul Ala Maududi, *Purdah*, English translation, pp.141-43.

the problem. The other aspect is the inter-family alliance and group solidarity which form the bedrock on which human civilization is built. "Sex relations not only demand mutual love between the pairs but also demand that they should have a deep spiritual relationship. The love for the offspring is also natural. (3) "His mother bears him with much pain and he is not weaned before he is two years of age." (31:14) And in *Surah Al-Ahqaf*: "With much pain his mother bears him, and with much pain she brings him into the world. He is born and weaned in thirty months." (46:15) The man is also attracted to his offspring, though not as much as his female mate: "Men are tempted by the lure of women and offspring." (3:14)

The natural love between the pairs helps in cementing and building up blood and marital relations which give birth to families, clans and nations, which finally lead to the rise of a civilization. "It was He Who created man from water and gave him relations of blood and of marriage." (25:45) And in *Surah Al-Hujrat*: "Men! We have created you from a male and a female and divided you into nations and clans that you may be able to recognise each other." (49:13) Thus marriage by creating blood relations of descent provides the basic and natural foundation for human society and the growth of its culture and civilization. In this way the institution of marriage has served the dual purpose of the procreation of the human race and the establishment of an organised social life.

NATURE OF MARITAL RELATIONSHIP

The rights of the husband and the wife are determined according to the principles of justice and fairplay in Islam.

3. *Purdah*, op.cit. pp.138-58

Both enjoy rights as well as duties on the basis of equality as human beings; women have the same rights as men. “ And women shall have rights similar to the rights (enjoyed by men) against them, according to what is equitable and just; but men have a degree of advantage over them.” (2:228) Thus as far as social rights are concerned, both the husband and the wife enjoy perfect equality with each other, but as the head of the family the husband enjoys the benefit of ‘ senior partner among equals ’ like that of the president or chairman among members of an executive committee.

The fundamental nature and purpose of the family relationship is described: “ Your wives are a tilth unto you; so approach your tilth when and how you desire; but do some good act for your souls beforehand, and fear God, and know that you are to meet Him in the Hereafter.” (2:223) Very delicate matters relating to the sexual relationship between husband and wife are mentioned here in a very comprehensive way, without offending any cultural or social customs and norms or personal considerations. Manners, time and place are very significant in sex morality, and Muhammad fully kept it in mind and set a very high standard in this matter. As he loved purity and cleanliness in everything, he did not forget this in sex education. “ Sex is not a thing to be ashamed of or to be treated lightly, or to be indulged in excess. It is compared to a husbandman’s tilth; it is a serious affair to him; he sows the seed in order to reap the harvest. But does not sow out of season nor cultivate in a manner which will injure or exhaust the soil. He is wise and considerate and does not run riot. Coming from the simile back to ‘ human beings, every kind of mutual consideration is required, but above all, we must remember that even in these matters there is a spiritual aspect. We must never forget our souls, and that we are responsible to God. “ It was carnal-minded men who invented the doctrine of

original sin. 'Behold', says the Psalmist, 'I was shapen in iniquity, and in sin did my mother conceive me.' (Psalms 51:5). This is entirely repudiated by Islam, in which the office of father and mother is held in the highest veneration. Every child of pure love is born pure. Celibacy is not necessarily a virtue." (4) It is clear from these teachings of Muhammad that women are not created merely for the enjoyment of men. This relationship is as serious an affair as that of a farmer and his field. The farmer does not go to his field merely for recreation and enjoyment but also for cultivation, to get some produce from it. It is true that enjoyment and the pleasure of mutual relationship is very important and, in fact, conducive and helpful to procreation. Man goes to his wife to produce children but at the same time in the very act of production he enjoys immense pleasure from this relationship; it is like the farmer who, while sowing the seed, enjoys the beautiful and refreshing scenery and cool breeze in the field. However, the Law is not concerned with the actual method of cultivation but that the man must go to the field and not elsewhere and also to his own field. (5)

This simile of husband and wife as the farmer and the farm contains encyclopaedic knowledge of sex relations which all the sex experts have not been able to express properly and effectively in many volumes of books. It indicates very beautifully, observing all the proprieties and niceties of virtuous and God-fearing people, the close, intimate and extremely loving and warm relation between the husband and wife. The farmer has a great attachment to his farm and looks after it all the time. He has to water his fields, plough

4. A. Yusuf Ali; *The Holy Qur'an*, p.88.

5. Abul Ala Maududi. *The Meaning of the Qur'an*, Vol.p.162

and manure them and clean the weeds from them and prepare them for sowing. He does not just go abruptly and suddenly one day on the farm and sow the seed but does a lot of preparation before the seed is actually sown in the fields. This preliminary work on the farm is a part and parcel of the process of cultivation and is absolutely essential for securing a good bumper crop. Any carelessness regarding this preparation of the farm on the part of the farmer can have a devastating effect on the quantity as well as quality of the crop.

Likewise is the case of the husband and his wife. The husband does not just go home and suddenly get hold of his wife and drop the seed and finish the process of procreation. The damage in this case could sometimes be irreparable because the woman, unlike the farm, is very sensitive and has emotions, feelings and very strong passions which need full satisfaction and attention but in a proper and appropriate manner. She is as human as the man but comparatively more tender, gentle and fragile in body and in mind. Therefore she needs much more attention, consideration and time than that of the farm in the process of procreation. The husband must spend sufficient time with her to arouse and prepare her for the act of procreation. He should start with kisses on the lips which are obviously very sensitive and erotogenous and then with gradual caresses on the face, ears and various parts of the neck, at the same time passing his hand through the hair. However, the degree of sensitivity of these parts varies considerably in different individuals but once the husband knows his partner, he can very effectively arouse her by caresses and kisses on any or all of these parts of the erotogenic zones.

But one word of caution: these preliminaries should not become a matter of routine so that the husband always starts

from the same thing or in the same way. The rhythms of caresses and kisses may be changed; from simple contact of the lips to hard and deep kissing, even suction; a light and gentle touch and sometimes a hard pressure, varying these pressures and rhythms from time to time, depending on the taste and temperament of each individual. All these preparatory exercises are fully implied in the simile contained in the above verse of the *Qur'an*. The Holy Prophet on many occasions explained to his companions though not in so many words, the desirability and necessity of play with the wife before the act proper. Once he remarked that when you want to go into your wives it is better to send a message before. When asked what was meant by the message, he replied that it is better if you play awhile with your wives. This hadith of the Holy Prophet contains an ocean of sex education in one phrase.

It is reported from Jabir that when they were near Medinah on their return from an expedition, the Holy Prophet said, "Wait so that we may enter in the evening, in order that the women with dishevelled hair may comb it and get ready (for their husband's enjoyment)." On the same expedition, when Jabir told the Holy Prophet that he had married a widow, he replied, "Why did you not marry a virgin with whom you could play and sport and who could play with you?" Maqil bin Yasar reported that God's Messenger said, "Marry women who are loving and very prolific." And it is reported by Abdur Rahman bin Salim from his father that his grandgather reported God's Messenger as saying, "Marry virgins, for they have the sweetest mouths, the most prolific wombs, and are most satisfied with little." (Mishkat)

This shows the importance and significance of love-play in the actual procreation act. Very simple language is used to explain the most complicated and delicate problem to the

ordinary people of the time without ignoring the practical consideration or departing from decency. Modern experts of sex psychology, who have all the facilities and the anatomical and physiological data before them, fully confirm the observations and brief suggestions on sex education by the *Qur'an* and the *Sunnah* of the Holy Prophet. What they have done is merely to expand and elaborate the simple, decent but comprehensive sex education of Muhammad. In the words of Dr. Norman Haire, "A fact which should be broken into consideration more than it usually is, is that love-play is no less important an element of sexual life than is the sexual act itself. To do full justice to love-play, outside of the pleasure which it affords, its physiological import must not be neglected. Its function is twofold; first of all, it helps to diminish the inequalities between the sexual sensations of the man and the woman, which hampers their simultaneous orgasm and often precludes it. It is a well-known fact that woman usually needs more time to reach her climax; if this is ignored, she remains unsatisfied after the man has had his orgasm. It is not only a question of time, but also of the woman's unpreparedness at the beginning of connection.

To make the foregoing clearer, we may compare it to the joint ascent by a man and a woman of a mountain, the top of which corresponds to her orgasm and his emission. In the one case, the man and the woman start on their ascent from the same level, but the woman walks more slowly so that by the time she reaches the top, the man has already been descending for some time (having reached the top earlier); in the other case, they both go at the same pace, but the woman starts from a lower level and therefore again reaches the top after the man. In both cases, the matter can be arranged so that the man, before starting the ascent, gives his partner a suitable start by means of appropriate love-play; she

will then start ahead of him and they may thus reach the top simultaneously.

This is the first purpose of love-play. If however the woman reaches the top first, there is no harm done, as the man can always follow her, whereas the opposite is disastrous because the man may not then be able to help the woman to reach her climax. (And this may lead to very many psychological and physiological complications leading to frigidity and other sex abnormalities in woman).

The second function of love-play is perhaps even more important. It proves not only that such fore-play is not sinful or depraved, but also that nature itself requires it to facilitate reproduction. Every layman knows that the sexual act is practically impossible if both partners are not sufficiently roused. To bring them to proper pitch is the aim of love-play. In the woman, it stimulates the glandular secretions which lubricate the vulva and vagina, thus facilitating intromission. In the man, love-play provokes erection and urethral secretions which also act as a lubricant. Without erection, coition is not possible, and without the aforesaid secretions in both partners, there is a definite danger of damaging the female organ at the time of penetration (because in a dry passage penetration is likely to hurt and injure it). Love-play is therefore not an invention of vicious or degenerate people, but a physiological necessity.(6)

Further light is thrown on this relationship in the same *Surah*: " Permitted to you, on the night of the fasts, is the approach to your wives. They are your garments and you are their garments." (2:187) According to this verse, the

6. Drs. Haire, Norman; Costler, A; Willy, A. and others, *Encyclopaedia of Sexual Knowledge*, London, p.172

relationship between husband and wife is like the clothes and the body. It is very close and intimate and hides the defects of the body and protects it from an unfavourable outside climate. Likewise, husband and wife are very closely related to each other's secrets and drawbacks and give comfort, protection, support and pleasure to each other. They are a source of mutual love, affection and adornment and enjoyment which leads to real peace of mind and happiness to each other. Another aspect of this relationship is that it is a thing not to be ashamed of; it is a natural instinct like eating and drinking and must be satisfied at its proper time and with one's own food and not with other people's food (i.e., other than one's own wife). Thus it permits a mutual sexual relationship in wedlock only, which strengthens social relationships and increases spiritual and moral purity and cleanliness.

Then mutual rights of the husband and the wife are also referred to in *Surah Al-A'raf*: "It is He Who created you from a single person, and made his mate of like nature, in order that He might live with her in love and affection." (7:189) This also reminds them that their mutual relationship which leads to all their mutual rights and duties are referred to God. We are creatures of God and His Will is the measure and standard of goodness and justice for us. Therefore our mutual rights and duties also arise out of God's Law. "O Mankind! Reverence your Guardian Lord, Who created you from a single person, created of like nature, his mate, and from them twain scattered countless men and women." (4:1) It is a beautiful introduction to the laws and regulations about human rights, "Especially about the smooth running of the family life. On the one hand, the people have been urged to fear God so as to escape His displeasure; on the other, they have been reminded that all human beings sprang from one and the same parents and are

thus closely related to one another.” (7) It is therefore necessary that they should strictly observe the ties and obligations as well as respect the rights arising out of this relationship. Muhammad greatly emphasised the rights of women, so much so that in his farewell pilgrimage he specially stressed women’s rights by saying, “Fear God regarding women.” It is also reported from him, “The best of you are those who are best to their wives.” And also that, “among the believers who show most perfect faith are those who are kindest to their families.” (Mishkat)

RIGHTS OF WOMEN

Muhammad was the first person in modern history who guaranteed definite rights to women as daughters, sisters, mothers and wives. He raised their status from mere chattels and playthings to respectable human beings equal to men in all respects. They are treated with kindness and respected with honour in whatever position they may be: as daughters they enjoy the love and kindness of their parents; as sisters they command the respect of their brothers and other members of the family; as mothers they are revered by all, young as well as old, and become the centre of attraction and honour for all. And as wives they receive good wishes and welcome from all members of the family and, above all, love and affection from their husbands.

Islam has recognised the biological and psychological differences between the man and the woman and has therefore given due allowance to this fact in determining their respective rights and obligations in society. Women’s rights are based on the following three guiding principles: “First, it enjoins that the authority that man has been

7. *The Meaning of the Qur’an*, Vol.2.p.94

given for maintaining order in the family should not be abused, lest the relation between the ruler and the ruled turn into that of the master and his slave. Second, it exhorts that the woman should be afforded all such opportunities as may enable her to develop her natural abilities to the maximum within the social framework, so that she may play her role effectively in the development of civilization. Third, it makes it possible for the woman to attain to the highest rung of progress and advancement, as a woman. To become the man is none of her rights. It is neither good for her nor for society to be trained for the masculine life, nor can she succeed in the manly life.

Keeping these principles in view, Islam has granted the woman vast social and economic rights, elevated her status, and provided such moral and legal safeguards in its system for the protection of her rights and status that the like of these cannot be found in any old or modern social systems in the world.” (8)

1. The wife is entitled to maintenance and to receive a dowry from her husband. However rich she may be, her husband is in no case absolved from his responsibility to support and maintain her.(9) She also enjoys the right of inheritance from her husband, father, children and other near relations. All this wealth is her property and she can use it, invest it, or give it away to others in any manner as she wishes.

2. Then she enjoys all the social rights that any other person, male or female, can possibly have in society.

(a) She has complete freedom in the selection of her husband and no one has the right to marry her to anyone

8. *Purdah*, pp.150-58

without her express wish and consent.

(b) She has all legal rights to get separation (or divorce) from her husband if she does not want to live with him, dislikes him, or if he is cruel or impotent.

(c) Both the husband and the wife are treated alike with absolute equality in legal and civil matters. The law does not distinguish between a man and a woman as far as protection of life, property, honour and reputation is concerned.

3. The woman has the same right as the man to acquire knowledge and cultural training, and Islam makes no distinction between man and woman. However, Islam does recognise difference between the type of education and cultural training that the woman should receive compared to that of the man. According to the Islamic viewpoint, the right and appropriate type of education for the woman would be that which would prepare her to become a good wife, good mother and good housewife, because her sphere of work would be her home. (8)

4. The wife does not change her maiden name after her marriage but retains it.

5. Islam has, in fact, given real freedom and emancipation to the woman and raised her to the status of womanhood with dignity, honour and grace. The concept of woman's rights and freedom that one often hears in the West is an echo of the revolutionary call raised by the Holy Prophet of Islam (P.B.U.H) fourteen centuries ago. "The men shall have their due according to what they have earned and the women according to what they have earned." (4:32) God makes no distinction between the man and the woman because : "God created you from a single soul, and from the same soul created his mate." (4:1)

Both the man and the woman can attain any place of honour and glory by righteousness without any preference for either of them.” (9) Their Lord answered their prayer and said, “ I never let go to waste the labour of anyone who works among you, whether male or female, for in My sight all of you are alike.” (3:195) And in *Surah Al-Nisaa*: “ And those who do good works, whether men or women, provided that they are believers, will enter into Paradise, and they will not be deprived in the least of their rightful rewards.” (4:124) And in *Surah Al-Baqarah*: “ Wives have the same rights as the husbands have on them in accordance with the well-known principles and practice.” (2:228) The contribution of Muhammad to the rights of women is greater than that of anyone else in history for it was he who raised the status of women as we see it today. He emphasised to the parents that the birth of a female did not bring them any shame or disgrace, but, on the contrary, that bringing her up and educating her was a means of their salvation. He also said, “ The best blessing among the blessings of the world to a man is a virtuous wife.” (Nisai) It is reported by Abdullah bin Umar that during the life time of the Holy Prophet, his companions treated their wives most politely for fear that a commandment concerning them might be sent down and not until he had passed away did they begin talking with them freely. (Bukhari) In fact, the women had found in Muhammad a merciful, sympathetic and strong advocate of their rights and social status.(9)

There is no doubt that Muhammad was the first, and indeed the last, man who changed the mentality not only of men about women but also of the woman herself, and created the right type of mentality based not on emotions but on real knowledge and reason in place of the ungodly, un-Islamic

9. *Purdah*, op.cit.pp.156-58

mentality of 'ignorance'. Then he did not rest content with reforming the people spiritually but also made arrangements to safeguard by law the rights of woman against the encroachment of man. Moreover, he produced this awakening in the woman that she had her own legal rights for the protection of which she could go to law." (10) The result of this type of education and training was that both the man and the woman came to be regarded as two equally necessary components of humanity and equally important for the development of civilization and culture. The services rendered by both in their respective spheres are equally useful, valuable and indispensable. Neither is manhood respectable nor womanhood disgraceful by itself. Both will attain success and progress if they work and perform their duties as required of them in their own special field of activity, and, society will also benefit from it. (10)

OBLIGATIONS OF WIVES

Wives' obligations become rights of husbands and vice versa. The main obligation of the wife is to make the marriage a success and a blessing for both. As such, it is her duty to care for the comfort, pleasure and well-being of her husband. She is expected to wear the best of clothes and adorn herself so that when her husband comes back from work, he finds pleasure and comfort in her company. One of the essential criteria for determining the wife's obligations is 'purpose of marriage'. Whatever serves that purpose or follows from it falls within the range of her duties. Jurists hold the purpose of marriage to entail enjoyment, companionship, and gratification. They also recognise legitimate sexual access to be one of the essential aims of marriage and a universal

10. Hammudhab Abd Al-Ati, *The Family Structure in Islam*, p.p.169-170

function of the family. It is the wife's obligation, therefore, to be sexually responsive, and to make herself attractive, available and co-operative. The husband's right to sexual access is inalienable. A wife may not deny herself to her husband, for the *Qur'an* speaks to them as a comfort to each other.(10) Muhammad laid great stress on this right of men that their wives must always be available to them, unless, of course, they are sick or in a state of menstruation.

Abu Hurairah reported God's Messenger as saying, "When a woman who has been called to come to her husband's bed refuses and he spends the night angry, the angels curse her till the morning. Talq bin Ali reported God's Messenger as saying, "When a man calls his wife to satisfy his desire, she must go to him even if she is occupied at the oven." And according to Abu Said, God's Messenger told the wife of Safwan bin Al-Muattal, who used to read two *Surahs* and often fast, to read only one *Surah* and fast only with her husband's permission for he was a young man and could not stay away from her.(Mishkat) She ought to be polite and gentle with him and not to offend him or hurt his feelings. She is not supposed to entertain any man in her house, especially in his absence, without his knowledge and approval. Such obligations of the wife are best described in the *Qur'an*. "Virtuous women are obedient and guard their (husband's) rights carefully in their absence as God wishes." (4:34) This is further elaborated in the prayers of the believers who say, "Our Lord! Grant unto us wives and offspring who will be the comfort of our eyes. and make us (by Your Grace) to be models for the righteous." (25:74)

These verses of the *Qur'an* briefly but comprehensively describe the duties of wives to their husbands. The wife must be faithful, honest and truthful if she wants to fulfil her obligations to him. She must under no circumstances allow

anyone else access to her body in any form whatsoever because this is exclusively her husband's right. Likewise she must not waste, give to others or dispose of any of the funds or property entrusted to her without his permission or approval because all her husband's possessions and wealth are in her trust.

PART VII

1. Physiology
2. Chemistry
3. Medicine

PHYSIOLOGY

This branch of science also received a great boost from *Qur'anic* studies. Man, as the noblest creature of God, naturally attracted a good deal of attention from the scientists and his physical body formed a part of the study of mystics, theologians and physicians through the ages. However, the *Qur'an* provided a further incentive to this branch of medicine by making the creation of God, especially man, one of this great Signs (*ayat*). This led to study and research regarding the body of man and laid the foundations of anatomy and physiology in Islam. Mystics, philosophers and physicians of the fame of Al-Gazzali, Ibn Arabi, Mulla Sadra Abd Al-Majid Al-Baydawi, Mansur Ibn Muhammad Ibn Faqih Ilyas and Ibn Al-Nafis spent much time in extensive study of these subjects.

There are many passages in the *Qur'an* which must have given plenty of thought to the scientists and thereby stimulated research in this field of medicine. For example, the following verses of the *Qur'an* lead one to think very deeply about man, the process of his creation and his constitution. "And remember when your Lord said to the angels, 'Truly I am going to create man out of sounding clay of dark mud altered.'" (15:28) In *Surah Al-Mu'minun*, we read, "Truly We created man from a product of wet earth (clay); then We placed him as (a drop of) sperm in a safe lodging; then We fashioned the sperm into a clot of congealed blood; then of that clot We fashioned a little lump, then We fashioned of the little lump bones, then clothed the bones with flesh, and then We developed out of it another creature. So blessed be God, the Best of Creators." (23:12-14) And in *Surah Al-Tariq*, we read, "He is created from a gushing fluid that issued from between the loins and ribs." (86:6-7) Is it not a Sign of wonder in itself that dry dust or inorganic matter should be

formed into protoplasm (or organic matter); out of it should be formed animal life; and out of it should grow man, a complete new being. This clearly shows that man carries within himself Signs of God and His Wisdom.(1)

Signs of God's Wisdom became manifest after He breathed His Spirit into man. " He began the creation of man from clay; then He made his seed (progeny) from a draught of despised fluid; then He fashioned him and breathed into him of His Spirit; and gave you (the faculties of) hearing and sight and feeling. Little thanks do you give." (32:7-9) After so many stages, an intelligent and noble being was created, " Truly We created man in the best of moulds " (95:4), which has been the subject of study and research by scientists in all ages. But he was of special interest to the Muslim scientists because God breathed His Spirit into him and made him one of the Signs of His Creation. The great physicians of Islam must have been inspired by *Qur'anic* studies. The famous names include Ibn Sina, Ibn Rushd, Al-Kindi, Muhammad Ibn Zakariyyah Al-Razi, Ibn Tufayl, Ishaq bin Imran, Ibn Al-Jazzar, Ibn Al-Mutran, Fakhr ud-din Al-Razi, Abu Marwan Ibn Zuhr, Ibn Abi Usaybiah, Ibn Al-Qifti, Ibn Khallikan. Al-Majusi, Juris Ibn Bukhtishu and other member of this family like Jibrail Bukhtishu, Qusta Ibn Luqa, Al-Tamimi, Al-Baladi, Ibn Zahr, Sayyid Zayn Al-Din Ismail Al-Husayni Al-Jurani, Qutb al-Din al-Shirazi, Abu Hamid Muhammad Al-Samarqandi, Najm Al-Din Mahmud Al-Shirazi, Ghiyath al-Din Muhammad Al-Isfahani, Muhammad Husayni Nurbakhsh known as Baha Al-Dawlah, Hakim Muhammad, Mir Muhammad Zaman, Mansur Ibn Faqih Ilyas, Hakim Sadra, Fathallah Gilani, Hajji Basha Khidr, Ali Ibn Ridwan, Abdul Latif Al-Baghdadi, and Ali Usaybiah.

1. Yusuf Ali, *The Holy Qur'an*. p.876

CHEMISTRY

The science of chemistry also received its share of encouragement from the *Qur'an*. Man and his whole environment is composed of elements and various substances through a process of combination according to the Laws of God. Man himself was created out of clay, probably through a chemical interaction between various substances in the dust working under the Divine Laws of combination and change. The creation of the heavens and the earth in six Divine Periods, and the creation of the Universe from water were also brought about according to the Laws of combination and change made by the Creator. These passages of the *Qur'an* relating to the creative process of God, in the creation of the heavens and the earth and man, might well have provided strong indications to the scientific mind of the possibility of making new substances through the combination of different elements and of studying the chemical reactions of such components in various proportions. The following verse describing the strength of Divine Baptism must have given some indication to the scientists of the possibility and use of chemical baptism through the mixture of few elements in a certain proportion. “ (We take our) baptism (colour) from God, and who is better than God in baptising (colouring)?” (2:138)

Then look at the creation of man, the centre of study for the theologians, philosophers and scientists, for many ages. “ He it is Who created you from clay, then decreed an appointed term (for you).” (6:2) In *Surah Al-Hijr*, we read, “ We created man from sounding clay, from mud moulded into shape.” (15:26) And in *Surah Al-Fatir* are these words, “And God did create you from dust; then from a sperm-drop.” (35:11) And God has made the creation of man a Sign for his

progeny. “ Among His Signs is this, that He created you from dust; then, behold, you humans are scattered (far and wide)!” (30:20) These verses surely invite attention to the creative process of man and the probable chemical reactions of the substance of which he is made and their effect on his behaviour as a living being.

Again, the creation of the universe and all things in it is referred to in the following verse. “ Then He turned to the heaven when it was smoke, and said to it and to the earth, ‘ Come both of you, willingly or unwillingly.’ They said, ‘ We come in obedience.’ Then He ordained them seven heavens in two days (period of time) and inspired in each heaven its mandate.” (4:11-12) And *Surah Hud* says, “ And He it is Who created the heavens and the earth in six days.” (11:7) This creation of the heavens and the earth through an evolutionary process from smoke draws human attention and deep reflection. Then the creation of all life from water is mentioned. “ Do not the disbelievers see that the heavens and the earth were joined together, before We parted them? We made from water every living thing. Will they not then believe?” (21:30)

Everything in this world is created in pairs. “ And all things We have created by pairs, that you may reflect.” (51:49) In *Surah Ya Sin*, we read, “ Glory be to Him, Who created in pairs all things that the earth produces, as well as their own kind and other things of which they have no knowledge.” (36:36) These and other similar passages in the *Qur’an* invite man to think and ponder over the creative process of God in its diverse contexts and this might have led many men of sight to experiment for themselves with the interaction between various substances and to study the chemical changes leading to new substances, etc.

How could the chemical reaction of inanimate substances produce a new being – man? What were the components of the dust or clay from which man originated? And what reactions of the substances produced this noble creature? These and many other such questions must have baffled scientists for ages and induced them to experiment to see how life or beneficial things could be produced from the mixture of two or more substances. The following verses of the *Qur'an* might well have encouraged them to proceed in their experiments. “ Truly! God it is Who splits the grain of corn and the date-stone. He brings forth the living from the dead, and brings forth dead from the living.” (6:95) And in *Surah Yunas*, we read, “ Say, ‘ Who provides for you from the sky and the earth, or Who owns hearing and sight; and Who brings forth the living from the dead and brings forth the dead from the living?’” (10:31) Such verses of the *Qur'an* certainly point to the possibility of finding better and more useful substances through mixing substances, and even some form of life through the chemical interactions of various components. Anyway these verses definitely invite human effort and research in this direction.

Then many physical phenomena daily observed by people and to which the *Qur'an* refers in the following verse, might also have drawn human attention to the study of the elements and the chemistry of various substances. “ For indeed there are rocks out of which rivers gush, and indeed there are rocks which split asunder so that water flows from them.” (2:74) In *Surah Al-A'raf* are these words, “ As for the good land, its vegetation comes forth by permission of its Lord; while as for that which is bad, only evil comes forth from it. Thus do We recount the Signs for people who give thanks.” (7:58) And the chemistry of honey is an eternal message to the scientists of the wonders of God's artistry in changing the nature, properties and uses of various substances

in different combinations. "And your Lord inspired the bee, saying, 'choose you habitations in the mountains and in the trees and in (men's) habitations; then eat of all fruits, and follow the ways of your Lord, made smooth (for you).' There comes forth from their bellies a drink of diverse colours, wherein is healing for mankind. Truly herein is a Sign for people who reflect." (16:68-69) This was a clear indication to scholars of chemistry that a mixture of substances could produce a new substance having no relationship to its original elements in its nature, properties or effects.

As pointed out before, the *Qur'an* is not a book of science or chemistry in its literal sense, but a Book of Guidance for mankind. It gives indications in various contexts which deal with the many problems of man and which provide a store of knowledge and open the door to research into diverse aspects of human life. Thus we find here and there in the *Qur'an* passages which lead us on to the further study and research into the various fields of chemistry. It is therefore no surprise if Muslim scientists received their incentive to research in the field of chemistry from the study of the *Qur'an*. There is a mention of different metals in various contexts in the *Qur'an*. It mentions gold and silver as precious metals (3:14 and 9:34); as a means of luxurious show (43:33-53), and as Signs of God's Grace in Paradise (22:23 and 18:31). And iron is mentioned as a beneficial metal (57:25); as an example of the hardest material (17:51); as a red-hot substance used in construction (18:96), and in making other things, such as coats of mail (34:10) and instruments of punishment in Hell (22:21). And lead and copper are mentioned as subsidiary metals in construction and building (18:96); coal tar is also mentioned (14:50).

The *Qur'an* refers to atoms and other matter greater or lesser than atoms with regard to human actions (99:7-8); nothing is hidden from God, whether greater or lesser than the weight of an atom (10:61 and 34:3); none in the heavens and the earth possesses anything, not even the weight of an atom, but God (34:22). Then it also mentions exothermal and endothermal reactions in relation to heating in some form or another; as punishment in hell (18:29;22:21 and 14:50); in regard to construction (18:96); in the picture of the Day of Resurrection (70:8-9); in the food of the dwellers in hell (44:45-46) (1)

These and similar other verses of the *Qur'an* provided great stimulus to the science of chemistry and produced great men of learning in this field in the Islamic civilisation. Even the name of chemistry (*al-kimiya*) was given to it by the Arabs. The great names in this science are : Jabir Ibn Hayyan, Jabir Al-Jusi, Utarid Ibn Muhammad Al-Hasib, Uthman Ibn Swaayed, Dhul Nun Al-Misri, Muhammad Ibn Zakariyya Al-Razi, Al-Farabi, Ibn Sina, Abdul Hakim Muhammad Al-Kathi, Abu Maslamah Al-Majriti, Abdul Qasim Al-Qushayri, Abdul Hasan Al-Jayyani, Shams Al-Din Al-Buni Muhammad Ibn Al-Hajji Al-Tilimsani, Abdul Qasim Al-Iraqi, Izz Al-Din Aydamur Al-Jildaki and Ali Bek Al-Izniqi.

1. Also see under ' Geology ' in this book.

MEDICINE

Medicine, like other sciences, drew its nourishment from the *Qur'an* and its philosophy of life. And like other sciences, the principle of harmony and balance also worked through and influenced the science of medicine. As discussed earlier, the Doctrine of harmony and balance in nature is the universal principle recognised by Islam and pervades every branch of Islamic studies. It is therefore not surprising "if the principle of the balance between the natures and the humours became a part of the Islamic view of nature" (1) and influenced the study and research of medicine in Islam. Thus it would not be far from truth to say that "the principles of medicine, as of other Islamic sciences, are deeply rooted in the Islamic faith." (1) In fact, the whole science of medicine is closely related to *Qur'anic* studies and the Islamic faith. The whole study of medicine is also related to the Islamic faith through the injunctions of the *Holy Qur'an* and *Hadith* of the Holy Prophet concerning hygiene and better and healthy living. In short, the Islamic *Shari'ah* has issued directives regarding ablution, cleanliness, general hygiene, dietary habits, healthy foods and "many other elements affecting the body and its health." (1)

Again, there seems to be intimate link between medicine and Islam in an other way. The human body is considered to be the formal residence of the soul (*Ruh*) and therefore "closely related to both the spirit and the soul", (1) thus presenting a two-fold aspect first, as the symbol of existence according to the famous dictum (*al-insan ramz al-wujud*), whereby both soul and spirit are intimately related to and dependent upon the physical body of man because the

1. *Islamic Science*, pp.153-84

former cannot exist in this world without the latter; second, man has to maintain his outward form in a good and healthy condition to exist at all, and for this reason the existence of the inner aspects (i.e., the spirit and the soul) become absolutely dependent upon the former. Therefore the health and care of the body becomes an important matter both for medicine and religion, in order to keep man outwardly and inwardly in a healthy condition. " Muslim physicans remained also fully aware of the ' sympathy ' between all orders of existence and the mutual action and reaction of one creature upon the other. They therefore, envisaged the subject of medicine, namely man, to be related, both inwardly through the soul and the spirit and ' outwardly ' through the grades of the macrocosmic hierarchy, to the Principle of cosmic manifestation itself. Likewise they sought the principles of medicine in the sciences dealing with the Principle and its manifestations, namely, metaphysics and cosmology. Whatever may have been the historical origins of Islamic medicine, its principles cannot be understood save in the light of Islamic metaphysics and cosmological sciences." (1)

Another factor which provided an incentive to early Muslims to study medicine was the human body itself. The anatomy and physiology of the human body provided a wide field of study for philosophers, theologians and physicians. *Qur'anic* studies further encouraged the study of the human body, it being one of the Signs (*ayat*) of the Creator. Man being the supreme and noblest creation, the study of his physical body was therefore considered necessary and important for the proper understanding of God's Wisdom. The *Qur'an* has time and again invited man to look into the matter of his own creation in order to find the Wisdom of God and to understand the purpose of the whole of creation. It refers to the Signs of the Creator in man himself. " On the earth are

Signs for those whose faith is sure, and also in your own selves. Will you not then see?" (51:20) In *Surah Al-Rum*, we read, "And among His Signs is this: that He created you from dust, and then — behold, you human beings are scattered (far and wide)." (30:20) And in *Surah Ha Mim Sajdah* are these words, "We shall show them Our Signs on the horizons and in their own souls, until it is manifest to them that this is the Truth." (41:53) And in *Surah Al-Hajj*, we have, "O Mankind! If you are in doubt concerning the Resurrection, (consider) truly We created you out of dust, then out of a sperm, then from a clot, then out of a morsel of flesh, shapely and unshapely, that We may clear to you (Our Power) of creation." (22:5)

DIETARY REGULATIONS: These verses of the *Qur'an* draw man's attention to his own self and invite him carefully and seriously to study his body and soul and the nature of their mutual relationship. Surely, he will find in it strong evidence of the existence of God, and that God has not created him and other things of this world without any purpose. (3:191) It is therefore necessary to keep the physical body very healthy so that other things (i.e., spirit and soul) may also remain healthy and so help him in the service of both his material and spiritual attainment. Diet has therefore played an important role in Islamic medicine. Islam has prohibited certain foods because of their ill effects and allowed all other pure, good and clean things. "O Muhammad! Ask them who has forbidden the decent and clean things that God has produced for His servants and (who has forbidden) the good and pure things of life granted by Him. Say: All these things are for the believers in this world but on the Day of Resurrection, these shall be exclusively for them. Thus do We make clear Our revelations to those who possess knowledge." (7:32) And in *Surah Al-Baqara*, we read, "O believers! Eat of the good and pure things that We

have provided for you and be grateful to God, if you are true worshippers of God.” (2:172) Then people in general are advised to eat good and pure things and not to indulge in impure, bad and harmful things, following their open enemy, the Devil. “ O People! Eat of what is lawful and good on earth and do not follow the footsteps of the Evil One, for he is your open enemy.”(2:168) It may here be pointed out that the word ‘pure’ has been qualified with the word ‘lawful’ so that impure things may not be made lawful merely because they have not been included in the list of prohibitions. As regards the criterion for judging whether a thing is pure or not, it should be noticed that all those things are pure which are not unclean according to any principle of Islamic Law, or which are not offensive to good taste or have not universally been regarded as repugnant by cultured people.(2)

After stating this general principle with regard to permissible foods, the *Qur’an* specifies the prohibited foods in these words, “ He has only forbidden you dead meat and blood and swine flesh, and that (food) over which the name of other than God has been invoked; but if one is forced by necessity, without wilful disobedience nor transgressing due limits, then truly God is Forgiving, Merciful.” (16:115 and 2:173) These four things are absolutely forbidden in Islam for reasons best known to God. However, research in these things has shown that some of them are injurious to human health (as dead meat; blood and swine flesh) and some are harmful to moral health as well (as flesh of swine) and still others to spiritual health (as food over which the name of any other than God has been invoked). This list of prohibited foods also includes the following, “ That which has been killed by strangling, or by a violent blow, or by a headlong fall, or by being gored to death; that which has been (partly) eaten by a wild animal; unless you are able to

slaughter it (in due form); that which is sacrificed on stone (altars); and (forbidden) also is the division (of meat) by raffling with arrows. This is impiety.” (5-4)

Alcohol is also prohibited because its harmfulness is greater than its benefits. (2:219) “ You who believe! Intoxicants and gambling, idols, and raffles, are only a filthy work of Satan; turn aside from them so that you may prosper. Satan only wants to stir up enmity and jealousy among you by means of intoxicants and gambling, and to hinder you from remembering God, and from praying. So will you not then abstain?” (5:93-94) The physical, moral, social and spiritual evils of intoxicants and gambling are clearly referred to in the above verse of the *Qur'an*.

BALANCED DIET: The *Qur'an* has also given very useful tips regarding a balanced diet which contains every useful ingredient necessary for the growth, strength and repair of the human body, including animal protein, fat, calcium, iron, salts, etc. The most balanced diet consists of meat especially roast fat calf, or fish, fresh milk, cheese and fruit. The *Qur'an* makes indirect references to the importance of animal protein in human diet on various occasions. “ There came Our Messengers to Abraham with glad tidings. They said, ‘ Peace! ’ He answered ‘ Peace! ’ And hastened to entertain them with a roasted calf.” (11:69) And in *Surah Al-Zariyat*, we read, “ Has the story of Abraham’s honoured guests reached you? When they came to him and said, ‘ Peace !’, he answered ; ‘ Peace!’ (And thought, these are) unusual people. Then he went quickly to his household, brought a (roasted fatted calf, and placed it before them, saying, ‘ Will you not eat?’” (51:24-2) Then the *Qur'an* also mentions the meat of fowls that one likes. “ And the flesh of fowls, any that they desire.” (56:21)

2. *The Meaning of the Qur'an*, Vol.III. p.19

Fish is also considered to be food of very high protein and very important for human consumption. The *Qur'an* also refers to this fresh food in these words, "It is He Who has made the sea subject, that you may eat thereof flesh that is fresh and tender." (16:14) And again in *Surah Al-Fatir*, we read, "Yet from each (kind of water) you do eat flesh fresh and tender." (35:12) The *Qur'an* then refers to the importance of animal protein in general in human diet. "And the cattle He has created for you; from them you derive warmth, and numerous benefits, and of their meat you eat." (16:5) And in *Surah Al-Mu'min*, we read, "It is God Who has made cattle for you, that you may use some for riding and some for food." (40:79)

The usefulness of fresh milk is stressed in these words, "And in the cattle there is truly a lesson for you. We give you to drink of that which is in their bellies; there are in them, (besides), numerous other benefits for you; and of their meat you eat." (23:21) And in *Surah Al-Nahl*, we read, "And truly in the cattle there is a lesson for you. We give you to drink of that which is in their bellies, between the refuse and the blood, pure milk palatable to the drinkers." (16:66)

The benefit of fruits as good nourishment is described in these words, "And of the fruits of the date-palm, and grapes, you get out wholesome drink and also good nourishment (as food). Behold, in this also is a Sign for those who are wise." (16:67) " (And We produce) grapes and nutritious plants, and olives and dates, and enclosed gardens of thick foliage, and fruits and fodder, provision for you and your cattle." (80:28-32) In *Surah Al-Rahman*, we have, "Wherein is fruit, the date-palm and pomegranate. Then which of the favours of your Lord will you deny?" (55:68-69) The righteous are promised all kinds of fruits in Paradise "Every fruit will be there for them, and they shall

have whatever they call for.” (36:57) In *Surah Al-Zukhruf*, we read, “ You shall have therein abundance of fruits, from which you shall eat (those of your choice).” (43:73) And in *Surah Al-Waqi’ah* are these words, “ And with fruits, any that they may select.” (56:20) Again, in the same *Surah*, we read, “ And fruit in plenty, neither out of reach nor (supply) limited.” (56:32-33) The *Qur’an* also reminds man of the many Bounties of God, especially various kinds of fruit. “ Then We produce for you therewith gardens of date-palms and grapes, wherein is much fruit for you and whereof you eat.” (23:19)

The *Qur’an* has also not ignored useful supplementary elements of the balanced diet; “ And fruits and -grasses; provision for you and your cattle.” (80:31-32) And in *Surah Al-Naziat*, we read, “ And produces therefrom the water thereof and the pasture thereof...a provision for you and your cattle.” (79:31-33) And *Surah Yunūs* says, “ The parable of the life of the world is as the rain which We send down from the sky, then by its mingling arises the produce of the earth, which provides food for the men and animals.” (10:24) The following verse covers the whole range of fruits, salads and vegetables which form an essential part of the human diet. “ He it is Who sends down water from the sky, and therewith We produce vegetation of all kinds; from some We produce green crops, out of which We produce grain, heaped up at harvest; and out of the date-palm and its sheaths come clusters of dates, hanging low and near; and then there are gardens of grapes, and olives, and pomegranates, alike and unlike. Look upon the fruit thereof, when they begin to bear fruit, and upon its ripening . Behold! In these things there are Signs for people who believe.” (6:99)

A little reflection on these verses of the *Qur’an* will show that

the Central Theme of the Islamic Faith — Unity (*Tawhid*) — colours every aspect of human life and every field of human study. No matter what you study, mathematics, astronomy, physiology, foods or chemistry, *Tawhid* is the essence of the science and you cannot proceed even a step forward without referring to it in one way or another, because God is the starting and finishing point of everything. This is the great distinguishing point between a Muslim scientist and a non-Muslim scientist. The former sees the spirit of *Tawhid* pervading every element and atom of this life and for him everything and all knowledge springs from God and must, therefore, be referred back to Him at every turn in the study of every science and every aspect of human life, and the food habits or diet of man is no exception. The way that God provides multifarious foods and drinks from various sources for man is, by itself, a great Sign of His Grace and Lordship for those who have knowledge and understanding.

God Almighty bestowed His Favours upon the people of Israel when they were wandering in the Sinai desert with the Prophet Moses, and gave them food comprising animal protein. “ And (We) sent down on you the *Manna* and *Salva* (birds like quails) for your food, saying, “ Eat of the clean and pure things We have bestowed upon you.” (2:57) And in *Surah Al-A'araf*, we read, “ And We sent down *manna* and *salva* for their food, saying, “ Eat of the clean and pure things We have provided for you.” (7:160) But the ungrateful people asked God to change the better food for worse. “And when you said: ‘ O Moses! We are weary of one kind of food; so call upon your Lord for us to produce for us of what the earth grows, — of its herbs, and cucumbers, and its garlic, lentils and onions.’ He said, ‘ Will you exchange better (food) for the worse (food)?’” (2:61) This clearly establishes the superiority of protein foods over green or vegetable foods.

MEDICINES

Health is considered to be the normal state of the human body and illness as a disturbing factor in Islamic medical science. Illness causes disequilibrium and medicine is given to remove the cause of such a state so that the body may come back to its natural state of health as soon as the state of disequilibrium is removed. It also shows that the body has the necessary power, resistance or natural force to bring it back to the state of equilibrium, reflecting the natural state of health of the human body. Medicines are mere aids to help the body and its natural order to remove or repel the obstruction that is the cause of the illness. Thus the medicines are not considered as the direct cause of the cure of sickness.(1) But treatment is recommended for the removal of the cause of disease, as the Prophet said, "God has not sent down a disease without sending down a remedy for it." And Jabir reported God's Messenger as saying, "There is a medicine for every disease, and when the medicine is applied to the disease, it is cured by God's Permission." According to Usama bin Sharik, when God's Messenger was asked whether they should make use of medical treatment, he replied, "Yes, servants of God, make use of medical treatment, for God has not made a disease without appointing a remedy for it, with the exception of one disease; viz., old-age." (Mishkat)

The *Qur'an* mentions the great medicinal uses of honey for mankind. "And your Lord taught the bee to build its cells in mountains, on trees, and in (men's) habitations; then to eat of all the produce (of the earth), and follow with skill the ways of its Lord. There comes forth from their bellies a drink of diverse colours, wherein is healing for mankind. Truly in this is a Sign for those who reflect." (16:68-69) Honey seems to possess immense medicinal value for various

diseases. The latest research on various levels in different parts of the world has shown the innumerable benefits of this natural drink. It is extremely effective and useful for heart diseases and provides top-grade, ready-made glucose for body weaknesses. It is also very useful for the eyes, and if used regularly, young people can get rid of their spectacles in a couple of years. It is used as a medicine to cure several diseases because it contains the juice and glucose of flowers and fruits in the best form. Besides this, it is also used in preparing and preserving other medicines, because it does not rot. It also preserves other things from decay. That is why it has been used for centuries as a substitute for alcohol. And if the bee-hive is built at a place which abounds in certain medicinal herbs, its honey does not remain mere honey, it becomes also the essence of that herb. It is expected that if bees are used methodically for extracting the essence from herbs, fruits and other such useful trees, that essence will prove to be much better and more useful than the one obtained in laboratories.” (3)

THE PROPHET’S MEDICINES: There are many *hadith* of the Prophet concerning illnesses and their cure, and the books of *hadith* have separate chapters on it called “Medicines of the Prophet (*Al-tibb Al-Nabwi*).” This gave Islamic medicines a religious basis from the very beginning of the Islamic Era. It also shows how all knowledge in Islam is a unity integrated with the Source of all knowledge – the Unity of God (*Tawhid*).

Abu Darda reported God’s Messenger as saying, “God has sent down both the disease and the cure, and He has appointed a cure for every disease, so treat yourselves

3. Abul Ala Maudoodi, *The Meaning of the Qur’an*. Vol.V1. pp..80-81.

medically, but use nothing unlawful. " This clearly shows that the Prophet was very realistic about human needs in sickness and health but was also very strict with regard to the fundamental Doctrine of Islam. He allowed people to practise genuine medical treatment, but warned them not to indulge in the unlawful, sinful and superstitious spells normally practised by polytheists and nonbelievers in those times. According to Abu Hurarrah, the Prophet prohibited unclean medicines.(4)

EATING HABITS: The Prophet is reported to have said, " The stomach is the tank of the body and the veins go down to it. When the stomach is healthy the veins come back in a healthy condition, but when it is in a bad condition they return diseased. " It is a cautionary note to the believers that they must always take care of their stomachs and refrain from foods or practices that might pollute the stomach with different kinds of diseases. In order to protect the stomach from overwork and undue external pressure, he advised his followers always to stop eating before their stomach was completely full. In other words, he wanted them to stop eating when they would still like to eat some more food, for this would protect them from so many diseases which may arise from stomach-trouble. In fact, he made great efforts to develop very neat, clean and healthy eating habits among his followers. He asked them to wash their hands before and after eating; to start eating with praise of their Lord; to eat with the right hand; not to eat until they really felt hungry, not to eat too much; not to drink cold water with hot food; to eat and drink but not excessively; and that to overeat is to invite trouble in many ways, such as overweight and diabetes. He said one's worst weakness is one's belly. If you

4. *Mishkat Al-Masabih*, English translation by Dr. James Robson Vol.II. pp.945-57

must eat make sure that you fill one third of your stomach with food, one third with water and one third for yourself (i.e., leave it empty). The *Qur'an* stresses, "Eat and drink; but waste not by excess, for God loves not the wasters." (7:31) He asked people to cover their cooking pans and drinking vessels and wash the water-carrying skins.

In eating habits, great importance is given to the remembrance of God, Who bestowed all His Bounties upon mankind. The believers must begin and end eating with the praise of God. Anas reported God's Messenger as saying, "God Most High is pleased when a man eats something and praises Him for it, or drinks something and praises Him for it." Abu Ayyab said that when God's Messenger ate or drank, he said, "Praise be to God who has given food and drink, made it easy to swallow, and produced an exit for it." Abu Hurairah reported God's Messenger as saying, "The one who eats and is grateful is like the one who fasts and shows patience." Salman mentioned that the blessing of food consists in ablution after it, according to the Torah. The Prophet said, "The blessing of food consists in ablution before it and ablution after it." And Abu Hurairah reported God's Messenger as saying, "If anyone spends the night with grease on his hands which he has not washed away, he can blame only himself if some trouble comes to him." (4) The Prophet forbade drinking while standing and eating while reclining; Anas said God's Messenger was never seen reclining while eating. And Abu Juhaifa reported the Prophet as saying, "I do not eat reclining."

Ibn Abbas said God's Messenger forbade breathing or blowing into a vessel (while drinking). Abu Said Al-Khudri said that the Prophet forbade blowing into a drink. When a man said he saw specks in the vessels he told him to pour them out, and when he said that his thirst was not quenched

in one breath he told him to remove the cup from his mouth and take a breath. Ibn Abbas also reported the Prophet as saying, "Do not drink without stopping as a camel does, but divide your drink into two or three goes with one interval in between each for taking breath and avoiding blowing it into the vessel."

The Prophet greatly stressed the importance of moderate eating. Abu Hurairah said that a man who used to eat a great amount accepted Islam and began to eat little. When that was mentioned to the Prophet, he said, "The believer eats in one intestine but the infidel in seven." He mentioned another version of this with regard to the drinking of milk, when the Prophet said, "The believer drinks in one intestine, but the infidel drinks in seven." With regard to economising on food, Abu Hurairah reported the Messenger as saying "Two people's food is enough for three and three people's is enough for four." And Jabir reported God's Messenger as saying, "One person's food is enough for two, two person's food is enough for four, and four person's food is enough for eight." He is also reported to have said, "If you measure out your food (before cooking), you will be blessed in it."(4)

TREATMENT

The Prophet also occasionally suggested various kinds of treatments to his companions when they fell ill. There is a long list of medicines and treatments which the Prophet suggested from time to time to his companions. Some of the important medicines and treatments are given below.

ORAL MEDICINES

HONEY: The Prophet recommended the use of honey for a

great many illnesses. Ibn Abbas reported God's Messenger as saying, "There is a remedy in three things and one of them is honey." Abu Hurairah reported God's Messenger as saying, "If anyone licks honey three mornings every month, he will not be afflicted with any serious trouble." And Abdullah bin Masud reported God's Messenger as saying, "Make use of the two remedies: honey and the *Qur'an*." Abu Said Al-Khudri said that a man came to the Prophet and told him that his brothers' bowels were loose, so God's Messenger told him to give him honey. He did so and came back and said, "I gave it to him but it has only made his bowels more loose." This he said three times, and when he came a fourth time and was told to give him honey, he said, "I have done so, but it has only increased the looseness." God's Messenger replied, "God has spoken the truth and your brother's bowels have lied." He then gave him honey and he recovered. Recent research has shown that honey is useful for a great many diseases. It is especially effective for heart disease patients and for common colds. It also helps in blood and skin diseases and is very useful for the eyes. It can help in digestion. Its ingredients show that it is a very useful thing and can be useful in three ways: (a) as good nourishment; (b) as a preventive measure and (c) as a medicine for various kinds of diseases. Its ingredients are: calcium, sulphur, phosphorous, iron, carbon, magnesium, sodium, potassium, chlorine and iodine.

Abu Hurairah reported God's Messenger as saying, "Nigella seed is a remedy for every disease but Sam (i.e., death)." Salama said that God's Messenger never had a wound or bleeding foot without ordering her to put henna on it." S'ad told of hearing God's Messenger say, "He Who has a morning meal of seven ajwa dates (good quality Medinah dates) will not suffer harm that day through poison or magic." A'isha reported God's Messenger as saying, "The

ajwa dates of Al-Aliya (a village near Medinah) contain healing, and they are an antidote taken first thing in the morning. Anas reported God's Messenger as saying, "Do not afflict your children by squeezing for a swelling in the uvula (in the throat), but apply costus."

Umm Al-Mundhir said, "God's Messenger came in to visit me, accompanied by Ali, when we had some ripening dates hung up. He began to eat, and Ali along with him, but God's Messenger stopped him, saying, 'Ali, you are convalescing.' I then prepared some beetroot and barley for them and the Prophet said, 'Take some of this, Ali, for it will be more beneficial for you.'" According to S'ad, when he was suffering from a heart disease, the Prophet advised him to "go to Haritha bin Kalada, a physician, and ask him to take seven of the ajwa dates and pound them together with their stones, then administer them to you." A'ishah said that the Prophet used to eat melon with fresh dates and used to say, "The heat of one is broken by the coolness of the other, and the coolness of the one by the heat of the other." He also recommended the juice of aloe wood for a swelling in the uvula (in the throat) and for pleurisy. "It is applied through the nose for swelling of the uvula and poured into the side of the mouth for pleurisy."(4)

A'ishah said that when his family were exhausted by fever, God's Messenger ordered some kasa (a soup made of flour, water and either oil or butter) to be prepared and then ordered them to sip some of it. And he used to say, "It heartens the sad and clears the heart of the invalid as one of you clears dirt away from her face with water." A'ishah and Rafi bin Khadij reported the Prophet as saying, "Fever is due to the vehemence of the heat of hell, so cool it with water." According to Asma, daughter of Umais, the Prophet asked her what laxative she used and she replied that she used

spurge, whereupon he said that it was very hot. She then used senna (grass) as a purgative, and the Prophet said, "If anything contained a remedy for death, it would be senna."

The Prophet also said that truffles are a kind of manna and their juice is a medicine for the eye. Abu Hurairah said that the Prophet took three, five, or seven truffles (mushrooms), pressed them, put their juice in a bottle and applied it as an eye-lotion to a slavegirl of his who was blear-eyed, and she recovered. Ibn Abbas reported the Prophet as saying, "Apply antimony, for it clears the sight and makes the hair grow." He also said that the Prophet said, "The best medicines you apply are those sipped at the corners of the mouth, those snuffed up the nose, cupping and purgatives; the best thing you can apply to your eyes is antimony, for it clears the sight and makes the hair grow."

PLEURISY: Zaid bin Arqam reported that God's Messenger ordered them to treat pleurisy with sea costus and olive oil. He also said that the Prophet recommended olive oil and wars for pleurisy.

Other treatments recommended by the Prophet were cupping and cauterisation. There is a *hadith* reported by Ibn Abbas and other companions that, "there is a remedy in three things: the incision of a cupping-glass, a drink of honey, or cauterisation by fire." A cupping-glass is a device for bleeding by creating a partial vacuum through heating, and cauterisation is treatment of wounds by branding or blasting with hot iron or caustic. Jabir reported that Ubayy was struck by an arrow in the medium vein of the arm and God's Messenger cauterised him and also Said bin Muadh when he was shot in the medium vein of the arm with his own hand with a broad arrowhead.

Salma, the Prophet's maidservant, said that no one complained to God's Messenger of a headache without his telling him to get cupped, or of pain in his legs without his telling him to dye them with henna. Abu Kabsha Al-Anmari said that God's Messenger used to have himself cupped on the top of his head and between his shoulders and he used to say, "If anyone pours out any of this blood, he will not suffer, even if he applies no medical treatment for anything." Jabir said that the Prophet had himself cupped above the thigh for a contusion from which he suffered. It seems that the Prophet often recommended cupping for such pains as well as for blood pressure.

He totally rejected the influence of omens, spells and other pre-Islamic superstitions, and also belief in the infectiousness of common diseases. However, he advised residents of a town suffering with plague not to leave the town and others not to go into that town. He also asked people to avoid touching lepers for fear of infection. It is reported by Amr bin Ash-Sharid, on his father's authority, that there was a man with tubercular leprosy in the deputation of Thaqif and the Prophet sent to him a message, "We have taken your oath of allegiance, so go home." (4)

Thus the Prophet suggested remedies and treatment for various illnesses and people often came to him for such advice. The Prophet's medicinal suggestions and treatments have therefore formed a very important part of Islamic medicine. In introducing a medicinal aspect into his teaching, he has influenced this science tremendously and, helped by *Qur'anic* studies, kept it under the influence of the central theme of the Islamic Faith — *Tawhid*. Reminding people on every issue that the Ultimate remedy lies in God's Hand, he said, "There is a medicine for every disease, and when the medicine is applied to the disease, it is cured by

God's Permission." Regarding charms and spells, he said, "All you need to do is to say, "O Lord of men! Remove the harm and heal. You are the Healer. There is no remedy but yours which leaves no disease behind." (4) And the *Qur'anic* verse which introduces the right balance to the science of medicine says that you take medicines for various illnesses but always trust your Lord for your cure. "Truly my prayer and my sacrifice, my life and my death, are all for God, the Lord of the worlds." (6:162)

HYGIENE AND HEALTH

The *Qur'an* has laid great emphasis upon personal cleanliness of body, clothes and place of worship and on general hygiene. Daily prayer develops neat and clean habits in believers. They have to keep their body and clothes clean because prayer cannot be offered with an unclean body and dirty clothes. They have, therefore, to keep themselves and their clothes clean from all kinds of dirt. Then daily prayer requires them to perform ablution five times a day and wash their bodies at least once a week. Thus Muslims are under an obligation to perform an ablution (wudu') before each prayer. "O you who believe, when you rise up for prayer, wash your faces, and your hands up to the elbows, and wipe your heads with water, and wash your feet up to the ankles. And if you are in a state of ceremonial impurity, then wash yourselves with a full bath. God does not wish to make life hard for you, but He wishes to purify you." (5:6)

The Prophet also emphasised the great importance of cleanliness, especially ablution before each prayer. Ali reported God's Messenger as saying, "The key to prayer is purification (through ablution)." He also said, "The key to Paradise is prayer, and the key to prayer is cleanliness and purification." According to Abu Hurairah, the Messenger of

God once asked his companions, "Do you believe that dirt can remain on a person bathing five times a day in a stream running in front of his door?" The companions replied in the negative, that no dirt can remain on his body. The Messenger of God then remarked, "Exactly the same is the effect of prayer offered five times a day. It washes away all sins." Ablution wipes out physical dirt while prayer wipes out spiritual dirt (i.e., sins). Ablution comprises cleaning of nose, eyes, teeth, face, arms, feet and hair five times a day. The Prophet stressed the importance of cleaning the teeth before each prayer. He made it obligatory for all Muslims to take a bath every Friday and after sexual intercourse. Women have also to take a bath after the end of their monthly period before they can commence their daily prayer again.

The cleaning of clothes is equally important. The *Qur'an* has emphasised the cleanliness of clothes in these words, "O children of Adam! dress yourselves fully, properly and decently at the time of every worship." (7:31) The Prophet advised and encouraged cleanliness and approved those who kept themselves in a state of cleanliness by saying, "Being purified is half of faith." The *Qur'an* stresses that, "God loves those who keep themselves pure and clean." (2:222) These and other similar instructions in the *Qur'an* and *Sunnah* must have considerably influenced personal hygiene and cleanliness among the early Muslims and led to great study and research in this field. Fasting is another important form of worship in Islam and also an annual cleansing exercise for the stomach. It burns out all the toxic matters that have accumulated in the body in the course of the year and puts it in top form to face the course of the next year.

It may here be mentioned that Islamic dietary habits and instructions have great bearing on personal hygiene as well as on public health. The teachings of the *Qur'an* and the

Sunnah concerning the kind of food allowed and the manner in which it should be consumed have shown close relation with health and hygiene.(1)

SURGERY

There is no verse of the *Qur'an* which specifically mentions surgical and anatomical operations as such but, by implication and interpretation, a number of scholars are reported to have taken the following verse in this context. "Have We not expanded your breast? And removed from your burden which weighed down your back?" (94:1-3) This is given further support by an incident which happened in the Prophet's childhood when he was with his fosterparents and which is reported in the books of *hadith* and *tarikh*. "Some months after our return (from Makkah), he (Muhammad) and his (foster) brother were with our lambs behind the tents, when his brother came running and said to us, 'Two men clothed in white have seized that Quraish brother of mine and thrown him down and opened up his belly, and are stirring it up.' We ran towards him and found him standing up with a livid face. We took hold of him and asked him what was the matter. He said, 'Two men in white raiment came and threw me down and opened up my belly and searched therein for I know not what.'"

The verse quoted, in conjunction with the above incident, might well have initiated surgical medicine and the study of anatomy in the early phase of Islamic civilisation and might have encouraged many physicians to take to this line of medicine. It is therefore no surprise if we find famous physicians like Ibn Sina, Abdul Qasim Al-Zahrawi, Ala Al-Din Ibn Nafis, Ibn Al-Quff and Shams Al-Din Akfani performing surgical operations.

OPHTHALMOLOGY

Likewise, ophthalmology also received its share of encouragement from the *Qur'an*, which stimulated research in this field. The Prophet himself also suggested treatment with honey for various illnesses of the eyes. There are many passages in the *Qur'an* which might have indicated to the keen insight of the Muslim scientists that they should do intensive research on the science of ophthalmology. "Now we have removed from you your covering, and sharp is your sight this day." (50:22) It is said that the Prophet recommended the reading of this verse for improving eye sight. Therefore, it is no wonder if it might have initiated research in the science of ophthalmology among Muslim scientists and led them to find remedies for many illnesses of the eyes or to find ways of improving eyesight. This is certainly indicated by the following verses of the *Qur'an*, "Therein is all that the souls could desire, all that the eyes could delight in ." (43:71) And in *Surah Al-Furqan*, we read, "Our Lord! Grant us wives and children who will be the comfort of our eyes." (25:74) These verses suggest something that can provide comfort to the eyes and something that can reduce or dim eyesight. In other words, these verses do positively indicate that it is within the grasp of human knowledge to find ways and means to remedy an existing defect in eyesight, to improve eyesight and to heal any illness of the eyes by better and more effective means.

The *Qur'an* mentions how eyes can lose their power of sight. "The lightning almost snatches away their sight from them; as often as it flashes forth for them, they walk therein, and when it darkens against them, they stand still. If God willed, He could destroy their hearing and their sight." (2:20) And in the same *Surah*, we read, "God has sealed their hearing and their hearts, and on their

eyes there is a covering.” (2:7) And again, in *Surah Al-Jathiah* are these words, “And (God) seals up his hearing and his heart and sets on his sight a covering.” (45:23) And *Surah Al-Mulk* says, “Then look again and yet again; your sight will return to you weakened and tired.” (67:4) These verses might have indicated the nature of certain eye sores and led to research in that direction. These are possibilities that might well have provided a sufficient incentive and indication to the scientists to go ahead in their research work in this field. And a verse in *Surah Al-Nur* says, “The flashing of His lightning almost snatches away the sight.” (24:43) This inspiration of the *Qur’an* produced great ophthalmologists in Islamic civilisation, such as Abu Ruh Muhammad Al-Jurani called, Zarrindast (the Golden Hand), Hunayn Ibn Ishaq and Ali Ibn Isa.

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