

**THE MIRACLE  
IN THE  
SPIDER**

**HARUN YAHYA**

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## ABOUT THE AUTHOR

The author, who writes under the pen-name HARUN YAHYA, was born in Ankara in 1956. He studied arts at Istanbul's Mimar Sinan University and philosophy at Istanbul University. Since the 1980s, the author has published many books on political, faith-related and scientific issues. Harun Yahya is well-known as an author who has written very important works disclosing the forgery of evolutionists, the invalidity of their claims and the dark liaisons between Darwinism and bloody ideologies.

His pen-name is made up of the names "Harun" (Aaron) and "Yahya" (John), in memory of the two esteemed prophets who fought against lack of faith. The Prophet's seal on the cover of the author's books has a symbolic meaning linked to their contents. This seal represents the Qur'an as the last Book by God and the last word of Him and our Prophet, the last of all the prophets. Under the guidance of the Qur'an and Sunnah, the author makes it his main goal to disprove each one of the fundamental tenets of disbelieving ideologies and to say the "last word", so as to completely silence the objections raised against religion. The seal of the Prophet, who attained ultimate wisdom and moral perfection, is used as a sign of his intention of saying this last word.

All these works by the author centre around one goal: to convey the message of the Qur'an to people and thus to encourage them to think about basic faith-related issues, such as the existence of God, His unity and the hereafter, and to remind them of some important issues.

Harun Yahya enjoys a wide readership in many countries such as India, America, England, Indonesia, Poland, Bosnia, Spain and Brazil. His books have been translated into many languages, and English, French, German, Italian, Portuguese, Urdu, Arabic, Albanian, Russian, Serbo-Croat (Bosnian), Uygur Turkish, and Indonesian versions are available.

Greatly appreciated all around the world, these works have been instrumental in many people putting their faith in God and in many others gaining a deeper insight into their faith. The wisdom, and the sincere and easy-to-understand style employed give these books a distinct touch which directly strikes any one who reads or examines them. Immune to objections, these works are characterised by their features of rapid effectiveness, definite results and irrefutability. The explanations provided in the books are undeniable, explicit and sincere, and enrich the reader with definitive answers. It is unlikely that those who read these books and give a serious thought to them can any longer sincerely advocate the materialistic philosophy, atheism and any other perverted ideology or philosophy. Even if they continue to advocate, this proves to be only a sentimental insistence since these books refute these ideologies from their very basis. All contemporary movements of denial are ideologically defeated today, thanks to the collection of books written by Harun Yahya.

There is no doubt that these features result from the wisdom and lucidity endowed them by God. The author certainly does not feel proud of himself; he merely intends to serve as a means in one's

search for God's right path. Furthermore, the author makes no material gains from his books. Neither the writer, nor those who are instrumental in publishing and making these books accessible to the reader, make any material gains. They merely serve to earn the good pleasure of God.

Considering these facts, those who encourage people to read these books, which open the "eyes" of the heart and guide them in becoming more devoted servants of God, render an invaluable service.

Meanwhile, it would just be a waste of time and energy to propagate books which create confusion in people's minds, lead people into ideological chaos, and which clearly have no strong and precise effects in removing the doubts in peoples' hearts. It is apparent that it is impossible for books devised to put the stress on 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 moral values of the Qur'an. The success, impact and sincerity this service has rendered are manifest in the reader's conviction.

One point needs to be kept in mind: The main reason for the continuing cruelty and conflict, and all the ordeals Muslims undergo is the ideological prevalence of lack of religion. These things can only come to an end with the ideological defeat of lack of faith and by ensuring that everybody knows about the wonders of creation and Qur'anic morality, so that people can live by it. Considering the state of the world today, which forces people into the downward spiral of violence, corruption and conflict, it is clear that this service has to be provided more speedily and effectively. Otherwise, it may be too late.

It is no exaggeration to say that the Harun Yahya series have assumed this leading role. By the Will of God, these books will be the means through which people in the 21st century will attain the peace and bliss, justice and happiness promised in the Qur'an.

The works of the author include The Disasters Darwinism Brought to Humanity, Communism in Ambush, The 'Secret Hand' in Bosnia, The Holocaust Hoax, Behind the Scenes of Terrorism, Israel's Kurdish Card, Solution: The Morals of the Qur'an, The Evolution Deceit, Perished Nations, For Men of Understanding, The Prophet Musa, The Golden Age, Allah's Artistry in Colour, Glory is Everywhere, The Truth of the Life of This World, Knowing the Truth, The Dark Magic of Darwinism, The Religion of Darwinism, The Qur'an Leads the Way to Science, The Real Origin of Life, The Consciousness of the Cell, The Creation of the Universe, Miracles of the Qur'an, The Design in Nature, Self-Sacrifice and Intelligent Behaviour Models in Animals, Children Darwin Was Lying!, The End of Darwinism, Deep Thinking, Never Plead Ignorance.

The author's other works on Quranic topics include: Devoted to Allah, Abandoning the Society of Ignorance, Paradise, Knowledge of the Qur'an, Qur'an Index, Emigrating for the Cause of Allah, The Character of Hypocrites in the Qur'an, The Secrets of the Hypocrite, The Names of Allah, Communicating the Message and Disputing in the Qur'an, Answers from the Qur'an, Death Resurrection Hell, The Struggle of the Messengers, The Avowed Enemy of Man: Satan, Idolatry, The Religion of the Ignorant, The Arrogance of Satan, Prayer in the Qur'an, The Importance of Conscience in the Qur'an,

The Day of Resurrection, Never Forget, Disregarded Judgements of the Qur'an, Human Characters in the Society of Ignorance, The Importance of Patience in the Qur'an, General Information from the Qur'an, The Mature Faith, Before You Regret, Our Messengers Say, The Mercy of Believers, The Fear of Allah, The Nightmare of Disbelief, Prophet Isa Will Come, Beauties Presented by the Qur'an for Life, Bouquet of the Beauties of Allah 1-2-3-4, The Iniquity Called "Mockery", The Secret of the Test, The True Wisdom According to the Qur'an, The Struggle with the Religion of Irreligion, The School of Yusuf, The Alliance of the Good, Slanders Spread Against Muslims Throughout History, The Importance of Following the Good Word, Why Do You Deceive Yourself?, Islam: The Religion of Ease, Enthusiasm and Vigor in the Qur'an, Seeing Good in Everything, How does the Unwise Interpret the Qur'an?, Some Secrets of the Qur'an, The Courage of Believers, Being Hopeful in the Qur'an, Justice and Tolerance in the Qur'an

## **TO THE READER**

The reason why a special chapter is assigned to the collapse of the theory of evolution is that this theory constitutes the basis of all anti-spiritual philosophies. Since Darwinism rejects the fact of creation, and therefore the existence of Allah, during the last 140 years it has caused many people to abandon their faith or fall into doubt. Therefore, showing that this theory is a deception is a very important duty, which is strongly related to the religion. It is imperative that this important service be rendered to everyone. Some of our readers may find the chance to read only one of our books. Therefore, we think it appropriate to spare a chapter for a summary of this subject.

In all the books by the author, faith-related issues are explained in the light of the Qur'anic verses and people are invited to learn Allah's words and to live by them. All the subjects that concern Allah's verses are explained in such a way as to leave no room for doubt or question marks in the reader's mind. The sincere, plain and fluent style employed ensures that everyone of every age and from every social group can easily understand the books. This effective and lucid narrative makes it possible to read them in a single sitting. Even those who rigorously reject spirituality are influenced by the facts recounted in these books and cannot refute the truthfulness of their contents.

This book and all the other works of the author can be read individually or discussed in a group at a time of conversation. Those readers who are willing to profit from the books will find discussion very useful in the sense that they will be able to relate their own reflections and experiences to one another.

In addition, it will be a great service to the religion to contribute to the presentation and reading of these books, which are written solely for the good pleasure of Allah. All the books of the author are extremely convincing. For this reason, for those who want to communicate the religion to other people, one of the most effective methods is to encourage them to read these books.

It is hoped that the reader will take time to look through the review of other books on the final pages of the book, and appreciate the rich source of material on faith-related issues, which are very useful and a pleasure to read.

In these books, you will not find, as in some other books, the personal views of the author, explanations based on dubious sources, styles that are unobservant of the respect and reverence due to sacred subjects, nor hopeless, doubt-creating, and pessimistic accounts that create deviations in the heart.

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## FOREWORD

Some readers may think that the subject of this book is not one that interests them very much. They may tell themselves both that a book about a little insect has nothing in it for them, and that the busy pace of their lives leaves them no time for such a book.

Then again, these same people may feel that a book on economic or political research, or perhaps a novel, would be more attractive and "useful." Or they may think that books on other subjects will be of greater interest to them. Whereas the fact is that this book the reader is holding will be a great deal more "useful" than many he has hitherto read, and has much more to offer him. Because this book is not a biology text written to give detailed information about this tiny animal called the spider. The book may have the spider as its subject, but its true importance lies in the truth about life it reveals and the message it has to give.

Like a key... A key is a tool which looks pretty unimportant in itself. If you give one to a person who has never seen one before, and who is therefore unaware of the relationship between key and lock, he will consider the thing in his hand meaningless and a useless piece of metal. Whereas sometimes a key, depending upon what lies behind the door that it opens, can be one of the most valuable things in the world.

This book has been written, not with the aim of taking the spider as a subject on its own, but to use it as a "key." As for the reality behind the door which this key opens, it is the greatest truth anyone can ever discover throughout the course of his life. Because it demonstrates how baseless is the theory of evolution, propounded by people who want to deny the truth, is and provides answers to questions, answers that mankind has been searching for since the dawn of time. The answers to such fundamental questions as "Who am I?" "How were the universe and I created?" and "What is the point and meaning of life?" are the reality behind this door.

The answer is this: human beings and the universe they inhabit were created, down to the tiniest detail, by one Creator, and exist to show that He exists and to praise Him. That Creator, who has no imperfections or weaknesses, but who is infinitely powerful, is God. As God has revealed in the Qur'an, the sole reason for the existence of any human being is to understand the act of his and the universe's creation and to serve God, who is Lord of all.

It takes some effort to acquire this understanding. Part of this consists of observing everything that exists, considering it, and being able to decipher the message within. Because everything which exists, and especially every living thing in nature, is a sign of God's existence and bears witness to His being.

God draws our attention to these verses in the Qur'an, which He revealed to show the true way to the human beings He had created:

**In the creation of the heavens and earth, and the alternation of the night and day, and the ships which sail the seas to people's benefit, and the water which God sends down from the sky – by which He brings the earth to life when it was dead and scatters about in it creatures of every kind – and the varying direction of the winds, and the clouds subservient between heaven and earth, there are Signs for people who use their intellect. (Surat al-Baqara: 164)**

On examination, what the Qur'an reveals in the above verse may seem perfectly normal events in many peoples' eyes. The alternation of night and day, ships floating instead of sinking, the rain's giving life to the soil, the movement of winds and clouds... Modern man thinks that all of these can be explained by science and with a mechanical logic, for which reason he thinks that they carry with them no element of surprise. However, science only considers naked material truths, but is never able to provide an answer to the question "Why?" It is from the condition of widespread ignorance created by the religionless social order dominating the world that people are prevented from considering these verses and understanding the different meanings which lie behind them. Essentially, and in fact, the Qur'an says that the nature of those verses can be perceived only by "people who reflect."

For a "people who reflect", basically every part of nature is a sign, or in other words a key to the door to truth. Since nature can be split up into a nearly infinite number of parts, the number of doors and keys is also nearly infinite. But sometimes it is enough to open just one door to lead a person to the truth. Just one part extracted from nature, for example, a single plant or a single animal, can bring a truth-seeker closer to an understanding of the entire universe. For this reason, God states in the Qur'an that "God is not ashamed to make an example of a gnat or of an even smaller thing", because "as for those who believe, they know it is the truth from their Lord." (Surat al-Baqara: 26)

Such tiny creatures as the mosquito, and the spider, are mentioned in God's verses. In the same way as the gnat is considered unimportant by people, so is the spider: but "people who reflect" can see the miracle these verses convey. These tiny animals can each be seen as a key, and can open the door to seeing the perfection of God's creation. This book, which describes the surprising and incredible characteristics of the spider, known by so few people, and which will in describing them also ask "how?" and "why?" has been written with that end in mind. And for that reason alone this book is more significant than many books you may have read up until now. Because to become one of the "people who reflect" is more essential to man than anything else.

**And He has made everything in the heavens and everything on the earth subservient to you.  
It is all from Him. There are certainly Signs in that for people who reflect.(Surat al-Jathiyah:  
13)**

# INTRODUCTION

There are hundreds of species of spiders in the world. These small animals can appear to us sometimes as a construction engineer capable of performing calculations for building its nest, sometimes as an interior designer making complicated plans, sometimes a chemist making incredibly strong and flexible threads, deadly venoms, and dissolving acids, and sometimes as a hunter using the most cunning tactics.

Despite their numerous superior characteristics, nobody in his daily life even bothers to think what special creations spiders are. According to this underestimation there is nothing surprising in the existence of spiders, nor in that of anything else. But this is a completely mistaken way of thinking. Because, as we begin to learn more about spiders, as about the behaviour of all creatures, examining for example their methods of hunting, reproducing, and defending themselves, we find ourselves face-to-face with characteristics that fill us with awe.

In nature all living things adopt behaviour patterns that require intelligence in order to live their lives. These behaviour patterns, that underlie skills, proficiencies and superior planning capabilities, have one thing in common. Each and every one necessarily requires ability. Skills that a human being can master only by learning, and gaining proficiency and experience, already exist in these living creatures from the moment they are born. The later parts of this book consist of questions which need to be answered: how these abilities, which will be described in some detail, came about, and how living creatures learned them. These living things, acting in accordance with such highly intelligent blueprints, hunting with such calculation, and when necessary, behaving like chemical engineers, knowing what material to produce in a particular situation, really baffle scientists who study them. So much so that even evolutionist scientists admit that the cleverest living creatures have characteristics necessitating intelligence. Scientist Richard Dawkins, despite the fact that he is an evolutionist, describes spiders' behaviour in this way in his book, *Climbing Mount Improbable*:

On our route we shall have occasion to look at spider webs - at the bewildering, though unconscious, ingenuity with which they are made and how they work.<sup>1</sup>

Actually, saying these, Dawkins comes up against such questions as "how the animals' conscious and intelligent behaviour emerged, and what its source was," which cannot be explained in any way by the theory of evolution. Really, questions such as "How do living creatures come to possess this intelligence, and how do they learn where to apply it?" are ones to which the defenders of the theory of evolution are unable to supply open and definitive answers.

At this point an examination of the arguments the evolutionists use to try to answer the question of conscious and intelligent behaviour in animals will be appropriate. Let us do this by explaining the real meaning of a term which evolutionists use in their claims.

Evolutionists searching for an answer to the question of "how living creatures came to have purposeful behaviour" use "instinct" to try to shed light on the matter. But they are in no way successful.

This can be clearly seen by a more thorough appreciation of the concept of "instinct." Evolutionists say that animals engage in such things as devotion, planning, tactics or behaviour requiring special abilities, which require consciousness and intelligence, thanks to "instinct." But, of course, evolutionists' just saying this is not sufficient. In addition to making this claim, they also have to provide answers to such questions as how this behaviour first came about, how it was passed down the generations, and how the concept of "instinct" managed to give living creatures consciousness and intelligence. However, evolutionists have absolutely no answers to these questions. Gordon Rattray Taylor is an evolutionist expert in genetics. He has this to say about instincts:

When we ask ourselves how an instinctive pattern of behaviour arose in the first place and became hereditarily fixed we are given no answer. <sup>2</sup>

Other evolutionists say that all living creatures' behaviour is founded not on instinct but on their genetic programming. But in that case they have to explain who wrote the programme and installed it in living creatures. But evolutionists are unable to do this. Despite being the originator of the theory, Charles Darwin admits their dilemma in the following words:

So wonderful an instinct as that of the hive-bee making its cells will probably have occurred to many readers, as a difficulty sufficient to overthrow my whole theory. <sup>3</sup>

As the above makes quite clear, a concept such as "instinct" is absolutely insufficient to shed light on living creatures' conscious behaviour. Of course there is a power that programmes living creatures and teaches them what to do. But this is not a result of "Mother Nature" as it is called, nor of the living creature itself, which will defend its young at the cost of its own life, or which will go back to deceive the enemy with various tactics in order to save the life of another member of its own group.

The power which gives them all these characteristics, which creates their intelligent behaviour and purposeful movements, belongs to God. God is the only lord of that intelligence which we witness in living creatures in countless examples in nature. It is God Who inspires living creatures to do what they do.

It is impossible to explain the behaviour of any living creature by coincidence, or by any other mechanism or interesting concept. No such claim can be any more than a deception. All this is revealed in one of His verses:

**Say: 'Have you ever seen your associates whom you appeal to instead of to God? Show me what they have created of the earth; or do they have a partnership in the heavens?' Have We given them a Book whose Clear Signs they follow? No indeed! The wrongdoers promise each other nothing but delusion. (Surah Fatir: 40)**

The living creature which is the subject of this book, the spider, its behaviour patterns and the flawless mechanisms it possesses, is one of those that give the lie to the theory of evolution, or, to put it more robustly, "destroy the theory of evolution." The pages that follow will demonstrate one of the countless miracles of God's creation, the spider. At the same time they will once again set forth how the theory of evolution, which relies totally on coincidences, has fallen into impotence and ridicule.

# SPIDERS' METHOD OF HUNTING

Most people think of the spider as an animal that just uses a web to catch its prey. But this by no means tells the whole story, because these webs, each one a wonder of architecture and engineering, are not the only means by which spiders catch their prey. Besides spinning webs, spiders employ some surprising tactics when hunting.

## The Lasso-throwing Spider

Of all the many species of spider, one of the most interesting, because of its hunting techniques, is the "Bolas" spider. Dr. Gertsch, an expert on spiders, has established as a result of his detailed research on this creature, that it uses a noose to catch its prey.

Bolas spiders hunt their prey in two stages. In the first stage the spider spins a thread with a sticky end and lies in ambush. Later it will use this sticky thread as a lasso. Then, in order to attract its prey to it, the spider gives off a very special chemical. This is a "pheromone," which female moths use to attract males for mating. The male moth, deceived by the counterfeit call, approaches the source of the smell. The spiders have very poor eyesight, but can make out the vibrations set up by the moth as it flies. In this way the spider can feel its prey approaching it. Now the interesting thing is that, despite the fact that the Bolas spider is almost blind, it can catch a flying, living creature with a thread it makes itself hanging in the air.

The book, *Strange Things Animals Do*, likens the spiders' hunting technique to a cowboy throwing a lasso:

The spider spins a silky cord, then puts a weight on one end — a heavy bit of gum. In this way, the weapon reminds one of a cowboy's lasso. Then it takes the cord up in its two front legs, which now act like arms. When a moth flies by, it throws the lasso. The sticky, weighted end hits the body of the flying insect and sticks to it. The moth is then roped in and the Bolas spider wraps it up.<sup>4</sup>

The second stage begins when the victim, deceived by the smell, approaches. Drawing its legs back the spider gets into the attack position and throws the lasso faster than the human eye can see. The moth is caught by the sticky ball at the end of the thread. The spider reels its prey in and bites it, paralyzing it. Next it wraps the moth up in a special thread, which keeps the food fresh for a long time. In this way the spider preserves its food for later consumption.

In the same book the writer evaluates the spiders' planned movements in these terms:

Scientists call the bolas a lesser creature. Dr. Gertsch is not sure that this is an accurate term for her. Because what a trained sea lion, a dog, or a tiger cannot do, what even a great ape cannot do, what even a cowboy finds difficult - this so-called lesser creature does.<sup>5</sup>

It is therefore clear that the Bolas spider's hunting technique requires a special skill, and is even based on gaining experience through practice. If we examine the process stage by stage the difficult nature of what the spider does becomes more apparent. Let us look at the answer to the question, "What does the Bolas spider have to do when hunting?"

- It prepares a sticky ball on the end of a thread.
- It produces in its body and releases a smell given off by females of another insect species to attract males.
- It throws the lasso at its prey faster than the human eye can see.
- It aims the lasso at its prey and hits it.
- Finally, it has to produce a special thread which will keep the prey fresh, and then wraps it up.

So, how is the Bolas spider able to operate within the framework of such a clever plan? Making plans is a feature of creatures which possess the power of reasoning, i.e. human beings. Furthermore, the spider's brain does not have the capacity to conceive all this and carry it out. But, in that case, how did it come to possess a hunting technique with such striking characteristics? That is a question scientists are still trying to find the answer to.

According to evolutionists, spiders owe all their characteristics to coincidences. The spider decided to make a lasso, carried out the chemical production, knew that it had to attract the moth towards it and came to have the skill to hit the target with the lasso, all by coincidence. All the other qualities it would need to hunt with a lasso came about entirely by coincidence. It is obvious that claims based on coincidence are just fantasy, with no scientific or logical foundation. In order to see clearer just how far the evolutionists' fantasies are from scientific fact let us imagine a little scenario, despite all the impossibilities.

**Scenario:** A long time ago a spider, realising that it was unable to build webs like other spiders, began to look carefully around it. One day it noticed that female moths were using a chemical to attract males. It thought that in order to catch the moths it would have to produce the same chemical, built a chemistry laboratory inside its own body and began to manufacture the chemical. But its problems were not yet over. Because unless it could catch the moths there was no point in attracting them. At that point it had another idea, and from the thread it produced it made a weapon, a cross between a lasso and a mace.

But just making the weapon was not enough. The first time it went hunting, unless it could hit the target all its efforts would go to waste, even worse it would die of hunger. But it did not happen that way, and it caught its prey, and after that it "succeeded" in developing a perfect hunting technique. After that it thought of teaching the technique, in every tiny detail, to the other spiders and found a way of transmitting this knowledge to following generations.

These are just parts of a scenario. But is not just enough for the scenario to be written down. The scenario has to be translated into reality. To this end let us consider some imaginary alternatives within the scope of the imaginary scenario.

**Imaginary Alternative 1:** This consists of what evolutionists call "Mother Nature," that is trees, flowers, the sky, water, rain, the sun, etc. Then there are all the forces of nature, acting in harmony to establish a perfectly functioning system. In the process the Bolas spider is not forgotten and it is ensured that it comes to possess a good hunting technique.

**Imaginary Alternative 2:** Pure coincidence, again described by evolutionists as an active force, comes to the assistance of the Bolas spider, as to all other hunters, and enables it to come into possession of predatory skills.

Naturally, these are nothing but fantasies, the products of an active imagination. The possessors of this active imagination are the evolutionary scientists. Before moving on to the actual answer, let us examine how illogical and invalid and baseless these scenarios are.

- Evidently the Bolas spider is not a chemical engineer! It is not possible for it to study the chemicals released by the moths and carry out an analysis of them, then starting to knowingly create the same chemical within its own body. To claim this is diametrically opposed to intelligence, logic, and science.

- The spider has no other use for the chemical given off by the moths than for hunting. Even if it had reproduced it by coincidence, it would have to understand the similarity between the scent given off by the moths and its own scent. Then, analysing this resemblance it would have to have the intelligence to make use of it in its own interest.

- Even if we accept that the spider had in some way "learned" about the nature of the scent given off by the moths and had been "clever enough" to use this in its own favour, then it has to be able to make the necessary physical changes to produce that material. It is not possible for any living creature, of its own volition, to add an extra organ or chemical production system to its own body. Even thinking that a spider might be capable of doing such a thing, let alone actually claiming it as fact, means leaving the realms of logic far behind.

No matter how impossible, let us imagine that the spider did actually come to have all these characteristics we have discussed by coincidence. Now it is necessary for the spider to have "thought of" using a lasso to catch the moths and after "designing" it to be able, of its own volition, to create it.

It is clear from this that when one carefully examines the characteristics of the Bolas spider, one gets a better understanding of just how comic the claim of the theory of evolution, completely based on coincidences, is. That coincidences will be unable to bring the spider into possession of the features we have discussed above, that is, intelligence, planning and tactics, and, furthermore, that even with time the spider will be unable to bring these about itself, is clear. There is no need to think long and hard or to do research in order to grasp this. Using a bit of common sense will be enough to see this obvious truth.

It follows that the evolutionists' scenarios are blatantly false. All that is left is the truth: The situation we are discussing needs a very special act of creation. It is God Who created all living creatures, plants, animals, and insects. God has infinite power, knowledge, intelligence, and wisdom:

**'Lord of the heavens and the earth and everything between them, the Almighty, the Endlessly Forgiving,' (Surah Sad: 66)**

## **The Trap-door for Living in the Desert**

Desert climates can be lethally hot for many living creatures. Nevertheless, some creatures have skills which enable them to survive in the desert despite the heat. Either their hunting techniques, the construction of their bodies, or their modes of behaviour enable them to live comfortably in a desert

environment. One species of the subject of this book, the spider, possesses the characteristics necessary for living in the desert. This living thing, known as the "trapdoor spider" uses its insulated home in the desert floor both to protect it from the heat and as a trap to catch its prey.

First of all the spider digs a burrow in the ground. It sticks tiny bits of earth together with a special fluid it produces and plasters the inside of the tunnel. This process strengthens the walls against the danger of collapse. Later it covers the walls in a thread it makes. This plastering technique is similar to the thermal insulation technique we use today. In this way the inside of the nest is made resistant to the high desert temperatures outside.

We mentioned how the second feature of the nest was its use as a trap. The spider makes a cover for the nest out of its own silk. One side of this is attached by a hinge made of strong thread to the nest, turning it into nothing less than a door. This door also helps the spider conceal itself from its prey. It camouflages the cover with bits of brush, scrub, and soil. Then it stretches taut threads under the leaves, from the outside of the nest in. When an insect approaches the nest and steps on the leaves or the earth, the underground threads start to vibrate. Thanks to these vibrations the spider can tell that prey is near. When everything is in position, the spider enters its nest and waits for its prey.

The trap-door spider can live up to 10 years in its burrow. It spends all its life in the dark tunnel and almost never emerges. Even when it opens the cover to seize its prey its back legs do not leave the nest. If the cover is opened with a twig the spider will come to the entrance and make great efforts to close it up again. Females never leave the nest, while males only do so to find a mate. When it is time for the female to produce its offspring, it firmly closes the entrance, sticking the cover to the doorway with its own thread. In this way it has been observed that the mother spider can spend a year in the nest without leaving it.

Trap-door spiders hunt at night and keep the covers of their nests firmly shut by day. As night starts to fall the spider pushes the cover partly open to see whether it is fully dark yet. If it is dark it pushes the cover partly open and rests its front legs outside. It can remain in this position for many hours. When ants in particular approach the spider immediately jumps on them at lightning speed and drags them down into its burrow. The cover closes again under its own weight.

There is no doubt that in order to learn to live in the manner described above some abilities requiring intelligence, for example construction ability, will be needed. It will not be possible for the spider to fabricate insulation from the heat or to camouflage itself in the sand through coincidence or trial and error. Even before it starts to build the tunnel, it "knows" that it will use its silk to protect it from the heat, that it will use the same thread to make a cover for the nest, that it will use its nest to hide from enemies and also as an incomparable trap, and that it will give birth to its young in safety in this silk-padded nest. Were it not so, the first trap-door spider to emerge would have died of heat or hunger in the middle of the desert. That would mean the end of the species.

Furthermore, every new-born spider behaves in this same way. It builds its nest in the same way and feeds in the same way. Therefore it was not enough for the first spider to have these surprising features, it also had to be able to pass all its knowledge on to later generations. This can only happen by this knowledge being fixed in the spider's genes. But notwithstanding all these facts, we are still faced with questions. How did the trap-door spider come to have these characteristics, and who fixed them in its genes?

These intelligent behaviour patterns, planning capability, tactical selection and implementation, and flawless bodily construction, which proponents of the theory of evolution try to explain by such concepts as instinct, imaginary mechanisms, coincidence, or Mother Nature, can actually have only one explanation. It is God Who gave all living creatures the skills they have, or Who created them with these skills already in place. God possesses incomparable knowledge.

## **The Master of Deception Spider**

Contrary to common belief, many types of spider hunt without building webs. One such spider, which catches its prey without a web, is the crab spider. It disguises itself inside flowers and feeds on bees which land on them.<sup>6</sup>

The crab spider uses its ability to change colour to match the yellow or white of the flower. It completely conceals its legs in the middle of the flower and settles down to wait for its prey. The spider matches the colour of the flower it hides in to perfection. It is only by the most careful inspection that the spider can be distinguished from the flower.

The spider goes into action when a bee lands to suck the nectar from the flower in which it is lying in ambush. At that very moment the spider slowly wraps its legs around the bee, then, in a sudden movement it bites it in the head, injecting its venom straight into its brain and then eating its prey. The spider can disguise itself so cunningly in the flower that sometimes a butterfly or a bee will land right on top of it without realising it.

Did the spider decide to be able to take on these colours by itself, by any chance? Did it study flowers and copy the same tones and shades in itself? It is clear that the spider would not have had the ability to do that. Apart from a few nerve centres, it does not even possess a brain capable of thinking. Furthermore, the spider is colour-blind. It can perceive neither yellow nor pink. Even if we accept for a moment that it could manage to match itself to the exact colours and tones it saw, it would still not be possible for it to reproduce this within its own body. It is God, the Owner of superior power, Who enables the spider to distinguish and reproduce colours is God.

It is obvious that the flowers and the spider have been created to match each others' colours by God. It is as if two pictures had been done on the same canvas with the same paints and brush in the same colours and tones, in a match that cannot be explained by any fairy tale-like coincidence.

## **Hunting with a Ladder Orb Web**

Spiders' webs are death traps for many living things. But there are some creatures which can survive this deadly trap. For example, a normal moth is impervious to spiders' webs. Because the dust on the moth's body renders the sticky bits of the web ineffective. Thanks to this property the moth is easily able to escape.

But moths can still be caught in webs of a construction which is different from normal ones. The web of the *Scoloderus* spider, which lives in tropical areas, is different from most webs, and closely resembles fly-paper. In this way *Scoloderus* can easily catch moths. The *Scoloderus* spider builds a web

a meter long and 15-20 centimetres wide, resembling a ladder. Moths caught in them fall down to the bottom of the web. During the long fall they lose most of the protective covering which prevents them sticking in normal webs, and so are caught in *Scoloderus'* trap.

So this spider has a hunting technique very different from that of other species. The point of note in this method of hunting is that the spider produces a web with features enabling it to catch the insect it hunts. This species of spider, with its different web construction, is one of many pieces of evidence testifying to God's infinite art of creation.

### **The Net-Casting Spider: *Dinopis***

This ogre-faced spider, or *Dinopis*, to give it its scientific name, employs a very unusual and surprising hunting technique. Instead of building a fixed web and waiting for its prey, it builds a web with a few special features, and casts this over its prey. Then it wraps its prey up in this web. The trapped insect is doomed. Then, the spider wraps its prey in new threads, in a "packet," to keep its food fresh for later.<sup>7</sup>

It is evident that the spider catches its prey within the framework of a plan. The planning and subsequent production of a web of the correct size, shape and strength, etc, which is exactly suited to this hunting method, and then the wrapping up of the prey, are all activities requiring superior capacities based on intelligence. Furthermore, an examination of the spider's web's construction features reveals them to be flawless.

*Dinopis'* web is a wonder of planning in every sense. Just the chemical make-up of the silk it uses is a miracle on its own. The technique the spider employs to use its web is also particularly interesting. While the spider waits for its prey, the web resembles a narrow cage built out of straws. But this harmless appearance is in reality a deception. When the spider goes into action to catch its prey, it uses its legs to turn the web inside out, making it a death trap from which there can be no escape.

But how is the spider able to build a web of such perfect mechanical planning and chemical construction? It is no simple matter to do tasks which require planning, no matter how straight forward. Each one needs a different plan and experience. We can demonstrate this as follows. When describing spiders' webs we often use the expression "like lace." For this reason it will not be incorrect to say that with their webs spiders actually are making lace.

Let us imagine that the man in the street is given the implements used to make lace (tattling shuttle, needles, thread, etc.) and the cotton. Can we expect this person, who has no previous experience, to make something in lace at the first attempt? Or can we imagine a lace table-cloth emerging from knots made by coincidence? Of course not.

It is impossible for a plan to emerge by itself, because for a plan to emerge, intelligence, skill, and a means of imparting information are necessary. For a living creature to make plans, and if, furthermore, it carries out these plans with no faults in their execution, this creature must be "intelligent." However, it is not possible to accept that an insect can be intelligent, that it can think, think of plans. This is a banal chain of logic used to try to arrive at the truth, and does not reflect reality. For which reason there must be a power which gave the insect its intelligence, or rather which directs it, which taught it what it does, or rather makes it do it. In other words the insect must have a Creator.

As we have seen, it is an obvious truth that these living creatures were created by God. But evolutionists ignore this, and instead build upon possibilities. Their wilful slavery to their theories makes them incapable of understanding, seeing, or hearing. It has led them to a state where they cannot see an obvious truth and cannot accept what they see and understand.

According to evolutionists, *Dinopis* spun its web with the features we have described above, by chance, and also learned to use it by chance. Any intelligent person can see that such a thing is impossible. But let us for a moment accept, despite its clear impossibility, that such a thing is possible and that the first *Dinopis* managed to spin such a web by chance. (We shall ignore such questions as how *Dinopis* first came to be, and how it produced the chemicals necessary for its web inside its body, taking them as given). In this case the following questions need to be answered: If the first web was spun by chance, how did the second and third webs come to be spun? How did the spider manage to reproduce exactly the same web, which it had spun by chance? How did a newly-born spider know how to spin a web like lace, to spin a web with qualities different from those of others, and that it would have to throw the web over its prey?

There is only one answer to these questions. The spider, incapable of learning, or learning by heart, and lacking even a brain sufficiently developed to do these things, was endowed with these things by God, the omnipotent Creator of all living things.

## **The Portia Spider: A Master of Deception**

In contrast to most other spiders, *Portia Fimbriata* both builds a web and hunts away from its own web. Another feature of *Portia* is that it prefers members of its own species over insects as food. For this reason *Portia's* field of activity is generally other spiders' webs. It uses a fascinating stratagem when hunting.

Generally, *Portia* will land on a web while the wind is blowing or while an insect is struggling to free itself. Such strong vibrations mask the shaking caused by a *Portia* on the prowl. To look at, it resembles a scrap of vegetation blown into a web by the wind. Unlike other spiders, which jump excitedly on to their prey when they see it, *Portia* moves slowly. Once it is installed on the web, it manipulates, plucks and slaps the web silk with its legs, mimicking a trapped insect. When the owner of the web approaches, *Portia* is ready and waiting in ambush.<sup>8</sup>

*Portia* spiders deceive members of their own species by imitating them. For example, *Portia* mimics the mating ritual of the *Euryattus* spider, which lives in a rolled-up leaf suspended by silk cables. Sitting atop a female spider's home, *Portia* rocks the leaf, dancing atop it like a *Euryattus* male. Fooled for the moment, the spider emerges from its home.<sup>9</sup>

How does *Portia* match signals with different types of spiders and why did it select such a different method of hunting? It is not logical to suggest that a spider could have an "imitative skill" and because of this should choose such an interesting hunting technique. The spider hunts in this way because that is how it was created by God. In such examples, God shows us the incomparable nature of His art of creation.

## Spiders' Fishing Techniques

Some spiders hunt in even the most unexpected environments. For example, the hunting field of the water-spider *Dolomedes* is the surface of water. This spider is mostly to be found in shallow places such as marshes and ditches.

The water-spider, which lacks good eyesight, spends most of its time by the side of the water spinning threads and spreading them over its surroundings. These serve two functions at the same time: they are a kind of warning to other spiders, setting the limits of its own territory, and they also form an escape route in the event of unexpected danger.

The spider's most frequently used hunting method is to put four of its legs on the water while the other four hold on to dry land. While doing this, it employs a most clever technique to avoid sinking. The spider covers those of its legs which will go into the water with a water-proof coating by passing them through its fangs. It then approaches the edge of the water. Pushing its body down with great care, it moves on to the surface of the water. It places its fangs and feelers under the water in such a way as not to disturb the surface. It waits for a living creature to approach, with its eyes looking around it and its legs feeling for vibrations in the water. To feed itself, the spider needs to find prey at least the size of the "Golyan" fish, which we see in the picture.

When the spider is hunting, it stays motionless until the fish comes within 1.5 centimetres of its jaws. Then it suddenly enters the water, catches the fish in its legs, and bites it with its venomous fangs. Then, in order to stop the fish, which is much bigger than it, from dragging it under the water, it immediately turns upside down. The venom quickly takes effect. It not only kills the prey, but also dissolves the prey's internal organs, turning them into a kind of soup and making them easy to digest. When the prey is dead, the spider drags it on to the shore and feeds.<sup>10</sup>

At this point various questions spring to mind. How did the spider come by that wax which stops it sinking? How did it learn to coat its legs with it against the risk of sinking? How did the spider come by the wax's formula and how did it make it? The spider certainly did not bring about all of these things—each one of which bears the mark of intelligence—of its own volition. Like all other living creatures, this species of spider acts in such an intelligent way, is capable of making such a plan and putting it into practice by inspiration from God. In one of His verses, God states that He gives every creature its own provision:

**There is no creature on the earth which is not dependent upon God for its provision. He knows where it lives and where it dies. They are all in a Clear Book. (Surah Hud: 6)**

## The Bell Spider's Diving Technique

The water spiders of the warm regions of Asia and Africa spend a lot of their time under water, and so make their nests in the water.

In order to build its nest, the spider first of all constructs a platform between plant stems or leaves in the water. It attaches the platform to the stems with silk threads. These threads indicate to the spider the way back to its home, stabilise the platform, and also work like radar, giving warning of the approach of prey.

After constructing the platform, the spider carries air bubbles under it with its legs and trunk. In this way the web swells upwards, and as more air is added, it takes on the appearance of a bell. This "bell" is the nest where the spider lives.

By day the spider waits in its nest. Should any small animal pass by, especially an insect or a larva, it rushes out, grabs it, and drags it back to the nest to consume. An insect falling on to the surface of the water sets off vibrations. The spider senses these, goes up to the surface, seizes the insect and drags it beneath the water. The spider even uses a web on the surface of the water. It makes no distinction between an insect which falls into this and any other victim.

As winter approaches, the spider has to take precautions if it is not to freeze. For this reason, as winter draws near, the water-spider goes down deeper. This time it builds a winter bell and fills the inside of it with air. Some other spiders move into empty sea-snail shells. It never moves inside the bell, and expends hardly any energy throughout the whole winter. This is to conserve energy and so reduce its need for oxygen. These precautions mean that the air bubbles it carries to the bell can last it for the 4-5 winter months.<sup>11</sup>

As we have seen, the spider's air bubble and hunting methods are the ideal way for a spider to be able to live under water. It is impossible for a living creature to find a way of living under water by chance. If a creature does not have the features necessary for living under water, then it will drown the first time it enters the water. It will not have time to wait for coincidence, or anything else. Therefore, a land creature, which can live under water by virtue of having the right skills to do so, owes its existence to the emergence of such skills. And this shows us that the water-spider, with these distinctive characteristics and abilities, was created by God in a perfect manner.

**I have put my trust in God, my Lord and your Lord. There is no creature He does not hold by the forelock. My Lord is on a Straight Path. (Surah Hud: 56)**

## **Spiders like Wheels**

Some species of spiders in the Namibian desert in South-west Africa, when faced by danger, fully retract their legs and make their bodies exactly like a wheel. Then, with a series of somersaults with their wheel-shaped bodies, they rapidly move away from the danger.

These spiders measure some 2.5-3 centimetres and can move quite quickly, at 2 metres a second. In order to grasp what this speed means, let us give an example. The rotation of the spider's body in its wheel form is that of the wheels of a vehicle moving at 40 kilometres an hour.

Some species of spider use this technique to flee from their enemies. Most of the time these enemies are wild female raider wasps. When the spider, which builds its nest on the tops of sand hills, senses the wasps beginning to dig at its nest, it rushes outside. First it takes a few steps to build up speed, then it folds in its five-jointed legs, and gathering speed like a wheel rolling downhill, flees. If the spider built its nest at the bottom of sand hills, then it would be unable to get up the necessary speed and would be caught. For that reason it chooses to build its nest at the tops of the hills. That it should take such a precaution as to build its nest on a hill, without having come across an enemy, is a conscious

piece of behaviour. Without doubt it was God Who inspired it to do this. God creates without any preceding example, and He is aware of all creation.

## **The Spitting Spider**

The species of spider known as *Scytodes* kills its victims by squirting a mixture of toxin and gluey substance over them. These liquids are produced in an enormous gland behind the spider's eyes, which is divided into two compartments: one contains a toxin, the other a gluey substance. The spider contracts the muscles surrounding the latter and a stream of glue is rapidly ejected from the animal's fangs. Sprayed out in a zig zag pattern, the adhesive forms a net that fixes the prey to the leaf or twig it happens to be traversing.<sup>12</sup> Then having immobilised its prey and stuck it on to a branch or leaf, it can eat it later where it hangs.

## ***Pasilobus'* Trap**

*Pasilobus*, only to be found in New Guinea, is a great expert at preparing traps. The webs it spins are very sticky. The whole web is slung between two fixed points. The knot at one end is very tight, but the one at the other end is left quite loose. This is not a mistake, and is not a result of the spider's not concentrating. That this is a hunting strategy can be seen when the prey approaches. When a moth flies into the web, the loose loop end becomes detached. Because the other end stays fastened, the insect remains hanging like a bundle in the air. Later the spider approaches it and sprays a sticky material all over it, starting from the head. In this way the spider catches its prey alive.

# **THE CHARACTERISTICS OF THE JUMPING SPIDER**

## **Flawless Jumping**

In contrast to many species of spider which spin webs and wait, the jumping spider prefers to attack its prey itself by—as the name suggests—jumping on its prey. The spider is so expert at doing this that it can catch a flying insect from more than half a metre away.

The spider can use this amazing technique thanks to the power of hydraulic pressure in its eight legs. At the end of the attack, it suddenly descends on its prey and digs its strong fangs into it. The leap usually takes place between plants in overgrown areas. To do this successfully the spider has to calculate the appropriate angle, together with the victim's speed and direction.

Even more interesting is how the spider manages to avoid being killed after it catches its prey. The spider risks death, because in order to catch its prey, it naturally has to hurl itself into the air. So it could crash back to the ground from this distance (generally from the top of a tree). But the spider avoids this hazard by tethering itself by the thread it spins to the branch it is perched on just before jumping. This stops it from falling and enables it to hang in the air. The thread is strong enough to bear both its own weight, and that of the prey it has caught.

## **Mission: Locate and Lock on Target**

The other physical characteristics of this expert jumping spider species are also impeccable. Two of the eyes in the middle of its head are extended forward like binoculars. These two large eyes can move left and right and up and down in their sockets. Thanks to their retinas of four tiers, which are sensitive to green and ultraviolet wavelengths, the spider's eyes give it excellent distance vision. The other four eyes on the side of its head do not see with the same clarity, but they can sense any movement around them. In this way the animal can easily perceive prey or an enemy behind it.<sup>13</sup>

Let us think about what we have learned about the jumping spider so far. Its bodily construction is such as to enable it to make swift moves, and catch its prey with one jump. In the same way its eyes allow it to see its prey from any direction.

Naturally, the spider did not think that these extra eyes might be useful to it and then make them. And these eyes did not come about by chance. The animal was created, together with its characteristics, by God. The theory of evolution, which cannot explain how even one eye came into existence, is unable to make any comment concerning the jumping spider's eight eyes and the perfect coordination between them.

## **A Perfect Camouflage Technique in Every Way**

If you are asked what you can see in the top right-hand picture, you will naturally say "A few ants on and under a leaf." But the thing waiting beneath the leaf in the picture is not an ant. It is a type of

jumping spider known as *Myrmarachne*. The only way of telling the spider from the ants is by the number of its legs. Because spiders have eight legs and ants six.

How is the jumping spider able to deceive the ants? It does so not just by resembling them in appearance, but also by mimicking their behaviour. For example, in order to disguise the number of its legs, the jumping spider holds up its front pair of legs to simulate the ant's waving antennae.<sup>14</sup> In this way they resemble the ants' antennae. At this point we have to stop and think: this means the spider is able to count. The spider has first counted the number of its own legs and those of the ants, and then compared the two. Seeing the difference, it understood that it would have to get rid of them, and in a most conscious manner it made its own extra legs resemble antennae.

There are several points to be borne in mind here. First of all, the spider is physically a completely different creature from the ant. For the spider to look like an ant, it is not enough for it to stick its legs up in the air. It also has to copy the ants' walk and body position. To do this it has to be an expert observer and also be expert at portraying what it sees, like an actor playing a role.

As we have seen, the spider uses methods of imitation, which require thinking, putting its thoughts into action, and realising the necessary physical transformations as it does so. No thinking, intelligent person will find it hard to see that the spider cannot do all this. For one thing, the spider's brain is not capable of that kind of thinking. So, what is the source of the spider's abilities? But before coming to any conclusion, it will be useful to examine some other qualities necessary for the disguise to be complete.

The spider's disguise consists of more than just the above. In order to look like an ant it needs to hide its eyes, which are not single large points, like the ants' are. But a characteristic of the spider has resolved this problem. Two dark spots on the spider's sides mimic the weaver ant's large compound eyes.<sup>15</sup>

Let us stop and think. The spider cannot know about the two spots on either side of its head. It is hardly intelligent to talk about a situation where a spider knows about something and consciously develops a strategy from it. In that case, how did the spider, which lives on ants and mimics them, come by the counterfeit eyes on the side of its head? How did the spider manage to "learn," "count," and "mimic?" What would have happened if it had not had those false eyes? In that case, no matter how good a mimic the spider was, the ants would identify it. If the ants realised the danger and reacted before the spider did, then that would be the end of the spider. The ants would kill the spider with their powerful jaws. As is obvious, it is not enough for the spider to mimic ants, it also has to have those false eyes from birth for the disguise to be successful.

These are a few of the characteristics which the spider needs to survive. Should one of them be lacking, the jumping spider would soon die. In this case it is impossible to say that the spider came by its characteristics by coincidence. The spider came into possession of all of them at the same time. God has created every living thing in a perfect form, together with every characteristic it will need.

## **Flick-knife Jaws**

The male of the *Myrmarachne plataleoides* spider has a most interesting appearance. The males of this species have a long "nose". When the spider catches its prey, or if it is in danger of attack, he splits

the "nose" and unfolds the haves into jaws with unsheathed fangs at each tip.<sup>16</sup> The spider can then use these very long, sharp extensions like swords.

## **The Devotion of the Jumping Spider**

The jumping spider carries its newly born young on its back for a time. In this way it can both meet their needs and protect them better.<sup>17</sup> The spider, which is a pitiless death machine to its enemies, behaves at the same time most affectionately to its offspring. This is a situation which poses many questions for the evolutionists, who claim that there is a struggle for life between living creatures in nature and that only the fittest can survive. But when we examine living creatures in nature, we come across examples in direct opposition to the evolutionists' claims. There are obvious examples of devotion between creatures of both the same and different species. This fact of animals sacrificing themselves for other living creatures, or of risking death for their young, puts evolutionists into an impasse when they look at nature. One scientific magazine describes the position as follows:

The question is why living things help each other. According to Darwin's theory, every living thing is in a constant state of war to preserve its own life and to reproduce itself. Since helping others will decrease the chances of its own survival, this behaviour pattern should have died out in the long term. Whereas it is seen that living things can be self-sacrificing.<sup>18</sup>

It is obvious that it is impossible to explain mother animals' love for their offspring by any evolutionary mechanism. This is such a definite fact that many evolutionists, such as Cemal Yildirim, have had to admit it:

Is there any possibility of explaining love for offspring by any "blind" system that does not include emotional factors (natural selection)? It is certainly difficult to say that biologists, and Darwinists, have been able to give any satisfying response to this question.<sup>19</sup>

Of course it is not possible to explain the concepts of love, compassion and the desire to protect in terms of any "blind" system. Because it is God who inspires all behaviour in animals, which lack consciousness and intelligence. It is not possible for any animal, of its own accord, to demonstrate sacrifice, to prepare plans, or indeed to do anything else. It is God who controls everything.

# THE MIRACLE OF SILK

Everybody knows that spiders use silky threads produced from their own bodies in order to spin webs. But the stages of production of the thread and its general features are not so well known. The thread produced by spiders, of a diameter less than one thousandth of a millimetre, is five times stronger than a steel thread of the same dimensions. It can, moreover, stretch to four times its own length. Another striking feature of the silk is that it is very light. We can demonstrate this with an example. A silk thread stretching around the whole world would only weigh 320 grams.<sup>20</sup>

It will be worth having another look at the above technical details. We cannot just gloss over the fact that the silk is five times stronger than steel. Because steel, known for being one of the strongest materials in the world, is an alloy produced in large factories in a series of processes. Spiders' silk, however, five times stronger than steel, is not produced in large factories: it is made by an arachnid. Just about any spider we can see anywhere can produce it. Steel is a heavy material, for which reason it is difficult to use. It is produced in large furnaces at high temperatures and is prepared for use by cooling in moulds. In contrast, spiders' thread is very light. It is produced in the spiders' own small bodies, not in giant furnaces and moulds.

Another miraculous aspect of spider thread is that it is very elastic. It is very difficult to find a material both strong and elastic. For example, steel cables are one of the strongest materials around. But because they are not elastic like rubber, they slowly lose their shape. And although rubber cables do not lose their shape, they are not strong enough to lift heavy weights. On the other hand, as has been described above, spider silk is five times stronger than steel wire of the same thickness, and 30 percent more elastic than rubber of the same thickness.<sup>21</sup> To put it in technical terms, spider thread, from the point of view of its resistance to breaking and the extent it can stretch before breaking, is a material the like of which does not exist.

The research into spiders carried out over the last few decades, and the information resulting from it, has brought with it several questions. For example, if mankind makes steel and rubber cables as a result of the knowledge gathered over hundreds of years, then with what knowledge is spider thread, which is so superior, made? How is it that mankind cannot fully grasp the formula and put it into operation? What is it that makes spider silk so superior? The answer is hidden in the construction of the silk. Research by international chemical manufacturing companies has only partially determined the make-up of spider thread.

## **The Make-up of Silk**

The silk spiders make is much stronger than any known fibres, natural or synthetic. When scientists realised this they began experimenting to understand in what way spiders make it. The first ones thought this would be as simple as getting silk from silkworms, but later it dawned on them they were wrong.

Evolutionary zoologist Fritz Vollrath, of Aarhus University in Denmark, realised, as a result of his research, that it would not be possible to make it by taking it directly from spiders. This being the case,

scientists then came up with the idea of "the production of artificial spider silk" as an alternative. But, before that, it was necessary for the researchers to find out how the spider produces the silk. This took quite a few years. The zoologist Vollrath discovered an important part of the method in his later work. The spiders' method is remarkably similar to the process used to manufacture industrial fibers such as nylon: spiders harden their silk by acidifying it. Vollrath concentrated his work on the garden cross spider known as *Araneus diadematus* and examined a duct through which the silk flows before exiting. Before entering the duct, the silk consists of liquid proteins. In the duct, specialized cells draw water away from the silk proteins. Hydrogen atoms taken from the water are pumped into another part of the duct, creating an acid bath. When the silk proteins make contact with the acid, they fold and form bridges with one another, hardening the silk.<sup>22</sup> But of course the formation of the silk is not as simple as described here. For silk to emerge, other materials and sacs of various properties are needed.

The raw material of spider silk is "keratin," a protein that appears as braided, helical strands of amino acid chains. This material is also found in hair, horn and feathers. The spider obtains all the raw materials for its silk from a synthesis of the amino acids it secures by digesting its prey. Spiders also eat and digest their own webs, thus producing inside their own bodies the material for further web production.

There is an area at the base of the spider's abdomen where the silk glands are found. Each gland produces different elements. Different types of silk threads are produced from different combinations of the elements from these glands. There is a great conformity between the glands. During the silk production process, specially well-developed pumps and pressure systems within the spider's body are used. The raw silk produced is thrown out in the form of fibres by spinnerets (nozzles) which function like taps. The spider can alter the spray pressure within these spinnerets as it wishes. This is an especially important feature. Because in this way the make-up of the molecules which form the raw keratin is changed. By the use of the control mechanism in the valves the diameter, resistance and elasticity of the thread can be altered while it is being produced. Thus the thread can take on the desired physical characteristics without the need for a change in its chemical composition. If any greater change to the thread is desired, another gland has to come into operation. The resulting tiny silk threads with their many features are then set in the desired way by expert use of the rear legs.

The ratios in which the products of six different glands are mixed are of the utmost importance. For example, when the sticky thread is being produced, if that material which gives the sticky quality is not used in sufficient quantities, it will lose the ability to catch insects. If it is used in too great quantities, the usability of the web will be reduced. For the thread to serve its purpose, the products of the other glands must necessarily be applied at the right level.

The result of these processes being successfully completed is spider silk, with its properties, all different from each other, and able to serve different functions. Spider silk is so strong that Vollrath, the zoologist, describes it in these words: "Spider silk is stronger and more elastic than Kevlar, and Kevlar is the strongest man-made fiber."<sup>23</sup>

And these are not the only special qualities of spider silks. Unlike Kevlar, a kind of plastic used in the production of bullet-proof jackets because of its strength, spider silk can be recycled and used again and again.

The most important point here is that this most perfect product in the world, stronger than steel and more elastic than rubber, is made in the body of the spider. Even the largest textile factories, the most

developed weaving establishments, and chemical laboratories fully equipped with the latest technology and researching into atoms have been unable to manufacture anything quite like spider silk. So how did a spider plan such an incomparable chemical make-up? After having planned it, how did it identify the source of the raw materials necessary for production and how did it settle on the six basic ingredients? What measuring equipment did it use to establish the proportions between them?

There is no doubt that all of this could not have come about by chance, as the evolutionists maintain. The spider cannot create a new system within its own body. It is not possible for it first to identify what it will need and then locate them inside its own body. Such an idea is far removed from the realms of science and logic.

It is definitely not possible for a system which produces silks with all their different features to have come about by itself. Such a claim is simply nonsense.

Of course God, Creator of the heavens and the earth, also created the spider and this superb system. God it is Who creates everything flawlessly and Who is aware of all creation.

**...He has no partner in the Kingdom. He created everything and determined it most exactly.  
(Surat al-Furqan: 2)**

## **The Most Suitable Threads for Their Purpose**

It is not widely known that spiders use more than one type of thread when spinning their webs. Actually, spiders make different threads in their bodies for different purposes. It is obvious what an important characteristic this is when we consider spiders' lives. For it is essential that the threads the spider walks about on, and those it uses to catch its prey or to wrap it up tightly, should be different from one another. For example, if the thread which the spider walks about on were as sticky as that which it uses when hunting its prey, then the spider would also get stuck in it, and that would lead to its death.

Let us consider an example. All spiders produce and use a variety of silks, but the orb-weaving Araneid spiders appear to make the most diverse use of them, and they produce the most familiar silken structure, the orb-web. These spiders produce at least seven silks. These are, first, the silk which constitutes the frame and radii of the orb-web and the dragline upon which the spider lowers itself; and second, the viscid silk which is used to form the catching spirals of the orb-web. In addition, the spider produces a glue to coat the spiral silk; accessory fibres that apparently reinforce the frame and dragline silks; cocoon silk; a silk to wrap captured prey; and a silk to attach the frame and dragline silks to the substrate.<sup>24</sup>

These silks, in the same way as they have different qualities from the point of view of strength and elasticity, also exhibit different thicknesses and levels of stickiness. For example, although the dragline, which plays such a large part in the spider's life, does not possess the quality of stickiness, it is nevertheless strong and elastic. It can easily bear weights up to two or three times the weight of the spider. It is thanks to this silk that the spider, carrying the prey it has caught, can move safely up and down.

As we have seen, in order to live, the spider needs to be able to produce different types of silk and also to know where to use each one. For even one of these to be lacking would mean death to the spider.

It would not be possible for a spider to survive without possessing all of these at once. Imagine a spider which spun perfect webs to wonderful designs but whose webs were not sticky. This would render the spider's web completely useless. It is not even an option for it to wait thousands of years for the process of evolution to teach it how to make sticky webs, because without this knowledge the spider would be dead within a few days. Or imagine a spider which could produce all kinds of silk but was unable to make a web. Of course the silks it made would be of no use at all and again it would die. Even if it was able to produce all the silks, but not the cocoon silks to protect its eggs; in that case the spider would die out. As has been demonstrated, spiders have never had the time to acquire all the characteristics which they possess with the passing of time as the evolutionists claim.

Not one iota of the features which spiders possess can have come about in stages as claimed by the theory of evolution. From the time of the very first spider on Earth, all spiders have had to exist in complete form. All of these facts are evidence that spiders emerged at one time, in other words, that they were created by God. By means of this miracle of creation in the spider, God is showing us His limitless power and knowledge.

## **The Elasticity of Silk Threads**

The thread shows different features, depending on what the spider will use it for. For example, the sticky threads are produced in different glands from the dragline and are thinner and more elastic. In some situations they can stretch 500-600 percent.

Spiders have a pump-and-valve system that enables them to make threads. Glandular ducts thicken the substance they exude into a highly viscous state: a liquid crystal, in which the molecules are organized in parallel lines. Strong shearing forces applied to the emergent thread by an extrusion nozzle cause many of the alpha chains to form a stable, tertiary structure, called a beta-pleated sheet.

These protein crystals are in turn embedded in a rubberlike matrix composed of amino acid chains that are not linked into beta-pleated sheets. Instead these helical strands are tangled up in a state of high entropy. It is precisely this randomness that lends silk, like rubber, exceptional elasticity. Stretching the thread pulls the protein strands out of disarray - which they resist - whereas releasing the thread allows them to contract back into blissful disorder.<sup>25</sup>

The elasticity of the sticky threads makes it possible for flying insects to be gradually brought to a stop. In this way the danger of the web breaking is reduced. The sticky substance used is produced in another group of glands with different functions. This material is so adhesive that it is impossible for insects which get caught in the web to escape.

## **Spiders' Threads Are Stronger than Steel**

The spider's silk is a scleroprotein which is emitted from the spinnerets as a liquid. Scleroprotein is a type of protein that hardens into a tough elastic structure in contact with the air. Thanks to this protein the silk is extremely strong. So strong and resilient has spider silk proved that, on the human scale, a web resembling a fishing net could catch a passenger plane.<sup>26</sup>

Silk's elasticity is balanced by its strength. Because it is a composite material, like glass fibers embedded in a resin, silk is strong. Its crystals and matrix resist breaking. A stretched thread usually snaps because a crack on the surface cuts into it like a wedge. Forces acting along the fiber concentrate at the crack and cause it to rip with increasing speed ever deeper into the material. Such cracks, however, can travel only if they do not encounter resistance. The crystals in the rubber matrix of the spider silk provide obstacles that divert and weaken the rending force.<sup>27</sup>

For something under tension even minor damage to the surface can be dangerous. But this risk is avoided by a precautionary measure in spider thread. While the garden spider spins its silk, it coats it with a liquid material at the same time, in such a way that any cracks that might appear on the surface of the silk are avoided. This method, which spiders have been employing for millions of years, is used in today's industrial cables, which bear heavy loads and need to be very strong.

The descriptions given so far have been technical ones of an existent miracle of construction. But now we must stop and think. What is the truth underlying these technical explanations? It is obvious that the spider is unaware of proteins and the crystal states of the atom. It also knows nothing about chemistry, physics, or engineering. It is a creature bereft of the capacity of thought. But as for the features it possesses, it is impossible for these to be explained by means of chance. But in that case, who is it who makes all these plans and calculations? As we study the spider's web and silk, and its ways of hunting and living, it is immediately clear that it could not have brought about this flawless technical operation all by itself.

Any spider we can see at any moment in a hidden corner or among the plants in a garden is, with its concentration of chemical, physical and architectural capability, yet another clear proof of God's art of creation. In this living creature God is revealing to us His limitless wisdom, His infinite power of creation. It is God Who inspires everything the spider does. God announces this truth in the Qur'an:

**Everything in the heavens and the earth glorifies God. He is the Almighty, the All-Wise. The kingdom of the heavens and the earth belongs to Him. He gives life and causes death. He has power over all things. (Surat al-Hadid: 1-2)**

## **The Garden Spider's Amazing Web-Spinning Techniques**

Garden spiders use a strut to strengthen their nests. In its web the spider stabilises the outermost spiral thread with 4 to 6 holding points and suspends it vertically to catch insects in flight. Apart from this, spiders fix a weight on to the lower half of the outermost spiral thread from another short thread in such a way as to make it taut. This weight, which makes the web strong and swings in the air, may be a

small stone, or a piece of wood, or a snail shell. Scientists have observed that when they gently lift the weight hanging from the web without releasing it and stopping it swinging, the spider waiting in its nest immediately emerges and checks it. Then the spider shortens the thread in order to let the weight swing free again. The results of these observations have established that all this is done by the spider with the aim of strengthening the web.<sup>28</sup>

## **The Most Pitiless Trap in the World**

Prey caught in a spider's web can do little about it. The trap is prepared so expertly that, as the victim struggles, the web loses elasticity and grips the prey even tighter. As a little time passes and the victim becomes completely powerless, the web grows stronger and tauter than before. In this way the spider, watching the creature's hopeless struggle from a corner somewhere, can easily kill the trapped prey, which is now exhausted.

What one would expect when a victim gets stuck in a web is that, as the insect struggles, the web is pulled out of shape and the creature escapes from the trap. But exactly the opposite happens and the web grows stronger, completely immobilising the insect. How can a web increase in strength as the victim caught in it struggles?

The answer to this emerges when we examine the structure of the web. The spider's capturing threads take on a new form due to the moisture of the air. The change happens like this. The garden spider's spiral threads are formed by the coming together of two liquid-covered fibres. This adhesive liquid is produced in a different gland from those which produce the basic fibres. The silk threads which emerge from the spider's spinning glands are continuously coated in a film of this sticky material. The source of the adhesive nature of this material is the glycoproteins it contains. Furthermore, it consists of 80 percent of that economic material, water.<sup>29</sup>

As the sticky liquid comes into contact with the water in the air it separates into tiny drops which attach themselves to the thread like little beads. Contracting and stretching the sticky thread in rapid succession wind and unwind the core fibres inside the droplets. Thus, the entire system of core fibers and coating is always under tension, keeping the sticky thread taut. Energy applied by buffeting winds or blundering insects is not absorbed by the silk itself but by the entire system.

The core fibers do their share of the work as well. Plasticized and therefore essentially like reinforced rubber, they benefit directly from the fact that entropic elasticity is temperature dependent. Because the kinetic energy of the prey is largely converted into heat, the thread warms up. The heating increases entropy, and consequently the core fibers grow stronger. The absorbed energy of the prey actually strengthens the capturing thread and does so only because of the spider's clever trick of applying aqueous coating.<sup>30</sup> On account of these features the spider's web is the most pitiless trap in nature.

One may wonder whether these features are present or not in other silken threads. What would happen if that were the case? For example what would happen if load-bearing threads had the same stretching capacity? Of course it would be quite difficult for the spider to carry itself or its prey. In fact, the load-bearing silks, which make up the skeleton of the web, in contrast to the catching threads, are

coated in another substance which protects them from water, because it is not necessary for the load-bearing threads to be as elastic as the adhesive ones.

As has been seen, the spider makes coatings of different substances for silks of various functions and construction as and when necessary. Right, so how does the spider know about the coatings' different physical and chemical effects? To maintain that the spider was trained, or came by them by experience or coincidence flies in the face of intelligence and common sense.

At this point just a little thought is sufficient to find the true answer. In order for the spider to be able to plan all this, it would first have to learn all the molecular structures, and the chemical mechanisms which cause the liquid to solidify as we have described above. Then after learning all this, it would then have to decide to go into production. After reaching that decision it would then have to bring about certain changes within its own body and set up the systems to make all these products.

This, of course, is an imaginary scenario. As we have seen, the perfect planning of the spider's body and its purposeful behaviour cannot be explained by any event in nature or any other force. That the spider was unable to do all of this for itself is a fact that any intelligent person can see. It is not possible, therefore to explain the spiders' purposeful behaviour and physical structure by changes over time or any other evolutionary process.

All living creatures in nature have characteristics similar to, or even more detailed, than those of the spider. Observing any one of them will suffice to confirm the obvious planning in these living creatures. The existence of a force which governs all of them is quite clear. Their physical planning, or else their behaviour prove that these living things were made by a creator, in other words, by God. It is enough to use our intelligence to see this. God, the Lord of all the worlds has announced this fact to mankind with His verse, '**(He is) The Lord of the East and the West and everything between them. If only you used your intellect.**' (Surat ash-Shu'ara': 28)

## **The Spider's Silk and the Defence Industry**

A material's strength and elasticity are of great importance in the industrial sector. Strength widens the field in which it can be used, and elasticity increases the ease with which it can be applied. From the point of view of strength and elasticity, spider thread is the most perfect material in the world. For this reason researchers greatly increased their studies of spider silk in the last quarter of the 20<sup>th</sup> century. As a result of these they have been able to produce by chemical means only something resembling spider silk but of much poorer quality. In short, modern technology, despite all its resources and research, has been unable to produce a thread with qualities equivalent to that which the spider makes.

Spider thread is a protein principally consisting of the amino acids glycine, alanine, serine and tyrosine. The Du Pont company has produced various synthetic fibres by unearthing the chemical formula of the silk and determining the order in which the molecules which make it up lie. Every giant molecule in this synthetic polymer is made up of thousands of molecular chains of carbon, oxygen, nitrogen, and hydrogen atoms. This product, known as "Kevlar," today produced artificially, is the most developed of organic fibres. With their strength and elasticity, Kevlar synthetic fibres come closest to the physical characteristics of spider silk.

Kevlar is used in car seat-belts and in various items of protective clothing. It is an important product also used to large degree in the aircraft and shipping industry as an external material, in the production of fibre-optic and electro-mechanical cables, in the rope and cable industry, and in various sports implements.

Kevlar fibres are made from "poly-paraphenylene terephthalamide." This fibre, consisting of long molecular chains, is suitable for bending and using as a thread thanks to its construction. Its properties of durability and lightness have led to this material being used in many areas of industry.

One of the most important fields in which Kevlar has been utilized in this century has been the defence industry. Bullet-proof vests, which used to be made from steel, are now made from fabrics woven from Kevlar fibres, which look no different from ordinary cloth. Kevlar, thanks to its shock-absorbing properties, reduces the bullet's force of impact. This is a most important discovery from the technological point of view, as well as being a most useful one. Yet despite these excellent properties, Kevlar fibres' shock-absorbing properties are only one-third of those of spider silk.

There are important conclusions and warnings here for anyone who considers the fact that scientific research centres with the most up-to-date technology have only been able to produce a less-developed imitation of the silk the spider produces. This contrast is one of the proofs that it was God who made living creatures with His matchless creative power.

## **The Place of Spider Silk in Peoples' Lives**

During research into the chemistry of spider silk, threads are drawn from spiders by special machines. In this way it is possible to obtain 320 metres of silk a day from each animal (about 3 milligrams) without harming it.

Medical science is another field where the threads produced in this way are used, or rather where the spider is of service to mankind. Pharmacologists at Wyoming University in the USA use the threads from the *Nephila* spider as threads in some very sensitive operations, such as on tendons and joints.

## **WEBS, A WONDER OF PLANNING**

The spider web is made up of load-bearing frame threads and spiral capturing threads laid over these and coated with a sticky substance, as well as threads binding all the threads together. The spiral coated sticky threads are not completely tied to the scaffolding threads. In this way the more an insect caught in the web struggles, the more it gets stuck to the web. As the capturing threads stick all over the insect, they gradually lose their elasticity, both growing stronger and stiffening. In this way the insect is trapped and immobilised, and can be violently cut up. After this the prey, held by the unyielding scaffolding threads, like a wrapped-up, living food parcel, has no alternative but to wait for the spider to come and deal the final blow.

### **The Web's Shock Absorbency**

In order for spiders' webs to be an effective trap, it is not enough for them to be adhesive or to be made of threads with different characteristics. For example the web must be designed in such a way as to catch insects in flight. If we compare the insect caught in the web to a guided missile, just stopping the insect will not be sufficient. The prey caught in the web must be rendered immobile, so that the spider can come and examine and bite it. Catching a missile and immobilising it is no easy task.

The threads which make up the web are at the same time both strong and elastic. But the level of elasticity of the web is different in different areas. This elasticity is important for these reasons:

- If the level of elasticity of the threads were less than required, an insect flying into the web would bounce back the way it had come, as if hitting a hard spring.
- If the elasticity of the threads were more than required, the insect would over-stretch the web, the sticky threads would adhere to each other and the web would lose its shape.
- The effect of the wind has also been allowed for in calculating the threads' elasticity. Thus a web stretched by the wind can resume its previous form.
- The level of elasticity is also important in relation to what the web is attached to. For instance, if it is attached to a plant, the elasticity has to be able to absorb any movement caused by the plant.

The spiral woven capturing threads lie very close to one another. The smallest swing could stick the capturing threads to each other, opening wide gaps in the trapping field. That is why the high-elasticity, sticky capturing threads are laid over dry, low-elasticity threads. This is a precaution against potential escape holes being formed.

As we have seen, a miraculous structure can be observed in every feature of the web. Every possibility has been thought of. This reveals once more the senselessness of the theory of evolution. It is, of course, impossible for changes which came about by coincidence to teach a spider to make the shock-absorbing properties of the web. It is God Who gave the spider this capacity, Who enabled it to display purposeful behaviour.

**He is God – the Creator, the Maker, the Giver of Form. To Him belong the Most Beautiful Names. Everything in the heavens and earth glorifies Him. He is the Almighty, the All-Wise. (Surat al-Hashr: 24)**

## **Three-Dimensional Webs**

Three-dimensional webs have a much more complicated structure than two-dimensional ones. These webs are complicated three-dimensional structures, as opposed to being in just one plane. This type of web resembles a pile of woollen balls. For this reason it is harder to manage than the two-dimensional one. If small insects and parasites that are not worth the spider's bother get caught in the web, then the spider has more work to do. For this reason the spider chooses to make its web in places where there are no visitors of this kind.

One spider which uses this kind of web is the Black Widow. Inside the web of this spider, with its architectural mastery, there is also a mechanical trap. This trap forms a dense and sticky area. This web ball is tied to the ground with not particularly strong threads. As soon as a moving creature gets stuck to the web ball, the threads break, and the ball comes free of the ground. Shortly afterwards, the spider pulls the trap up, right into the three-dimensional web, and kills its motionless prey.

We must carefully examine the plan of the three-dimensional trap and the method employed by the spider, because there is clearly intelligence in the planning of the web. With or without a mechanical trap, the same method is used in three-dimensional webs to slow down the prey in its flight. These are specially woven in the framework of a plan with a large number of weak threads. Once the insect gets caught up, these weak threads snap. At that point, because the insect's movement energy goes into snapping the threads, its speed is reduced. Then the capturing threads catch the writhing insect.

Of course the spider did not learn all by itself to spin this web—which works according to a flawless plan—after a so-called period of evolution. Like other living creatures, spiders follow God's command. God, the Compassionate and Merciful has announced this in the holy verse "**...everything in the heavens and earth, willingly or unwillingly, submits to Him and to Him they will be returned.**" (Surat Ali 'Imran: 83)

## **Managing the Web**

Spiders' webs need constant management, because the spiral sticky part may be damaged by rain or by prey struggling to escape. Furthermore, dust sticking to the web may destroy the stickiness of the spiral threads.

A web may, depending on where it is, lose the properties which enable it to catch insects in a very short time – 24 hours even. For this reason the web is periodically torn down and re-built. The spider eats and digests the threads of the web it is tearing down. It will use the amino acids in the threads it digests to build a new web.<sup>31</sup>

That part of the web which is eaten, and the time, differs according to the species of spider. Garden spiders, for example, do not touch the frame of the web, but just eat the radius of the web and the sticky spirals.

Tropical spiders construct their webs in darkness and eat them at dawn. Spiders in temperate regions eat their webs at night and build new ones for the day, because in these regions there are not as many night insects as there are in tropical regions. For this reason it is essential for the webs to be up throughout the day.

## **Building Webs to Suit the Prey**

Spiders weave their webs to suit the size of the creatures they wish to hunt. The South American spider, for example, weaves a web with narrow openings that enable more easily to catch the white ants which come out to seek new nests in September. When it wants to hunt an insect such as a large butterfly it widens the openings and increases the web's strength and elasticity.

The angle of webs is also changed depending on the sort of prey that is expected to be caught (flying, walking, crawling, etc.). This both lessens damage and increases the trapping capacity.

## **Warning to Birds and Camouflage**

Spiders tend to build their webs, which are so valuable to them, in quiet places. The reason for this is to prevent them being destroyed by animals or natural conditions. Spiders use most interesting methods to protect their webs. One of the most interesting of these is to be seen in the web of the Central American *Argiope* spider. These spiders place shiny white zig-zag markings on their webs. These markings are warnings to birds, reminding them not to venture inside the web. The spiders also use these markings to hide behind. The spider waits behind these markings and in this way prevents the prey from seeing it.

## **Models Inspired by Spiders' Webs**

Nowadays one very popular method of making industrial plans is to use examples from nature. That is because models in nature are flawless in every way. Inter alia, energy-saving properties, aesthetic qualities, flawless practicality, and the manoeuvrability essential to a plan already exist in perfect form in nature. Models which man produces with his own capabilities and the knowledge gleaned over long years and as a result of difficult processes, do not generally go beyond being poor imitations of their counterparts in nature. This can be easily seen when we compare these imitations with nature's originals.

Spiders are one of the living creatures taken as an example. For instance, the web of the crested, or dew spider is quite perfect from the aesthetic and engineering point of view. These spiders make their webs at a horizontal angle, in such a way as to make them resemble a sheet, on meadow grasses. Using upright blades as load-bearers, they distribute the overall weight of the web.

Man has copied this method in order to cover large areas. The Munich Olympic Stadium and Jeddah Airport terminal, often quoted as examples of modern architecture, were built using these spiders' webs as an example.

Spiders have been using these models, which man has produced by imitation, all over the world since they first emerged. Of course a fair degree of engineering knowledge is needed for such models to emerge and to be put into practice. But spiders know nothing about either construction engineering or architectural planning, having received no such training. They, like other living creatures, behave only in accordance with the inspiration given to them from birth by God. This is the only cause of their architectural wonders. God reveals in a verse that all living creatures are under His control.

**That is God, 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)**

# THE MIRACLE OF CREATION

## One Example of Perfect Creation

We know that spiders are "engineers," making webs, those wonders of architecture and engineering. They are also killing machines, preparing mechanical traps, capable of building nests under water, hunting their prey with lassos from their webs, capable of giving off chemical poisons, holding on to a thread and jumping from hundreds of times their own height, creating threads stronger than steel within their own bodies, and camouflaging themselves for hunting. We come across further miracles when we examine the structure of their bodies, alongside the properties they possess.

There are many features in all spiders' bodies bearing witness to their having been created, such as combs working like a weaving factory, laboratories making chemical products, organs producing very strong digestive properties, senses capable of perceiving the slightest vibration, strong fangs capable of injecting venom, and so on. Considering all of these properties, the spider gives the lie to the theory of evolution and once again destroys such a derisory hypothesis as coincidence.

Let us examine the organs in the spider and their features.

### The Body

The spider's body is composed basically of two parts, the combined head and thorax (cephalothorax), and the abdomen. The head and thorax have eight eyes, eight legs, two venom fangs and two feelers. At the tip, the soft and elastic abdomen are spinnerets and holes for breathing systems. The cephalothorax and the abdomen are joined by a small stalk called the "pedicel." No other living creature's waist is as thin as the spider's. Through this narrower than 1mm stalk pass the digestive tract, veins, windpipe, and nervous system. To put it more generally, there is a special linear system joining the two halves of the spider's body. These lines form a link between the splendid mechanisms within the structure of the spider's body (venom glands, silk-producing glands, the whole body's nervous system, breathing and circulation systems) and the brain.

### Useful Legs

The spider has four pairs of legs enabling it to walk and climb even under the most difficult conditions. Each leg consists of seven parts. At the end of each leg are hairs called "scopula." Thanks to these the spider is able to walk on walls or even upside down.

The special construction of spiders' legs does not stop with allowing it to walk on non-flat surfaces. Despite the fact that their eyes do not see well, the spiders' ability to move about comfortably at night is due to the construction of their legs. Some species of spider can only sense light, or in other words possess only 10 percent of the sight of a human being. But despite this, spiders spin their webs at night and move about easily on them at the same time.

Spiders move about without treading on the sticky parts of the web, only the dry parts. They owe the fact that they are able to escape without getting caught, on the rare occasions that they tread on the sticky parts, to the fact that their feet are coated with a special liquid from their glands. The ends of the combs are known as spinnerets, each of which is covered with hundreds of spigots. The liquid silk produced by the glands in its abdomen is pushed out of the body by these nozzles and then spun in the form of silk.

### **Superior Sensory Capabilities**

With the exception of jumping spiders, most spiders have rather poor sight, and can only see for short distances. This disability, which might be a great disadvantage for a hunter, is compensated for by the spider's particularly sensitive early warning system.

This warning system is based upon the sense of touch. The body is covered with hairs which are very sensitive to vibration. Each one of these hairs is attached to a nerve ending. Vibrations resulting from touch, or even sound and smell, stimulate these hairs. The trembling of the hairs activates the nerve endings. The nerves then rapidly transmit the message to the brain. In this way spiders become aware of even the smallest vibration.

Spiders cannot perceive motionless prey, but by deciphering the vibrations given off by living things, they can work out where the insects are on the web. If the spider is not entirely certain where on the web the insect is, it establishes where the insect has landed by putting its legs on the web, tapping it and making it sway. From the resulting vibrations it can then locate its prey.

The spider's legs are the organs best endowed with these sensory hairs. The hairs are hollow, and of rigid construction. The animal can sense the origin of the vibrations emanating from a source of noise up to a metre away. Furthermore, there is another sensory system sensitive to temperature in the hairs on its legs. Then there are bald spots on the surface of its body with enormously sensitive nerve endings inside. On account of all these properties, spiders can sense any movement going on around them or the approach of any body, even on their own skin.

If a spider loses a leg, it grows a replacement a while later. The new leg will be shorter than the original one. The spider will not use this leg, which does not even touch the ground, for walking. In fact, the spider can walk quite comfortably with only half its original complement of legs, namely four. The only reason for another leg to grow, albeit a short one, is that the spider has need of the sensory hairs on it.

Spiders' sensitivity to vibrations on their webs is so well developed that they can tell whether the source is prey caught on the web or a male spider coming to mate.

Until a few years ago, it was thought that webs, because of their elastic construction, could not transmit vibrations. But research, using the newly developed machines called the "Doppler Laser Vibrometry," shows that the situation is quite the opposite. It is now known that webs conduct vibrations, despite their elastic construction, and that they increase the level of the vibration.<sup>32</sup> However, no scientific reason for this has yet been discovered.

The spider can very clearly perceive any kind of warning, from a tiny sound wave to vibrations on its web. This extremely useful early warning system which passes over the web, is a mechanism having the most useful characteristics from the point of view of the spider. If we consider the fact that each one

of the thousands of hairs on the spider's body is attached to a nerve ending and thence to the brain and that the spider can rapidly evaluate the warning signals it receives, the complexity of the system will become more apparent.

### **Venom-Pumping Fangs**

The spider has two powerful fangs in front of its eyes. These fangs are weapons the spider uses for hunting and for protection. Behind each fang is a venom gland which pours its lethal poison into a poison hook. When the spider wishes to immobilise its prey, it sinks its fangs into it. Then it pumps venom into its victim's body through holes in its fangs.

Spiders also use these fearsome, deadly tools for building their nests and carrying small objects. To the side of the fangs are two extensions, instead of antennae, called pedipalps (feelers). The spider uses these to examine the victim it has caught in its web.

As we have seen, spiders' sensory systems are of a very special design. It is clear that this system invalidates the claim of the theory evolution of development over time. Alongside this, it is impossible to explain the existence of systems whereby the spider produces lethal poison within its own body by coincidence.

The venom's chemical make-up allows it to kill insects. In order that it should not harm the spider, the venom is stored in a specially insulated area. In the same way the spider's fangs are extremely functional. The venom-pumping mechanisms being located inside the tissue-cutting fangs allows the transfer of the venom into the victim. In this way the fangs work like a chemical, as well as a physical weapon. This demonstrates once again that every part of the spider's body has special planning, which cannot be explained by coincidences, mutations, or any other imaginary evolutionary mechanism.

The spider, together with all its properties, was created by God. All these properties are evidence for us of God's art.

### **Paralysing the Prey and Digestion**

The spider completely wraps the animals which get caught in the web in another thread, which it produces after they become well stuck to the web. Then it takes the prey in its fangs and fills it full of venom, killing it.

The spider can only digest liquids. Tiny particles larger than one-thousandth of a millimetre are filtered out by hairs around its mouth. So, it is necessary for the spider to liquefy this creatures' tissues before it can digest them. For this reason the spider pulls apart the insect's tissues with digestive enzymes. Once the tissues have become fluid enough, it takes in the liquid thanks to its very strong sucking system. For example, after killing a bee, the *Misumenoides Formosiges* spider opens two holes, one in its head or neck, the other in its abdomen. Then it sucks the juices in the bee's body up through these holes.

The spider mixes the tissues it has sucked up with the digestive juices in its body. When the force of vacuum in the victim's body grows greater than the spider's sucking power, the spider relaxes the sucking muscles around its stomach. This allows some of the digestive juices within the spider's body to

enter different parts of the bee's body, where they dissolve the tissues there too. Then the spider sucks through the other hole in its abdomen. The rotation continues until the bee is completely emptied. Beyond simply being a source of food for the spider, the bee's body becomes part of the spider's digestive system, a temporary extension of it. Finally the bee comes to resemble an empty egg shell; nothing remains of it but a shell.

Insects are not spiders' only prey. Frogs, mice, fish, snakes, or small birds can all fall victim to spiders. Spiders known as "bird spiders" are even powerful enough to catch and digest rabbits and chickens.

## **The Water-Walking Spider**

Water-spiders possess a special structure allowing them to walk on water. These spiders have a thick, velvety plait consisting of hairs covered in a water-resistant wax on the ends of their feet. This allows the spider to walk on water without sinking. The spider's ability to remain on the surface of the water is so high that, even if it were 25 times heavier than it is, it would still comfortably be able to walk on the water.

While walking on the surface of the water, water-spiders use their rear legs as rudders. Their middle legs enable them to move, while the job of the shorter front legs is to catch their prey. Water-spiders move so quickly that they can suddenly make a leap of a metre on the surface of the water. This means they move at the speed of a motor-boat.

When hunting, the water-spider uses the surface of the water like a web. A dragonfly, fly, or butterfly which falls on to the water as the result of a faulty manoeuvre becomes an ideal prey for this species of spider. When these insects' wings come into contact with the water, they become trapped on the surface of the water, as if on fly-paper. The faintest vibration they make on the surface of the water is then sensed by the spider. Furthermore, the spider is not only able to establish the prey's location through these vibrations, but also its size. It immediately goes to where its prey is stuck on the water, bites, poisons, and kills it.

Who made this coating on the hairs on a spider's feet to stop it from sinking, one wonders? This question can be broadened by thinking that every water-spider there has ever been has had its feet coated in this way. How do the spiders know about the water being able to keep them afloat, the properties of water-resistant molecules and their reaction with water molecules? Since they could not have planned this system themselves, who did? Since this planned system based on water surface tension could not have come about by itself, or by chance, how did it come about? And how did spiders pass on this system and the chemical formula of the product that keeps them from sinking to later generations of spiders?

The answers to these questions will bring us to the existence of a perfect creation. The spiders were created in perfect form by God. In the same way as God gave every species the properties it would need, he gave these spiders the feature of being able to walk on water, which they would need.

## CONCLUSION

The theory of evolution is a speculative claim, unsupported by any scientific criteria and based on no valid evidence. Beyond this, its claim that every living creature should have emerged as a result of countless, completely improbable coincidences, is based on a foundation totally lacking in any intelligence or science.

Despite this, evolution is the only hope that certain ideological circles have embraced to keep society at large from the truth. For this reason, and despite all arguments to the contrary, they are still trying to keep it on the agenda. Yet the theory of evolution is helpless in the face of the spider, which we have examined throughout this book, as it is in the face of every living thing created in nature; it is quite unable to explain how the features which spiders possess should have come about.

If we consider the features possessed by spiders from the point of view of evolution, we can better understand what an unsound claim the theory of evolution is. Let us consider a species of insect which we shall imagine as the ancestor of all spiders. Let us imagine that this creature is deaf and almost blind, like many spiders today. In such a state it should be unable to hunt anything and immediately die of hunger. But, somehow or other, this insect managed to stay alive, by coincidence or some other inexplicable force.

One day this blind and deaf insect has the bright idea of building a web for hunting. That would mean having somewhere to live as well as an ideal trap for hunting. But this insect does not possess the architectural capacity and calculating ability necessary to make a web. One by one it needs to calculate the speed of the wind and the prey it will trap, the loads the web will have to bear, the spread of these loads, the load-bearing capacity of the plants and leaves, etc., on which it will build its web, and many other details. At this point the question, "How can a spider make calculations?" may arise. But it must not be forgotten that this is the basic logic of evolution: evolution, in its attempt to deny creation, has no alternative but that the insect performed these calculations itself.

Nevertheless, even if we accept that the insect has the intelligence to plan the construction of a web, it still cannot escape death; because it lacks the tools to make the web. Tools with the properties essential to the job do not exist in nature. This being the case, it decides to produce the thread to make its web. But once again it faces a huge problem; how is it to produce this thread?

Having said which, that force known as coincidence again enters the equation, a number of changes take place inside the insect's body, and suddenly six different glands emerge perfectly formed in its lower body ready to give off the chemical liquids. Then these glands begin to function under equal pressure and time systems. Again by coincidence, the chemical liquids produced by these glands mix with each other in particular proportions and the raw material of spider thread emerges. By another coincidence, and at the same time, the spinnerets on its back legs spin the fibres and a perfect thread for the insect is produced. So helpful is coincidence that the emerging thread is five times stronger than steel and thirty percent more elastic than rubber. This thread, with its various molecular characteristics, which cannot be completely imitated by man, has been planned by a tiny little insect.

Next, the insect weaves a web, sometimes using sticky and elastic threads, at other times rigid and strong ones. What a lucky coincidence that the insect's legs are seven-jointed to enable it to walk on the web! And another product of so-called coincidence was already on its feet, the special coating to stop it sticking to its own web. And the coincidences do not end here. The body of this deaf and almost blind insect was already covered in special hairs capable of sensing the slightest vibration on the web, from the very first day it wove the web. And so today's spider emerges as a result of coincidentally acquired capabilities which we have been unable to detail here.

It is quite evident from an examination of this scenario what an unintelligent hypothesis the theory of evolution is. One important point must be made here. Firstly, the features the spider possesses can in no way have come about over time. The abilities under discussion must all have been in place in the spider at the same time. There can be no such thing as a spider which knows how to make a web but cannot produce silk, or which can produce silk but does not know how to build a web. As for spiders which do not build webs, such as the jumping spider, these were created together with greater properties which have given the lie to evolution thousands of times.

If the spider can spin the most beautiful webs, but there is not the sticky material which it spreads over its web, then it will still serve no purpose. If the sticky material is there, but this time the molecular features which give the sticky threads their elasticity are lacking, which would be perfectly natural, then the web will still serve no purpose and the spider will die.

A spider which possesses all the mechanisms necessary for making silk, but does not receive the material known as scleroprotein from the food it digests, can still not spin silk. Despite all this, if it coincidentally comes by a web, then it needs the chemical coating on its feet to enable it to walk on the web without getting stuck to it. At the same time a sensory system is necessary to perceive the vibrations on the web. If even one of all of these features is lacking, then the spider will shortly die.

The spider has respiratory, digestive, and circulatory systems. Like the others, these systems must have emerged at the same time. We cannot imagine a spider without a stomach or a heart. It follows that for all the other organs like the web-making organs to exist, the genetic codes for these organs must exist in every one of the millions of cells which go to make up the spider. A new organ means extra information in the millions of stages in DNA, the genetic code. A change in one of these stages means that the new organ will serve absolutely no purpose. (For more detailed information, see Harun Yahya, *The Miracle In The Cell*, Istanbul, Vural Publishing).

Another point requiring attention is that a spider just emerged from the egg has the knowledge necessary to spin a web without receiving any training. By virtue of this knowledge generations of spiders are born capable of spinning webs. The baby spider receives absolutely no training, and attends no courses.

A construction engineer has to study at university for at least four years to acquire the knowledge necessary to put up a building. He uses hundreds of already printed academic works as a source. He performs his calculations on a computer. He has teachers to guide him and teach him to perform the calculations. The building of a web, several hundred times bigger than the spider, requires at least the same amount of calculation as constructing a building. It is not even sufficient to be a university graduate to plan and calculate the tension in the threads which make up the web, the strength of the foundation the web sits on, the correctness of the geometric form, the resistance and elasticity to be given to allow for the wind and the movement of the prey, the threads' physical and chemical properties,

and many other details which we have not been able to list. In any case, there is no university for baby spiders. Shortly after coming into the world they begin to produce thread, build webs, and hunt.

Evolutionist scientists, unable to explain the reason for this, desperately resort to another utterly comic claim. According to this logic, which denies basic creation, an unknown force, known as instinct, tells the newly-born spider what it has to do.

So, what is instinct? Is it an inspiration, whose origins are unclear, which makes the spider a professor of physics and chemistry, a construction engineer, and an architect? What is the source of this inspiration, said to be in the spider and to emerge by itself. Let us try to find this by examining the make-up of the spider.

Like all living creatures the spider is made up of proteins. These proteins are made up of amino-acids. Amino-acids, in their turn, are made by large molecules coming together. And molecules come about when atoms join together. Let us seek the answer to the above question here. Where exactly in the spider is this thing called instinct, which tells the spider how to make threads which man cannot imitate and produces incomparable works of architecture and engineering? In the proteins which make up its body? Or in the amino-acids which make up the proteins? Or in the molecules which make up the amino-acids? Or else in the atoms which make up the molecules? Which one of these is the source of the inspiration which evolutionists try to pass off as instinct?

Of course it is none of these. Like all living creatures, the spider submits to the Lord of all the worlds, and behaves as inspired by Him.

**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 EVOLUTION DECEIT

Every detail in this universe points to a superior creation. By contrast, materialism, which seeks to deny the fact of creation in the universe, is nothing but an unscientific fallacy.

Once materialism is invalidated, all other theories based on this philosophy are rendered baseless. Foremost of them is Darwinism, that is, the theory of evolution. This theory, which argues that life originated from inanimate matter through coincidences, has been demolished with the recognition that the universe was created by God. American astrophysicist Hugh Ross explains this as follows:

Atheism, Darwinism, and virtually all the "isms" emanating from the eighteenth to the twentieth century philosophies are built upon the assumption, the incorrect assumption, that the universe is infinite. The singularity has brought us face to face with the cause – or causer – beyond/behind/before the universe and all that it contains, including life itself.<sup>33</sup>

It is God Who created the universe and Who designed it down to its smallest detail. Therefore, it is impossible for the theory of evolution, which holds that living beings are not created by God, but are products of coincidences, to be true.

Unsurprisingly, when we look at the theory of evolution, we see that this theory is denounced by scientific findings. The design in life is extremely complex and striking. In the inanimate world, for instance, we can explore how sensitive are the balances which atoms rest upon, and further, in the animate world, we can observe in what complex designs these atoms were brought together, and how extraordinary are the mechanisms and structures such as proteins, enzymes, and cells, which are manufactured with them.

This extraordinary design in life invalidated Darwinism at the end of the 20th century.

We have dealt with this subject in great detail in some of our other studies, and shall continue to do so. However, we think that, considering its importance, it will be helpful to make a short summary here as well.

## The Scientific Collapse of Darwinism

Although a doctrine going back as far as ancient Greece, the theory of evolution was advanced extensively in the 19th century. The most important development that made the theory the top topic of the world of science was the book by Charles Darwin titled *"The Origin of Species"* published in 1859. In this book, Darwin denied that different living species on the earth were created separately by God. According to Darwin, all living beings had a common ancestor and they diversified over time through small changes.

Darwin's theory was not based on any concrete scientific finding; as he also accepted, it was just an "assumption." Moreover, as Darwin confessed in the long chapter of his book titled "Difficulties of the Theory," the theory was failing in the face of many critical questions.

Darwin invested all his hopes in new scientific discoveries, which he expected to solve the "Difficulties of the Theory." However, contrary to his expectations, scientific findings expanded the dimensions of these difficulties.

The defeat of Darwinism against science can be reviewed under three basic topics:

- 1) The theory can by no means explain how life originated on the earth.
- 2) There is no scientific finding showing that the "evolutionary mechanisms" proposed by the theory have any power to evolve at all.
- 3) The fossil record proves completely the contrary of the suggestions of the theory of evolution.

In this section, we will examine these three basic points in general outlines:

## **The First Insurmountable Step: The Origin of Life**

The theory of evolution posits that all living species evolved from a single living cell that emerged on the primitive earth 3.8 billion years ago. How a single cell could generate millions of complex living species and, if such an evolution really occurred, why traces of it cannot be observed in the fossil record are some of the questions the theory cannot answer. However, first and foremost, of the first step of the alleged evolutionary process it has to be inquired: How did this "first cell" originate?

Since the theory of evolution denies creation and does not accept any kind of supernatural intervention, it maintains that the "first cell" originated coincidentally within the laws of nature, without any design, plan, or arrangement. According to the theory, inanimate matter must have produced a living cell as a result of coincidences. This, however, is a claim inconsistent with even the most unassailable rules of biology.

### **"Life Comes from Life"**

In his book, Darwin never referred to the origin of life. The primitive understanding of science in his time rested on the assumption that living beings had a very simple structure. Since medieval times, spontaneous generation, the theory asserting that non-living materials came together to form living organisms, had been widely accepted. It was commonly believed that insects came into being from food leftovers, and mice from wheat. Interesting experiments were conducted to prove this theory. Some wheat was placed on a dirty piece of cloth, and it was believed that mice would originate from it after a while.

Similarly, worms developing in meat was assumed to be evidence of spontaneous generation. However, only some time later was it understood that worms did not appear on meat spontaneously, but were carried there by flies in the form of larvae, invisible to the naked eye.

Even in the period when Darwin wrote *The Origin of Species*, the belief that bacteria could come into existence from non-living matter was widely accepted in the world of science.

However, five years after Darwin's book was published, the discovery of Louis Pasteur disproved this belief, which constituted the groundwork of evolution. Pasteur summarized the conclusion he reached after time-consuming studies and experiments: "*The claim that inanimate matter can originate life is buried in history for good.*"<sup>34</sup>

Advocates of the theory of evolution resisted the findings of Pasteur for a long time. However, as the development of science unraveled the complex structure of the cell of a living being, the idea that life could come into being coincidentally faced an even greater impasse.

## **Inconclusive Efforts in the 20th Century**

The first evolutionist who took up the subject of the origin of life in the 20th century was the renowned Russian biologist Alexander Oparin. With various theses he advanced in the 1930's, he tried to prove that the cell of a living being could originate by coincidence. These studies, however, were doomed to failure, and Oparin had to make the following confession: "Unfortunately, the origin of the cell remains a question which is actually the darkest point of the entire evolution theory."<sup>35</sup>

Evolutionist followers of Oparin tried to carry out experiments to solve the problem of the origin of life. The best known of these experiments was carried out by American chemist Stanley Miller in 1953. Combining the gases he alleged to have existed in the primordial earth's atmosphere in an experiment set-up, and adding energy to the mixture, Miller synthesized several organic molecules (amino acids) present in the structure of proteins.

Barely a few years had passed before it was revealed that this experiment, which was then presented as an important step in the name of evolution, was invalid, the atmosphere used in the experiment having been very different from real earth conditions.<sup>36</sup>

After a long silence, Miller confessed that the atmosphere medium he used was unrealistic.<sup>37</sup>

All the evolutionist efforts put forth throughout the 20th century to explain the origin of life ended with failure. The geochemist Jeffrey Bada from San Diego Scripps Institute accepts this fact in an article published in *Earth Magazine* in 1998:

Today as we leave the twentieth century, we still face the biggest unsolved problem that we had when we entered the twentieth century: How did life originate on Earth?<sup>38</sup>

## **The Complex Structure of Life**

The primary reason why the theory of evolution ended up in such a big impasse about the origin of life is that even the living organisms deemed the simplest have incredibly complex structures. The cell of a living being is more complex than all of the technological products produced by man. Today, even in the most developed laboratories of the world, a living cell cannot be produced by bringing inorganic materials together.

The conditions required for the formation of a cell are too great in quantity to be explained away by coincidences. The probability of proteins, the building blocks of cell, being synthesized coincidentally, is 1 in  $10^{950}$  for an average protein made up of 500 amino acids. In mathematics, a probability smaller than 1 over  $10^{50}$  is practically considered to be impossible.

The DNA molecule, which is located in the nucleus of the cell and which stores genetic information, is an incredible databank. It is calculated that if the information coded in DNA were written down, this would make a giant library consisting of 900 volumes of encyclopaedias of 500 pages each.

A very interesting dilemma emerges at this point: the DNA can only replicate with the help of some specialized proteins (enzymes). However, the synthesis of these enzymes can only be realized by the information coded in DNA. As they both depend on each other, they have to exist at the same time for replication. This brings the scenario that life originated by itself to a deadlock. Prof. Leslie Orgel, an evolutionist of repute from the University of San Diego, California, confesses this fact in the September 1994 issue of the *Scientific American* magazine:

It is extremely improbable that proteins and nucleic acids, both of which are structurally complex, arose spontaneously in the same place at the same time. Yet it also seems impossible to have one without the other. And so, at first glance, one might have to conclude that life could never, in fact, have originated by chemical means.<sup>39</sup>

No doubt, if it is impossible for life to have originated from natural causes, then it has to be accepted that life was "created" in a supernatural way. This fact explicitly invalidates the theory of evolution, whose main purpose is to deny creation.

## **Imaginary Mechanisms of Evolution**

The second important point that negates Darwin's theory is that both concepts put forward by the theory as "evolutionary mechanisms" were understood to have, in reality, no evolutionary power.

Darwin based his evolution allegation entirely on the mechanism of "natural selection". The importance he placed on this mechanism was evident in the name of his book: *The Origin of Species, By Means Of Natural Selection...*

Natural selection holds that those living things that are stronger and more suited to the natural conditions of their habitats will survive in the struggle for life. For example, in a deer herd under the threat of attack by wild animals, those that can run faster will survive. Therefore, the deer herd will be comprised of faster and stronger individuals. However, unquestionably, this mechanism will not cause deer to evolve and transform themselves into another living species, for instance, horses.

Therefore, the mechanism of natural selection has no evolutionary power. Darwin was also aware of this fact and had to state this in his book *The Origin of Species*:

Natural selection can do nothing until favourable variations chance to occur.<sup>40</sup>

## **Lamarck's Impact**

So, how could these "favourable variations" occur? Darwin tried to answer this question from the standpoint of the primitive understanding of science in his age. According to the French biologist Lamarck, who lived before Darwin, living creatures passed on the traits they acquired during their lifetime to the next generation and these traits, accumulating from one generation to another, caused new species to be formed. For instance, according to Lamarck, giraffes evolved from antelopes; as they struggled to eat the leaves of high trees, their necks were extended from generation to generation.

Darwin also gave similar examples, and in his book *The Origin of Species*, for instance, said that some bears going into water to find food transformed themselves into whales over time.<sup>41</sup>

However, the laws of inheritance discovered by Mendel and verified by the science of genetics that flourished in the 20<sup>th</sup> century, utterly demolished the legend that acquired traits were passed on to subsequent generations. Thus, natural selection fell out of favour as an evolutionary mechanism.

## **Neo-Darwinism and Mutations**

In order to find a solution, Darwinists advanced the "Modern Synthetic Theory", or as it is more commonly known, Neo-Darwinism, at the end of the 1930's. Neo-Darwinism added mutations, which are distortions formed in the genes of living beings because of external factors such as radiation or replication errors, as the "cause of favourable variations" in addition to natural mutation.

Today, the model that stands for evolution in the world is Neo-Darwinism. The theory maintains that millions of living beings present on the earth formed as a result of a process whereby numerous complex organs of these organisms such as the ears, eyes, lungs, and wings, underwent "mutations," that is, genetic disorders. Yet, there is an outright scientific fact that totally undermines this theory: Mutations do not cause living beings to develop; on the contrary, they always cause harm to them.

The reason for this is very simple: the DNA has a very complex structure and random effects can only cause harm to it. American geneticist B.G. Ranganathan explains this as follows:

Mutations are small, random, and harmful. They rarely occur and the best possibility is that they will be ineffectual. These four characteristics of mutations imply that mutations cannot lead to an evolutionary development. A random change in a highly specialised organism is either ineffectual or harmful. A random change in a watch cannot improve the watch. It will most probably harm it or at best be ineffectual. An earthquake does not improve the city, it brings destruction.<sup>42</sup>

Not surprisingly, no mutation example, which is useful, that is, which is observed to develop the genetic code, has been observed so far. All mutations have proved to be harmful. It was understood that mutation, which is presented as an "evolutionary mechanism," is actually a genetic occurrence that harms living beings, and leaves them disabled. (The most common effect of mutation on human beings is cancer). No doubt, a destructive mechanism cannot be an "evolutionary mechanism." Natural selection, on the other hand, "can do nothing by itself" as Darwin also accepted. This fact shows us that

there is no "evolutionary mechanism" in nature. Since no evolutionary mechanism exists, neither could any imaginary process called evolution have taken place.

## **The Fossil Record: No Sign of Intermediate Forms**

The clearest evidence that the scenario suggested by the theory of evolution did not take place is the fossil record.

According to the theory of evolution, every living species has sprung from a predecessor. A previously existing species turned into something else in time and all species have come into being in this way. According to the theory, this transformation proceeds gradually over millions of years.

Had this been the case, then numerous intermediary species should have existed and lived within this long transformation period.

For instance, some half-fish/half-reptiles should have lived in the past which had acquired some reptilian traits in addition to the fish traits they already had. Or there should have existed some reptile-birds, which acquired some bird traits in addition to the reptilian traits they already had. Since these would be in a transitional phase, they should be disabled, defective, crippled living beings. Evolutionists refer to these imaginary creatures, which they believe to have lived in the past, as "transitional forms."

If such animals had really existed, there should be millions and even billions of them in number and variety. More importantly, the remains of these strange creatures should be present in the fossil record. In *The Origin of Species*, Darwin explained:

If my theory be true, numberless intermediate varieties, linking most closely all of the species of the same group together must assuredly have existed... Consequently, evidence of their former existence could be found only amongst fossil remains.<sup>43</sup>

## **Darwin's Hopes Shattered**

However, although evolutionists have been making strenuous efforts to find fossils since the middle of the 19th century all over the world, no transitional forms have yet been uncovered. All the fossils unearthed in excavations showed that, contrary to the expectations of evolutionists, life appeared on earth all of a sudden and fully-formed.

A famous British paleontologist, Derek V. Ager, admits this fact, even though he is an evolutionist:

The point emerges that if we examine the fossil record in detail, whether at the level of orders or of species, we find — over and over again — not gradual evolution, but the sudden explosion of one group at the expense of another.<sup>44</sup>

This means that in the fossil record, all living species suddenly emerge as fully formed, without any intermediate forms in between. This is just the opposite of Darwin's assumptions. Also, it is very

strong evidence that living beings are created. The only explanation of a living species emerging suddenly and complete in every detail without any evolutionary ancestor can be that this species was created. This fact is admitted also by the widely known evolutionist biologist Douglas Futuyma:

Creation and evolution, between them, exhaust the possible explanations for the origin of living things. Organisms either appeared on the earth fully developed or they did not. If they did not, they must have developed from pre-existing species by some process of modification. If they did appear in a fully developed state, they must indeed have been created by some omnipotent intelligence. <sup>45</sup>

Fossils show that living beings emerged fully developed and in a perfect state on the earth. That means that "the origin of species" is, contrary to Darwin's supposition, not evolution but creation.

## **The Tale of Human Evolution**

The subject most often brought up by the advocates of the theory of evolution is the subject of the origin of man. The Darwinist claim holds that the modern men of today evolved from some kind of ape-like creatures. During this alleged evolutionary process, which is supposed to have started 4-5 million years ago, it is claimed that there existed some "transitional forms" between modern man and his ancestors. According to this completely imaginary scenario, four basic "categories" are listed:

1. *Australopithecus*
2. *Homo habilis*
3. *Homo erectus*
4. *Homo sapiens*

Evolutionists call the so-called first ape-like ancestors of men "Australopithecus" which means "South African ape." These living beings are actually nothing but an old ape species that has become extinct. Extensive research done on various *Australopithecus* specimens by two world famous anatomists from England and the USA, namely, Lord Solly Zuckerman and Prof. Charles Oxnard, has shown that these belonged to an ordinary ape species that became extinct and bore no resemblance to humans.<sup>46</sup>

Evolutionists classify the next stage of human evolution as "homo," that is "man." According to the evolutionist claim, the living beings in the Homo series are more developed than Australopithecus. Evolutionists devise a fanciful evolution scheme by arranging different fossils of these creatures in a particular order. This scheme is imaginary because it has never been proved that there is an evolutionary relation between these different classes. Ernst Mayr, one of the foremost defenders of the theory of evolution in the 20th century, admits this fact by saying that "the chain reaching as far as *Homo sapiens* is actually lost."<sup>47</sup>

By outlining the link chain as "*Australopithecus* > *Homo habilis* > *Homo erectus* > *Homo sapiens*," evolutionists imply that each of these species is one another's ancestor. However, recent findings of paleoanthropologists have revealed that Australopithecus, *Homo habilis* and *Homo erectus* lived at different parts of the world at the same time.<sup>48</sup>

Moreover, a certain segment of humans classified as *Homo erectus* have lived up until very modern times. *Homo sapiens neanderthalensis* and *Homo sapiens sapiens* (modern man) co-existed in the same region.<sup>49</sup>

This situation apparently indicates the invalidity of the claim that they are ancestors of one another. A paleontologist from Harvard University, Stephen Jay Gould, explains this deadlock of the theory of evolution although he is an evolutionist himself:

What has become of our ladder if there are three coexisting lineages of hominids (*A. africanus*, the *robust australopithecines*, and *H. habilis*), none clearly derived from another? Moreover, none of the three display any evolutionary trends during their tenure on earth.<sup>50</sup>

Put briefly, the scenario of human evolution, which is sought to be upheld with the help of various drawings of some "half ape, half human" creatures appearing in the media and course books, that is, frankly, by means of propaganda, is nothing but a tale with no scientific ground.

Lord Solly Zuckerman, one of the most famous and respected scientists in the U.K., who carried out research on this subject for years, and particularly studied *Australopithecus* fossils for 15 years, finally concluded, despite being an evolutionist himself, that there is, in fact, no such family tree branching out from ape-like creatures to man.

Zuckerman also made an interesting "spectrum of science." He formed a spectrum of sciences ranging from those he considered scientific to those he considered unscientific. According to Zuckerman's spectrum, the most "scientific"—that is, depending on concrete data—fields of science are chemistry and physics. After them come the biological sciences and then the social sciences. At the far end of the spectrum, which is the part considered to be most "unscientific," are "extra-sensory perception"—concepts such as telepathy and sixth sense—and finally "human evolution." Zuckerman explains his reasoning:

We then move right off the register of objective truth into those fields of presumed biological science, like extrasensory perception or the interpretation of man's fossil history, where to the faithful (evolutionist) anything is possible - and where the ardent believer (in evolution) is sometimes able to believe several contradictory things at the same time.<sup>51</sup>

The tale of human evolution boils down to nothing but the prejudiced interpretations of some fossils unearthed by certain people, who blindly adhere to their theory.

## **Technology In The Eye and The Ear**

Another subject that remains unanswered by evolutionary theory is the excellent quality of perception in the eye and the ear.

Before passing on to the subject of the eye, let us briefly answer the question of "how we see". Light rays coming from an object fall oppositely on the retina of the eye. Here, these light rays are transmitted into electric signals by cells and they reach a tiny spot at the back of the brain called the centre of vision. These electric signals are perceived in this centre of the brain as an image after a series of processes. With this technical background, let us do some thinking.

The brain is insulated from light. That means that the inside of the brain is solid dark, and light does not reach the location where the brain is situated. The place called the centre of vision is a solid dark place where no light ever reaches; it may even be the darkest place you have ever known. However, you observe a luminous, bright world in this pitch darkness.

The image formed in the eye is so sharp and distinct that even the technology of the 20<sup>th</sup> century has not been able to attain it. For instance, look at the book you read, your hands with which you hold it, then lift your head and look around you. Have you ever seen such a sharp and distinct image as this one at any other place? Even the most developed television screen produced by the greatest television producer in the world cannot provide such a sharp image for you. This is a three-dimensional, coloured, and extremely sharp image. For more than 100 years, thousands of engineers have been trying to achieve this sharpness. Factories, huge premises were established, much research has been done, plans and designs have been made for this purpose. Again, look at a TV screen and the book you hold in your hands. You will see that there is a big difference in sharpness and distinction. Moreover, the TV screen shows you a two-dimensional image, whereas with your eyes, you watch a three-dimensional perspective having depth.

For many years, ten of thousands of engineers have tried to make a three-dimensional TV, and reach the vision quality of the eye. Yes, they have made a three-dimensional television system but it is not possible to watch it without putting on glasses; moreover, it is only an artificial three-dimension. The background is more blurred, the foreground appears like a paper setting. Never has it been possible to produce a sharp and distinct vision like that of the eye. In both the camera and the television, there is a loss of image quality.

Evolutionists claim that the mechanism producing this sharp and distinct image has been formed by chance. Now, if somebody told you that the television in your room was formed as a result of chance, that all its atoms just happened to come together and make up this device that produces an image, what would you think? How can atoms do what thousands of people cannot?

If a device producing a more primitive image than the eye could not have been formed by chance, then it is very evident that the eye and the image seen by the eye could not have been formed by chance. The same situation applies to the ear. The outer ear picks up the available sounds by the auricle and directs them to the middle ear; the middle ear transmits the sound vibrations by intensifying them; the inner ear sends these vibrations to the brain by translating them into electric signals. Just as with the eye, the act of hearing finalises in the centre of hearing in the brain.

The situation in the eye is also true for the ear. That is, the brain is insulated from sound just like it is from light: it does not let any sound in. Therefore, no matter how noisy is the outside, the inside of the brain is completely silent. Nevertheless, the sharpest sounds are perceived in the brain. In your brain, which is insulated from sound, you listen to the symphonies of an orchestra, and hear all the noises in a crowded place. However, if the sound level in your brain was measured by a precise device at that moment, it would be seen that a complete silence is prevailing there.

As is the case with imagery, decades of effort have been spent in trying to generate and reproduce sound that is faithful to the original. The results of these efforts are sound recorders, high-fidelity systems, and systems for sensing sound. Despite all this technology and the thousands of engineers and experts who have been working on this endeavour, no sound has yet been obtained that has the same sharpness and clarity as the sound perceived by the ear. Think of the highest-quality HI-FI systems produced by the biggest company in the music industry. Even in these devices, when sound is recorded some of it is lost; or when you turn on a HI-FI you always hear a hissing sound before the music starts. However, the sounds that are the products of the technology of the human body are extremely sharp and clear. A human ear never perceives a sound accompanied by a hissing sound or with atmospheric sounds as does HI-FI; it perceives sound exactly as it is, sharp and clear. This is the way it has been since the creation of man.

So far, no visual or recording apparatus produced by man has been as sensitive and successful in perceiving sensory data as are the eye and the ear.

However, as far as seeing and hearing are concerned, a far greater fact lies beyond all this.

## **To Whom Does the Consciousness that Sees and Hears Within the Brain Belong?**

Who is it that watches an alluring world in its brain, listens to symphonies and the twittering of birds, and smells the rose?

The stimulations coming from the eyes, ears, and nose of a human being travel to the brain as electro-chemical nervous impulses. In biology, physiology, and biochemistry books, you can find many details about how this image forms in the brain. However, you will never come across the most important fact about this subject: Who is it that perceives these electro-chemical nervous impulses as images, sounds, odours and sensory events in the brain? There is a consciousness in the brain that perceives all this without feeling any need for eye, ear, and nose. To whom does this consciousness belong? There is no doubt that this consciousness does not belong to the nerves, the fat layer and neurons comprising the brain. This is why Darwinist-materialists, who believe that everything is comprised of matter, cannot give any answer to these questions.

For this consciousness is the spirit created by God. The spirit needs neither the eye to watch the images, nor the ear to hear the sounds. Furthermore, nor does it need the brain to think.

Everyone who reads this explicit and scientific fact should ponder on Almighty God, should fear Him and seek refuge in Him, He Who squeezes the entire universe in a pitch-dark place of a few cubic centimeters in a three-dimensional, coloured, shadowy, and luminous form.

## **A Materialist Faith**

The information we have presented so far shows us that the theory of evolution is a claim evidently at variance with scientific findings. The theory's claim on the origin of life is inconsistent with science,

the evolutionary mechanisms it proposes have no evolutionary power, and fossils demonstrate that the intermediate forms required by the theory never existed. So, it certainly follows that the theory of evolution should be pushed aside as an unscientific idea. This is how many ideas such as the earth-centered universe model have been taken out of the agenda of science throughout history.

However, the theory of evolution is pressingly kept on the agenda of science. Some people even try to represent criticisms directed against the theory as an "attack on science." Why?

The reason is that the theory of evolution is an indispensable dogmatic belief for some circles. These circles are blindly devoted to materialist philosophy and adopt Darwinism because it is the only materialist explanation that can be put forward for the workings of nature.

Interestingly enough, they also confess this fact from time to time. A well known geneticist and an outspoken evolutionist, Richard C. Lewontin from Harvard University, confesses that he is "first and foremost a materialist and then a scientist":

It is not that the methods and institutions of science somehow compel us accept a material explanation of the phenomenal world, but, on the contrary, that we are forced by our a priori adherence to material causes to create an apparatus of investigation and a set of concepts that produce material explanations, no matter how counter-intuitive, no matter how mystifying to the uninitiated. Moreover, that materialism is absolute, so we cannot allow a Divine Foot in the door.  
52

These are explicit statements that Darwinism is a dogma kept alive just for the sake of adherence to the materialist philosophy. This dogma maintains that there is no being save matter. Therefore, it argues that inanimate, unconscious matter created life. It insists that millions of different living species; for instance, birds, fish, giraffes, tigers, insects, trees, flowers, whales and human beings originated as a result of the interactions between matter such as the pouring rain, the lightning flash, etc., out of inanimate matter. This is a precept contrary both to reason and science. Yet Darwinists continue to defend it just so as "not to allow a Divine Foot in the door."

Anyone who does not look at the origin of living beings with a materialist prejudice will see this evident truth: All living beings are works of a Creator, Who is All-Powerful, All-Wise and All-Knowing. This Creator is God, Who created the whole universe from non-existence, designed it in the most perfect form, and fashioned all living beings.

***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-Baqarah: 32)***

## Notes

- 1- Richard Dawkins, *Climbing Mount Improbable*, W.W. Norton & Company, 1996, p. 4
- 2- Gordon Rattray Taylor, *The Great Evolution Mystery*, Harper and Row Publishers, 1983, p.222
- 3- Charles Darwin, *The Origin of Species: A Facsimile of the First Edition*, Harvard University Press, 1964, p. 233
- 4- Gardner Soul, *Strange Things Animals Do*, G.P.Putnam's Son, New York, 1970, p. 89
- 5- Gardner Soul, *Strange Things Animals Do*, G.P.Putnam's Son, New York, 1970, p. 90
- 6- Liz Bomford, *Camouflage and Colour*, Boxtree Ltd., London, 1992, p. 108
- 7- *The Guinness Encyclopedia of the Living World*, Guinness Publishing, s. 164
- 8- *National Geographic*, November 1996, Vol. 190, No.5, p.106
- 9- *National Geographic*, November 1996, Vol. 190, No.5, p.111
- 10- *Bilim ve Teknik Görsel Bilim ve Teknik Ansiklopedisi* (Science and Technology Gorsel Science and Technology Encyclopedia), p. 494, 495)
- 11- *Bates Hayvanlar Ansiklopedisi* (Bates Encyclopedia of Animals), p. 244
- 12- *Natural History*, Tools of the Trade, 3/95, p. 48
- 13- *National Geography*, All Eyes on Jumping Spiders, September 1991, pp. 43-64
- 14- *Natural History*, Samurai Spiders, 3/95, p. 45
- 15- *Natural History*, Samurai Spiders, 3/95, p. 45
- 16- *National Geography*, All Eyes on Jumping Spiders, September 1991, p. 51
- 17- Karl Von Frisch, *Ten Little Housemates*, Pergamon Press, London, 1960, p. 110
- 18- *Bilim ve Teknik Dergisi* (Journal of Science and Technology), no. 190, p. 4
- 19- Cemal Yıldırım, *Evrin Kuramı ve Bağnazlık* (The Theory of Evolution and Bigotry), Bilgi Yayınları, p.195
- 20- *Bilim ve Teknik Görsel Bilim ve Teknik Ansiklopedisi* (Science and Technology Gorsel Science and Technology Encyclopedia), p. 1087
- 21- *Technology Review*, Synthetic Spider Silk, October 1994, p. 16
- 22- *Discover*, How Spiders Make Their Silk, October 1998, p. 34
- 23- *Discover*, How Spiders Make Their Silk, October 1998, p. 34
- 24- *Endeavour*, The Structure and Properties of Spider Silk, January 1986, no 10, p. 37
- 25- *Scientific American*, Spider Webs and Silks, March 1992, p. 70
- 26- *Science News*, Computer Reveals Clues to Spiderwebs, 21 January 1995
- 27- *Scientific American*, Spider Webs and Silks, March 1992, p. 70
- 28- *Bilim ve Teknik Dergisi* (Journal of Science and Technology), No 342, May 1996, p.100
- 29- *Science et Vie*, L'économie de la toile d'araignée, January 1999, No.976, p.30
- 30- *Scientific American*, Spider Webs and Silks, March 1992, p. 74
- 31- *Bilim ve Teknik Görsel Bilim ve Teknik Ansiklopedisi* (Science and Technology Gorsel Science and Technology Encyclopedia), p. 1090
- 32- *Bilim ve Teknik Görsel Bilim ve Teknik Ansiklopedisi* (Science and Technology Gorsel Science and Technology Encyclopedia), p. 1088
- 33- Hugh Ross, *The Fingerprint of God*, p. 50
- 34- Sidney Fox, Klaus Dose, *Molecular Evolution and The Origin of Life*, New York: Marcel Dekker, 1977. p. 2
- 35- Alexander I. Oparin, *Origin of Life*, (1936) New York, Dover Publications, 1953 (Reprint), p. 196
- 36- "New Evidence on Evolution of Early Atmosphere and Life", *Bulletin of the American Meteorological Society*, Vol 63, November 1982, p. 1328-1330
- 37- Stanley Miller, *Molecular Evolution of Life: Current Status of the Prebiotic Synthesis of Small Molecules*, 1986, p. 7
- 38- Jeffrey Bada, *Earth*, February 1998, p. 40
- 39- Leslie E. Orgel, "The Origin of Life on Earth", *Scientific American*, Vol 271, October 1994, p. 78
- 40- Charles Darwin, *The Origin of Species: A Facsimile of the First Edition*, Harvard University Press, 1964, p. 189
- 41- Charles Darwin, *The Origin of Species: A Facsimile of the First Edition*, Harvard University Press, 1964, p. 184.
- 42- B. G. Ranganathan, *Origins?*, Pennsylvania: The Banner Of Truth Trust, 1988.
- 43- Charles Darwin, *The Origin of Species: A Facsimile of the First Edition*, Harvard University Press, 1964, p. 179
- 44- Derek A. Ager, "The Nature of the Fossil Record", *Proceedings of the British Geological Association*, vol 87, 1976, p. 133
- 45- Douglas J. Futuyma, *Science on Trial*, New York: Pantheon Books, 1983. p. 197
- 46- Solly Zuckerman, *Beyond The Ivory Tower*, New York: Toplinger Publications, 1970, p. 75-94; Charles E. Oxnard, "The Place of Australopithecines in Human Evolution: Grounds for Doubt", *Nature*, Cilt 258, s. 389
- 47- J. Rennie, "Darwin's Current Bulldog: Ernst Mayr", *Scientific American*, December 1992
- 48- Alan Walker, *Science*, vol. 207, 1980, p. 1103; A. J. Kelso, *Physical Antropology*, 1st ed., New York: J. B. Lipincott Co., 1970, p. 221; M. D. Leakey, *Olduvai Gorge*, vol. 3, Cambridge: Cambridge University Press, 1971, p. 272
- 49- *Time*, November 1996
- 50- S. J. Gould, *Natural History*, vol. 85, 1976, p. 30
- 51- Solly Zuckerman, *Beyond The Ivory Tower*, New York: Toplinger Publications, 1970, p. 19
- 52- Richard Lewontin, "The Demon-Haunted World", *The New York Review of Books*, 9 January, 1997, p. 28