

الله
رسول
محمد

MAGNIFICENCE EVERYWHERE



HARUN YAHYA
(ADNAN OKTAR)

Someone who examines any corner of the universe, from the giant galaxies in space to the living things in nature, and from his own body to invisible cells, sees a flawless plan incorporating both order and design. Everywhere in the universe overflows with an amazing magnificence. This magnificence is the superior and matchless artistry of Allah, the Originator of everything, the Source of all beauty, and the Lord of all living things.

He Who created the seven heavens in layers. You will not find any flaw in the creation of the All-Merciful. Look again—do you see any gaps? Then look again and again. Your sight will return to you dazzled and exhausted! (Qur'an, 67: 3-4)

ABOUT THE AUTHOR



Adnan Oktar, who writes under the pen-name Harun Yahya, was born in Ankara in 1956. Since the 1980s, the author has published many books on faith-related, scientific and political issues. He is well-known as the author of important works disclosing the imposture of evolutionists, their invalid claims, and the dark liaisons between Darwinism and such bloody ideologies as fascism and communism.

All of the author's works share one single goal: to convey the Qur'an's message, encourage readers to consider basic faith-related issues such as Allah's existence and unity and the Hereafter; and to expose irreligious systems' feeble foundations and perverted ideologies. His more than 300 works, translated into 72 different languages, enjoy a wide readership across the world.

By the will of Allah, the books of Harun Yahya will be a means through which people in the twenty-first century will attain the peace, justice, and happiness promised in the Qur'an.



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

اللَّهُ
رَسُولُ
مُحَمَّدٌ



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About the Author

Now writing under the pen-name of HARUN YAHYA, Adnan Oktar was born in Ankara in 1956. Having completed his primary and secondary education in Ankara, he studied fine arts at Istanbul's Mimar Sinan University and philosophy at Istanbul University. Since the 1980s, he has published many books on political, scientific, and faith-related issues. Harun Yahya is well-known as the author of important works disclosing the imposture of evolutionists, their invalid claims, and the dark liaisons between Darwinism and such bloody ideologies as fascism and communism.

Harun Yahya's works, translated into 72 different languages, constitute a collection for a total of more than 55,000 pages with 40,000 illustrations.

His pen-name is a composite of the names Harun (Aaron) and Yahya (John), in memory of the two esteemed Prophets who fought against their peoples' lack of faith. The Prophet's seal on his books' covers is symbolic and is linked to their contents. It represents the Qur'an (the Final Scripture) and Prophet Muhammad (saas), last of the prophets. Under the guidance of the Qur'an and the Sunnah (teachings of the Prophet [saas]), the author makes it his purpose to disprove each fundamental tenet of irreligious ideologies and to have the "last word," so as to completely silence the objections raised against religion. He uses the seal of the final Prophet (saas), who attained ultimate wisdom and moral perfection, as a sign of his intention to offer the last word.

All of Harun Yahya's works share one single goal: to convey the Qur'an's message, encourage readers to consider basic faith-related issues such as Allah's existence and unity and the Hereafter; and to expose irreligious systems' feeble foundations and perverted ideologies.

Harun Yahya enjoys a wide readership in many countries, from India to America, England to Indonesia, Poland to Bosnia,

Spain to Brazil, Malaysia to Italy, France to Bulgaria and Russia. Some of his books are available in English, French, German, Spanish, Italian, Portuguese, Urdu, Arabic, Albanian, Chinese, Swahili, Hausa, Dhivehi (spoken in Maldives), Russian, Serbo-Croat (Bosnian), Polish, Malay, Uygur Turkish, Indonesian, Bengali, Danish and Swedish.

Greatly appreciated all around the world, these works have been instrumental in many people recovering faith in Allah and gaining deeper insights into their faith. His books' wisdom and sincerity, together with a distinct style that's easy to understand, directly affect anyone who reads them. Those who seriously consider these books, can no longer advocate atheism or any other perverted ideology or materialistic philosophy, since these books are characterized by rapid effectiveness, definite results, and irrefutability. Even if they continue to do so, it will be only a sentimental insistence, since these books refute such ideologies from their very foundations. All contemporary movements of denial are now ideologically defeated, by means the books written by Harun Yahya.

This is no doubt a result of the Qur'an's wisdom and lucidity. The author modestly intends to serve as a means in humanity's search for Allah's right path. No material gain is sought in the publication of these works.

Those who encourage others to read these books, to open their minds and hearts and guide them to become more devoted servants of Allah, render an invaluable service.

Meanwhile, it would only be a waste of time and energy to propagate other books that create confusion in people's minds, lead them into ideological confusion, and that clearly have no strong and precise effects in removing the doubts in people's hearts, as also verified from previous experience. It is impossible for books devised to emphasize the author's literary power rather than the noble goal of saving people from loss of faith, to have such a great effect. Those who doubt this can readily see that the sole aim of Harun Yahya's books is to overcome disbelief and to disseminate the Qur'an's moral values. The success and impact of this service are manifested in the readers' conviction.

One point should be kept in mind: The main reason for the continuing cruelty, conflict, and other ordeals endured by the vast majority of people is the ideological prevalence of disbelief. This can be ended only with the ideological defeat of disbelief and by conveying the wonders of creation and Qur'anic morality so that people can live by it. Considering the state of the world today, leading into a downward spiral of violence, corruption and conflict, clearly this service must be provided speedily and effectively, or it may be too late.

In this effort, the books of Harun Yahya assume a leading role. By the will of Allah, these books will be a means through which people in the twenty-first century will attain the peace, justice, and happiness promised in the Qur'an.

To the Reader

- ✽ A special chapter is assigned to the collapse of the theory of evolution because this theory constitutes the basis of all anti-spiritual philosophies. Since Darwinism rejects the fact of creation—and therefore, Allah's existence—over the last 150 years it has caused many people to abandon their faith or fall into doubt. It is therefore an imperative service, a very important duty to show everyone that this theory is a deception. Since some readers may find the opportunity to read only one of our books, we think it appropriate to devote a chapter to summarize this subject.
- ✽ All the author's books explain faith-related issues in light of Qur'anic verses, and invite readers to learn Allah's words and to live by them. All the subjects concerning Allah's verses are explained so as to leave no doubt or room for questions in the reader's mind. The books' sincere, plain, and fluent style ensures that everyone of every age and from every social group can easily understand them. As a result of their effective, lucid narrative, they can be read at one sitting. Even those who rigorously reject spirituality are influenced by the facts these books document and cannot refute the truthfulness of their contents.
- ✽ This and all the other books by the author can be read individually, or discussed in a group. Readers eager to profit from the books will find discussion very useful, letting them relate their reflections and experiences to one another.
- ✽ In addition, it will be a great service to Islam to contribute to the publication and reading of these books, written solely for the pleasure of Allah. The author's books are all extremely convincing. For this reason, to communicate true religion to others, one of the most effective methods is encouraging them to read these books.
- ✽ We hope the reader will look through the reviews of his other books at the back of this book. His rich source material on faith-related issues is very useful, and a pleasure to read.
- ✽ In these books, unlike some other books, you will not find the author's personal views, explanations based on dubious sources, styles that are unobservant of the respect and reverence due to sacred subjects, nor hopeless, pessimistic arguments that create doubts in the mind and deviations in the heart.



**MAGNIFICENCE
EVERYWHERE**

CONTENTS

INTRODUCTION	11
FROM NON-BEING TO BEING: THE BIG BANG	16
THE CONCEPT OF GREATNESS IN SPACE	18
THE SOLAR SYSTEM'S PERFECT ORDER	20
THE PEERLESS PLANET: EARTH	22
THE EXPLICITLY DESIGNED COMPOSITION OF THE ATMOSPHERE	24
HOW MOUNTAINS STRENGTHEN THE EARTH'S CRUST	26
THE BALANCE OF THE OCEANS	28
THE HARMONY BETWEEN WATER AND PLANTS	30
THE DESIGN OF SNOWFLAKES	32
THE UNIQUE ARTISTRY OF FRUITS AND VEGETABLES	34
A PERFECT DESIGN OF LEAVES: PORES	36
THE SEEDS OF THE COCONUT PALM	38
LIVING THINGS CREATED IN HARMONY WITH EACH OTHER	40
THE TACTICS OF CORYANTHES ORCHIDS	42
THE SKILLS OF MASON BEES	44
TOWERS OF BLIND TERMITES	46
THE DIVING TECHNIQUE OF BELL SPIDERS	48
CHITIN: A PERFECT COATING SUBSTANCE	50
ANT HOTELS	52
MAGNIFICENCE IN THE LUMINOUS CREATURES	54
LIGHT-PRODUCING SEA DWELLERS	56
DESIGN IN DOLPHINS	58
AN INTERESTING UNDERSEA CREATURE: THE NUDIBRANCH	60
THE PARROT FISH'S SLEEPING BAGS	62
THE SCORPION FISH'S CAMOUFLAGE	64
THE MIGRATION OF SPINY LOBSTERS	66
INTERESTING CHARACTERISTICS OF SEA HORSES	68
THE UNKNOWN SIDE OF JELLYFISH	70
EYES OF SCALLOPS, ONE OF THE MOLLUSKS	72

CREATURES OF THE MICRO WORLD: PLANKTON	74
SHELTER UNDER THE SEA: CORAL REEFS	76
PEARLS: DAZZLING JEWELS OF THE SEA	78
PERFECT SYMMETRY IN LIVING THINGS	80
THE STRIKING FEATURES OF BUTTERFLIES	82
THE DETAILED DESIGN OF BIRD FEATHERS	84
BIRDS THAT DEACTIVATE POISON: MACAWS	86
INTELLIGENT TACTICS OF BEE-EATERS	88
A PERFECT HUNTING BIRD: THE EAGLE	90
WEAVING EXPERTS IN NATURE	92
THE SKILLS OF FLYING SQUIRRELS	94
THE AFFECTION OF GREBE BIRDS FOR THEIR OFFSPRING	96
FLIGHT ENGINES: DRAGONFLIES	98
LIFE IN THE DESERT	100
VARIETY IN ANIMAL EYES	102
THE SPECIAL COOLING SYSTEMS IN GAZELLES' BODIES	104
MAGNIFICENCE IN THE CREATION OF MAN	106
AN ADVANCED AIR-CONDITIONER, A PERFECT PERCEIVER: SKIN	108
THE POWER OF BONES' LATTICE SYSTEMS	110
THE WORLD'S GREATEST DISTRIBUTION NETWORK: THE CIRCULATORY SYSTEM	112
THE LUNGS' IMPRESSIVE DESIGN	114
CONTROL CENTER: THE BRAIN	116
THE HUMAN BODY'S MESSENGER: THE HORMONAL SYSTEM	118
A WARY INSPECTOR: THE CELL MEMBRANE	120
MINIATURE DATABASE: DNA	122
MOLECULES: THE SOURCE OF FLAVOR AND BEAUTY	124
HIDDEN POWER IN THE STRUCTURE OF THE ATOM	126
THE BALANCE BETWEEN PROTONS AND NEUTRONS	128
CONCLUSION	130
NOTES	132



INTRODUCTION

For a moment, think about the things you do when you wake up in the morning. You open your eyes, breathe, straighten up, stand up and walk, eat and put on your clothes. You talk to your loved ones and hear what they say to you. Then, you go out or look outside through the window and see the deep blue sky. You might even hear the singing of birds flying outside the window. Watching a leaf falling down, you notice ripe apples on the tree. You feel the warmth of the sun and the wind on your face. There are people in the street, walking or trying to go somewhere in their cars. In short, another ordinary day has begun for you. What you see and hear are all ordinary things, so you don't feel it necessary to think consciously about them.

Now, try thinking another way. Assume that you have lived in one room since you were born. This room is completely bare without even a small window through which you could see outside. It is furnished with only a few pieces of plain furniture for your basic needs. Suppose that, in this room where you lead your life, you are provided with just a few kinds of food and drink necessary for you to survive. Let's assume that there is no communications equipment in the room, such as a telephone, radio or television, which would enable you to receive information from the outside. Therefore, you will be ignorant of all but a handful of things.

Then imagine that you are taken out of this room where you have lived all your life and you see the outside world for the first time. In such a situation, what would you think of the world?

The broadness of the vista reaching your eyes, the existence of light, the warmth of the sun striking your face, the deep blue color of the sky and the pure white clouds—all of this will certainly dazzle you.

Twinkling stars appearing in the sky at night; mountains reaching to the sky in all their magnificence; rivers, beautiful to all mankind; lakes and seas; the heavy rain which brings life to the Earth; green trees, colorful violets, daisies, carnations, lilacs and roses, with their pleasant aromas; oranges, watermelons, plums and peaches, each of them providing a distinctive taste; cats, dogs, rabbits and gazelles, which arouse our feelings of compassion; butterflies with their dazzling colors and aesthetic appeal; birds and undersea creatures...

When you see all these things, you become dazzled and wonder who has put such wondrous phenomena together. Seeing the color of the fruits and breathing in their scents, you wonder who has dyed them so alluringly and given them such pleasant perfumes. Tasting a melon or taking a bite out of an apple, you observe how exquisite and varied their flavors are and wonder how this sugary substance is placed within an object wrapped in such a firm skin. Seeing the fruits' seeds

arranged in a definite order, you want to know who has fashioned their design.

Every new thing you see and every piece of information you learn arouses new excitement in you. You try to learn the reason and origin of everything. You learn that melons need their seeds in order to reproduce, birds have to have their feathers for flight, light is emitted from the sun, and oxygen and water are needed for the survival of all living things. You learn the importance of the existence of the seas and the oceans, the fact that all sorts of information about plants is encoded in their seeds, as well as many other fascinating details. Every piece of information you learn enables you to comprehend this magnificence even more.

In addition, when you become aware that what you've begun to learn constitutes only a tiny portion of the characteristics of the living things which exist on Earth, that in fact everything works interdependently, that there are creatures you cannot see and voices you cannot hear, and that magnificent systems in the universe exist, your astonishment will grow even further.

As you learn these detailed pieces of information one-by-one, your mind will pose the same questions repeatedly: How have all these magnificent living things come into existence? How have I myself come into being? Since everything has a purpose, then why am I here?

When you emerge from the room you've spent so many years in, since you will discover a varied and magnificent vista of creation upon the Earth, you will ponder and look for answers to your questions. Every answer to your questions will contain this statement: "Certainly, there is a Being making all these things." As you are not hobbled by an indolent mind and do not observe your surroundings from behind a curtain of habit, you will surely come to the conclusion that everything has been created by a Creator. Indeed, what man needs to do is exactly this: look at things not from habit, but through asking questions...

Just as there is a designer who made the steel bridges we cross every day, there is a designer who designed our bones whose strength has been compared to steel. No one can claim that raw iron and coal can be mixed with each other to form steel by chance, and again that steel can be combined with cement to build bridges in the same way. Everyone knows that the judgment of a man claiming such things is to be doubted.

However, in spite of this fact, there are people who dare to claim that all living things on Earth, the sky, the stars and in short, everything, has come into existence by chance. But it is evident to an intelligent person who stops and contemplates such things that these claims of random emergence are utterly irrational.

The Absurdity of Chance

The people who invent and support theories of chance are products of a materialist and evolutionist mentality. Claiming that the universe has no beginning or end and that it is not the creation of a creator, these people state that billions of galaxies, consisting of billions of stars, and all the celestial bodies, planets, stars and perfect systems which enable them to maintain their existence, that all these emerged as the result of uncontrolled chance happenings. In a similar manner, they claim that, in spite of the magnificent order in the universe, living creatures also came into being by chance.

In light of this information, it appears that they consider "chance" to be a creative power. However, considering a being other than Allah to be a creative power is nothing but idolatry. In other words, evolutionists have an idol which is called "chance." This will be evident to anyone who takes a look at Darwinist works.

Examples of living beings that evolutionists believe the "idol of chance" created are countless. For example, evolutionists believe that the very first cell that was the origin of all living things was the work of this idol. According to this belief, one day as a result of thunderbolts, rain and various other natural phenomena, a bunch of atoms came together without any previous plan in order to form amino acids. Then these amino acids combined to form proteins, the basis for the cells of all living creatures. This process was implemented by means of the power of chance. Then, in this way, the proteins immediately formed the first living cell, again by chance. However, the job of "chance" wasn't over yet.

According to the evolutionist sophistries, the "idol of chance" was, by itself, also the impetus behind the emergence of millions of species on Earth. It first brought a fish into being and then, thinking a single type of fish would not be sufficient, it formed hundreds of thousands of fish species. Since hundreds of thousands of fish species were not enough, it brought other sea creatures alongside them into being and created an environment of breathtaking magnificence under the sea. Then, this very "idol of chance" thought that undersea life was not enough, so it prepared certain structural changes in the body of a fish which would enable it to live on land. By means of random, gradual changes, the fins of the fish happened to be transformed into feet, and the gills happened to become lungs so the fish could breathe in the air. Yet, still they had not reached the diversity of the species we see today, so "chance" allegedly continued to work its magic...

As we will come to see in many examples, living things can survive only if their organs are complete and fully developed. Dysfunction of some organs can cause a creature to die within a couple of minutes or a couple of days at the most. However,

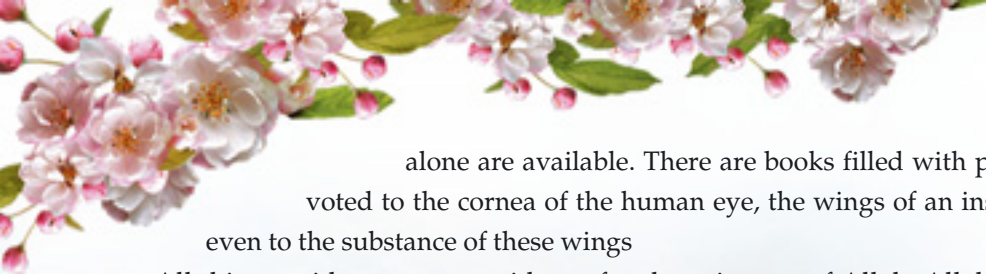
according to the evolutionists' assertions, this "idol of chance" has pondered, designed and formed all the details of living things in a very conscious, careful, flawless and perfect manner for millions of years.

As we can see from these examples, for evolutionists, "chance" is the sort of idol that can make whatever it wants, form anything it wishes immediately, and transform one animal into another. In addition to doing all this, it can arrange the colors, appearance and taste of all living and non-living things in the most aesthetic way possible.

The "idol of chance" seasonally allocates vitamins to fruits and makes them juicy and nourishing. It makes sure that their odors and tastes are similar everywhere. It also possesses the knowledge of how to put all the information a plant will ever need inside a tiny seed.

What we have mentioned so far constitutes a general rationale for the assertions of the materialist and evolutionist mentality. Certainly, it is an evident fact for any person with wisdom and conscience that all these examples cannot be realized by "chance," which is the only reason offered by evolutionists. Now think about this: can coincidences come together and form motorways or establish transportation companies and make sure that they operate smoothly? Undoubtedly, it is impossible for such things to occur by chance. Just as it is not possible for a transportation company to be established by chance, it is also not possible for a circulatory system in the body to come into being by chance either. In the same manner as a group of people manufactured all the steel parts of the Eiffel Tower one-by-one, cut them into specific sizes, designed the tower, assembled the parts in accordance with the blueprint and made them strong, there is a Power Who created the bones of human beings. These bones, all having the required sizes, were placed in the most appropriate locations, in compliance with the design of the human body, and a strong skeleton was created through the joining of these bones. This is a power that is above everything in nature, encompassing everything. It cannot be compared to anything. The owner of this power is Allah, Who is the Creator of the heavens and the Earth and everything in between.

All the comparisons made so far and the examples given throughout this book constitute only a small part of the diversity of Allah's perfect artistry in creation. For example, only a couple of the general traits of butterflies are mentioned, whereas entire pages of books covering just the eyes of butterflies have been written. In addition, there are many different species of butterfly, each one having a unique set of traits. In this book, only a few characteristics of the human body are dealt with in a general way, but voluminous books and research papers on the subject of bones



alone are available. There are books filled with pages devoted to the cornea of the human eye, the wings of an insect, and even to the substance of these wings

All this provides concrete evidence for the existence of Allah. Allah encompasses all things in His knowledge and anybody who understands this will immediately see the magnificence present in creation. Every man will comprehend the greatness of Allah, according to the degree of his own wisdom and conscience. Also, the most important duty of a person who has begun to comprehend the might and endless artistry of Allah is to turn towards the real Creator of the beauties he sees and to lead such a life as to gain the approval of Allah only. In the Qur'an, Allah informs us of His might as follows:

That is Allah, your Lord. There is no god but Him, the Creator of everything. So worship Him. He is responsible for everything. (Surat al-An'am: 102)



FROM NON-BEING TO BEING: THE BIG BANG

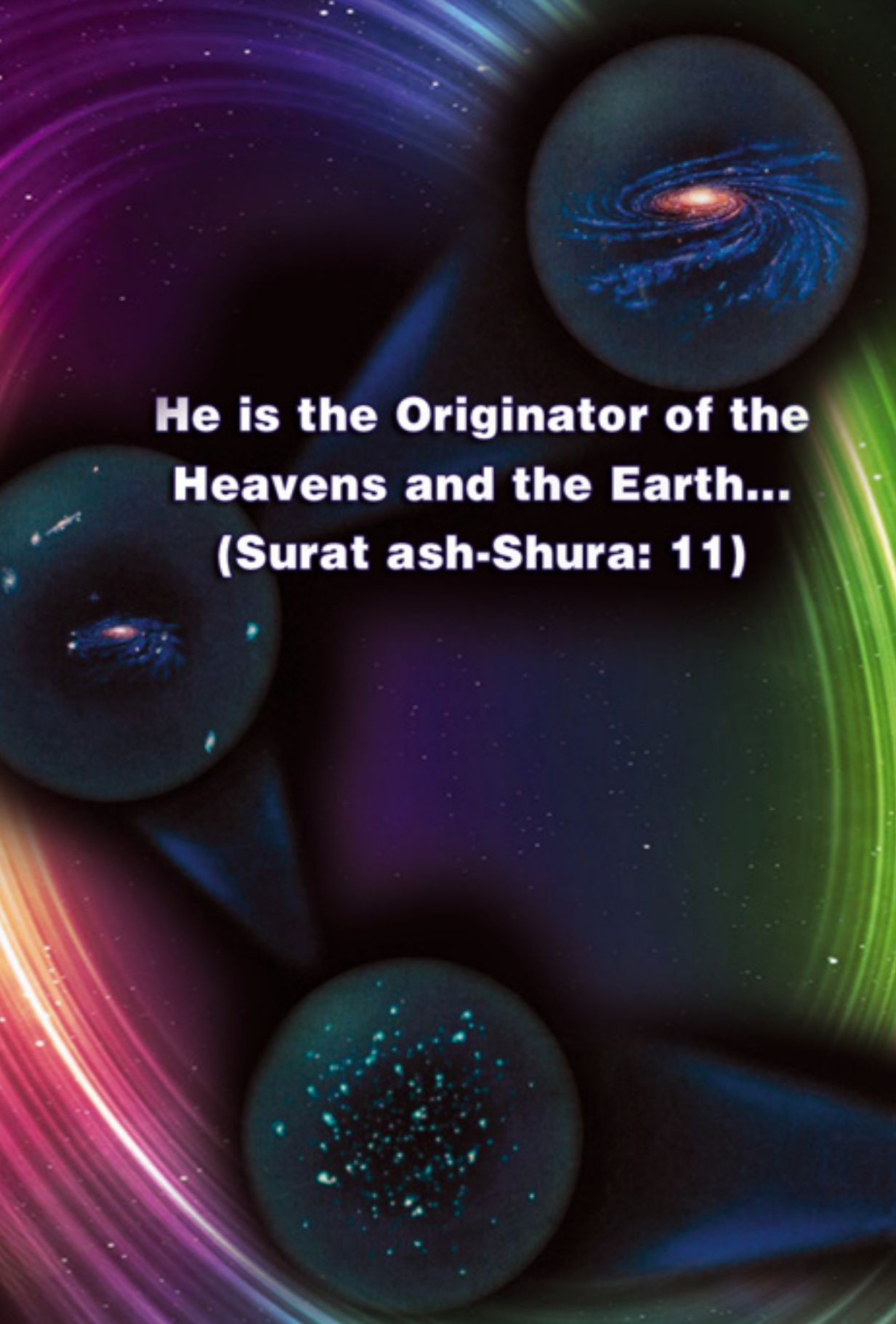
Did you know that everything you see around you, your own body, the house you live in, the armchair you're sitting in, your mother and father, the trees, birds, soil and fruit, in short, all living things and inanimate matter you can ever imagine, gained life through the coming together of atoms caused by the "Big Bang"? Were you aware of the fact that, after this explosion, perfect order in the universe came to exist? What, then, is the "Big Bang"?

Over the last century, a host of experiments, observations and calculations carried out using advanced technology have revealed beyond any doubt that the universe had a beginning. Scientists have determined that the universe is in a constant state of expansion. And they have concluded that, since the universe expands, if it could travel backwards in time, the universe must have begun this expansion from a single point. Indeed, the conclusion that science has reached today is that the universe originated from the explosion of this single point. This explosion is called the "Big Bang."

Creation of a perfect order after a "Big Bang" is not a phenomenon that can be seen as an ordinary event at all. Consider the fact that thousands of kinds of explosions often occur on Earth, but no order develops as a result of them. All of them rather lead to devastating, damaging, destructive results. For example, if atom or hydrogen bombs, volcanic eruptions, natural gas explosions, and the explosions occurring in the sun are looked at, we can see that their effects are always harmful. A constructive or positive result is never gained as the result of an explosion. However, according to the scientific data attained by means of modern technology, the millennia-distant "Big Bang" led to a transition from non-being to being, in fact to a very orderly and harmonious existence.

Now, let us think over an example as follows: Under the ground, a dynamite explosion occurs and, after this explosion, the most magnificent palace the world has ever seen, with ornate and beautiful windows, doors and furniture, suddenly appears. Does it seem reasonable to argue, "This came into existence by chance"? Could such a thing spring into being on its own? Certainly not!

The universe which came into being after the "Big Bang" is such a magnificent, meticulously planned and marvelous system that it certainly cannot be compared to a mere earthly palace. In this situation, it would be utterly senseless to claim that the universe came into being on its own. The universe instantaneously came into being from non-being. This shows us the existence of a Creator Who created matter from nothingness and Who keeps every moment of it under His control. He is the All-Wise and the All-Mighty. This Creator is Allah, the Most Strong.



**He is the Originator of the
Heavens and the Earth...
(Surat ash-Shura: 11)**



THE CONCEPT OF GREATNESS IN SPACE

In the universe, countless systems operate. Allah keeps all these systems under His control even while we are not aware of it, for example, while we are reading, walking or sleeping. Allah created the universe along with its countless details to make people comprehend His boundless might. In the Qur'an, Allah addresses people and explains the reason for the creation of order in the universe as, **"So that you might know that Allah has power over all things and that Allah encompasses all things in His knowledge."** (Surat at-Talaq: 12) This order contains so many details that man cannot possibly know where to begin to think about it.



For example, everybody knows that the universe is quite vast. However, when we begin to think of what kind of vastness this is in a real sense, we come across concepts that are a breed apart from what we can normally comprehend. The diameter of the sun is 103 times greater than that of the Earth. Let's explain this with a comparison. If we compare the Earth to a marble, then the sun is a sphere that is two times larger than a football. The interesting thing here is the distance between them. In order to set up a model that mirrors the actual scale, we need to put a distance spanning approximately 280 meters (920 feet) between the marble-sized Earth and the football-sized sun. And as for the stars existing beyond our own solar system, they need to be placed entire kilometers away.

With this comparison, you might imagine that the solar system is a quite large place. However, when we compare it to the Milky Way Galaxy where it is situated, it is dwarfed in comparison. For, in the Milky Way Galaxy, there are about 250 billion stars like our own sun, and most of them are much more massive.

Our sun is located on one of the arms of this spiral-shaped galaxy. The interesting thing, however, is that the Milky Way Galaxy is a very "small" place too, when we consider the overall context of outer space. For there are other galaxies

in space too-according to some estimates, as many as 300 billion altogether...

Even these few examples we have supplied about the dimensions and vast distances between the universe's celestial bodies will suffice to show the incomparability of Allah's artistry in creation, the fact that He has no partner in creation, and that He is All-Powerful. Allah calls on people to think over these facts as follows:

Are you stronger in structure or is heaven? He built it. He raised its vault high and made it level. (Surat an-Nazi'at: 27-28)

THE SOLAR SYSTEM'S PERFECT ORDER

When you go outside, the sunlight strikes your face without bothering you, and you owe this to the perfect order existing within the solar system. The sun, which conveys a pleasant warmth and light for our benefit, is only, in fact, like a deep pit consisting of red gas clouds. It is made up of whirlpools of giant flames which gush from the boiling surface to millions of kilometers away, and of giant tornados rising to the surface from the bottom. These could be fatal to mankind. Yet, the atmosphere and the magnetic field of the Earth filter all the deadly harmful rays of the sun before they reach us. It is this perfect order in the solar system that makes the Earth a livable planet.

When we look at the structure of the solar system, we find a very delicate balance. What protects the planets of the solar system from splitting off from the system and being hurled into the freezing cold of outer space is the balance between the gravity of the sun and the centrifugal force of the planets. The sun attracts all the planets through the great force of gravity it exerts, while they continuously counter this attraction by means of their centrifugal force owing to their moving in their orbits. But if these planets rotated at a slightly slower speed, they would be attracted by the sun so strongly that they would plunge into the solar giant and be swallowed in a huge explosion. The opposite of this is also possible. If the planets rotated at a greater speed, this time the gravitational force of the sun wouldn't be enough to hold them and the planets would be hurled into the void of outer space. However, a very delicate balance has been established, and the system continues to exist because it maintains this balance.

In the meantime, it is important to note that the above-mentioned balance is established for each planet separately because each planet's distance from the sun is unique. In addition, their masses are different. For this reason, for each one of them, a different rotation speed has been established so that they can avoid both colliding with the sun and being hurled off into outer space.

This example constitutes only minor evidence for the magnificent balance in the solar system. Anyone who possesses reason can understand that the balance which puts giant planets and the entire solar system into order, and which moreover keeps this order for day after day and century after century, cannot have come into existence by chance. It is evident that this order has been delicately calculated. Allah, the All-Powerful, shows us, with the perfect details He has created in the universe, that everything is under His control. Astronomers such as Kepler and Galileo, scientists who worked to uncover the extraordinarily sensitive balance in the solar system, stated many times that this system indicated a very obvious design and constituted evidence for the sovereignty of Allah over the entire universe. Allah creates and holds everything with His boundless knowledge; He is All-Powerful.

Allah keeps a firm hold on the heavens and earth, preventing them from vanishing away.

And if they vanished no one could then keep hold of them.

Certainly He is Most Forbearing, Ever-Forgiving.

(Surah Fatir: 41)



THE PEERLESS PLANET: EARTH

Think for a moment about what is necessary for a man to survive. Water, the sun, oxygen, the atmosphere, plants and animals... All kinds of details, all kinds of conditions you can or can't think of at that moment are naturally available on the Earth. In addition, when we investigate further, we can see that all these vital needs have a web of interrelated details, and that all these details exist in their full splendor on Earth. Everything on Earth, its living things, plants, the sky, and the seas, all these have been created in the best and most complete way in order to suit the existence and survival of humanity.

Along with the Earth, there are also other planets in our solar system. However, among these planets, the only planet that is suitable for life is Earth. The distance of the Earth from the sun, the rotational speed of the Earth on its axis, the inclination of its axis to its orbit, the structure of the Earth's surface and many other independent factors much like these enable our planet to enjoy a warm temperature which is appropriate for life and to diffuse this warmth all over the Earth in a homogeneous way. The composition of the Earth's atmosphere and the size of the Earth are also just as they should be. The light coming to us from the sun, the water we drink, and the foods we enjoy are extremely suitable for our lives.

In short, any sort of close look at the planet we live on will show us that the Earth was designed especially for man. For us to see that the conditions on Earth were specially designed, it will be enough to take a rough look at conditions on other planets. Take Mars, for example. The atmosphere of Mars is a toxic mixture containing a heavy dose of carbon dioxide. There is no water on the surface of the planet. Huge craters caused by the impact of massive meteors are obvious in the picture on the right. As for the weather, monster storms and sandstorms which last for months on end are quite common. The temperature averages -53°C (-64°F).

Considering these features as a whole, Mars, which among our neighboring planets shares the most in common with the Earth, is clearly a dead planet where life is not possible. This comparison palpably demonstrates that the features which make the Earth a livable place are truly tremendous blessings. The One Who has created the entire universe, formed perfectly its stars, planets, mountains and seas, is Allah. Throughout our lives, we should be thankful for His creations and blessings, and take Him as a friend and protector. Allah, Who is the owner of all these things, is the One Who is worthy of all praise. Allah informs us of this fact in the Qur'an:

Is He Who creates like him who does not create? So will you not pay heed? If you tried to number Allah's blessings, you could never count them. Allah is Ever-Forgiving, Most Merciful. (Surat an-Nahl: 17-18)



THE EXPLICITLY DESIGNED COMPOSITION OF THE ATMOSPHERE

Breathing might mean to you nothing more than inhaling air and then letting it back out. However, for this process to work properly, a system which is perfect from all aspects has been established. We need not make the slightest effort whatsoever in order to breathe. In fact, perhaps most people have never consciously thought about the process at all. Everybody needs to breathe continuously, from the moment we come into this world until we die. All the necessary conditions, in both our body and our environment, have been created by Allah and, therefore, we are able to breathe easily in this way.

First of all, for a person to breathe, it is necessary that the balance of gasses in the atmosphere be arranged just right. Even a slight change in this balance could prove fatal but such failures do not occur at all, because the Earth's atmosphere is a unique mixture that was designed as a combination of very specific conditions all mixed together in a way that functions flawlessly.

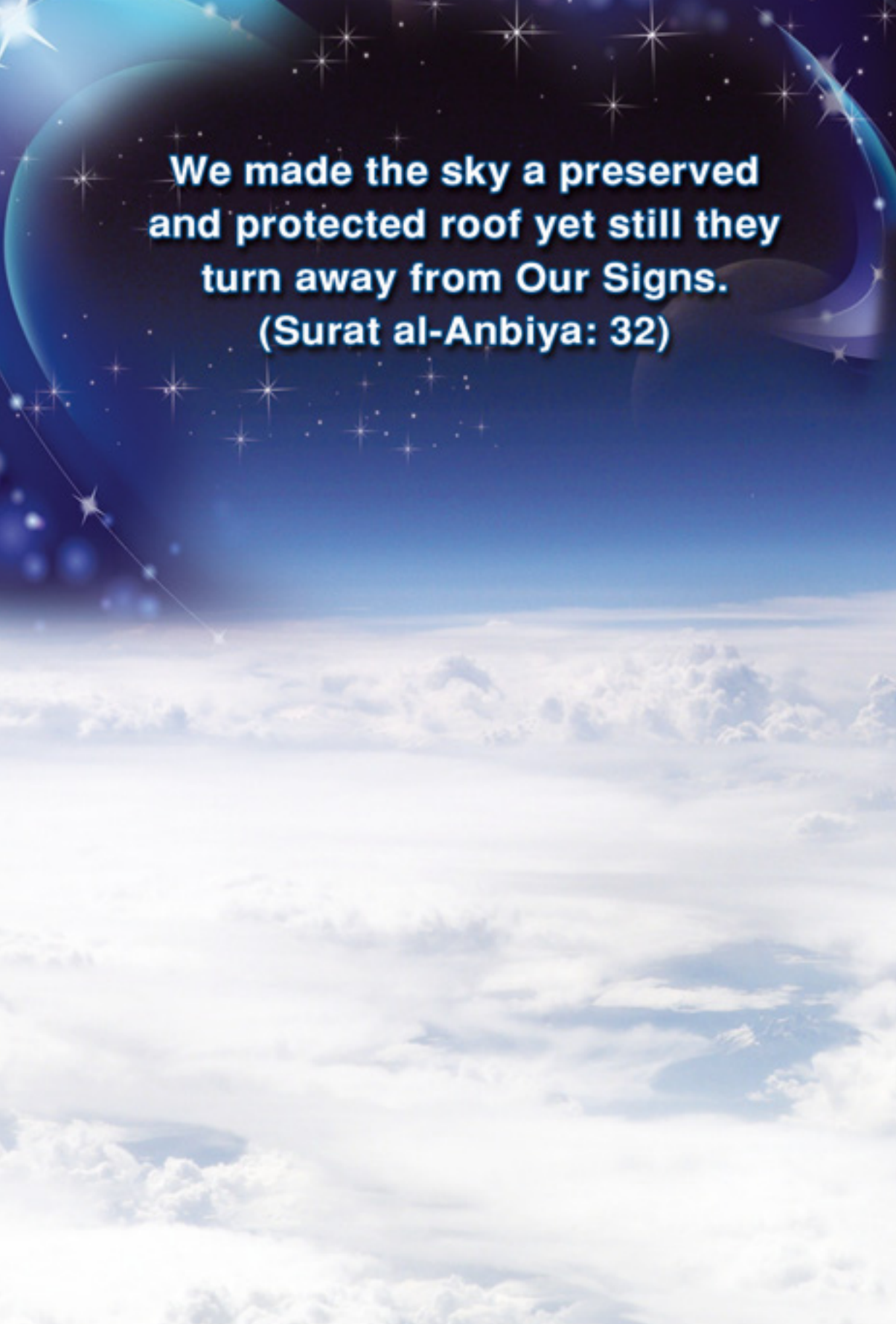
The Earth's atmosphere is made up of nitrogen (77%), oxygen (21%), carbon dioxide (1%), argon and other gasses. Let's begin with the most important of these gasses, that is, oxygen.

Oxygen is very important because living things need this gas in order to live. To get oxygen, we breathe. The oxygen ratio in the air is maintained at an extremely delicate balance.

The atmosphere's preservation of the balance of its oxygen ratio is realized by means of a perfect "recycling" system. Human beings and animals continuously consume oxygen while they produce and expel carbon dioxide gas, which is poisonous for them. Plants, on the other hand, carry out just the opposite process and maintain survival by transforming carbon dioxide into oxygen. Every day, billions of tons of oxygen are released into the atmosphere by plants in this way.

Now, if human beings and animals carried out the same chemical reactions as do plants, the Earth, in a very short time, would become an unlivable planet. If both animals and plants produced oxygen, the atmosphere would become extremely combustible and the smallest spark would cause huge fires. Ultimately, in such a scenario, the Earth would be reduced to a cinder. If, on the other hand, both plants and animals produced carbon dioxide, then the oxygen in the atmosphere would quickly run out and, in short order, all living things would begin to die of suffocation.

All this shows that Allah created the Earth's atmosphere especially for human life. The universe is not an uncontrolled, chaotic place. It has been planned in every detail and Allah, the possessor of eternal power, brought it into being.



**We made the sky a preserved
and protected roof yet still they
turn away from Our Signs.
(Surat al-Anbiya: 32)**

HOW MOUNTAINS STRENGTHEN THE EARTH'S CRUST

The Earth's crust, the surface on which we daily walk and build our houses safely, in fact moves on a layer called the mantle which is denser than the crust. If there was not a system in place to keep this motion under control, continual shocks and quakes would occur on the Earth and the world would be a truly unlivable place. And yet, the mountains and their extensions under the ground greatly decrease underground movements, and hence such shocks.

The Earth's mountains have come about as a result of movements and clashes of huge plates which make up the planet's crust. When two of these plates collide, one usually slides under the other. The plate on top is pushed up and so forms mountains. At the same time, the plate at the bottom proceeds under the ground and forms a deep protrusion. This means that mountains have deep downward protrusions that are as large as those visible on the surface. In other words, mountains are firmly rooted in the Earth's layer called the mantle.

Therefore, mountains effectively clench the Earth's plates by stretching above and below the ground at the conjunctions of these plates. In this way, mountains prevent the crust of the Earth from sliding on the magma layer or between its own layers. In short, we may compare mountains to nails firmly holding pieces of wood together. This characteristic of the mountains, through counteracting the unstable nature of the Earth's crust, prevents shocks to a significant degree.

These magnificent-looking mountains also have other roles to play in maintaining certain balances on the Earth, especially in dispersing heat.

The temperature difference between the equator and the Earth's poles is about 100°C (212°F). If such a difference arose on the surface level, storms at blinding speeds reaching 1,000 km (621 miles) per hour would devastate the Earth. However the uneven surface of the Earth blocks strong air currents that such heat differences could cause. These mountain ranges begin with the Himalayas in China, continue with the Taurus mountain range in southern Turkey, and then again up into the Alps of Europe. The mountain ranges of the Atlantic and Pacific Oceans also figure into this equation.

Like all other details on the Earth, what is manifested in the mountains is part of the endless art of Allah. Allah has created the world where we live in a perfect way. Seeing these magnificent examples, what man must acknowledge is that the most important fact of his life is his duty to serve Allah and to work for this and this alone. Because man is in need of countless blessings, whereas Allah is Rich Beyond Need.



THE BALANCE OF THE OCEANS

The rains, the seas, rivers, streams, the oceans, drinkable water that flows when you turn on a faucet... People are so used to the existence of water that they probably never think about the fact that a major part of the Earth's surface -indeed, most of it- is covered with water. However, what is singularly important here is that, among all known celestial bodies, only the Earth provides drinkable water.

Water is a basic condition for life, but it is entirely absent from the solar system's 63 other celestial bodies. However, fully four-fifths of the Earth's surface is covered with water. In addition to large water masses such as oceans, there are various other water sources whose sizes and attributes are different from each other, such as rivers and small lakes. Some of these waters are too salty to be drinkable, but others are fresh. There is a perfect water balance that has been arranged according to the needs of all living things on the Earth.

By virtue of water, millions of species of creatures exist on Earth, and the balances that are necessary for life are preserved. For example, clouds and rain are formed by the evaporation of large water masses. Water has a high capacity for drawing and holding heat. For this reason, the large water masses of the oceans and seas maintain the balance of the world's heat. Therefore, the temperature difference between day and night in regions near the sea is very small. This makes these regions more livable.

The existence of the oceans, a bird's-eye view of which is seen at the top of the picture on the page to the right, is highly significant. Because the oceans reflect the sun's rays less than land does, they receive more sun energy, yet they disperse this heat in a more balanced way. Therefore, the oceans cool the equatorial regions and prevent them from becoming excessively hot, and also warm the waters of the polar regions to prevent them from freezing completely.

Through the transparency of water, water mosses can photosynthesize under the surface of the ocean. Water is one of the few substances in nature that expands when frozen. It is because of this that the seas and oceans do not freeze from bottom to top.

All of the physical and chemical features of water, of which only a few have been given here, show us that this liquid has been specially created for the needs of human life. It is surely no coincidence that such water is not available on any other planet besides the Earth. The Earth, which has been specially created for human life, has blossomed with life through water, which has also been specially created. Allah, Who has created countless blessings for His servants and bestowed on them an easy mode of living, has created water with unique artistry and delicacy. As He maintains in the Qur'an, "**It is He Who sends down water from the sky...**" (Surat an-Nahl: 10)



THE HARMONY BETWEEN WATER AND PLANTS

All plants, large and small alike, from grasses to tall trees and the multitudes of flowers, can transport water and the nutrition they carry from the soil up to their farthestmost leaves and branches . Yet, this transportation process is not achieved by means of systems present in the plants only. For this transportation to happen, the characteristics of water itself also need to be in harmony with the structures of the plants.

We can see this harmony by looking at the general structure of water.

It is evident that water, which is indispensable for the survival of the Earth's living things, is a substance that has been especially designed and created. One of the essential features of water is that it possesses a high "surface tension." Surface tension occurs when the molecules on a liquid's surface attract each other, thus creating a barrier between the air and the liquid. Because of this, a water container can carry an amount of water that is slightly higher than its own height without overflowing. Also, a metal needle can float on water without sinking if it is carefully put on the surface in a horizontal position.

The surface tension of water is higher than that of any other liquid, and this has far-reaching biological effects for the Earth. We will begin by examining its effect on plants.

Plants, by means of surface tension, can carry water found in the depths of the soil up to heights meters above the surface, all without having a pump or muscle system. In the realm of human-designed structures, air pressure tanks, very complicated systems indeed, are required to carry water to the upper floors of apartment houses. Plants, however, have no such system. Water reaches the farthest points of the plant purely by means of surface tension. The tubes in the plants' roots and veins are designed in such a way as to make use of the surface tension of water. Going upwards, these tubes become narrower and narrower and so enable water to "climb" upwards. If the surface tension of water were at a low level, as in most other liquids, then land plants would be utterly unable to survive. This would negatively effect all living things on the planet. However, due to the perfect creation of both water and plants, such problems never arise.

The compatibility between the high surface tension of water and the structure of plants which make use of this property indicates the perfect creation of Allah. These constitute an important piece of evidence for the fact that nature and living things came into being not by chance, but through Allah's creation.



THE DESIGN OF SNOWFLAKES

Anyone who takes a close look at snowflakes can see that they come in a variety of shapes. It is estimated that a single cubic meter of snow holds about 350 million snowflakes! These flakes are all hexagonal and have crystal-like structures. However, each one of them possesses a unique shape. For years, scientists have been searching for answers to such questions as how these shapes ever came about, how it is that each one of them has a different shape and what provides their symmetry. Every bit of information that is gained reveals another magnificent mastery present in the snowflakes. The variety and perfection of the hexagonal structure of snowflakes is a manifestation of Allah's status as the Originator (al-Badi). Allah is the One Who made good everything that He has created. The formation of snowflakes constitutes yet another aspect of Allah's endless artistry.

These thin, small flakes look like multi-pointed stars or tiny needle heads. The formation of the snowflakes in the pictures is truly amazing. For years, the orderly structure of snowflakes has caught people's attention. Since 1945, research has been carried out in a quest to discover which factors give the final shape to the crystals. A single snowflake is a pile of crystals consisting of more than 200 ice crystals. Snowflakes are made up of water molecules that are shaped in a perfect order. Snowflakes, one of nature's true architectural wonders, are shaped when water vapor gets cold while passing through clouds. This takes place like so:

Passing through the clouds, water molecules scattered everywhere in a disorganized way throughout water vapor begin to lose their random movement due to the fall in temperature. After a while, the water molecules, moving more slowly, begin to form groups and consequently become solid. Yet, there is no disorder whatsoever in their groupings. On the contrary, they always unite as microscopic hexagonal forms that look similar to each other. Each snowflake at first consists of a single hexagonal water molecule, then other hexagonal water molecules come and attach to this first piece. According to experts on the subject, the basic factor that determines the shape of a snowflake is that these hexagonal water molecules are joined together just like links in a chain. In addition, the pieces of crystals, which normally should look alike, take on very different shapes according to the temperature and level of moisture.¹

Why is it that there is a hexagonal symmetry in all snowflakes and why is each of them different from the others? Why are their edges angled rather than straight? Scientists are still trying to find answers to these questions. Yet, this much is evident: Allah is the One Who has no partners in creation, is the Possessor of an endless power and the Originator of everything.



THE UNIQUE ARTISTRY OF FRUITS AND VEGETABLES

Fruits and vegetables spring from the same soil and are watered with the same water, yet they come in a dazzling variety. When we consider the multitude of different tastes and smells of fruits and vegetables, the question of how such a variety ever came about in the first place comes to mind. What causes this miscellany of the tastes and fragrances of grapes, melons, kiwis, pineapples and the like, using the same water and minerals for centuries on end, yet without ever mixing them up with each other and without ever getting them confused? Allah gives them their matchless tastes and appearances.

Both animals and humans obtain the energy they need to survive through nutrition which is produced by plants. In other words, plants have been created as a blessing to benefit all living things. Most of these blessings have been designed especially for humans. Let's take a look at our surroundings, at what we eat, and then think. First let's look at the bone-dry stalk and very thin roots of a grape vine. This bone-dry structure, one that seems so fragile that it could be broken with the slightest pull, can produce dozens of kilos of juicy grapes whose color, smell and taste have been designed especially to give pleasure to man. Now let's think about watermelons. This juicy fruit, which again comes out of dry soil, develops precisely in the season when people begin to feel the need for it, that is, in summer. Let's think about the marvelous smell of the melon that has been provided since it first came into existence, without any deterioration in its quality, and about its famous taste. When fragrances are produced in factories, people use complex quality controls and take great pains to produce a uniform odor that mimics nature; but there is no need for quality checks to preserve the natural odor of fruits.

In addition to their enticing smells, each fruit also contains ingredients that are suitable to the season. In winter, for example, we have tangerines and oranges, which are full of vitamin C and energy. Vegetables also possess any and all kinds of vitamins and minerals that living things may need.

By thinking in this manner, we could examine in turn all the plants present in nature. And at the end of this examination, we would have learned that the plants around us have been especially designed for human beings and all other creatures, in other words they have been created. Allah, Who is the Lord of the worlds, has brought into existence all nutrition for living things and has created them in such a way that the taste, smell and use of each one of them is wonderfully varied. This reveals His might and matchless artistry in creation. He informs us of this in the Qur'an:

And also the things of varying colors He has created for you in the earth. There is certainly a Sign in that for people who pay heed. (Surat an-Nahl: 13)



A PERFECT DESIGN OF LEAVES: PORES

There is a perfect design present in every square millimeter of every leaf, an object which we usually consider, at first glance, as being ordinary, "garden variety." Pores, which are one of the essential structures of plants, are a key part of this design. These microscopic holes (pores) that exist on the leaves are responsible for facilitating the transfer of water and heat as well as obtaining carbon dioxide from the atmosphere, a gas which is necessary for photosynthesis. In addition, pores have a structure capable of opening and closing themselves when necessary.

Another interesting feature of the pores is that they are mostly located on the bottom of the leaves. In this way, the harmful effects of the sun's rays on the leaves are kept to a minimum. If the pores, which discharge the water of the plant, were densely present on the upper surface, then they would be exposed to sunlight for long periods of time. In such a case, the pores would continuously let out water in order to prevent the plant from dying of heat. Consequently, due to excessive water loss, the plant would wither away and die. Allah, Who has created everything in a perfect and complete way, created the pores as an exclusive design for plants and thus prevented them from suffering harm due to water loss.

The pores, which are located in pairs on the surface tissue of leaves, are shaped like beans. The concave position of the opposite pores adjusts the openings of the pores that maintain the gas transmission between the leaf and the atmosphere. These openings, which are called pore openings, vary according to the conditions of the environment (light, moisture, temperature, carbon dioxide level) and the internal situation of the plant, especially regarding water. The water and gas transmission of the plant are adjusted by the pores' openings getting larger or smaller.

There are very delicate details in the structure of these pores which have been designed by taking all the effects of the outside environment into consideration. We all know that the conditions of the outside environment are subject to continuous change: the moisture and gas ratio, the temperature and the air quality... But the pores of leaves can adapt to all these factors.

This system in plants, as in other systems too, can function only if all the parts are present together. Therefore, it is definitely beyond the realm of possibility for the pores of plants to have come into being through evolutionary coincidences. Allah created the pores with their very exclusive structures, and especially designed them to serve their purposes.



THE SEEDS OF THE COCONUT PALM

The seeds of some plants are dispersed by water. These seeds typically have characteristics different from the seeds of other plants. For example, plants which disperse their seeds by water possess a structure that minimizes their weight and maximizes their surface area. In addition, the floating tissue might take any of several shapes. The cells filled with air might have a spongy structure or the air might be locked in the seed in such a way that gaps among the cells are almost lost, enabling the seed to float. In addition, the cell walls of the floating tissue are structured in such a way as to prevent water from entering. Besides all this, there is an additional interior segment in these plants which protects the embryo that contains all the genetic information about the plant.²

Among those seeds carried by water, there are seeds that can remain in the water for about 80 days without being spoiled or germinating owing to their strong structure. The most famous of these are the seeds of the coconut palm tree. The seed of the palm is put into a hard shell for safe transport. In this hard shell, everything that is needed for a long journey, including water, is available. Also, the outer part is covered with a strong fabric that prevents the seed from being damaged by water.

One of the most significant features of a coconut seed is that it has air spaces that make it buoyant and capable of floating on water. Because of these characteristics, the coconut seed can be carried by ocean currents for thousands of kilometers. When it washes ashore, the seed germinates and grows into a coconut palm tree.³

It is quite an exceptional situation that the coconut seeds germinate just as they reach the land because, as is known, plant seeds generally germinate as soon as they meet water. Yet, this is not true for coconut plants. With their distinctive structures, plants which disperse their seeds by water are privileged in this respect. If these plants, too, began to germinate as soon as they encountered water, they would have long ago since become extinct. However, by means of their mechanisms suitable to their particular environments, these plants can continue to exist. It is evident that these precise features and design could not have come into being by the methods evolutionists claim.

The amount of reserved nutrition and water in the seeds, the period of their reaching the land, in short all the delicate calculations made for such features have been perfectly determined by Allah, Who is the owner of eternal power and wisdom.



LIVING THINGS CREATED IN HARMONY WITH EACH OTHER

In some plants, the nectar is present in the depths of the plants' flowers. It seems that this would constitute a disadvantage making it difficult for insects and birds to collect nectar and hence for flowers to be pollinated. However, Allah has enabled these plants to be pollinated as well by creating living creatures whose structures are exactly appropriate for the characteristics of flowers that keep their nectars in their depths. The concordant relationship between the chandelier tree and the yucca moth is one such example.

The yucca has a rosette of spear-shaped leaves and, in the center of this, there is a stalk bearing cream-colored flowers. One of the features of the yucca is that its pollen exists in a curved region. For this reason, only a certain moth species that has been bestowed with a curved proboscis can collect the pollen, which is present in the male reproductive organs of the plant.

By pressing the pollen against each other, the moth forms the pollen it has collected into a ball shape and takes this to another yucca. First it goes down to the bottom of the flower and lays its eggs. Then it climbs up to the top of the flower and, by hitting the pollen ball, causes pollen to spill. After a while, moth caterpillars will get out of the eggs and feed on this pollen. In the meantime, by hitting the pollen ball that was collected from the previous flower against the top of the new flower, the moth pollinates it. If moths did not exist, yuccas could not pollinate on their own.⁴

As we can see, the nourishment of the moth and the pollination of the yucca come about in a very harmonized way. What creates this harmony is not the yucca itself or the moth. It is not possible for a plant or an insect to be aware of the needs of another creature or to determine a tactic for fulfilling its own needs. These creatures do not possess the faculty of thinking and thus cannot discover methods and teach them to other creatures. Allah alone has created this perfect harmony among living creatures. Both creatures are the work of Allah, Who knows them perfectly, Lord of all the worlds and All-Knowing. And they in turn serve the purpose of introducing people to the greatness, might and perfect art of Allah. Allah reveals this in the Qur'an:

The seven heavens and the earth and everyone in them glorify Him. There is nothing which does not glorify Him with praise but you do not understand their glorification. He is All-Forbearing, Ever-Forgiving. (Surat al-Isra: 44)



THE TACTICS OF CORYANTHES ORCHIDS

Is it possible for a flower to be aware of the preferences of an insect? Is it possible for it to make plans to make this insect fall into its trap and make changes in itself accordingly? Without a doubt, it is not possible for a flower or an insect to carry out such tactics by means of its own reason and will. However, when we look at the creatures in nature, we see that they often apply just such kinds of tactics.

The *Coryanthes* orchid is one such plant that makes insects fall into its trap by means of an interesting tactic. The reproductive system of the orchid is based on attracting insects and making them carry its pollen. The flowers of this orchid species grow in clusters. Each flower has two wing-like sepals and just behind these leaves is a tiny "bucket." When the flowers open, a special liquid secreted by two special glands begins to drip into the bottom of this bucket. After a while the flower begins to emit a fragrance that bees find irresistible.

As the orchid blooms, male bees respond to the scent and begin to fly around the flower. While they try to land on the vertical edges of the orchid, they also look for a place to hang onto with their legs, like the tubular section of the flower that connects the bucket to the stem. This part is slippery and sloping. Therefore, the bees creeping around the flower inevitably fall into the bucket in the bottom of the flower that is filled with the liquid.

There is only one way out for the bee that has fallen into the flower. A narrow tunnel leads to the front wall of the flower, that is, to daylight. Until the insect finds this way out, which is at the same level as the liquid into which the bee has fallen, it keeps swimming in the liquid. While trying to find the exit, it passes under the stigma, where there is pollen, and the flower's male organs. At that time, two pollen sacs stick to the back of the insect. Then the insect advances towards the exit and finally leaves the flower. When the bee goes to a new flower, this time the stigma of the flower picks up the pollen from the bee and, in this way, pollination begins.⁵

Yet, this situation doesn't benefit the flower alone. The liquid present in the flower bucket the bees fall into is extremely important for bees as well, because the male bees will use the odor of this secretion smeared on their bodies to attract female bees during mating.

As we said in the beginning, it is not at all possible for a flower to develop tactics to deceive an insect and arrange its structure according to this tactic. Similarly, it is no less impossible for an insect to develop a tactic to acquire a needed substance from a flower by means of its own will. The amazing cooperation between these two creatures is evidence for the fact that they were created by a unique Creator.



THE SKILLS OF MASON BEES

Mason bees are living creatures that attract attention because of the care they demonstrate in building a nest. When a female bee who wants to build a nest finds a suitable place, she cleans it. However, in order to build a nest, she first needs to find a source of mud. If she cannot find mud, she finds some finely textured soil and turns it into a soft paste by mixing it with her saliva.

A mason bee begins its nest construction by scraping a piece of mud from the ground with her jaw. She carries the mud between her legs and molds it into a pellet. She adds more mud to the pellet. Then, holding the pellet with her lower jaw, the female bee comes back to her nest.

When the bee comes to the place where she will build a nest with the mud, she does not begin to work in a haphazard, disorganized way. When they build their tunnel-like nests, mason bees always follow a definite plan. In line with this plan, the mason bee uses the first loads of mud to build the back partition of the first cell that will constitute the blind end of the tunnel. Then, she builds up mud in the shape of a crescent at some distance from the partition. This marks the site of the next partition she will build after she lays her egg in the first cell.

With the completion of the cell, the mason bee begins to collect food to store there. On her first tour, she stores pollen at the rear of the nest. Over the next tours, she leaves some honey that she makes into a thick paste with her jaws on the pollen she left during her previous tour. In this way, she completes initial preparations for the egg she will lay.

As soon as the bee leaves the last pollen load in the nest, she immediately begins to lay her egg. After laying the egg, the female bee begins to build walls for the other mud partition she had marked before. Following a certain sequence, the bee continues the egg-laying and cell-building processes until the cells constituting the nest form a row. The structure of the cells is standard. Each cell contains an egg and stored food and is separated from the adjacent cells by a mud wall.

After the last cell is completed and closed, the female bee leaves an empty space between the last brood cell and the nest entrance and finally closes this opening with a thicker plug than an ordinary cell partition. This plug prevents other creatures from making their nests in front of the nest which would imprison the offspring in their cells and lead to their deaths.⁶

It can be seen at every stage of nest building that there is a clear wisdom and intelligence behind all the conduct of bricklayer bees. In a verse, Allah informs us that bees are creatures that act with the inspiration of Allah. In fact, not only bees, but all the living creatures in the universe are inspired by Allah, the All-Powerful, the Wise.



TOWERS OF BLIND TERMITES

Would it be possible for blind workers to construct a building as tall as the Empire State Building? Such a feat is out of the question for humankind. However, blind termites, throughout their lives, build nests that are as high as the Empire State Building on a scale proportional to their sizes.

One of the most important characteristics of termites is that they make nests so strong that even humans can demolish them only with difficulty. They build different kinds of nests in accordance with their needs. While some of them build nests that protect them from burning heat, others build nests in order to seek shelter from rain. These nests can be built either beneath or on top of the soil or even inside trees.

When we look inside a termite's nest, we can see its spongy appearance. The nest consists of numerous cells that are about 2.5 cm (1 inch) in width or narrower. These cells are connected to each other by narrow passages through which only termites can pass. The raw material the termites use while making these marvelous buildings consists only of soil, their saliva and excrement. Using such simple materials, some of them make nests so strong that they can only be demolished by using dynamite, and which possess such detailed systems as labyrinths, air circulation passages and canals.

The main miraculous aspect of termites that can build towers like these marvelous nests is that, as mentioned above, they are utterly blind. This is an important point. Termites can see neither the tunnels they make, nor the material and soil they use, nor the cells they construct.

When the works of termites and humans are compared, the marvel at what termites do can be seen even more clearly. So in order to make a better evaluation of the "skyscrapers" which termites build, New York City's Empire State Building in America will make a suitable comparison. The building is 443 meters (1,453 feet) tall. Termites are insects of 1-2 cm (0.4-0.8 inches) height. In spite of their tiny bodies, they build giant nests towering 7 meters (23 feet) high. If termites were as tall as men, their spectacular nests would then be four times higher than the Empire State Building. Termites have been doing an exceptional job that even man cannot achieve, for millions of years-ever since they were created.

The One Who has created termites with all their characteristics is Allah. With the marvelous constructions Allah makes termites build, He, the Lord of all the worlds, introduces us to His boundless might and knowledge. As He reveals in the Qur'an:

Allah is the Creator of everything and He is Guardian over everything.
(Surat az-Zumar: 62)



THE DIVING TECHNIQUE OF BELL SPIDERS

The water spiders living in the warm regions of Asia and Europe spend most of their lives underwater because they make their nests under the water.

For the construction of its nest, the spider first establishes a platform with webs among water plants or leaves. It attaches this platform to nearby plant stems with silk threads. These threads serve as a signal showing him his nest, as a tie stabilizing the platform and as a "radar" system informing him of any approaching prey.

After building the platform, the spider carries air bubbles under it using its legs and body. Thus the web blows upward and, as more air is added, takes on a bell-like shape. This bell is the nest in which the spider takes shelter as long as it is under the water. (picture at bottom left)

By day, the spider waits in the nest. When a small animal passes nearby, especially an insect or larva, he rushes out to catch it and take it to its nest to eat it. An insect falling onto the water causes vibrations. Feeling these vibrations, the spider goes out, takes the insect and carries it under the water. The spider uses the surface of the water as if it were a web. The situation of an insect falling onto the water is no different from that of any other prey caught in a web.

As winter approaches, the spider needs to take precautions to protect itself from freezing. For this reason, the water spider goes deeper into the pond. This time, it builds a bell for winter and fills it with air. Some spiders settle in the shell of a sea snail that they find in the depths. It remains motionless in the bell and consumes almost no energy during the passage of winter. It does these things so as not to lose energy and to minimize the need for oxygen. By means of these precautionary measures, the oxygen in the air bubble it carried to the nest suffices throughout the 4-5 months that the spider stays there in the winter.⁷

It is evident that the spider's hunting technique and the bubble it fashions have been designed in the most ideal way for it to live under the water. It is doubtless impossible for a creature that lives on the land to find a way to live under the water by chance. If this creature did not possess the necessary attributes for living under the water, it would die as soon as it entered the water. Therefore, Allah created a land creature, which can live under the water by virtue of having the proper skills to do so, along with all its characteristics, all at once.

By creating such matchless examples as the water spiders, Allah introduces us to His endless knowledge and wisdom.



CHITIN: A PERFECT COATING SUBSTANCE

Insects are among the most widespread and resilient creatures on Earth. The reason for this is that they have been created so as to be very resistant to many unfavorable conditions. One thing that makes them so strong is the chitin substance which covers their bodies.

Chitin is a very light, thin substance. For this reason, insects have no difficulty in carrying it. Although this substance covers an insect's body on the outside, it is so strong that it could also serve the function of a skeleton and, at the same time, is outstandingly flexible. It can move as the muscles with ends connected to the insect's body from inside contract and relax. This not only improves the rapid movement of the insects but also buffers the impact of external blows. The chitin layer is waterproof because of a special exterior coating. It also prevents body liquids from leaking out.⁸ It is not affected by the most difficult conditions, high temperature or even radiation. Another property of this layer is that it has a color, examples of which can be seen in the pictures, that is the most suitable for the insect's environment. In this way, the insect can live and avoid being noticed by its enemies. Sometimes, the colors of this layer are so lively that they even deter predators in the surrounding area.

This chitin, which constitutes the outer shell of most insects, is a perfect material in terms of its strength, elasticity and insulation properties. A substance possessing such remarkable characteristics cannot but make one wonder, if airplanes and spaceships were made from a substance possessing the characteristics of chitin, what would they be like? In fact, the structure of this substance is the stuff of aeronautical engineers' dreams. Yet, mankind has never been able to match such an advanced design, in spite of our technological developments.

Chitin, an equivalent of which is being sought after using twentyfirst century technology, has existed ever since insects came into being. This material, as mentioned above, is the most ideal coating substance an insect can ever possess. It is obviously impossible for this substance possessing the ability to protect the creature against any kind of danger to have come into existence by chance. No insect could have produced such a protective material by using its own will. Allah created this substance, which has a unique design, along with the extraordinary attributes of the insects that it covers. In the Qur'an, Allah draws our attention to His creations in this way:

Among His Signs is the creation of the heavens and earth and all the creatures He has spread about in them. And He has the power to gather them together whenever He wills. (Surat ash-Shura: 29)



ANT HOTELS

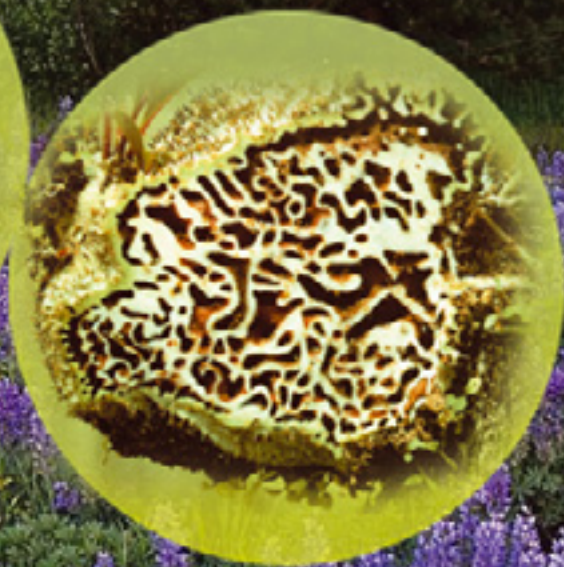
If one creature helps another, and prepares an environment for its convenience which meets its needs, this association certainly cannot be claimed to have occurred by chance. One-to-one conformity between creatures that have no consciousness, and the acts they perform to benefit each other, provide evidence for the deliberate creation of these beings. Creatures living together were created with characteristics that benefit each other through the agency of a sole Creator, that is, Allah. We can give certain plants and ants as typical examples of this sort of mutually beneficial creature pair.

There are deep holes in some plants which are called "domatia" in biological terminology (small picture). The only function of these holes is to serve as a shelter for ant colonies. In these plants, there are openings or thin windows of tissue which enable ants to get in and out of the plant easily. In these chambers, there are food bodies that the plant produces with no known function other than the feeding of ants. They do not appear to have a real use for the plant.⁹ In short, domatia are very special structures that have been created in order for ants to live. The heat and moisture balance provides an ideal environment for ants. In these places marked by diligence that are prepared for ants, the ants make themselves just as comfortable as people staying at luxury hotels.

We can give as another example *Philidris*, which is a kind of ant species, and its host plant *Dischidia major*. These make a collective "chemical production" throughout their lives. The plant in question has no roots penetrating the soil, therefore it gets support from other plants by wrapping around them. The plant has a very interesting method for increasing its acquisition of carbon and nitrogen. Ants have an area in these plants, called the "ant leaf," where they breed their offspring and store organic remains (dead ants, pieces of other insects, etc.). The plant makes use of these residues as a nitrogen source. Moreover, the inner surface of the leaf spaces absorbs the carbon dioxide given out by the ant, and in the process decreases dehydration through pores.¹⁰ Preventing dehydration is very important for these ant plants which grow in the tropical climates, because, they have no roots and cannot reach water in the soil. So, ants supply two important needs of the plants in return for the shelter provided to them.

It is not possible to claim that the structures seen in these two examples might have come about by chance. The plants could not have produced nutrition proper to ants and taken forms in conformity with them by chance. The cooperation between ants and plants is just one more piece of evidence for the marvelous balance Allah, the only Creator, created on Earth.

**In the heavens and the earth there are
certainly signs for believers. And in
your creation, and in all the creatures
that He has spread about, there are
signs for people whose faith is sure.
(Surat al-Jathiyah: 3-4)**



MAGNIFICENCE OF THE LUMINOUS CREATURES

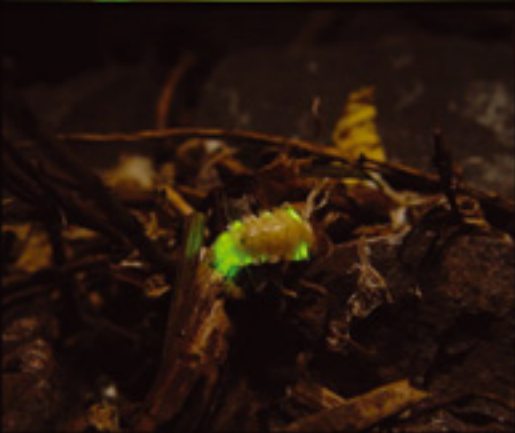
One of the best-known luminous creatures is the firefly. Scientists have spent years of research trying to produce a light as efficient as the light produced by fireflies. Fireflies achieve maximum efficiency and lose almost no energy.

In fact, it is quite amazing that a creature is able to produce light yet, at the same time, is not affected by the heat of this light. Because, as we know, during light production made by today's technology, heat certainly is created and this heat is emitted outside as thermal energy. Therefore, for this reason, creatures which produce light should also suffer harm due to exposure to high heat. However, the creatures producing light are not affected by the heat they produce, because it is weak. They produce a kind of light called "cold light" and their body structures are designed accordingly.

Fireflies are actually a type of beetle which produces yellowish-green lights by means of chemical reactions inside their bodies. Fireflies, which flash their lights to recognize one another or to give mating signals, use different lengths of flashes according to their species. In addition, in some species, it is the male who flashes first to attract the female, while in other species, the females do the "calling." Some fireflies use their lights in self-defense. They flash to warn enemies that their taste is unappetizing.¹¹

Besides fireflies, a number of other insects, various sea creatures, and many other types of species produce their own light. Each species has different characteristics. These include the manner of light production, the fields of their usage of light, and the lengths and kinds of light they produce.

Who furnished these creatures with systems through which they produce the type of light they can make use of, and then maintains the continuation of these systems? It is not, of course, the creatures themselves. It is not possible for complex organs capable of producing light yet not harming the creatures of which they are part in the process to have come into being as the result of coincidences. All luminous creatures are evidence of the superior power of the creation of Allah. Allah introduces us, through these creatures He has created, to the evidence of His endless knowledge, wisdom and might.



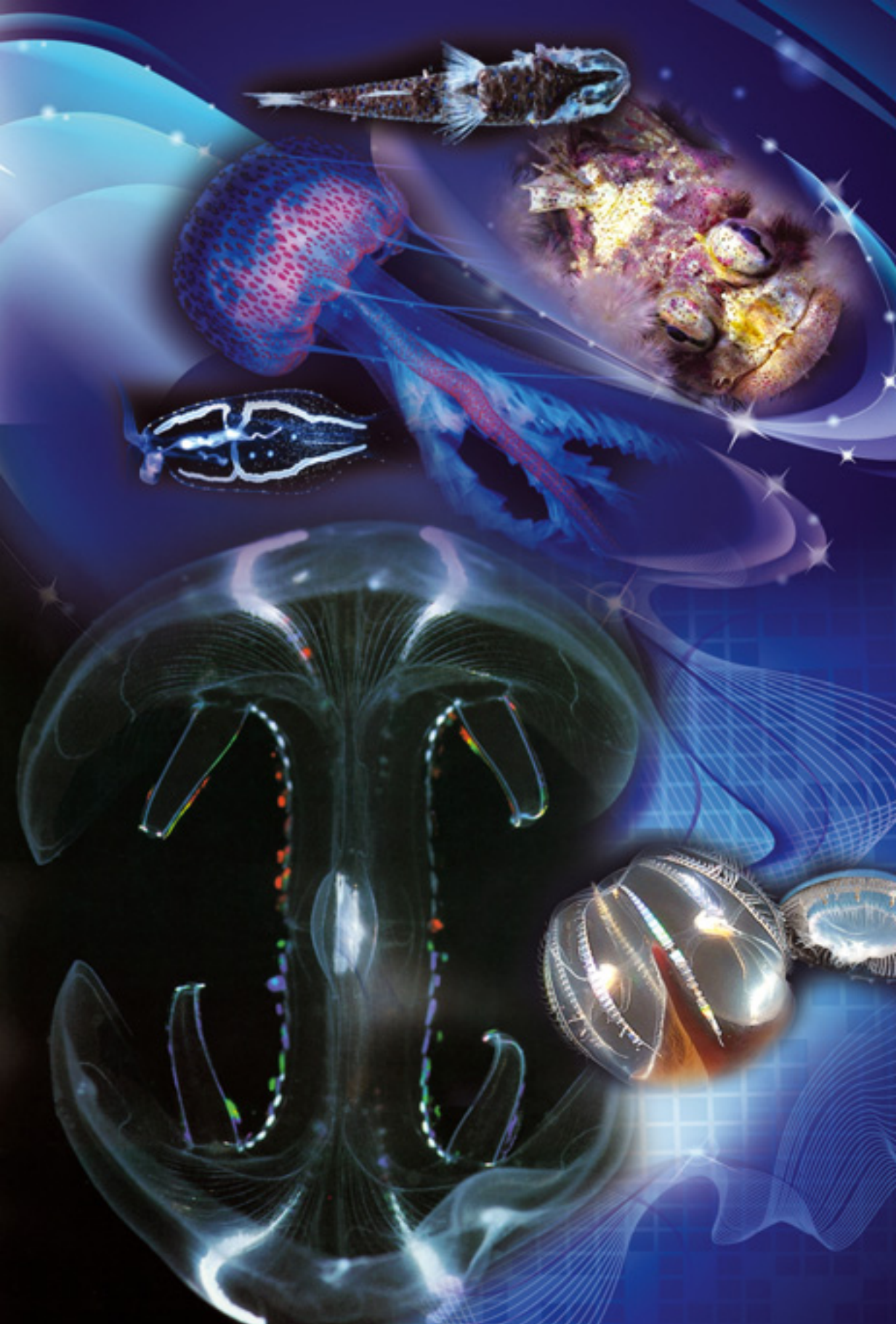
LIGHT-PRODUCING SEA DWELLERS

Many undersea creatures have systems, like fireflies, through which they can produce light. Generally, they use this ability in order to confuse or scare their enemies. Comb jellies are delicate creatures just like jellyfish and sea anemones. They generally feed on microscopic plants and tiny sea animals. Some catch their prey using their sticky tentacles which move in the water like fishing lines. Other varieties have very wide mouths that can swallow many creatures, including other comb jellies. Comb jellies have tiny hairs on their bodies which they use to move forward in the water. In addition, nearly all comb jellies have special light-producing cells along the seam-like ridges of their bodies. Some species have their own interesting characteristics. For example, the red comb jelly flashes when it is touched. At the same time it pours sparkling luminous particles into the water as a protective method to repel its enemies.¹²

Creatures like starfish, sea urchins, and featherstars are called "echinoderms." Most of the surface of their skins is covered with sharp spikes which they use for self-defense. They live on the seashore among coral reefs and on the sea bed. These creatures produce their own light to protect themselves from their enemies. They may have luminous arms or spines or be able to pour clouds of light into the water when attacked by a predator.

We can cite a starfish species as another example of creatures that produce light for self-defense. This starfish lives 1,000 meters (3,280 feet) below the surface of the sea. The ends of its arms gleam with a greenish-blue light. With this luminous warning, it tells potential predators that it has a bad taste. The brittlestar, another luminous marine animal, flashes brightly when attacked and may throw off the tip of one of its arms to send the predator away. This is an important defense tactic. As the tip continues to flash, it attracts the predator, thus giving the brittlestar a chance to make a getaway.¹³

As seen above, the light-producing mechanisms of creatures, too, are examples of the magnificence in Allah's creation. Allah is the Originator, the Incomparable.



DESIGN IN DOLPHINS

For dolphins, breathing is not a reflex, as it is for humans and other land mammals, but rather a voluntary movement.¹⁴ In other words, dolphins decide to breathe like we decide to walk. There is also a precaution taken in order to prevent the animal's being drowned while sleeping in water. While sleeping, the dolphin uses the right and left hemisphere of his brain in turn, at approximately 15-minute intervals. While one cerebral hemisphere sleeps, the dolphin uses the other to come to the surface for air.

Dolphins breathe using their lungs just like other mammals, which means they cannot breathe in the water like fish. For this reason, they routinely come up to the water's surface to breathe. On the top of their heads is a hole enabling them to do just that. The bodies of dolphins have such a perfect design that, when it dives into the water, this hole is automatically closed by a cap, thus preventing water from leaking into the dolphin's body. When the animal comes up to the water's surface, the cap then reopens.

The snout of the dolphin's beak is another design facilitating the movements of the animal through water. By means of this structure, the animal uses less energy in cutting through the water and swimming at higher speeds. Modern ships, too, make use of a bow like the dolphin's snout, hydrodynamically designed to increase the speed of ships just like dolphins.

In addition, dolphins can swim at such great speeds that they dazzle scientists. There is a smooth flow of water around the bodies of dolphins. Research carried out on the skin of dolphins has discovered the reason for this flow. The skin of a dolphin consists of three layers. The outer layer is thin and very elastic. The middle layer is mostly composed of connective tissue and it has appendages looking like a plastic brush which anchor the outer layer to the middle layer. The third, inner, layer consists of bundles of elastic fibers. Therefore, when turbulence begins to form in the water around the speedily swimming dolphin, the outer skin transmits the extreme pressure caused by this turbulence to the inner layers and they absorb it. Thus, the turbulence that was beginning to develop disappears before it was able to grow.¹⁵

All of these structures, ones exclusive only to dolphins among all other animals, are clear evidence of an intelligent design. Allah has created dolphins, like all other creatures, with their body structures in conformity with their surroundings.



AN INTERESTING UNDERSEA CREATURE: THE NUDIBRANCH

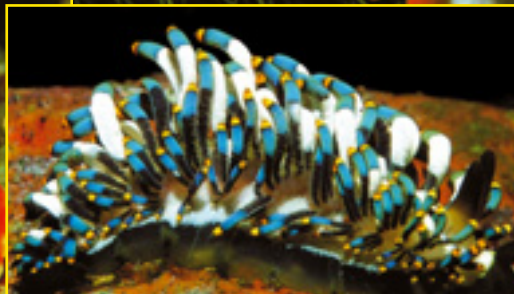
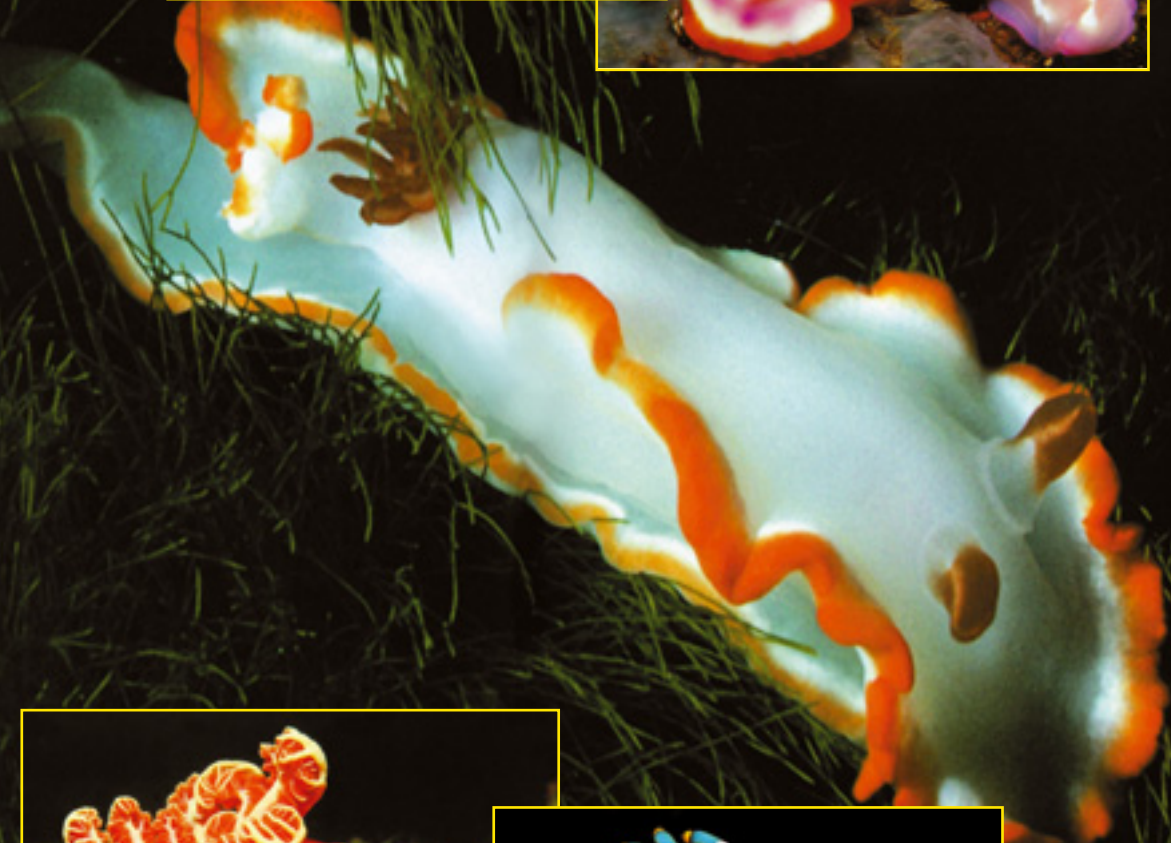
The nudibranch, a type of marine slug species lacking a shell, has a very interesting design and marvelous, bright colors. Their bodies are rather soft. Although they don't have a shell to protect themselves, and many creatures find their appearance attractive, only a few feed on nudibranches. This is because their striking colors warn predators that they are very poisonous.

One striking characteristic of this sea slug is that it has "stinging cells." By means of these "stinging cells," nudibranches easily protect themselves against their enemies. What is more interesting is that they don't produce these cells themselves. Nudibranches feed on creatures called hydroids that contain stinging cells. But they can eat these creatures' tentacles without triggering their stinging cells thanks to a special mucus in their digestive system. They store these weapons in frilly projections of their bodies. When disturbed the cells fire, thus stinging potential predators.¹⁶

Without a doubt, it is not possible for a nudibranch to know that hydroids are poisonous but will not harm them and will, on the contrary, provide them with protection against their enemies. It is also not possible for it to learn such a thing by experiencing it. How then did nudibranches discover this fascinating protective method?

At this point, a truth that reveals itself openly in the universe appears once again before us. The One Who inspired nudibranches to attract attention both with their pattern and color diversity, Who also supplied them with their methods to obtain poison, and created a system in their bodies by which to render the poison of hydroids ineffective, is Allah, the Lord of the entire universe. Allah creates all creatures with very different characteristics and in various colors. What befalls man who sees the infinite power of Allah in such examples is to glorify Allah and to practice good morals for the pleasure of Allah only. Allah informs us in His verses as follows:

**And mankind and beasts and livestock are likewise of varying colors.
Only those of His servants with knowledge have fear of Allah. Allah is
Almighty, Ever-Forgiving. (Surah Fatir: 28)**



THE PARROT FISH'S SLEEPING BAGS

The parrot fish covers its body, particularly at night, with a gelatin-like substance. Let's have a look at how this substance is produced and utilized. Parrot fish produce this substance in order to protect themselves at night against outside effects. This substance protects the fish against nocturnal hunters. In addition, it enables the fish to camouflage itself.

First, this gelatinous mucus is secreted in glands that are located at the upper edge of the gill cavity, while the fish breathes. After a while, this gelatin-like covering envelops the fish's whole body. The most essential function of this transparent sleeping bag is to protect the fish against moray eels, which are among the greatest enemies of parrot fish. Moray eels have an extraordinarily sensitive sense of smell, and they find their prey using this skill. However, owing to this protective sheath, morays cannot pick up the scent of this fish, and do not notice it even if they strike it while passing beside it.¹⁷

Considering this remarkable mechanism, one must wonder, how did the parrot fish ever come by this protective sheath they use at night? How could they discover such an important material which interferes with the morays' sharp sense of smell and enables them to spend the night in protected comfort?

It is inconceivable to expect a fish to think up and plan to produce a substance in its body and then cover its body with this substance. In addition, it is not possible either for such a formation to have come into existence on its own over time. If a parrot fish cannot plan to produce such a substance with its own intelligence and form such a system in its body by means of its own will, a parrot fish that lived 10,000 years ago would not have been able to do these things either.

A fish's body's being covered with gelatin in order to camouflage it from its enemy in an appropriate way is a very skillful thing. It is obvious that such a feature can come into being only as a result of an intelligent design. This intelligence belongs not to a fish or any other creature but to Allah, Who has created and fashioned all of this.



THE SCORPION FISH'S CAMOUFLAGE

Have a look at the scorpion fish in the picture. You will notice right away how difficult it is for the eye to visually discriminate them from their surroundings.

Scorpion fish live mainly on the sea floor in temperate or tropical zones and never venture out into the open sea. They are carnivorous and feed on smaller fish. Their long, fan-shaped fins are an excellent deterrent to the fish's enemies, and its red-and-white stripes make it difficult for their prey to see them among the corals. The scorpion fish has a very colorful appearance. But since the corals it lives in are also very colorful, it easily hides among them. It decreases its chances of being a prey. It also allows it to get close to its own prey easily.¹⁸

It is very difficult to distinguish most undersea creatures, like scorpion fish, from the environment in which they live. The presence of these creatures becomes clear only when they move. These creatures which camouflage themselves under the sea in a perfect way also use their colors to hunt, reproduce and send messages. How, then, did this harmony originate? Who has made the body of a fish the same color as the rock where it lives and even given it the same protuberant appearance as the rock? And who has given a shrimp the colors of sea plants? It is impossible for any chemical processes occurring by chance or any other factor to give these creatures the color of the environment they live in.

It is also impossible for a fish, shrimp or crab to be aware of the concept of color and to produce systems that make color changes in themselves. Such a thought cannot go beyond mere imagination. Designing such a system, placing this system into creatures, making arrangements in genes to make it possible to transfer it from generation to generation, and coding all the information in the cells of creatures can be done only by the owner of a superior power.

The Owner of this superior power is Allah. Allah created all creatures together with the traits they possess. Allah draws our attention to this fact in the following verse:

Does He not know those whom He created? He is the All-Pervading, the All-Aware. It is He who made the earth submissive to you, so walk its broad trails and eat what it provides. The Resurrection is to Him. (Surat al-Mulk: 14-15)



THE MIGRATION OF SPINY LOBSTERS

Have you ever wondered how creatures that migrate every year to regions which lie thousands of kilometers away can manage such a thing? A host of questions immediately come to mind: How can they so precisely compute the distance they have to travel and store just enough food to last the long journey? Why don't they get confused what route to take? How do they know that the weather conditions at their destination will be better? How can they find their way even when they have never been there before? Such questions, and many others, inevitably hit upon an obvious fact.

It is plainly impossible for migratory animals to attain information about places they have never visited by means of their own consciousness and will, to do computations and to move collectively in accordance with these computations. This situation reveals that whatever they do is "inspired," and that these creatures are conducted by a superior being. These migrating animals find their way, understand how to conserve energy and glean all other necessary information due solely to inspiration from Allah.

As an example of migratory animals, we may cite the spiny lobster. Let's see how these creatures achieve the impossible. Spiny lobsters live among the coral reefs of tropical and temperate waters. When autumn comes, they leave the caverns of coral reef and gather in large groups under the sea. They form a column, ranging in number from several to over a hundred, with each animal lining up behind the other, with his antennae touching the tail of the animal ahead. There are important reasons behind lobsters moving together in this manner. First of all, travelling in lines reduces the drag effect of the water, enabling them to consume less energy and move faster. It also gives them protection as they venture across the open plains of sand, where there are no hiding places. When the lobsters are attacked by a predator, they break the line and form circles, pincers outwards, to protect themselves.¹⁹

Adults lay their eggs on the coral reefs off the coast. The larvae, are then carried back to the sea by the currents, finally setting on the bottom. The cycle repeats itself as the young ones grow and reach maturity and begin to migrate back towards the spawning grounds.



INTERESTING CHARACTERISTICS OF SEA HORSES

The appearance of sea horses is very striking, and their general structure has a very specific design. Their size varies from about 4 to 30 centimeters (1.6 to 11.8 inches) and they usually live along the shore, among seaweed and other plants. A bony armor protects them from any kind of hazard. This armor is so strong that it is impossible to crush a dried, dead sea horse using only your hands.

The head of the sea horse is set at a right angle to its body. This feature is found in no other fish. Sea horses swim with their bodies straight up and they can bend their heads up and down. But they cannot turn their heads from side to side. This might cause sight problems in other creatures but sea horses have none thanks to their special body design. The sea horse's eyes can move independently, rotating about to watch each side so they can see their surroundings easily even without being able to move their heads from side to side.

The sea horse's swimming is also affected by a very special system. It rises and sinks in the water by changing the volume of the gas in its swim bladder. If this bladder is damaged and loses a little bit of gas, the sea horse sinks to the bottom. Such a mishap causes the sea horse to die. Here, there is a very important point that should not be missed. The amount of gas in the bladder has been adjusted in a very sensitive way. For this reason, the slightest change may cause the death of the creature. What this sensitive balance shows us is very important. A sea horse can survive only as long as this adjustment is maintained. In other words, a sea horse can survive because it has come into being with this system intact. This situation shows us that it would be impossible for sea horses to acquire their characteristics over time, that is, the sea horse is not a product of evolution as the evolutionists claim. Like all other creatures in the universe, Allah created them along with all their characteristics.

Probably the most amazing aspect of the sea horse is that the male, not the female, gives birth to its offspring. The male has a large pouch and a slit-like opening at the bottom of its abdomen, where it lacks armor plating. The female lays her eggs directly into this pouch and the male fertilizes them as they are dropped. The lining inside the pouch becomes sponge-like and filled with blood vessels, which are essential for nourishing the eggs. One or two months later he gives birth to little copies of himself.²⁰

The sea horse, which is only one of the millions of species living beneath the sea, has unique characteristics in many aspects. The design of the sea horse is just one example of Allah's boundless power and eternal knowledge:

...(He is) the Originator of the heavens and earth. When He decides on something, He just says to it, "Be!" and it is. (Surat al-Baqara: 117)



THE UNKNOWN SIDE OF JELLYFISH

Everyone knows of jellyfish and how interesting and strange they are to us. However, the jellyfish, a creature made up of fully 95 percent water, also has a number of surprising features that are not generally known. Some of its varieties, for example, confuse their enemies by emitting light, while some others produce deadly poisons within their bodies.

Jellyfish can live in almost any climate conditions, and most are dangerous to other creatures. The jellyfish has a transparent structure and tentacles dangling from the lower part of its body. In some species, there is a poisonous liquid present in the tentacles. The jellyfish catches its prey by squirting this poison and killing its enemies. Those jellyfish species lacking poison are not, of course, defenseless. Some of them use special light-producing cells to protect themselves. They act in a planned and methodical way to save themselves from sea turtles, sea birds, fish and whales, all of which are their enemies. When they swim away from their enemies, their entire body gives off light. However, when their enemies attempt to bite them, they turn off the light in their bell-shaped parts and detach from their bodies their tentacles, where the light is still turned on. In this way, their enemies are attracted to the tentacles. Taking advantage of this situation, the jellyfish immediately swim away.

The Portuguese man-of-war (picture at bottom left) is a giant variety of jellyfish which is also known as the "blue jellyfish." It lives in all tropical and temperate climate zones, including the Mediterranean.

A Portuguese man-of-war has a deep blue sail-like organ that rises up to 20 cm (8 inches) from the sea's surface. It is this organ that enables the animal to swim and move. In its spiral-shaped tentacles are capsules containing toxins which cause paralysis.

All these features of jellyfish are interesting. How can a creature made almost entirely of water, that withers and dies as soon as it is exposed to the sun, produce chemical substances? And how could it develop tactics to confuse its enemies?

The jellyfish lacks eyes to see its prey and enemies, nor does it have a brain. It is only a jelly-like water mass, even though it performs conscious behavior such as hunting by employing various tactics, and escaping from its enemies. It is evident that the mind producing such solutions cannot belong to a jellyfish. When such pieces of information about the jellyfish are examined from this perspective, we inescapably arrive at very important conclusions that broaden our horizons. One who reflects upon jellyfish, and their features and actions, will understand that they can't do anything on their own, and that they are controlled by a power that has authority over everything. This power, which has no equal, belongs to Allah. Creating a dazzling array of animals of various kinds, Allah manifests His superior wisdom and matchless knowledge in these creatures. The jellyfish is only one example of this.



EYES OF SCALLOPS, ONE OF THE MOLLUSKS

The creature seen in the picture on the right is a mollusk called a scallop. Now, have a careful look at the picture. Have you noticed the little bright blue points lined along the edges of the creature that has the shape of a seashell? Would you be surprised if we told you that in fact each one of these blue points is an eye?

No matter how astonishing it is, each one of the blue points is a real eye belonging to the creature shown in the picture. These eyes, whose size is only 1 mm (0.04 inches), allow the creature to escape from its enemies.²¹

Every one of these tiny eyes of the scallop has its own lens and retina. The lenses of these eyes are for collecting and focusing light. Yet, these creatures lack a visual center in their brains. In other words, the images focused by their eyes are not perceived in the creature's brain in the way normal eyes see. Scientists studying the scallops' eyes hypothesize that these eyes probably cannot form vision. What, then, are these amazing eyes for?

Scallops use these eyes to discriminate light from dark, thus enabling them to move from sandy areas towards grass flats. Furthermore, their millimeter-sized eyes are sensitive enough to allow the scallops to sense movements taking place around them. Using this valuable ability, the scallop can make an escape from its predators.

The eyes of the scallop have characteristics which meet its needs in its environment, and there is an obvious design in the formation of these eyes. The eyes are lined up on the outer part of the shell in a way that enables the creature to perceive the outer world. The harmony, order and plan which surround the whole universe from undersea crustaceans to birds, from the systems in trees to stars, are certainly the work of a planner, a designer. Allah introduces Himself to us with the detailed designs that He created in the creatures. What people who are wise perceive is the boundless power of Allah that manifests itself everywhere, from atoms to galaxies, and that they must turn towards Allah only. In the Qur'an, people are reminded of this in the following way:

Do not call on any other god along with Allah. There is no god but Him. All things are passing except His Face. Judgement belongs to Him. You will be returned to Him. (Surat al-Qasas: 88)



CREATURES OF THE MICRO WORLD: PLANKTON

Plankton is one of the most important, most crucial links in the undersea chain of life. The size of these creatures is not more than a couple of micrometers-micrometers, not millimeters. Considering that a micrometer is only one-millionth of a meter, obviously these creatures are far too small to be seen by the naked eye. But what characteristics of these creatures, which are so very small, make them this important and necessary for the continuity of life?

The essential nutritional component of most creatures living under the sea is, in fact, the microscopic and seemingly insignificant plankton. For this reason, a decrease in the plankton population would pose a bona fide danger for a wide swath of sea animals, from whales to tiny sea creatures. The importance of these microscopic creatures is not limited to this. Plankton are divided into two categories: vegetal and animal. The vegetal plankton are especially an essential factor for maintaining various balances on Earth.

Phytoplankton are vegetal plankton, and they are basically the single-cell microscopic organisms that are carried by sea currents. The phytoplankton collectively constitute the first essential link of the nutrient chain in the seas. Furthermore, they perform photosynthesis, like other land plants, using the sun as an energy source and producing their own nutrition. So, the vegetal plankton, which is the main organic substance source of the oceans, also plays a balancing role in the oxygen cycle.

During the process of photosynthesis performed by phytoplankton, carbon dioxide present in the air is absorbed and a great amount of oxygen is released in turn. A full 70% of the 110 billion tons of oxygen released annually by plants on Earth is obtained this way.²²

Animal plankton (zoo plankton) are also composed, generally, of single-celled organisms. Yet, there might be multi-cellular organisms in this group as well. Almost all sea creature groups have their plankton forms. When invertebrate animals are still larvae, for example, or when fish are in the first phases of their development, they constitute temporary plankton.

There are many different kinds of plankton and every kind has unique characteristics. As can be seen in the limited examples mentioned here, a perfection prevails in these microscopic creatures, both in terms of their appearance and in their general structure. These creatures help to maintain a great many balances on Earth. The power of Allah is endless and He creates what He wishes as He wishes. Allah has power over all things.



SHELTER UNDER THE SEA: CORAL REEFS

Corals are creatures which live in the deep regions of tropical waters. Reefs, where many creatures live together, are formed from the limestone skeletons of dead corals cemented together by the action of coralline algae. Reefs can extend over very broad areas. Scientists compare reefs to tropical rainforests because, like rainforests, they are centers of diversity. The coral reefs are home to more than 2,000 species of fish, 5,000 species of mollusks, 700 species of corals and countless other forms of crabs, sea urchins, brittle stars, sea cucumbers and worms of different groups.

Polyps are small marine animals which live in coral reefs. Many coral polyps have symbiotic algae that live inside them. Algae contain chlorophyll and therefore, they can photosynthesize. Algae are rich in oxygen but poor in nutrients. Like all other plants, algae, too, need nitrates and phosphates. That is why it is so important for these creatures to live together. Unable to live on their own, they survive by making use of one another.

The polyp provides food to the algae with its waste products. The algae store the waste products as ammonia and then break them down into nitrogen phosphorus, which is then used for energy. The polyp also provides shelter for the algae by protecting it against predators. In return, the algae provide food to the polyps through photosynthesis. Thus, polyps obtain the energy they need to construct their limestone skeleton.²³

As in all other creatures that lead a symbiotic life, all the needs of both creatures, in the symbiotic life between polyp and algae, are met in the easiest way. It is apparent that Who has joined these two creatures together is a sole Creator Who is aware of the needs of them both. These creatures have been created by Allah in a way in which they complement each other and meet each other's needs.

Allah introduces us to His endless artistry and boundless knowledge through the various creatures He has created under the sea and the matchless designs and amazing characteristics of them all. Allah reminds us of this in the Qur'an:

And also the things of varying colors He has created for you in the earth. There is certainly a Sign in that for people who pay heed. It is He who made the sea subservient to you so that you can eat fresh flesh from it and bring out from it ornaments to wear. And you see the ships cleaving through it so that you can seek His bounty, and so that hopefully you will show thanks. (Surat an-Nahl: 13-14)



PEARLS: DAZZLING JEWELS OF THE SEA

On Earth, wherever one turns his eyes and looks, one meets a magnificent creation, a perfect design with amazing features. The examples we give throughout this book are only a few small details of this magnificence. Allah has created many plant and animal species on Earth whose appearances are splendid. He has brought everything into existence in a way that man finds pleasure in. Along with these, many ornaments have been created on Earth by Allah and have been given into the service of men. The pearl, which is one of these ornaments, has very interesting features besides its outstanding beauty.

The developmental phases of the pearl are amazing. The pearl is generally produced by the "pearl oyster," of which many kinds exist. The shells of oysters are quite hard. The composition of their outer shells, which are very difficult to open, is calcium carbonate-based and deters many of their enemies. The calcium carbonate also plays an important role in the oyster's formation of pearls.

The oyster is irritated when sand, a pebble or harmful parasitic organisms enter inside of it. In such situations, it isolates the uninvited guest, as a method of protection, and begins to cover it with nacre. This covering process is the first phase of the formation of the pearl. The foreign particles entering the oyster serve as a nucleus for the formation of the pearls. Through the years, the surface of this nuclear substance will be covered with calcium carbonate layers forming one on the top of the other.

How is the nacre inside the oyster made? There are two main ingredients that form the nacre among the layers of the oyster's inner tissues. In one layer is a mineral called "aragonite," the content of which is calcium carbonate; in another layer is an adhesive substance "conchiolin," which holds the aragonite together in the pearl. Since aragonite is a semi-transparent substance, it gives the pearl a shiny look.²⁴ It is surely thought provoking that these two substances are produced by the oyster (a composition of shell and flesh that doesn't even have a brain) and then they come together and form such a beautiful object as a pearl by covering a mere dust particle. The pearl that an oyster produces for the purpose of protection is created as an aesthetic ornament for man.

Allah draws attention to the pearl with the verse in the Qur'an "**From out of them come glistening pearls and coral.**" (Surat ar-Rahman: 22) Furthermore, the pearl is also mentioned in the Qur'an as one of the ornaments of Paradise.



PERFECT SYMMETRY IN LIVING THINGS

Have a look at your face in the mirror. You will see perfect symmetry. Pick up a magazine and start turning its pages. The people you see there as you turn its pages, and the birds, flowers and butterflies you see when you look at the outside world, share the same symmetry.

Symmetry is one of the factors that provides harmony in the universe. All creatures have a symmetrical structure. When you look at sea creatures, you see the same symmetry. Fish, crabs, shrimp... Take a pair of seashells in your hand and arrange them in a symmetrical way. You will again encounter a perfect order and symmetry in the arrangement of the lines and in their arrangement from larger to smaller. No matter what creature you look at in nature, every time an extraordinary order, perfect symmetry and matchless diversity of color will be observed.

The defenders of the evolution theory, which claims that everything in the universe has come into being as a result of haphazardly occurring coincidences, cannot explain this color diversity, symmetry and order displayed in nature. It is evident that such a perfect order cannot be explained by blind chance or unconscious events. It is not possible for evolutionists to explain, with any of the claims they put forward, the formation of the colors of creatures in nature, their designs or symmetry. Even Charles Darwin had to confess this fact, even though he was the very founder of the theory:

I value the cases of bright-coloured, incubating male fishes, and brilliant female butterflies, solely as showing that one sex may be made brilliant without any necessary transference of beauty to the other sex; for in these cases I cannot suppose that beauty in the other sex was checked by selection.²⁵

Surely, no one who is wise and reasonable can claim that the supreme beauty we see around us, colorful butterflies, roses, violets, strawberries, cherries, all with their dazzling colors, and parrots, peacocks, leopards, in short, the Earth with all its magnificence, has come into existence by chance. Allah created all living creatures along with their features. The knowledge of Allah surrounds us everywhere. There is no god but He. This is maintained in the Qur'an in this way:

Allah, there is no god but Him, the Living, the Self-Sustaining. He is not subject to drowsiness or sleep. Everything in the heavens and the earth belongs to Him. Who can intercede with Him except by His permission? He knows what is before them and what is behind them but they cannot grasp any of His knowledge save what He wills. His Footstool encompasses the heavens and the earth and their preservation does not tire Him. He is the Most High, the Magnificent (Surat al-Baqara: 255)



THE STRIKING FEATURES OF BUTTERFLIES

Look over the butterflies' wings in the picture on the right as if you were seeing them for the first time. Surely you will be filled with admiration for such an aesthetic display, a symmetry that is without the slightest flaw, the dazzling colors and patterns. Now think of a piece of cloth. Assume that it is a very beautiful piece of cloth of good quality that has been woven with the inspiration of these butterflies' patterns. What would you think if you saw such a piece of cloth in a shop-window? Probably, the existence of an artist, who has drawn the patterns of this cloth, taking the wings of a butterfly as an inspiration while drawing them, springs into your mind, and you appreciate his artistry. In this situation, you should also appreciate this fact: the artistry you admire doesn't belong to the person who draws the cloth pattern, taking butterflies as his example, but to Allah, Who is the originator of the patterns and colors of butterfly wings. The colorful wings of butterflies with their wonderfully varied patterns are magnificent manifestations of Allah's artistry in color. Just as a pattern on a piece of cloth does not come into being by chance, so is the color and pattern symmetry in the wings so perfect that they could not have come into being coincidentally.

Moreover, the splendid wings are not the only striking features of butterflies. The body design of butterflies is also perfect in every respect. The butterflies take in nourishment by sucking up nectar from flowers. Most butterflies have a long organ called a proboscis which they use to reach a liquid that is at some depth. A proboscis is a long tongue used to drink water or to suck up nectar from flowers. The butterfly rolls up its long tongue inwards when it isn't using it. This tongue can be three times the length of a butterfly's body when unrolled.

Like other insects, the butterflies also have a skeleton that covers the outer surface of their bodies. This outer or exoskeleton is composed of hard plates connected by soft tissue, looking like some sort of armor. The hard material is called "chitin." The formation of this layer comes about through a very interesting process. As is commonly known, caterpillars pass through a rather complex process called metamorphosis. The caterpillar first becomes a pupa and then turns into a butterfly. Throughout this process of metamorphosis, slight changes occur in the wings, antennae, legs and other body parts. Also, the cells in different key areas such as the flight muscles and wings re-organize themselves through every phase of metamorphosis. Furthermore, along with these changes, almost all systems in the body -the digestive system, excretory system, respiratory system etc.- go through a process of immense change.²⁶

This diversity in design that butterflies have, as much as their wings, belongs to Allah, the All-Powerful. Allah is the One Who bestows every creature with the characteristics it needs.



THE DETAILED DESIGN OF BIRD FEATHERS

At one time or another, most people have probably run their fingers through a bird's feather they found lying on the ground or caught falling from a bird that was flying through the air. Probably they have noticed the symmetrical structure of the feather, the thinner structures of soft feathers coming off each side, which look as if they interlock onto each other. In fact, if they had the chance to examine this bird feather under a microscope, their astonishment at the marvelous design before them would increase even more.

In the middle part of the feather is a long, hard tube. The barbs of the feather extend from both sides of this tube. These feathers, whose lengths and softness vary, give the bird the ability to use the air in the most suitable way. In addition, when we go into further details, we encounter even more interesting structures. Each barb has smaller strands attached to them which are called "barbules" and cannot be seen with the naked eye. These barbules are locked together with tiny microscopic hooks called "hamuli." By means of these hooklets, barbules are interlocked onto their neighbors like a zipper.²⁷

On every single feather of a crane there are 650 barbs on each side of the shaft. On each one of these barbs are 600 barbules. These barbules are tied together with 390 hooklets. The hooklets are clamped together like two sides of a zipper. These barbules, which lock onto their neighbors with hooklets, are so close together that if smoke is blown onto the feather, no smoke escapes to the other side. If the hooklets are unlocked for some reason, it is enough for the bird to shake itself or, in more severe cases, to straighten its feathers with its beak, to make the feathers return to their previous state. The structure of a bird's feathers is very important for flying. The bird can fly because its wings don't allow the air to pass through them.

Besides the detailed design in the birds' feathers, the rich color diversity in them is striking as well. This diversity occurs due to pigments present in the feathers which are stored when the feather first starts to develop and also because of light movements. The feathers, which are made up of keratin, are renewed at certain intervals as they wear out in a very short time due to environmental conditions. However, the bird regains its colorful feathers each time. This is because the feathers of a bird continue to develop until they reach the necessary length, and attain the unique color and design typical of its kind.

The countless diversity of color and patterns in the birds' feathers, along with the detailed design of the wings, are evidence which show us the magnificent artistry and knowledge of Allah in creation.



BIRDS THAT DEACTIVATE POISON: MACAWS

When a person is infected with poison, his only recourse is to take a drug to counter the effects of the poison or to remove the poison from his body through medical intervention. Otherwise, a person who lacks specialized knowledge about poisons will be unable to cure himself through using a plant or some other kind of counteractive substance.

Yet, some creatures innately have this knowledge that most people must learn through education. Certain animals, which do not possess minds to be educated, any intelligence and, in short, any consciousness at all, can cure themselves very easily. The striking feature about the methods animals use to cure themselves is that they know what to do very well and have determined what is good for each particular illness. Is it really the animals themselves who have determined these things? How have animals come to possess such knowledge? Evolutionists claim that most animal behavior such as this is instinctive. However, they cannot explain the origin of these behaviors or how they originally came to exist.

First of all, it is not possible for creatures to learn these behaviors over time. An animal that is poisoned, for example, will die right away. In this case, it is not possible for it to imagine how it might remove the factor that caused it to be poisoned. Besides, we should by no means forget that animals lack the consciousness capable of thinking up such a solution.

Let us see, by giving an example, how animals display conscious behavior while curing themselves. Macaws, which are a kind of parrot, are found in the tropical regions of Central and South America. One of the most striking feature of these creatures, besides their truly dazzling colors, is that they feed on poisonous seeds. These birds, who can break even very tough shells with their hooked beaks, are experts on the subject of poisonous seeds. This is a somewhat surprising situation because, when the bird eats a poisonous seed, normally it should suffer harm. Yet, amazingly, this does not happen. Immediately after the bird eats the poisonous seeds, it flies directly towards a rocky place and begins to gnaw and swallow the clayey rock pieces there. The reason for this behavior is that the clayey rock pieces absorb the toxins in the seeds, and so neutralize the effects of the poison. In this way, the birds can digest the seeds without experiencing any harm.²⁸

It is certainly impossible for macaws to know on their own how to neutralize or counteract the poison found in the seeds they eat. It is evident that such conscious behaviors in creatures do not originate from themselves, and that their origin cannot be sought in some other force or factor that exists in nature either. An invisible power controls the behavior of all creatures and, in other words, inspires them with what to do. This matchless power belongs to Allah. Allah, Who is the owner of a superior knowledge, is the Preserver of all things.



INTELLIGENT TACTICS OF BEE-EATERS

Although it seems impossible, some birds can even dig through stones. The only instrument they use while breaking into hard stones is their beaks. The bee-eater is one these birds.

The bee-eater makes its nest on the surface of sandstone cliffs or by constantly hitting its beak on rough mud and making holes along the riverside. It continues to excavate until the hole becomes a narrow tunnel stretching 90-100 cm (3 feet) long. The short, strong claws of the bee-eater also help this digging work to open the sides of the nest. It pours out the deposited soil particles with the help of its claws. Several species of these bee-eaters live in colonies made up of 1,000 or more birds. Scientists are at a loss for an explanation as to how each bird locates its own nest among these mass, teeming colonies.²⁹

Another interesting characteristic of bee-eaters is their specialization in bug hunting. These birds feed on bees. This is somewhat surprising because it could be fatal for other birds to eat bees. However, the bee-eaters are not affected at all by the bees' venom. These birds first rub the hunted bee's abdomen against a branch of a tree and wear it away. Thus, its venom is discharged harmlessly into the air.³⁰

The other body features of bee-eaters are also suitable for making catching the insects easy. For example, it has a beak 4.5 cm (1.8 inches) long. This length is important since, if this bird's beak were shorter, the insects could harm it while it tried to hunt. In addition, the sharp tip of its beak enables it to catch its prey from the part between the chest and stomach. In this way it can empty the bee's venom more easily.

Certainly, a bird's knowledge of how to deactivate the poison of an insect is not a behavior that he can learn and perform on its own. No one can claim that the bird might have discovered such a solution and risking fatal danger in the process by the trial-and-error method. A bird's employment of such rational tactics shows that it was born onto this Earth with this piece of knowledge innately acquired. Moreover, the fact that all the bird's bodily features have a structure ideally suited for the hunting process is an evident indicator that this creature was created in a way that enables it to hunt bees. Bee-eaters, like all other living things on Earth, have been created along with their existing features by Allah.



A PERFECT HUNTING BIRD: THE EAGLE

When we examine birds, we see that all the features of their bodies have been designed especially for flying. For example, the body structure of eagles, which are known as one of the birds with the best capabilities for movement, is perfect in every way. The eagle needs to be both light enough to be able to take off from anywhere easily and strong enough to carry its prey after catching it. A bald eagle has more than 7,000 feathers. However, when you put all these feathers together, they weigh only approximately 500 gr. (18 ounces). In addition, in order to provide a lighter body weight, the insides of the bones are hollow. In many parts of these bones there is nothing but air. The total weight of a bald eagle tips just over 272 gr. (9.5 ounces). In short, the body weight of the eagle is ideal for flying.

An eagle derives the force it needs for flying from the downward flapping movements of its wings. For this reason, the number of its muscles that push the wings downwards is greater than the number of the muscles that push them upwards. Flight muscles are very important for an eagle.

These muscles generally weigh half of the bird's total body weight. The eagle can fly faster or slower by changing the position of its wings. When the eagle wants to fly faster, it turns the front sides of the wings inwards towards the wind and thus slices through the air. When it wants to go slower, it turns the wide sides of its wings against the wind.

All the eagles have an extra eyelid called a "nictitating membrane." The function of this special lid is to clean and protect the eyes of the birds. For example, eagles usually pull the membranes over their eyes when feeding their chicks. It is a precaution to protect the eyes of the parents from any harm that these chicks might accidentally inflict as they lunge for food.³¹

The design of the eagle concerns not only a flawless flight technique, but also a special design in its feathers for landing. As the eagle starts to go down, it decreases its speed by pulling its tail down at an angle to its body. It lowers the edges of its wings so as to use them as brakes. But, as the eagle loses speed, turbulence formed on the upper surface of the wings increases its danger of stalling. The eagle counters this danger by raising the tufts of three or four feathers that are found on the edge of its wings. These let in a stream of air across the wing surface, which maintains a smooth flow, and enable the bird to easily complete its flight.³²

There is an evident fact in the examples given so far. Even a mere couple of details in the design of an eagle's body are so perfect that they couldn't have come into existence by chance. This clearly proves to us that eagles also, like all other birds and creatures, have been created by Allah, the All-Powerful.



WEAVING EXPERTS IN NATURE

Is it possible to say that a creature which builds strong nests made up of interlocked plaits on twigs using very systematic movements, cutting long, thin strips out of fresh, green leaves, has "learned to do this through chance"? Certainly, the claim of "learning by chance" would be a somewhat insufficient explanation for such skills. As you will see in the example we are about to give, many features present in animals openly expose how irrational and unreasonable are the claims of the evolutionists.

The weaver bird first collects the material it will use. The bird either cuts long, thin strips out of fresh, green leaves or it makes use of the middle vein of the leaves. Surely, it has a reason for using these fresh leaves. It would be difficult for the bird to handle material from dry leaves and to use them in weaving, whereas such processes are carried out very easily with fresh leaf fibers. The bird begins the work by first of all wrapping the end of a long strip, torn from a leaf, around a twig. Holding one end of the strip against the twig with one foot, it works the other end with its beak.

In order to prevent the fibers from falling down, it attaches them together by tying a knot. First, the bird makes a loop. This is the entrance to its nest. Then, using its beak like a shuttle, it passes the leaf fibers over and under the other fibers in an orderly way. The bird must calculate how taut it should pull each strip during the process of weaving because, if the weaving is loose, the nest will collapse away. In addition, it must envisage the final shape of the nest so it can decide when the walls of the nest should be curved or be given an outward-projecting shape.

After weaving the entrance, the bird begins to weave the walls of the nest. To do this, it hangs downwards and continues to work from inside the nest. With its beak, it pushes one fiber under another and then holds the free end of fiber and pulls it tightly. Thus, very orderly weaving is formed.³³

As noted above, the weaverbird always works by following certain steps while building its nest. First, it collects the most appropriate material for the nest. It does not begin to weave its nest from a randomly chosen point but first makes an entrance and continues to build the walls from there. It is certainly impossible to claim that the weaverbirds have acquired these skills by unconscious coincidences. The fact that the weaverbirds also, like all other creatures, act through the inspiration of Allah is an evident fact that every man of reason and consciousness can easily see.



THE SKILLS OF FLYING SQUIRRELS

Allah introduces Himself through the creatures that have the special features He creates. The details people learn about the creatures they are familiar with increase their amazement. Also, the knowledge they gain about unfamiliar creatures enables them to raise the curtain of heedlessness existing in their minds. Even reflecting upon these features is a way of seeing the perfect creation in each of them and appreciating the endless might of Allah.

Flying squirrels, as well, are one of the millions of creatures bearing features that can alter one's monotonous thinking habits. These squirrels are found in Australia and they range in length from 45 cm to 90 cm (1.5 feet to 3 feet). All these creatures that can fly from one tree to another like gliders live in the trees. In order to fly like this, these creatures use a flight membrane present under their arms.

The gliding membrane of sugar-gliders stretches from their wrists to their ankles. It is narrow and has long, tassel-like hairs. In other kinds of flying squirrels, this parachute-like structure occurs in the form of a membrane that consists of furry skin. The animals fly off from the trunk of a tree and, with the effect of the wing-like gliding surface, can cross a distance of 30 meters (98 feet) in one go. The bigger flying squirrels move from tree to tree like gliders. These creatures have been observed traveling a distance of 530 meters (1,740 feet) in just six consecutive leaps.³⁴

As has been seen in other examples given in this book, flying squirrels have features exclusive to themselves. When one ponders how the matchless characteristics that millions of species on Earth possess have come into being, one will immediately understand that not even one of them can have come into existence through random events and that a creature cannot acquire perfect features on its own or by chance. Allah created all animals, plants and human beings in a complete way. This is an obvious fact for those who ponder with wisdom and conscience.

Understanding this fact and conducting one's life accordingly is a behavior which is beneficial to one's self because the duty of man in the world is to see the magnificent creation of Allah and to praise, before this creation, the endless power and knowledge of Allah.

Your god is Allah alone, there is no god but Him. He encompasses all things in His knowledge. (Surah Ta Ha: 98)



THE AFFECTION OF GREBE BIRDS FOR THEIR OFFSPRING

What might be expected from an animal that has no consciousness is its leaving its offspring after giving birth. However, on the contrary, animals take all the responsibilities for their offspring to such an extent that they don't neglect measures that could protect their broods from dangers they might face in the future.

One of the best examples of this is the grebe, a species of water bird. Grebes carry their offspring on their backs and, for this reason, the parents become a kind of floating nest for their offspring. The newly hatched youngsters climb onto the back of the father or mother. The mother slowly raises her wings so that her offspring will not fall off and feeds them with morsels she holds in her beak, reaching her head out to one side.

However what grebes give to their offspring first is not actual food. Grebes first make their offspring eat feathers that they either collect from the surface of the water or pluck from their breasts. Each chick swallows a large number of feathers. Well, what might be the reason for this interesting diet?

The feathers the chicks eat are not fully digested but rather gathered in their stomachs. Some of them form a felted plug at the point where the stomach leads to the intestine. Fish bones and indigestible parts of other foods accumulate here. Thus, sharp fish bones or hard parts of insects are prevented from passing through the stomach and doing harm to the delicate walls of the intestines. This experience of eating feathers will continue throughout the bird's life. However, the first feathers it is fed are an important precautionary measure for its very health.³⁵

It is possible to see in all creatures behavior like that of the grebes, actions aimed at meeting the needs of the offspring and protecting them in every way. Every creature on Earth assumes every kind of responsibility for their offspring until they reach sufficient maturity to meet their own needs.

This kind of behavior seen among creatures in nature nullifies the evolutionists' claims that "nature is an arena for battle and the survival of the fittest." It is obvious that the origin of this kind of behavior in creatures cannot be in their intelligence and that a bird, tiger or any other animal cannot act according to the needs of other animals, taking delicate details into consideration. These creatures behave by the inspiration of Allah. Allah inspires every creature in its behavior and they conform to this perfectly. Every one of them obeys Allah who has created them. This fact is stated in the Qur'an as follows:

Everyone in the heavens and earth belongs to Him. All are submissive to Him. (Surat ar-Rum: 26)



FLIGHT ENGINES: DRAGONFLIES

The dragonfly has a flawless flying capacity, so much so that it can stop suddenly and begin to fly in the opposite direction at whatever speed or in whatever direction it chooses. Moreover, it can hang in the air in a suitable position to attack its prey. In addition, it can head towards its prey, making agile turns to do so. These are only some of the maneuvering skills of the dragonfly that have provided inspiration for helicopters, the products of today's advanced technology.

The body of the dragonfly has a helical structure wrapped with a metal covering. The dragonfly, which can have various colors, from ice blue to maroon, has two pairs of wings on its back, one pair in front and the other pair to the rear. The wings work in a coordinated way. In other words, as the two front wings rise, the two wings at the rear descend. The movement of the wings is accomplished by the movements of two opposite groups of muscles. One end of the muscles is attached to extensions in the body in the shape of a lever. While one group of muscles contracts and causes a pair of wings to rise, the other group of muscles loosens to the same degree and causes the second pair of wings to fall. In fact, helicopters that are produced using dragonflies as their model descend and ascend using the same principle.

The perfect flight of dragonflies is realized by these four large independent wings carrying its body's weight. This feature enables the insect to make sudden maneuvers, increase its speed and fly at a speed that reaches 10 meters (33 feet) per second.³⁶

The sight capacity of the dragonfly, which can make sudden maneuvers at very high speeds, is also perfect. The eye of the dragonfly is considered, in scientific circles, as the finest insect eye in the world. Each of its eyes contains 30,000 individual lenses. The eyes look like two hemispheres covering half of its head, and they provide a very broad field of vision for the insect. With these extraordinary eyes, the dragonfly can almost see what's happening behind its back.³⁷

As shown above, the dragonfly has a perfectly structured individual system. The slightest deficiency in any one part of these systems will cause the other systems to become useless. However, all the systems have been created perfectly and the creature survives by means of this. The unique design in the dragonfly belongs to Allah. He has the knowledge of all creation.



LIFE IN THE DESERT

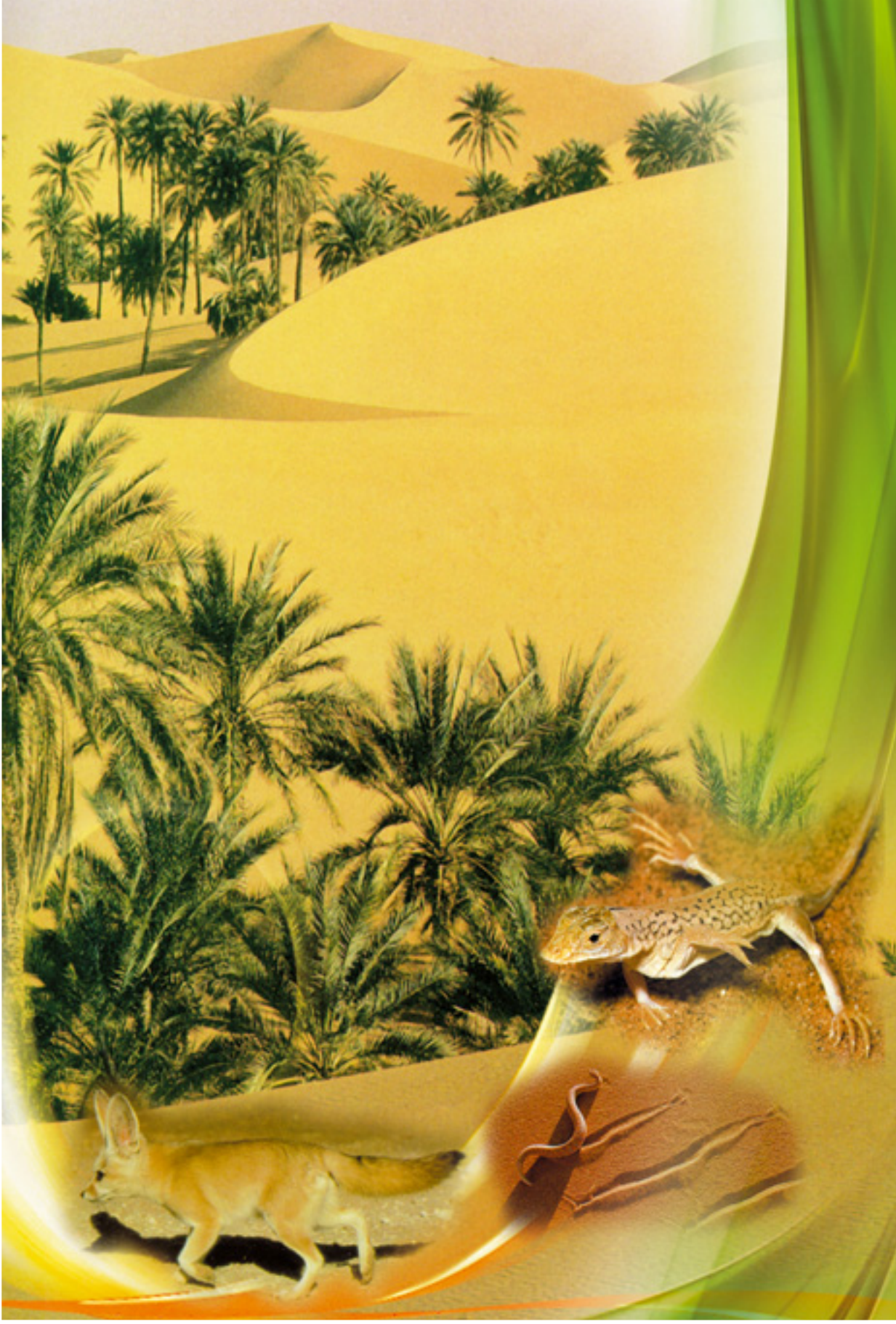
Extreme heat in the daytime, freezing cold at night, droughts lasting for weeks or even months on end, scarcity of food... All this is part of the environment of deserts. It is very difficult to survive under such harsh conditions. However, in spite of all these hardships, there are many creatures that survive and even thrive in the deserts. When we look at these creatures, we see that all their movements and body structures have been created with the characteristics that are appropriate for living there. Allah protects these creatures from heat with unique features He created. When we take a close look at some characteristic examples, we clearly see that the attributes of these creatures couldn't have come into existence by chance, but instead were created by a Creator Who has a superior power.

Sand vipers (*Cerastes Viper*) live under the sand. The viper dives into the sand with a sideways wiggle. It moves its tail from left to right very quickly and then this movement covers the whole body, consisting of three twists, until has the snake buried itself completely, save perhaps one or both of its eyes. This way, the viper lies in wait and so hunts for its prey. But such a strategy runs the risk of the snake's eyes suffering harm, since they are kept outside in a place where sandstorms may suddenly whip up. However, because of the design of the viper's eyes, this risk is completely eliminated. The eye of the viper is protected against the irritating effects of the sand with an outer "spectacle" made up of a transparent scale.³⁸

The cream-colored fennec fox, the smallest of the foxes, another desert denizen, has very large ears. These foxes live in the sandy deserts of Africa and Arabia. Its wide ears not only help to determine the location of its prey but also serve to prevent excessive heating and enable the animal to stay cool.³⁹

The shovel-snouted lizard, which lives in the desert, moves as if dancing on the sand in order to cool its tail and legs. Then, taking support from its tail, it transversely lifts one front and one back foot. After a couple of seconds, the feet switch positions. The lizard almost swims on sand hills by means of its aerodynamically shaped nose and body, and its large feet enable it to run on the sand very rapidly.⁴⁰

The desert frog, which lives in Australia, is like a water tank. When it rains, the frog fills the pouches in its body with water. Then it buries itself under the sand and begins to wait for the coming rains. When they become thirsty, other desert animals find these animals and drink water from them, taking them out of the sand.⁴¹



VARIETY IN ANIMAL EYES

The structure of the eyes of fish enables them to see clearly underwater, while the eyes of birds make it possible for them to see through the air as they fly. The structures of the eyes of other creatures are likewise designed according to their needs. It is obvious that an organ like an eye which has a complex structure cannot acquire its features on its own, features that are different in every creature. Any person who examines the examples of this with wisdom and conscience will immediately see the fact that all creatures have been created by Allah. The examples given below constitute a way to reflect upon this fact.

Birds have a sharper sense of sight than humans, and they can scan a broader area in detail. A bird can see a number of images that a man only perceives by seeing in parts, but for a bird they are as a whole at a single glance. For birds, this is a great advantage for hunting. When compared to humans, some birds can see a distance six times farther than our sight.

For man, the momentary loss of sight that occurs during the split-second blinking of an eye is not very important. However, this could very well cause a problem for a bird flying very fast at an altitude of hundreds of meters. For this reason, when birds blink their eyes, there are no interruptions whatsoever in their seeing for birds have a third eyelid called a nictitating membrane. This membrane is transparent and it moves from one side of the eye to the other. Thus, birds can wink their eyes without completely closing them. In addition, birds that dive into water use this membrane as diving glasses and so protect their eyes from harm.

As another example, the eyes of the camel also have features that provide protection exactly as needed. The hard bones around the eyes protect them from sunlight and against blows. Even the strongest sandstorms do not hurt the eyes of a camel because its eyelashes have an interlocked structure and the eyes close automatically at the moment of danger. Thus, even a small bit of dust cannot enter the animal's eyes.

Fishes' eyes look at the world from behind a transparent screen. This curtain resembles divers' "goggles." Their firm, spherical eye lenses are adjusted to see nearby objects. Another reason for a fish's lenses being spherical is that light refracts when passing through water. Since their eyes are filled with a fluid that is almost at the same density as water, when the images formed outside are reflected in the eye, refraction does not occur. As a result of this, the lens focuses the image of the outside object on the retina perfectly and, unlike humans, the fish can see very clearly under water.



THE SPECIAL COOLING SYSTEMS IN GAZELLES' BODIES

People have recently invented mechanical cooling systems and, with technological advancements, can bring them up to today's modern conditions. Yet, we were not the first to discover cooling systems. Every warm-blooded creature on Earth already has the necessary mechanisms in its body for heat control and was created in possession of this design. We can give the speedy gazelles of Africa as an example of this. The gazelle has to run away from its enemies in order to survive, because it has no other defense method. This burst of speed causes a sharp increase in the body temperature of the gazelle. However, in order to survive, the gazelle needs to keep its brain cooler than its body.

The gazelle has a unique cooling system in its brain. Gazelles and similar animals have hundreds of small arteries that divide and pass through a large pool of blood lying next to their breathing passages. The air they inhale cools this nasal pool, so the blood passing through the tiny arteries in it is cooled, too. Then the tiny arteries come together in a single blood vessel that carries blood to the brain.⁴²

The interesting point here is that this flawless system cannot come into being by itself, since the non-existence of such a necessary cooling system would spell the end of the gazelle when it makes its very first run.

As is seen in the example of the gazelles' cooling systems, the design of creatures has such complexity that it cannot be explained by the "gradual development" claim of evolutionists. In other words, it is impossible for a creature's bodily structures and organs to come into being, over time, through small changes. The bodies of living things are full of structures, similar to that of the gazelles' cooling system, which will be of no use whatsoever if even a single part is missing. This proves that creatures have not come into being over time, through chance but, on the contrary, have been created perfectly by Allah. This is an obvious fact for people of intelligence as also stated in the Qur'an:

He said, "The Lord of the East and the West and everything between them if you used your intellect." (Surat ash-Shu'ara: 28)



MAGNIFICENCE IN THE CREATION OF MAN

All the people around you have come to their present state after months spent in their mothers' wombs. For each of them the same perfect system was prepared in their mothers' body, and each of them passed through the same stages.

Birth is a great miracle. The baby who develops in its specially protected chamber prepared in the mother's womb, comes into the world after a certain period of time. The details of this miraculous event will lead every man who ponders it to very important conclusions. Let us reach this conclusion together by looking at a detail that is important for a baby's development:

The placenta is a flesh tissue formed by the woman's body in order to attach the fertilized egg to the uterus wall. It contains a soft structure of blood vessels destined to serve the developing baby. These vessels are like the branches of a tree. In the placenta, the mother's and baby's blood vessels intertwine and exchange materials. The two bloods never mix, but nutrients and oxygen cross from the mother's blood into the baby's blood while wastes move out of the baby's blood, ultimately to be excreted by the mother.⁴³ This function of the placenta is very important because this tissue must both meet all the needs of the baby and also be selective in order to protect it. What makes this exchange possible for the placenta is a thin membrane called the "chorion." This membrane separates the baby's blood circulation from that of the mother. By virtue of this membrane, the blood of the mother cannot enter the baby's vessels. The baby receives only oxygen and nutrition through this membrane.

The nutrition a baby needs in its first months is different from what he needs in the eighth and ninth months, on the verge of birth. The placenta must also adjust for this in the consumption of nutrients. As a matter of fact, the placenta carries out all these functions in a flawless way. It is always sensitive to how much it should take from what in a selective and careful way. Here, there are some questions which should be asked and points to be remembered.

First of all, there is the question of how a placenta that is a tissue consisting of cells can make these computations. Also, the question of how the placenta is aware of the needs of the baby needs an answer too. A person with intelligence will immediately see that a piece of flesh called a placenta cannot do these things on its own and could not have acquired such features by chance. In this case, the fact we come across is again very obvious: Allah created the placenta with characteristics that meet the needs of the baby in the mother's womb. The miracle of birth is another example that displays the magnificence of Allah's artistry in creation. We are reminded of this fact in the Qur'an:

O man! What has deluded you in respect of your Noble Lord? He Who created you and formed you and proportioned you and assembled you in whatever way He willed. (Surat al-Infitar: 6-8)



AN ADVANCED AIR-CONDITIONER, A PERFECT PERCEIVER: SKIN

At the moment, you can easily turn the pages of this book because your hands do not create any problems in grasping the texture of the pages. In a similar way, you can also hold and carry objects with smooth surfaces like a glass, for example. You can feel softness when you touch a feather and hardness when you hold a stone. Perceiving all this and sending necessary signals to your brain, your skin has the characteristics that enable you to visualize the objects in your brain.

A great number of nerves exist in the fingertips. This provides you with facility in movement and does not cause any inconvenience. On the other hand, in "less important" regions, on a man's back for example, there are fewer nerve endings present. This is a very important advantage. Now, let's assume the opposite: Let's assume that our fingertips are quite insensitive while nerves are arranged in greater numbers at the back of our bodies. This, undoubtedly, would be very troublesome. In such a situation while we could not use our hands properly, we would feel the slightest object touching our back, the folding of our clothing, for example.

Human skin is a complex organ consisting of many layers, containing nerves for perception, circulation canals, airing systems and heat and moisture regulators which protect the body like a shield against the rays of the sun. Because of this, a man can be in great danger if a part of his skin is damaged. Under the skin is a layer consisting of fat. This layer of fat serves as insulation against heat. Over this layer is another one, most of which consists of proteins that give the skin elasticity.

If we were to lift the skin and look just one centimeter (0.4 inches) below it, the sight greeting us would be an unaesthetic, even frightful sight, where fats and proteins and various blood vessels exist. By means of the feature that enables it to cover these structures, the skin both provides a very important aesthetic contribution and also enables us to protect ourselves from outside factors. It will be sufficient to remark upon a couple of the functions of the skin that makes it vital for us and to ponder on them in order to understand the importance of its existence.

Human skin prevents the disturbance of the water balance of the body, is strong and elastic, can repair itself, protect the body from harmful rays, maintains contact with the outside world, and protect the temperature of the body in cold or hot weather.

Human skin, which functions as a sensitive detector and an advanced air-conditioner meeting all kinds of needs, is a blessing that has been created by Allah, with the beauty it provides visually and the features it has to protect man. The skin, about which many pages of books have been written, once again displays Allah's magnificence in creation to us.



THE POWER OF BONES' LATTICE SYSTEMS

Our bones, which assume very important roles such as carrying and protecting the body, were created with the capacity and strength to carry out these functions. The human thighbone, for example, has the capacity to carry a weight of one ton. Indeed, with each step we take, a load that is 3 times heavier than our body weight is imposed on this bone. In fact, when a pole-vaulter lands on the ground, every centimeter of hipbone is exposed to a pressure of 1,400 kilos (3,086 pounds).

In order to have a full grasp of the perfection of the design of bones, let us make a comparison as follows: One of the strongest and most useful materials man uses is steel, because steel is both strong and flexible. However, our bones are both stronger and 10 times more flexible than solid steel. Also, bones are much more lightweight than steel. A carcass made of steel would be 3 times heavier than a human skeleton.

It is also instructive to compare the perfect design of bones with modern construction techniques. Until the second half of the twentieth century, the task of constructing tall buildings was costly and time consuming. However, with various technological advances, many new construction design techniques have been developed. One of the most important of these is known as "lattice systems." Under this system, the carrying components of construction consist not of a single piece but are made of numerous rods crossing each other in the form of a lattice. With the help of complex calculations made by computers, impressive bridges and industrial structures can be built much more strongly and cost-effectively using this technique.

The interior structures of bones are also built with the same lattice system that we now use in bridge and building constructions. When a bone is cut and examined, a very interesting system is seen in its interior design. Crossing each other, thousands of small rods form a complicated structure. This structure is essentially the lattice system built inside bones. By means of this, our bones are both very strong and light in such a way that we can use them easily.

If the opposite was the case, in other words if the insides of our bones were hard and completely filled, the weight of the bones would be much higher than the weight we can bear and they would crack and break at the slightest blow.

The structure of bones, which man tries to imitate by using today's technology, is only one example of the matchless creation art of Allah. Everyone needs to see the magnificence of Allah's perfect and unique creation in his own body and be thankful, reflecting upon it.



THE WORLD'S GREATEST DISTRIBUTION NETWORK: THE CIRCULATORY SYSTEM

Let us imagine a city with 100 trillion households. Do you think there can be a distribution company capable of fulfilling the demands of all the households in this city? Most people would say, "Of course not." However, a similar system already exists in the human body. But the houses in the human body are cells, and the distribution company is the circulatory system with its numerous components.

The components of the circulatory system visit approximately 100 trillion cells in the human body one-by-one. The nucleus of this system is the heart. The heart, which has 4 different lobes pumping fresh and spent blood without mixing them to different regions of the body and with valves functioning as security flaps, has a design established with very delicate balances.

When we examine the heart, we see that it doesn't consist merely of a pump but also of valves that determine the direction of the pumped blood. They ensure that the blood pumped by the heart muscles moves in exactly the right direction. Furthermore, the heart is connected to both lungs and the rest of the body by major blood vessels. The vessel leading to the body separates into branches which, in turn, separate into small branches in a continuing process. This separation goes down to the capillary veins which then expand as larger veins until they return to the heart again. They go to the lungs to rid themselves of the carbon dioxide in the blood and fill up on oxygen instead.

When this circulatory system is examined, which includes the heart, the blood vessels and the lungs, a complex system is revealed. When you add to this the kidneys, which are in charge of cleansing the blood, the pancreas, which adjusts the sugar level in the blood by secretion of insulin or glucagon, the liver, which keeps the chemical content of the blood under control, and the members of the immune system in the blood, a magnificent structure appears. Every piece of this complex system is in harmony and they are connected to each other in a well-arranged way. All these harmonious elements serve a common purpose. If only one piece were absent, defects would occur in the system. This could cause a situation that might end with the death of the person owning this circulatory system.

A heart cannot keep a body alive more than a minute without the lungs that clean the blood which the heart pumps. The circulatory system came into being with all of its parts intact, at a single moment. This, then, shows a perfect design, that is creation, of the heart and the circulatory system and illustrates the matchless creation art of Allah, the Lord of all worlds.



THE LUNGS' IMPRESSIVE DESIGN

Your lungs are organs that adjust themselves according to your movements. When you run, your lungs work faster and meet your increased oxygen needs while they work slower when you relax, yet never stop. Throughout your life, your lungs continuously work like an air pump. They pump air in and out. As they do so, they operate in harmony with other components of the respiratory system because, in order to breathe, the lungs alone are not sufficient. One needs an exterior power to make the lungs work. This power is provided by the muscles that lie between the ribs and the diaphragm, just under the rib cage.

Look at yourself as you breathe. You will see that your ribs move outwards. At that moment, the diaphragm under the lung expands downwards and the lungs get bigger. The lungs draw in the air from the trachea. When exhaled, the rib cage is drawn inwards and the diaphragm under the ribs moves upwards. As the lungs are compressed, the air present in small air sacs is pushed outside through the trachea.

Running, laughing, walking, lying down... You do these movements without thinking, yet during all these different movements, an automatic respiration control system is at work in your lungs which determines the oxygen needs of your body. During motion, the body cell activities increase and the cells consume more power and energy. For this reason, approximately 100 trillion cells in the body need more oxygen than usual. Besides this increase in the need for oxygen, the carbon dioxide produced by the cells must be expelled from the body immediately. If the increased demand for oxygen is not met, the whole body will suffer. Because of this, respiration increases. In other words, the lungs work faster.

This vital situation is again accomplished by means of a miraculous system. The region called the "brain stem" contains receptors which continuously control the carbon dioxide level in the blood. If the carbon dioxide concentration gets too high, the receptors in the brain stem signal the respiratory centers to increase the rate and depth of breathing. In addition to the brain stem, there are also various receptors in the lung that modify breathing. These receptors respond when the lung and chest wall swell from internal pressure in a way as to prevent inhalation. In this case, these receptors send signals to the respiratory center to decrease the depth of respiration. These processes are repeated every day, every second, and every moment without ever stopping.

It is surely impossible to claim that this system, consisting of many balances complementing each other came into existence by itself as the result of blind coincidences. The respiratory system of the human body is just one of the examples of the creation art of Allah.



CONTROL CENTER: THE BRAIN

The human brain has a system that can carry out many tasks at the same time. For example, because of the perfect structure of the brain, a person, while driving a car, can both adjust his cassette player and turn the steering wheel easily. Although he does several different things at the same time, he does not run into other cars or passengers. In addition, he can operate the accelerator pedal with his foot. He can understand what is said as he listens to the radio. He can continue to speak from the point where he left off. And, most importantly, he can direct all of these things in a perfect way, at the same time. In short, by means of the extraordinary capacity of the human brain, man can handle many things at the same time. What provides this harmony are the connections of the nerve cells in the brain.

Millions, even billions, of stimuli coming to the brain from the outside world are analyzed in the brain in harmony, then are evaluated and the necessary responses are given to each one. The operation of this complicated system continues to function all through one's life without any interruption. Thus, we see, hear, feel and continue our lives.

One of the most important elements constituting this perfect system in the brain is that of the nerve cells, which number approximately 10 billion.⁴⁴ The nerve cells of the brain, unlike other cells, transmit and process information through creating and conducting small electrical currents.

The force that makes connections among cells and, therefore, harmony in the brain is found in the special structure of nerve cells. About 10 billion cells in the brain have about 120 trillion connections. And these 120 trillion connections are in just the right places. If any one of these connections was in the wrong place, the outcome would be very serious. In fact, it would be impossible for people to carry out their vital functions. Yet, such a thing does not happen and human beings, except for exceptional illnesses, lead a life which comes very naturally to them while, in reality, there are trillions of miraculous processes taking place behind the scenes.

This structure working interdependently in the brain is also, like all the other systems in the human body, one that has a perfect design at every stage. The reason for the brain's performing its millions of functions without any mistake or disorder is the fact that Allah, the Owner of endless wisdom, has created it along with all its features.

**There are certainly Signs in the
earth for people with certainty,
and in yourselves as well.**

**Do you not then see?
(Surat adh-Dharyyat: 20-21)**

THE HUMAN BODY'S MESSENGER: THE HORMONAL SYSTEM

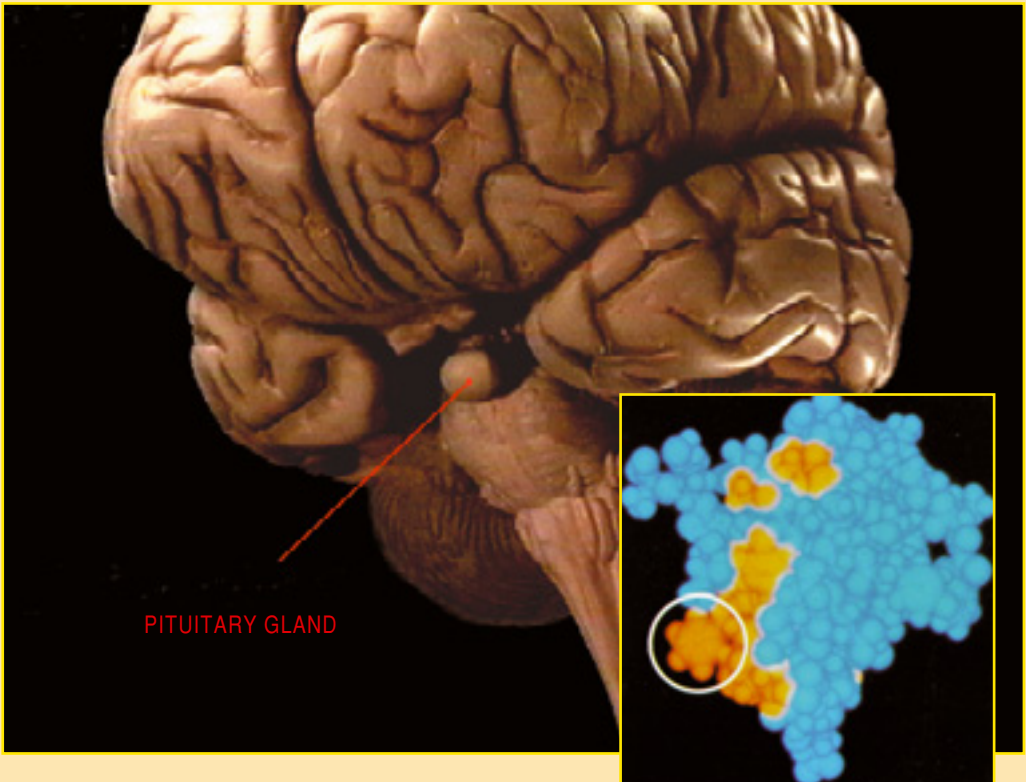
While you read these pages, countless processes take place in your body without any trouble and you don't feel anything reflecting their true complexity. The number of times your heart beats in a second, the rate of calcium in your bones, the sugar level in your blood, the amount of water your kidneys filter every minute and many other details like these are realized as the result of the harmonious working of the cells in your body. Not just a hundred, a thousand or a million of them; there are about 100 trillion cells in your body. What, then, provides the harmony among this number of cells? The answer is, your body's hormonal system.

The pea-sized pituitary gland controls and regulates the production of many hormones throughout the body. It also oversees the other glands and keeps hormone levels in check. It works under the control of the region of the brain called the "hypothalamus." The pituitary gland looks like a piece of meat. It senses, because of data coming from the hypothalamus, what is needed in which circumstances. It determines which particular cells of which particular organs need to work to fulfill these needs, the chemical mechanisms of these cells, their physical structures, the products that need to be produced and the time when the production of these products needs to be stopped. In addition, by means of a very special communications system, it gives commands to all necessary units for these needs to be met.

For instance, the human body develops until the end of adolescence. Trillions of cells multiply by dividing, thus the growth of tissue and organs is accomplished. When a certain size is reached, the growth activity in the organs stops. It is the pituitary gland that senses how much we need to grow and which stops our growth when we reach the appropriate size. The pituitary gland adjusts, at the same time, the metabolism of carbohydrates and fat in the body. When needed, it increases the production of protein in the cells.

If you feel dizzy or experience some kind of distress, you only have to rest for a while and your distress should disappear. If the cause of this distress is a fall in your blood pressure, the pituitary gland reacts immediately. The molecules secreted by the pituitary gland cause the muscles around the veins to contract. The contraction of millions of muscles and narrowing of veins increases the blood pressure and makes you feel better.

The pituitary gland is only one of the regions where hormones are secreted all together. In addition, regions such as the thyroid gland, parathyroid gland, adrenal glands, pancreas, ovaries and testes secrete very important hormones for the continuity of life. If there is a loss or impaired functioning in any of these regions, the continuity of life becomes impossible. The hormonal system, like other systems in the body, works in perfect harmony. It is undoubtedly Allah, the Almighty, Who provides this unity and has created this perfect communication system in the human body.



A WARY INSPECTOR: THE CELL MEMBRANE

Think of a building where very strict security measures are enforced; nothing harmful is allowed to enter, extraordinary controls are exercised and only then may newcomers be admitted. Yet, suppose that this building performs these functions all by itself. Suppose it acts like a living organism without any interference or assistance. With today's technology, it might be possible for a building to act like a conscious entity, in other words, to execute security controls using the aid of computers and do identity checks. What, then, would you think if we tell you that such a system actually already exists in a place which measures only one-hundred-thousandth of a millimeter? Even with today's technology, such an achievement is clearly beyond us. Yet, this does not mean that such a system does not exist anywhere on Earth.

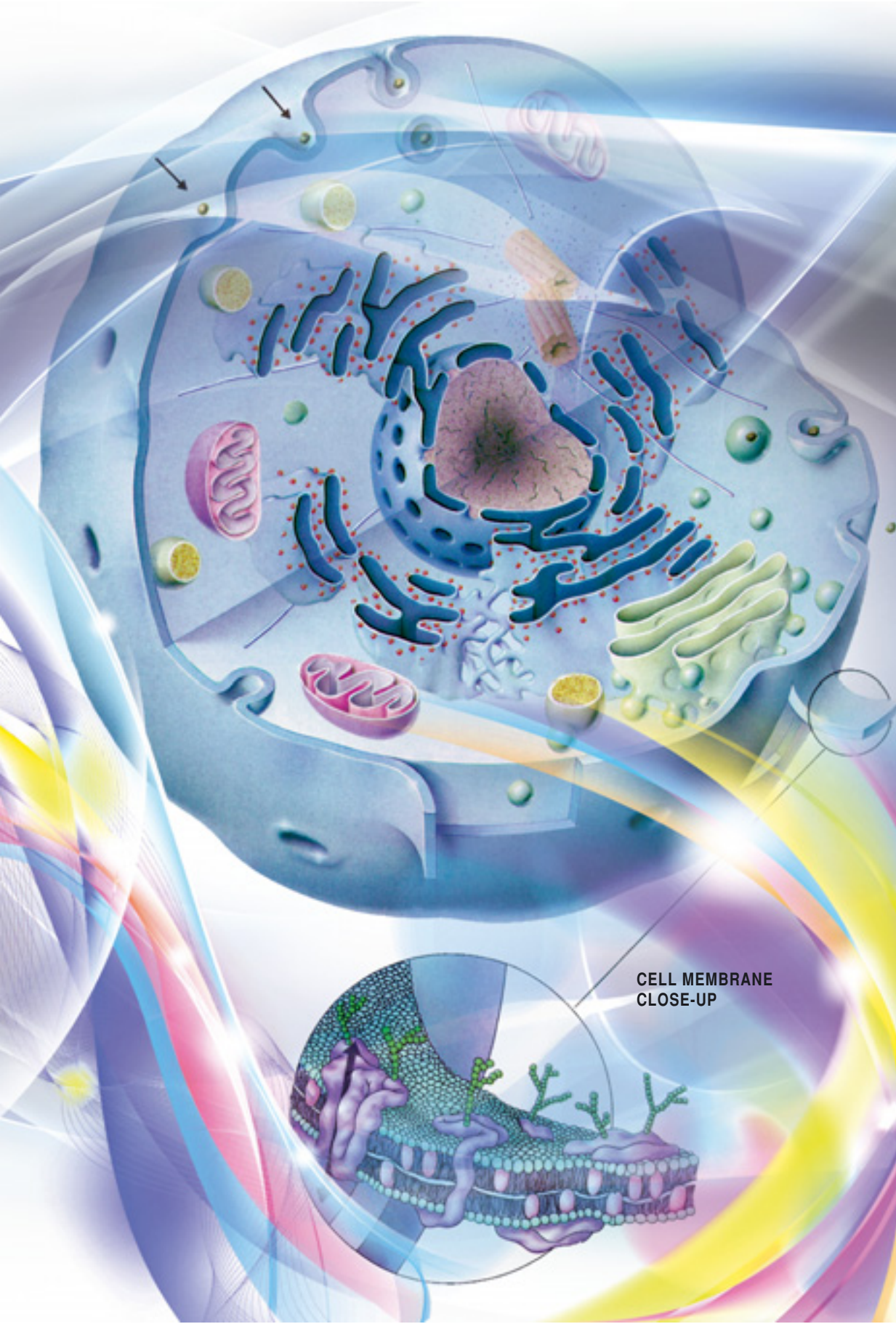
This extraordinary system, which you might imagine impossible when you hear of it for the first time, has existed since it first came into being. Such a system already exists in the membrane of every one of the approximately 100 trillion cells which make up the human body.

The cell membrane demonstrates characteristics such as making decisions, remembering, and evaluating, which are some of the basic features of human beings. It maintains connections with adjacent cells and also controls incoming and outgoing cell traffic in a very sensitive way.

Because of its great decision-making skills, its memory and the wisdom it shows, the cell membrane is considered to be the brain of a cell. Yet, the cell membrane is so thin that it can be detected only by using an electron microscope. The membrane looks like a two-sided wall. This wall is equipped with gates that enable getting in and out and with receptors that enable the membrane to identify the outside environment. They are located on the cell wall and cautiously control all traffic.

The first job of the cell membrane is to keep the cell organelles together by wrapping around them. In addition, it provides necessary substances from outside in order to enable these organelles to function properly. While doing this, the cell membrane behaves very economically; it does not let in a greater amount than it needs. It determines harmful waste material without losing time and expels it right away. The role of the cell membrane is very crucial; it does not accept the slightest error, as any error or defect means the death of the cell.

It is obvious that such intelligent acts and conscious decisions of the cell membrane, a layer composed of lipids and protein molecules, are not generated by itself alone. Anyone who possesses wisdom and consciousness can easily see that that such a system cannot originate by chance. Both the cell and the membrane that covers the cell have been created by Allah, the possessor of ultimate knowledge. And they serve the purposes that Allah, Who has created them perfectly, has determined for them.



CELL MEMBRANE
CLOSE-UP

MINIATURE DATABASE: DNA

DNA is the database of the human body. Take a look at people around you and try to think for a moment about what kinds of characteristics they have. In fact, the color of their eyes, their height, the color and type of their hair, their voice, and the color of their skin and all such data is recorded in their DNA. This database contains all kinds of information about the structure and needs of both the cell in which it exists and of all other cells in the body. Comparing the human body to a structure, we find a complete blueprint of the body, including each and every detail, not excluding the slightest, in the nucleus of every cell within DNA.

DNA is carefully protected in the nucleus in the center of a cell. When one remembers that the average diameter of a cell is one-hundredth of a millimeter, one can better grasp an understanding of how small a region is being discussed. This miraculous molecule is clear evidence for the perfection and splendor of Allah's artistry in creation.

The information contained in DNA not only determines physical characteristics but also controls thousands of different processes and systems in the cells and the body. Having either low or high blood pressure, for example, depends on the information contained in DNA.

Scientists have advanced different theories in order to emphasize the amount of information contained in the genetic structure of man. The information in DNA is so plentiful that if books containing this information were stacked one on top of each other, they would reach sky-high, all the way to 70 meters (230 feet). Scientists have also calculated how long it would take to type the gene map of a human and they concluded that a person typing 60 words per minute and working 8 hours a day would take fully a half-century to complete this momentous task. They also stated that approximately 200 telephone directories of 500 pages apiece could be filled with the information contained in DNA.

A chain made up of atoms lined up side by side, each having a diameter of one-millionth of a millimeter, has such an immense amount of information and memory that a living creature can use it to carry out all its life functions. This is evidence for creation. With the information He put into DNA, Allah once again presents His boundless power and the fact that He has no partner in creation. The boundlessness of Allah's knowledge is related in a verse with the following comparison:

Say: "If all the sea was ink to write down the Words of my Lord, it would run out long before the Words of my Lord ran out," even if We were to bring the same amount of ink again. (Surat al-Kahf: 109)



MOLECULES: THE SOURCE OF FLAVOR AND BEAUTY

Many substances look different and have different features although they include the same atoms. What do you think makes objects around you different? What makes them different in terms of their color, shape, smell and taste, and what makes them soft or hard? The reason for all of these distinctive differences is that their atoms constitute different chemical bonds to form molecules.

Following atoms, which are the first step on the way to substance, molecules are the second step. Molecules are the smallest units which determine the chemical features of a substance. Some of these small structures consist of one or more atoms, but some of them consist of thousands of atom groups. The diversity we see around us arises because molecules come together in different ways. We can see this by giving examples from our senses of taste and smell.

Indeed, concepts like "taste" and "smell" are nothing more than perceptions created in our sense organs by different molecules. The smells of foods, drinks, and various fruits and flowers all consist of volatile molecules, an example of which we see in the small picture on the right. Atoms form living and non-living substances and also give matter its taste and beauty. How does this ever happen?

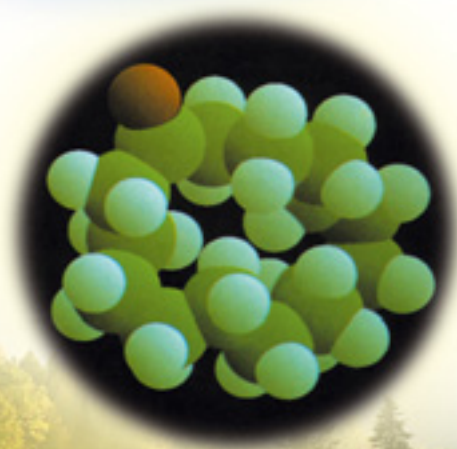
Volatile molecules like vanilla and tulip scents penetrate the receptors of tiny hairs in the region of the nose called the epithelium and interact with these receptors. This interaction is perceived as scent in our brain. Similarly, there are four different types of chemical receptors at the front part of the human tongue. These correspond to the salty, sweet, sour and bitter tastes. The molecules that come to the receptors of all our sense organs are perceived as chemical signals by our brain.

Today, it is understood how taste and smell are perceived and how they are made. Yet, scientists cannot reach a consensus on why some substances smell more while some others smell less, or why some of them smell bad while some others smell pleasant.

The existence of taste and smell is not a fundamental need for human beings. However, hundreds of kinds of delicious fruits and vegetables, with their enticing scents, and thousands of kinds of flowers with different colors, shapes and smells, all come out of the soil. All of them add a distinctive beauty to our world as products of a magnificent art.

From this point of view, color and smell, like all other blessings, are two of those beauties that Allah, the Most Gracious and Glorious, bestows on people without measure. The absence of these two senses only would be enough to make man's life tasteless. In return for all these blessings given to him, what befalls on a man is certainly to try to be a servant of Allah, Who encompasses him with His knowledge.

*If you tried to number Allah's
blessings, you could never
count them. Allah is Ever-
Forgiving, Most Merciful.
(Surat an-Nahl: 18)*



HIDDEN POWER IN THE STRUCTURE OF THE ATOM

Air, water, mountains, animals, plants, your body, the armchair in which you sit, in short, everything, from the smallest to the largest thing that you see, touch and feel, are made up of atoms. Both of your hands and also this book you're holding now are made up of atoms. Atoms are particles so small that it is impossible to see even one of them with using our most powerful microscope. The diameter of a single atom is one-millionth of a millimeter.

It is not possible for a man to visualize such an immensely tiny scale. Therefore, let us try to approach it using an example. Assume that you hold a key in your hand. Undoubtedly, it is not possible for you to see the atoms of this key. In order to see them, let's assume that we bring the size of this key to the size of the Earth itself. Once the key becomes as large as the earth, then each atom inside the key is the size of a cherry, and so we could finally see them.⁴⁵

What then exists in such a small structure? In spite of its small size, inside an atom exists a perfect, unique and complex system. Every atom consists of a central nucleus and electrons revolving around the nucleus in very distant orbits. The nucleus is located at the center of the atom and contains a certain number of protons and neutrons according to the characteristics of the atom.

The radius of the nucleus is about a ten-thousandth of the radius of the atom. Now, let's search for the nucleus of the cherry-size atoms as we enlarge the key to the dimensions of the globe as we mentioned above. But this search is futile because it is certainly impossible for us, even at this scale, to observe a nucleus, which is still amazingly small. For us to be able to see the nucleus, the cherry that represents the atom must be enlarged once again until it becomes a giant ball measuring 200 meters (656 feet) in diameter. In spite of this incredible dimension, the nucleus of the atom will still be no larger than a speck of dust.⁴⁶

Yet, it is quite amazing that, although the volume of the nucleus is about ten-billionth of that of the atom, its mass constitutes fully 99.5% of the mass of the atom. But how, then, does a thing, on the one hand, constitute almost the whole mass while it does not, on the other, take up almost any space? The reason is that the density of an atom, which constitutes its mass, is concentrated in the nucleus of the atom. What provides this is the force called the strong nuclear force. By means of this force, the nucleus of the atom is kept together without being scattered.

What we have recounted so far are only a few details about the perfect system that exists in a single atom. In fact, an atom contains an extensive structure on which entire volumes of books can be written. However, even the few details we mentioned here are enough for us to see its magnificent creation and the fact that Allah created it.



THE BALANCE BETWEEN PROTONS AND NEUTRONS

It will be useful to go into further details of the perfect structure existing in an atom. As you may know, electrons continue to revolve around the nucleus due to their electrical charge. All electrons are (-) negatively charged and all neutrons are (+) positively charged. The (+) positive charge of the nucleus of an atom attracts electrons towards itself. For this reason, electrons do not leave the nucleus, in spite of the centrifugal force that their speed gives them.

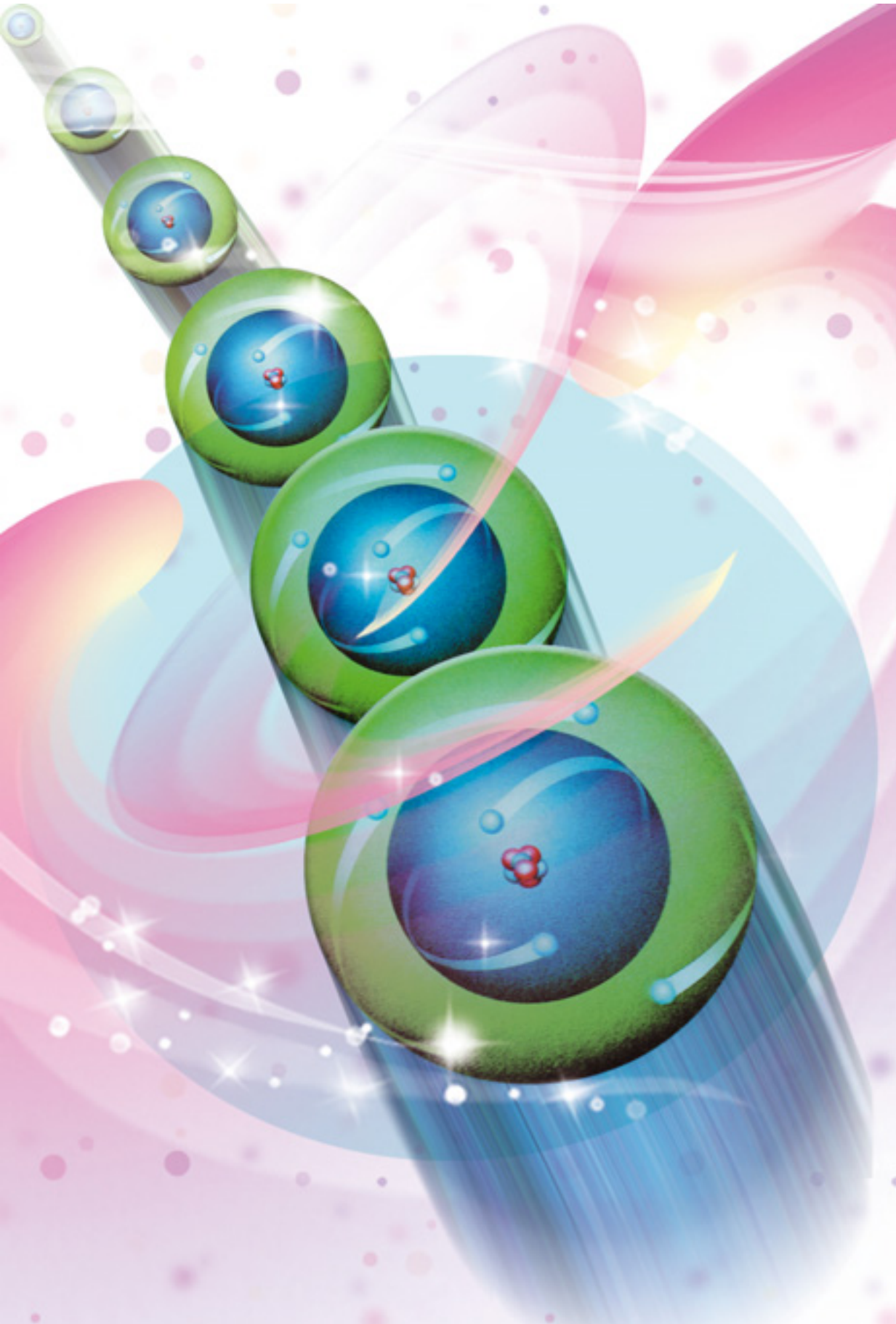
An atom has electrons on its exterior and as many protons in its center. Thus, the electrical charge of the atom is in balance. Yet, both the volume and mass of the protons are more than that of the electrons. If we compare them, the difference between them is like the difference between a man and a walnut. Still, their total electrical charges are the same. What would happen if the electrical charges of protons and electrons were not equal?

In this case, all the atoms in the universe, because of the extra (+) positive electrical charge in the protons, would be (+) positively charged. As a result of this, all atoms would repel each other. What would happen if such a situation came to pass? What would occur if all the atoms in the universe repelled each other?

The things that would occur are very unusual. As soon as such a change in the atoms took place, the hands with which you're holding this book at the moment, as well as your arms, would be broken to pieces. Not only your hands and arms, but also your body, your legs, your head, your eyes, your teeth, in short every piece of your body would disintegrate in an instant. The room in which you are sitting, the outer world seen through the window would also disintegrate. All the seas on the Earth, the mountains, all the planets in the solar system and all celestial bodies in the universe would vanish, having fallen apart simultaneously. No visible object would ever exist again.

Such an event could occur if the balance between the electrical charges of electrons and protons differed by as little as one part in 100 billion.⁴⁷ The demolition of the entire universe could occur with a deviation from this balance of one part in 100 billion. In other words, the existence of the world and its living things is only possible through extremely delicate balances. (For further information see *The Creation of the Universe* by Harun Yahya, Al-Attique Publications, 2001)

The truth that this balance reveals is that the universe did not come into being accidentally but was in fact planned for a definite reason. The only power Who has created the eternal universe out of nothingness, and then has designed and arranged it as He wished, is certainly Allah, the Lord of all the worlds, with the expression used in the Qur'an. As it is stated in the Qur'an: "**He built it (the heaven). He raised its vault high and made it level.**" (Surat an-Nazi'at: 27-28)



CONCLUSION

Throughout the book, we have witnessed the magnificent creation of Allah that can be observed throughout the entire universe. We have examined the evidence of creation, from the movements of a star in the depths of space to the orbits of an atom, from the symmetry in the wings of a butterfly to the excessive care and attention a bird shows to its newborn young, from a creature that is made up of a mere shell forming beautiful pearls to the importance of water for life on Earth.

Yet, here is an important point that we should not forget. No matter how many examples we give, these will never be enough to illustrate the eternal power and matchless knowledge of Allah. Allah is the only One Who has the most beautiful names and complete power. Every order, whether you see it or not, performs every moment with the permission of Allah. Allah creates all human beings and animate and inanimate objects and keeps them under His control. As it is related in the Qur'an, "...**There is no creature He does not hold by the forelock...**" (Surah Hud: 56) All events, as stated in the Qur'an, from the movements of celestial bodies lying millions of light-years away from us, to the events occurring in the sun, from the rays entering the world's atmosphere, to the progress that takes place in the Earth's layers, from the evaporation of water on the Earth, to the leaves falling down from the trees, are under the control of Allah. Allah, Who possesses infinite power, creates everything instantly with His infinite knowledge and puts them in order in the most perfect way.

The creation of Allah is endless and unlimited. To grasp a better understanding, think about yourself. You, like all other human beings, are one of billions of humans with hands, arms, eyes, ears and legs, yet you are still different from every one of them. Then, think about the other people who lived at some time on the Earth, from the time man was first created until now. Until now, undoubtedly billions, maybe hundreds of billions of people have lived on the Earth. And, although these people also, like you, had their hands, arms, eyes and ears, none of them looked like you. Indeed, Allah has the power to create this many people and even more.

Allah is capable of creating many other things that man does not know or cannot understand with his limited judgment. These are the facts that need to be thought over in order to comprehend the matchlessness of Allah's creation. Allah is capable of creating an infinite number of creatures and an infinite number of spaces. He is also capable of creating every one of them with unique characteristics.

What befalls a person who is aware of these facts is to lead a life as Allah commands and to do good to please Him. Everyone must eliminate the causes that make him heedless of Allah's remembrance and that hamper him from thinking, through his own efforts.

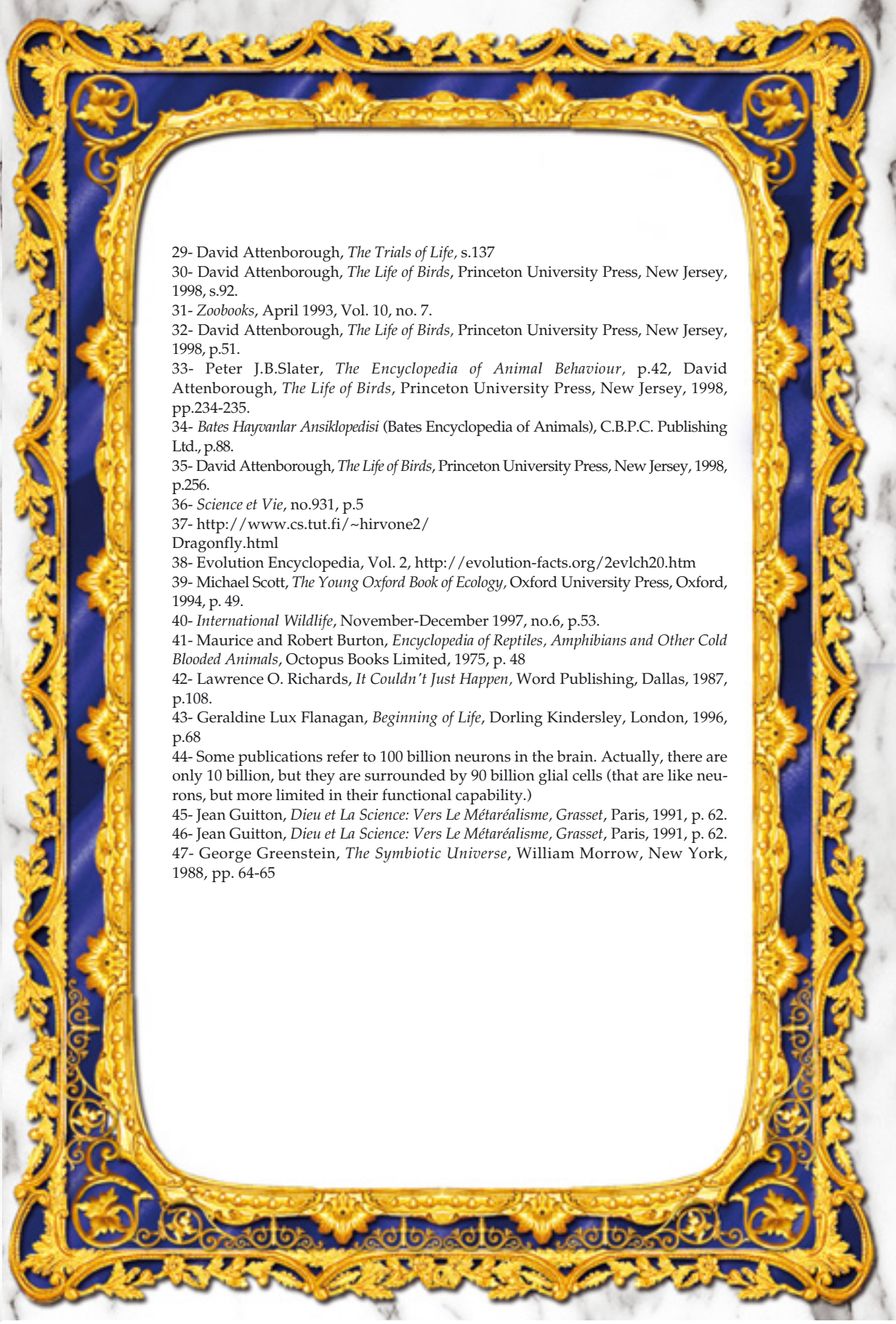
Say: "Mankind! The truth has come to you from your Lord. Whoever is guided is only guided for his own good. Whoever is misguided is only misguided to his detriment. I have not been set over you as a guardian."
(Surah Yunus: 108)

*They said "Glory be to You!
We have no knowledge except what You have taught us.
You are the All-Knowing, the All-Wise."
(Surat al-Baqara: 32)*



NOTES

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