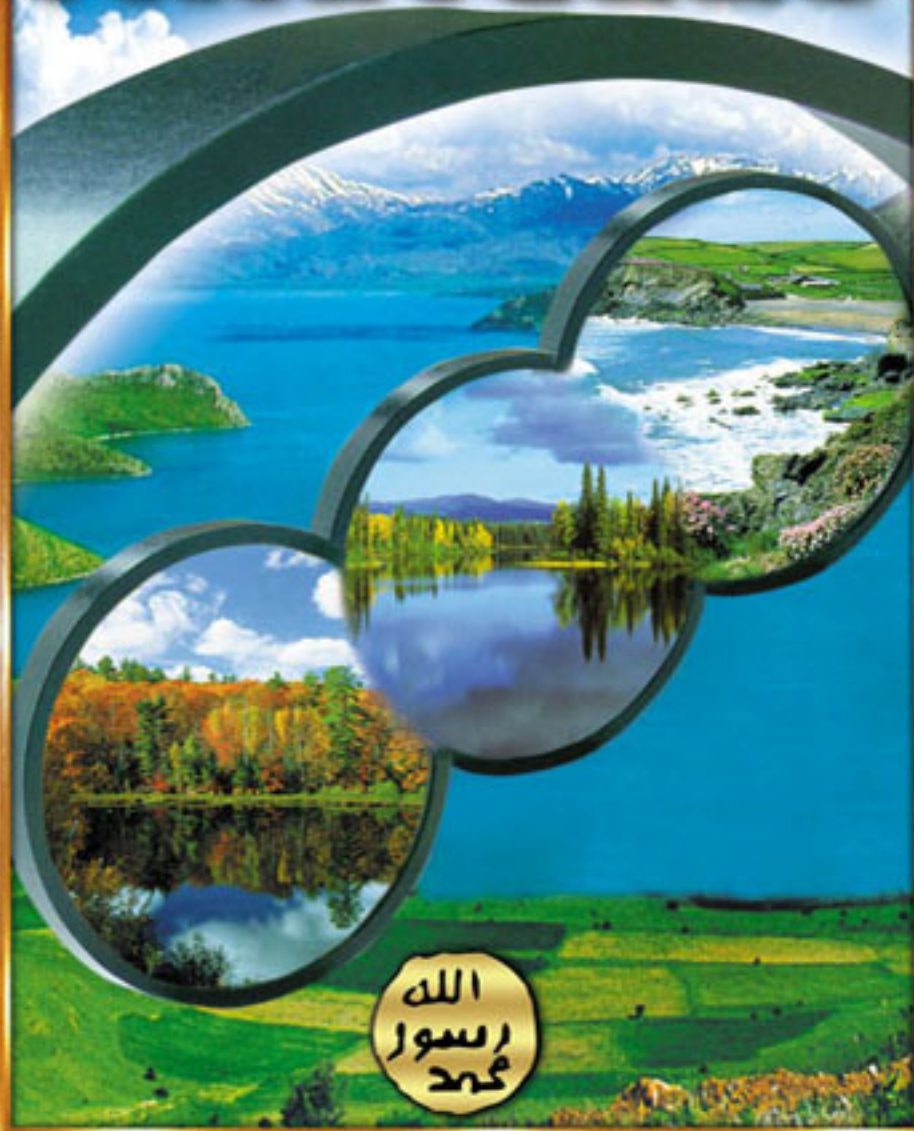


A CHAIN of MIRACLES



الحمد لله
رسول
محمد

HARUN YAHYA

The universe, the Milky Way galaxy that is home to our solar system, and our planet Earth are all governed by countless factors. All these laws and balances have been specifically designed and miraculously ordered to produce an environment suitable for human life.

In fact, each of the factors necessary for the existence of human life is a miracle in its own right, not to mention the millions of factors that must combine to make this chain of miracles possible. On the other hand, a miracle is self-evidently created by God. Every bit of the universe is a miracle, the unequalled work of God's wisdom, might, and artistry.

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. His main focus

has been the refutation of Darwinism and materialism, two modern myths presented under a scientific guise. Harun Yahya's books appeal to all kinds of readers, Muslims and non-Muslims alike, regardless of their age, race, or nationality, for they focus on one objective: to broaden the readers' perspective by encouraging them to think about a number of critical issues, such as the existence of God and His unity, and to display the decrepit foundations and perverted works of godless systems.

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

اللَّهُ
رَسُولُ
مُحَمَّدٍ

To the Reader

A special chapter is assigned to the collapse of the theory of evolution because this theory constitutes the basis of all anti-spiritual philosophies. Since Darwinism rejects the fact of creation—and therefore, God's Existence—over the last 140 years it has caused many people to abandon their faith or fall into doubt. It is therefore an imperative service, a very important duty to show everyone that this theory is a deception. Since some readers may find the chance to read only one of our book, we think it appropriate to devote a chapter to summarize this subject.

All the author's books explain faith-related issues in light of Qur'anic verses, and invite readers to learn God's words and to live by them. All the subjects concerning God's verses are explained so as to leave no doubt or room for questions in the reader's mind. The books' sincere, plain, and fluent style ensure that everyone of every age and from every social group can easily understand them. Thanks to their effective, lucid narrative, they can be read at one sitting. Even those who rigorously reject spirituality are influenced by the facts these books document and cannot refute the truthfulness of their contents.

This and all the other books by the author can be read individually, or discussed in a group. Readers eager to profit from the books will find discussion very useful, letting them relate their reflections and experiences to one another.

In addition, it will be a great service to Islam to contribute to the publication and reading of these books, written solely for the pleasure of God. The author's books are all extremely convincing. For this reason, to communicate true religion to others, one of the most effective methods is encouraging them to read these books.

We hope the reader will look through the reviews of his other books at the back of this book. His rich source material on faith-related issues is very useful, and a pleasure to read.

In these books, unlike some other books, you will not find the author's personal views, explanations based on dubious sources, styles that are unobservant of the respect and reverence due to sacred subjects, nor hopeless, pessimistic arguments that create doubts in the mind and deviations in the heart.



A CHAIN OF MIRACLES

HARUN YAHYA

February, 2006

About the Author

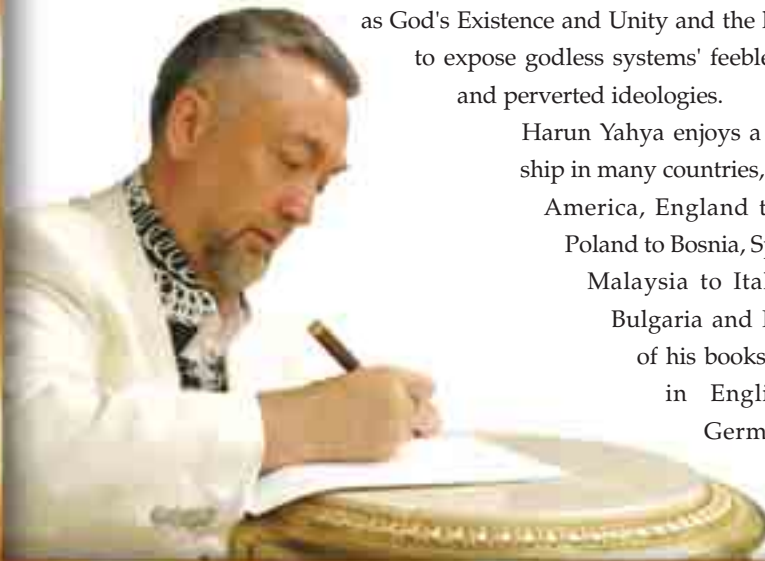
Now writing under the pen-name of HARUN YAHYA, he was born in Ankara in 1956. Having completed his primary and secondary education in Ankara, he studied arts at Istanbul's Mimar Sinan University and philosophy at Istanbul University. Since the 1980s, he has published many books on political, scientific,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

Harun Yahya's works, translated into 41 different languages, constitute a collection for a total of more than 45,000 pages with 30,000 illustrations.

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

All of Harun Yahya's works share one single goal: to convey the Qur'an's message, encourage readers to consider basic faith-related issues such as God's Existence and Unity and the hereafter; and to expose godless systems' feeble foundations and perverted ideologies.

Harun Yahya enjoys a wide readership in many countries, from India to America, England to Indonesia, Poland to Bosnia, Spain to Brazil, Malaysia to Italy, France to Bulgaria and Russia. Some of his books are available in English, French, German, Spanish,



Italian, Portuguese, Urdu, Arabic, Albanian, Chinese, Swahili, Hausa, Dhivehi (spoken in Mauritius), Russian, Serbo-Croat (Bosnian), Polish, Malay, Uygur Turkish, Indonesian, Bengali, Danish and Swedish.

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

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

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

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

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

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

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Abbreviation used:

(pbuh): Peace be upon him (following a reference to
the prophets)

www.harunyahya.com



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HARUN YAHYA

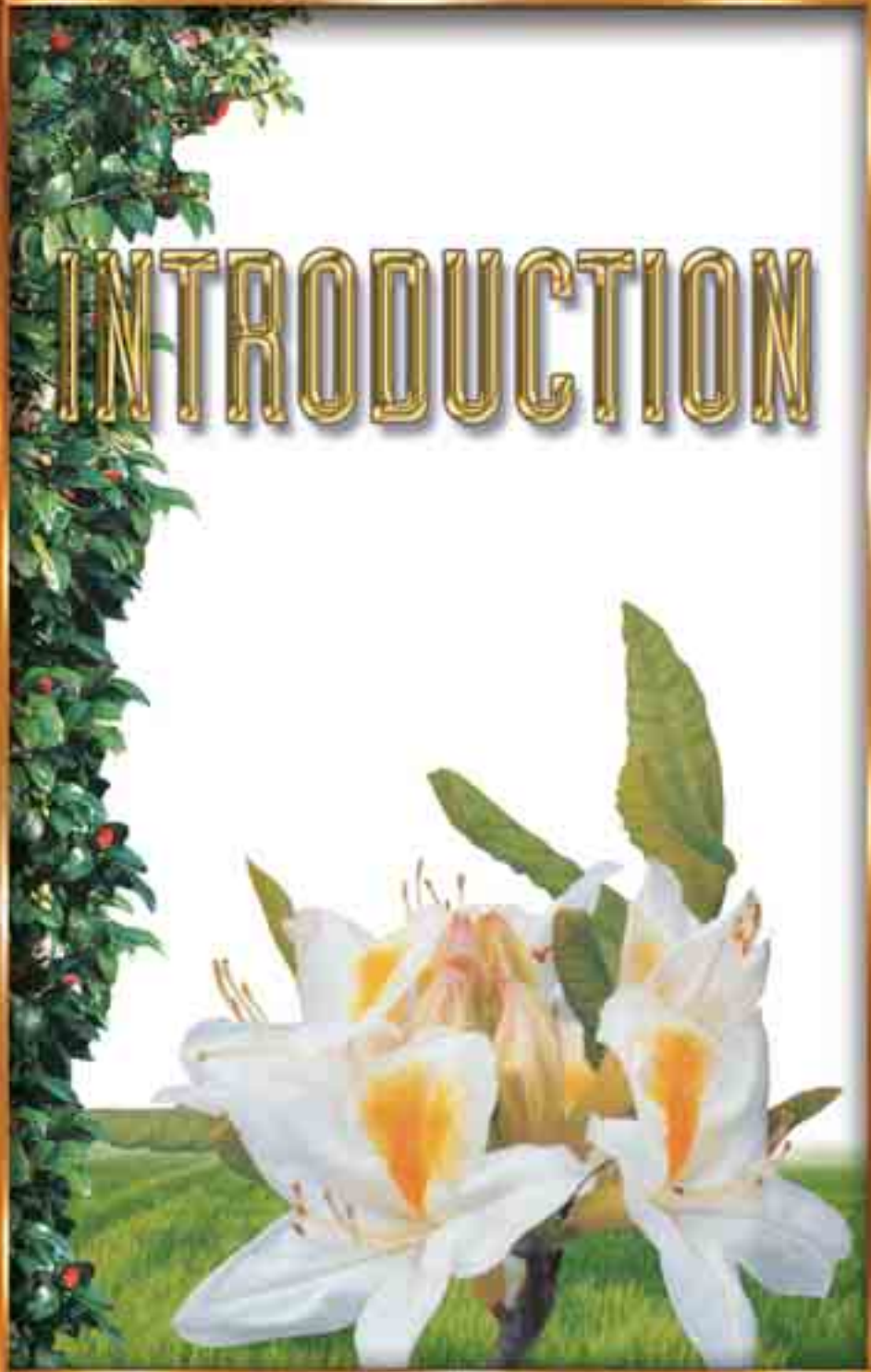
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INTRODUCTION



The universe, the Milky Way galaxy that is home to our solar system, and our planet Earth are all governed by countless factors. All these laws and balances have been specifically designed and miraculously ordered to produce an environment suitable for human life.

Examining our universe in detail reveals that everything—from the most fundamental cosmic laws to the most critical physical properties, from the smallest balances to the finest ratios therein—have been arranged to meet the highest level of exactness. We are astonished to realize that this precision is set at the ideal values for human existence to not only survive, but thrive.

From the universe's rate of expansion to our Earth's location in the Milky Way galaxy, from the spectrum of the Sun's radiation to the viscosity value of water, from the distance of the Moon to the Earth to the ratio of the gases that form the atmosphere, countless other such factors are just right for human existence. In fact, the slightest alteration to even one of them would make life on Earth impossible.

Not even a single one of these factors could have become so ideal for life by sheer coincidence. The fact that thousands of elements and conditions combined to create this order is miraculous beyond the limits of human comprehension.

In fact, each of the factors necessary for the existence of

human life is a miracle in its own right, not to mention the millions of factors that must combine to make this chain of miracles possible. On the other hand, a miracle is self-evidently created by God. Every bit of the universe is a miracle, the unequalled work of God's wisdom, might, and artistry.

Recent calculations demonstrate that if the current physical laws and reactions responsible for the order in the universe were altered even slightly, life—and therefore, human life—would not be possible. In terms of probability, these physical norms could have had arisen with any given value. But each one of them is set independently at its current ideal value, enabling human life which, as stated above, cannot be described with any other word but miracle.

Whichever law, principle or physical property in the universe we consider, we see that it could not have been brought to its current ideal state by itself, or through coincidence. Eyes that can see are a clear miracle. Chains of miracles are at work in every location of the universe and in every single one of its governing laws; these chains of miracles are proof for God's existence and His might.

In recent years, cosmologists and theoretical physicists began to call this mind-blowing order that spawns necessary conditions for human life "fine-tuning." Concentrating on this subject, they discovered or calculated countless examples of "fine-tuning" throughout the universe. It's appropriate here to quote some of these scientists' expressions of astonishment and wonder over the results of their research:

NASA astronomer Professor John O'Keefe: "We are, by astronomical standards, a pampered, cosseted, cherished group of

creatures. If the Universe had not been made with the most exacting precision, we could never have come into existence. It is my view that these circumstances indicate the universe was created for man to live in." ¹

British astrophysicist Professor George F. Ellis: "Amazing fine tuning occurs in the laws that make this [complexity] possible. Realization of the complexity of what is accomplished makes it very difficult not to use the word 'miraculous'..." ²

British astrophysicist Professor Paul Davies: "the laws [of physics] ... seem themselves to be the product of exceedingly ingenious design.... The universe must have a purpose." ³

British Mathematician Professor Roger Penrose: "I would say the universe has a purpose. It's not there just somehow by chance." ⁴

All scientific data obtained to date shows that there is no room in the universe for chance or coincidence, anywhere or at any time. From the very first moment of the universe's inception, to its latest state at the moment when you are reading this book, it has been designed down to the last detail by the All-wise and Almighty God Who created man to witness, reflect on and appreciate His might and artistry.

In the creation of 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. (Qur'an, 2:164)

He to Whom the kingdom of the heavens
and the Earth belongs. He does not have
a son and He has no partner in the King-
dom. He created everything and
determined it most exactly.

(Qur'an, 25:2)

This book contains examples of miracles that have occurred from the first creation of the universe and continue to occur to the present day. We have arranged these miracles into three main subjects:

1. The Universe
2. Our Solar System and the World
3. Living Things

The purpose of this book is to give the reader a feel for God's infinite power and artistry by showing some of the creation miracles in the universe. Also, it is also hoped that this book will lead to an awareness that everything around us, when looked at through the eyes of wisdom, is a miracle of God.

Intelligent Design, in other words Creation

In order to create, God has no need to design

It's important that the word "design" be properly understood. That God has created a flawless design does not mean that He first made a plan and then followed it. God, the Lord of the Earth and the heavens, needs no "designs" in order to create. God is exalted above all such deficiencies. His planning and creation take place at the same instant.

Whenever God wills a thing to come about, it is enough for Him just to say, "Be!"

As verses of the Qur'an tell us:

His command when He desires a thing is just to say to it, "Be!" and it is. (Qur'an, 36:82)

[God is] the Originator of the heavens and Earth. When He decides on something, He just says to it, "Be!" and it is. (Qur'an, 2:117)



CHAPTER - 1



MIRACLES IN
THE CREATION
OF THE
UNIVERSE

THE INCREDIBLE ORDER THAT CAME WITH THE EXPLOSION

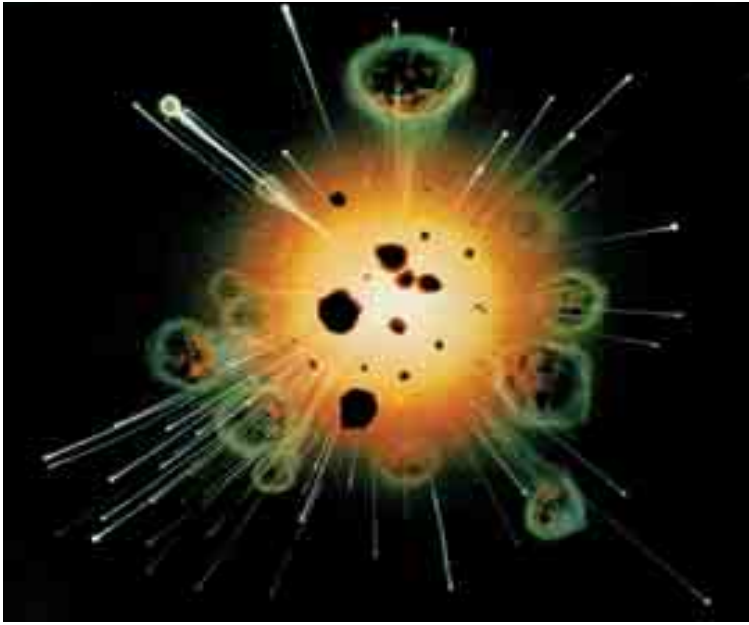
The whole scientific community acknowledges that the universe we live in began approximately 15 billion years ago with a huge explosion popularly called “the Big Bang” and expanded to take on its present state and dimensions. Space, galaxies, planets, the Sun, the Earth—in short, everything that combines to make up the universe was formed as a consequence.

Here lies a great secret: Since the Big Bang was an explosion, matter would be expected to have scattered itself randomly across space, as atoms or sub-atomic particles. But not so; on the contrary, the universe in all its incredible order emerged instead. “Randomly” scattered atoms concentrated in certain places and bonded to form stars, solar systems and galaxies—certainly an extraordinary situation. And to use an analogy used by scientist, even more extraordinary than a hand grenade thrown into a wheat field with the result that the effect of the blast collects the cut wheat, ties it into uniform bales, and piles up the bales in an orderly fashion.

Professor Fred Hoyle, who opposed the Big Bang theory for many years, expressed his wonder as follows:

The big bang theory holds that the universe began with a single explosion. Yet, . . . an explosion merely throws matter apart, while the big bang has mysteriously produced the opposite effect—with matter clumping together in the form of galaxies.⁵

Obviously, such an explosion that contained the whole of the universe’s mass, from which the most spectacular order emerged, can only be explained by a miracle. Astrophysicist



An explosion always disperses and disorders matter.

Alan Sandage, winner of the Crawford prize in astronomy, explains the situation as follows:

I find it quite improbable that such order came out of chaos. There has to be some organizing principle. God to me is a mystery but **is the explanation for the miracle of existence...** ⁶

As scientists state, it is a fantastic miracle that atoms should bond in the most appropriate ways to create the infinitely coordinated order of the universe, comprising countless trillions of planets, billions of stars in billions of galaxies, and all without the slightest hitch. This is a miracle shown to us by the infinitely powerful God.

He to Whom the kingdom of the heavens and the Earth belongs. He does not have a son and He has no partner in the Kingdom. He created everything and determined it most exactly. (Qur'an, 25:2)

A MIRACLE IN THE UNIVERSE'S EXPANSION RATE

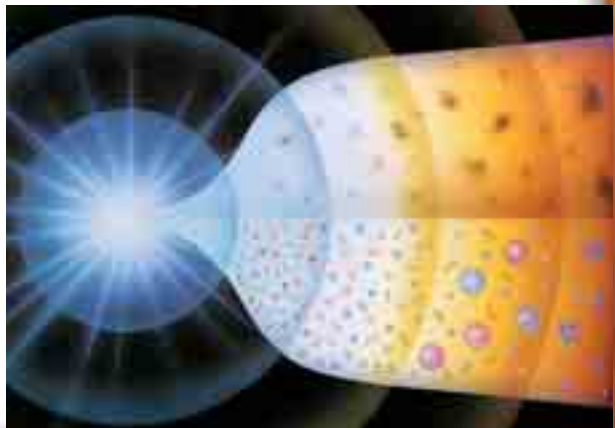
The universe's expansion is critical to the formation of its present state. Had it been a fraction slower, the whole of the universe would have contracted once again and collapsed on itself, before the fledgling solar systems had any chance to develop. Had its rate of expansion been only a fraction faster, matter would have been dispersed irretrievably in the vastness of space, unable to form neither stars nor galaxies.

Either situation would mean that living things, let alone we humans, could not exist.

However, neither scenario happened. Thanks to the actual rate of expansion, the universe as we know it emerged. But how sensitive is this rate, actually?

Paul Davies, a renowned Professor of Mathematics and Physics at Australia's Adelaide University, made a series of calculations in order to answer this question. The results he ob-

The universe we live in emerged some 15 billion years ago, as the result of a giant explosion from a single point. The result of this huge explosion, which contained all the matter in the universe, was the present, extraordinarily regular cosmos that expanded to assume its present form.



tained were astonishing. According to Davies, had the expansion rate following the Big Bang been different by one in a billion billions ($1/10^{18}$), the universe could not have formed! Another way of stating this figure is: "0,000000000000000001." Any divergence of such a tiny scale would have meant no universe at all. Davies interprets this result as follows:

Careful measurements put the rate of expansion very close to a critical value at which the universe will just escape its own gravity and expand forever. A little slower and the cosmos would collapse, a little faster and the cosmic material would have long ago completely dispersed. It is interesting to ask precisely how delicately the rate of expansion has been "fine tuned" to fall on this narrow dividing line between two catastrophes. If at time I S (by which the time pattern of expansion was already firmly established) the expansion rate had differed from its actual value by more than 10^{-18} , it would have been sufficient to throw the delicate balance out. The explosive vigour of the universe is thus matched with almost unbelievable accuracy to its gravitating power. The big bang was not evidently, any old bang, but an explosion of exquisitely arranged magnitude. ⁷

An article published in the journal *Science* describes this extraordinary rate of expansion at the beginning of the universe:

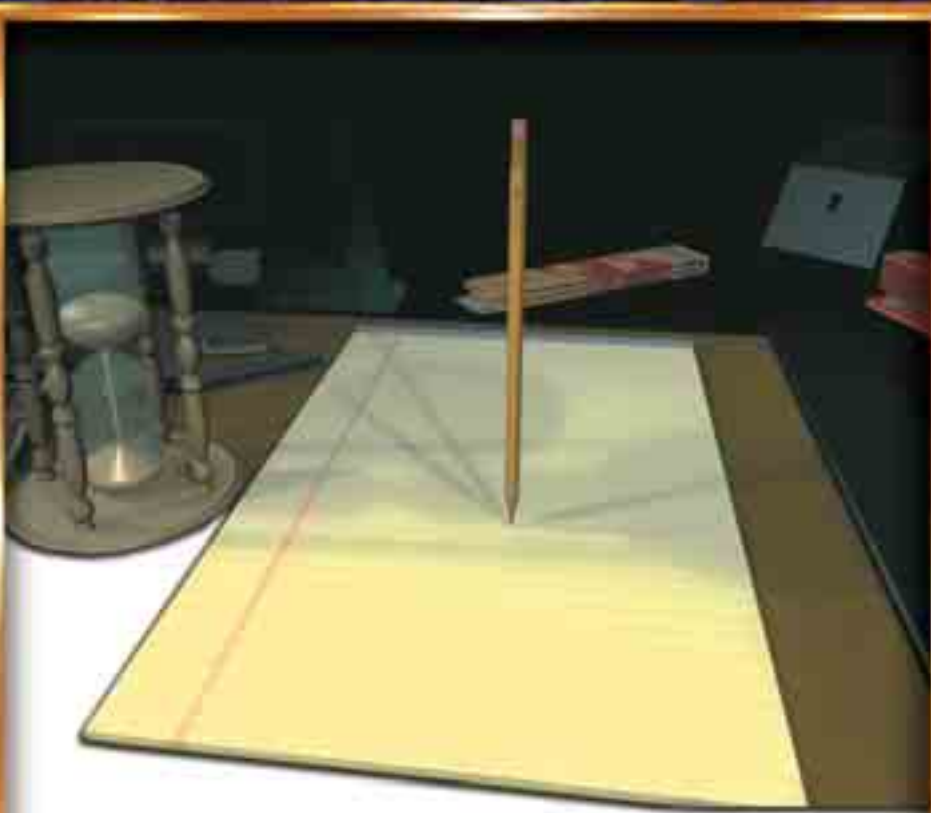
If the density of the universe was a little bit more, in that case, according to Einstein's relativity theory,





the universe would not be expanding due to the attraction forces of atomic particles but contracting, ultimately diminishing to a spot. If the initial density had been a little bit less, then the universe would rapidly be expanding, but in this case, atomic particles would not be attracting each other and no stars and no galaxies would ever have formed. Consequently, man would never come into existence! According to the calculations, the difference between the initial real density of the universe and its critical density, which is unlikely to occur, is less than one percent's one quadrillion. This is similar to place a pencil in a position so that it can stand on its sharp end even after one billion years... Furthermore, as the universe expands, this equilibrium becomes more delicate. ⁸

Regardless of how much Stephen Hawking tried to ascribe the origins of the universe to chance, he had to concede the extraordinary fact of its universe's expansion rate in his book, *A Brief History of Time*:



The speed of the universe's expansion is a most sensitive figure. Were it as little as one billion billionth different, the universe we now live in could never have formed. This is like placing a pencil on its sharp end in such a way that it will still be upright a billion years later. Moreover, as the universe expands, this balance grows even more delicate.

If the rate of expansion one second after the big bang had been smaller by even one part in a hundred thousand million million, the universe would have recollapsed before it ever reached its present size.⁹

Alan Guth, the father of the inflationary universe model developed as an extension to the standard Big Bang model of the universe, calculated in recent years an even more perplexing result for the fine-tuning of the universe's rate of expansion. He states that the margin of error was 1 in 10^{55} .¹⁰



There is a crucial balance between the density of the universe and the speed at which it is expanding.

What, then, does such a remarkable equilibrium indicate? Obviously this instance of “fine-tuning” cannot possibly be explained by chance; it must prove an intelligent design. Despite being a materialist, Paul Davies concedes:

It is hard to resist that the present structure of the universe, apparently so sensitive to minor alterations in the numbers, has been rather carefully thought out... The seemingly miraculous concurrence of numerical values that nature has assigned to her fundamental constants must remain the most compelling evidence for an element of cosmic design.¹¹

As we have seen, this conclusive data obtained by scientific means, led materialist Paul Davies to concede—whether he liked it or not—that the universe is the product of intelligent design. Or, in other words, that the universe was created.

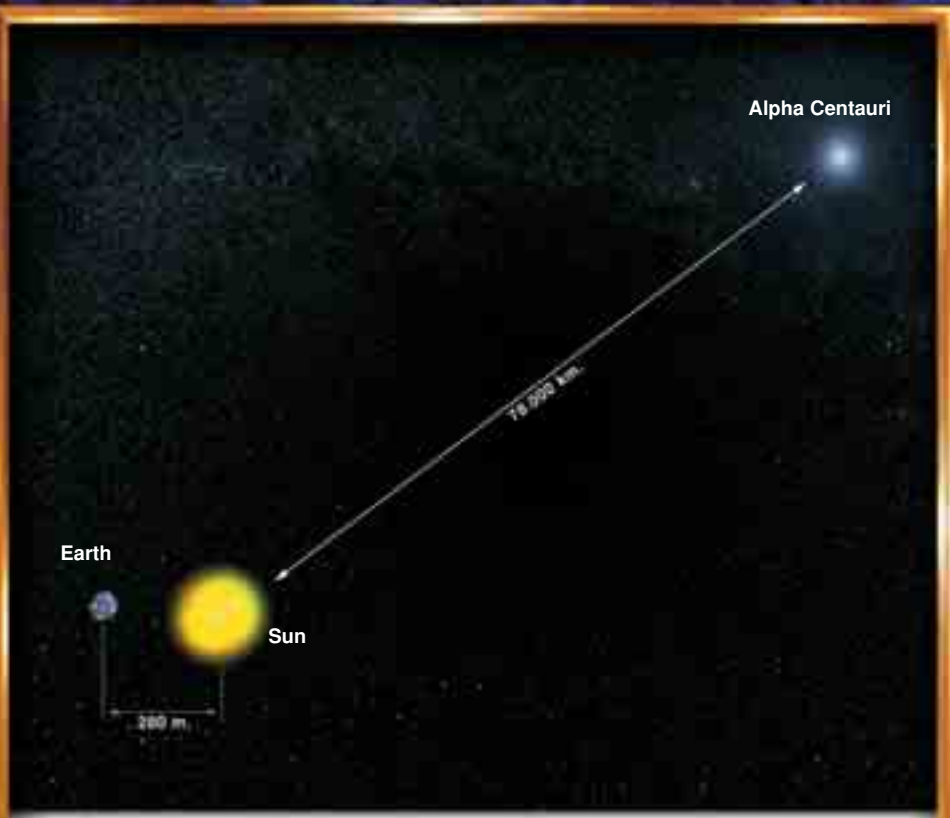
DISTANCES BETWEEN COSMIC OBJECTS

As we know, our Planet Earth is part of a solar system of nine planets, the Earth being the third planet orbiting our medium sized star.

First, let's understand the scale of this system. The Sun's diameter is 103 times the Earth's. To enable a comparison, image the Earth (whose true diameter is 12,200 kilometers, or 7,500 miles) as the size of a marble. In comparison, our Sun would be a sphere twice the size of a football. But what is really interesting is the distance between the two. On this scale, it would be 280 meters (920 feet). Planets at the outer reaches of the system would be many kilometers away from the sphere representing the Sun.

Yet the solar system's huge size is actually modest when placed in context with the rest of our Milky Way Galaxy. It contains an estimated 250 *billion* stars (or suns), the nearest of which is Alpha Centauri. If Earth and Sun are 280 meters (920 feet) apart, as in the above example, then on the same scale, Alpha Centauri would be a whopping 78,000 kilometers (48,500 miles) away.

Let's shrink this scale down until the Earth becomes a dust particle barely visible to the naked eye. The Sun would then be the size of a walnut, three meters away from the Earth. On this new scale, Alpha Centauri would be 640 kilometers (400 miles) away. Yet the Milky Way Galaxy consists of 250 billion stars with even more phenomenal distances in between them. Our solar system is a mere speck in this spiral galaxy.



If we consider the Earth as the size of a marble, and the distance between it and the Sun as 280 meters (920 feet), then the star Alpha Centauri should be placed 78,000 kilometers (48,500 miles) away!

The Milky Way itself covers a relatively minute area within the universe, when we consider there are approximately 300 billion other such galaxies besides it, and that the distances between them are millions of times greater than between our Sun and Alpha Centauri.

The diffusion of heavenly objects throughout the universe and the spaces between them are necessary conditions for life on Earth. The distances between stars are arranged by cosmic forces in such a way as to make possible life on Earth. These distances

have a direct effect on planets' orbits and even their very existence. Were they any closer, gravitational attraction between stars would destabilize the planets' orbits, causing extreme fluctuation in temperatures. Had they been any farther, the distribution of heavier elements, shooting into space from supernovas, would have never reached the density required to form planets like our solid Earth.

The existing distances between stars are just right to permit the existence of solar systems like ours.

Michael Denton, a renowned Professor of Biochemistry, writes in his book *Nature's Destiny*:

The distances between supernovae and indeed between all stars is critical for other reasons. The distance between stars in our galaxy is about 30 million miles. If this distance was much less, planetary orbits would be destabilized. If it was much more, then the debris thrown out by a supernova would be so diffusely distributed that planetary systems like our own would in all probability never form. If the cosmos is to be a home for life, then the flickering of the supernovae must occur at a very precise rate and the average distance between them, and indeed between all stars, must be very close to the actual observed figure.¹²

In *The Symbiotic Universe*, astronomer George Greenstein writes about these mind-boggling distances:

Had the stars been somewhat closer, astrophysics would not have been so very different. The fundamental physical processes occurring within stars, nebulas, and the like would have proceeded unchanged. The appearance of our galaxy as seen from some far-distant vantage point would have been the same. About the only difference would have been the view of the night time sky from



In the vast depths of space, our Earth occupies no more room than a grain of sand on a beach. The universe is too large for human minds to comprehend.

the grass on which I lie, which would have been yet richer with stars. And oh, yes-one more small change: There would have been no me to do the viewing...All that waster space! On the other hand, in this very waste lies our safety.¹³

The universe's vast empty spaces, Greenstein explains, determine the value of physical variables that make human life on Earth possible and also prevent the Earth from colliding with other cosmic objects traveling through the universe.

In short, the distribution of stars in the universe is exactly as they must be for human existence on Earth. The vast empty



Bodies in space have been created at the ideal distances from one another. In our galaxy, the slightest increase or reduction in the average distances between heavenly bodies would mean that no planet would exist that is suitable for life.

spaces are not coincidental—they were created.

In many verses of the Qur'an, God reveals that the heavens and the Earth have been created for a purpose:

We did not create the heavens and Earth and everything between them, except with truth. The Hour is certainly coming, so turn away graciously. (Qur'an, 15:85)

We did not create the heavens and the Earth and everything between them as a game. We did not create them except with truth but most of them do not know it. (Qur'an, 44:38-39)

THE MIRACULOUS FORMATION OF CARBON

Carbon, the “element of life,” is produced only by miraculous nuclear reactions taking place in the core of huge stars. If there were no such reactions, there would not be carbon—or any other elements—in the universe and therefore, no life. We say “miraculous” because these transformations cannot take place under normal conditions, but require a combination of the most improbable factors.

Carbon atoms are produced in the core of huge stars by a two-tier process. First, two helium atoms fuse to produce a transitional element with four protons and four neutrons called beryllium. When a third helium atom fuses with beryllium, they produce a carbon atom with six protons and neutrons.

The beryllium atom produced in the first stage of this process is different from the beryllium atoms found on Earth, since the element beryllium listed in our periodic table boasts one additional neutron. The unusual beryllium isotope found in red giants has long puzzled scientists, since it is extremely unstable, so much so that it disintegrates 0.000000000000001 (10^{-15}) seconds after it was formed.

So how can this beryllium isotope become carbon, if it is effectively destroyed in the same instant it is formed? Do the helium atoms that fuse with the beryllium isotope do so by chance? Most certainly not, as this is more improbable than two bricks blown apart within the space of 0.000000000000001 seconds being joined a third, thus eventually forming a whole building.

Paul Davies describes this miraculous process as follows:

While investigating the nuclear reactions that lead to the formation of carbon in the stellar cores, [Fred] Hoyle was struck by the

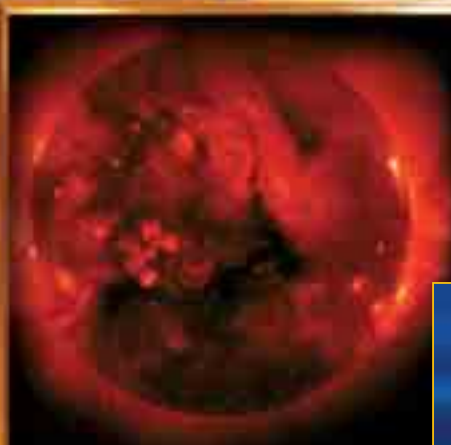
fact that the key reaction proceeds only because of a lucky fluke. Carbon nuclei are made by a rather tricky process involving the simultaneous encounter of three high-speed helium nuclei, which then stick together. Because of the rarity of triple-nucleus encounters, the reaction can proceed at a significant rate only at certain well-defined energies (termed “resonances”), where the reaction rate is substantially amplified by quantum effects. By good fortune, one of these resonances is positioned just about right to correspond to the sort of energies that helium nuclei have inside large stars.¹⁴

Such a chemical reaction is beyond by coincidence—it’s impossible! But since Paul Davies is a sworn materialist, he tries to explain it away with a pointless and irrational reference to “good fortune.” Davies is aware of this miracle and does not conceal his bewilderment when explaining this process, but nevertheless adopts such unscientific and irrational terms as “lucky fluke” or “good fortune,” simply because he rejects Creation.

Inside red giants another miracle called double-resonance takes place. First, two helium atoms fuse to create beryllium, then within the space of 0.000000000000001 second, a third helium atom combines with the first two, to produce carbon.

George Greenstein explains why this double-resonance process is so extraordinary:

There are three quite separate structures in this story—helium, beryllium, and carbon—and two quite separate resonances. It is hard to see why these nuclei should work together so smoothly... Other nuclear reactions do not proceed by such a remarkable chain of lucky breaks...It is like discovering deep and complex resonances between a car, a bicycle, and a truck. Why should such disparate structures mesh together so perfectly? Upon this our ex-

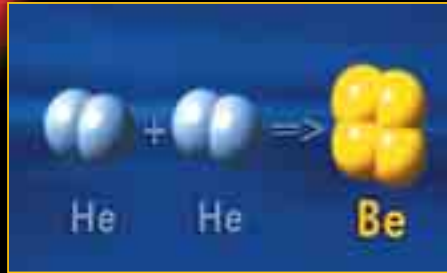


Nuclear reactions that form carbon atoms take place in the heart of giant stars.



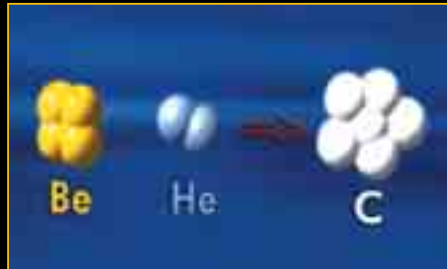
The element of carbon, which occurs naturally on Earth in the form of coal or diamond, actually formed in the nuclei of giant stars. As a result of these stars exploding as novae, masses of carbon and other elements were hurled into space, subsequently reaching other stars and planets, of which our Earth is one.

1



In order for a carbon atom to form, first a pair of helium atoms, with two protons each, comes together to form a four-proton beryllium atom.

2



Following that, the beryllium atom joins with a third helium atom, forming a six-proton atom of carbon.

The miraculous thing, however, is how the beryllium atom, which normally decomposes in as little as 0.0000000000000001



of a second, joins with another helium atom to form a carbon atom before such decomposition takes place. (3) Scientists agree that this phenomenon is most extraordinary.

istence, and that of every life form in the universe, depends.¹⁵

As we have seen, Greenstein (another materialist scientist), explains this miracle of Creation with “a remarkable chain of lucky breaks;” a wholly unscientific approach. Exactly because this is an impossibly unlikely thing to happen by chance, Greenstein makes the analogy of a very complex and crucial resonance between a car, a bicycle and a truck. He fails to call this a miracle because of his materialist credentials.

Further, some other elements like oxygen were formed by such extraordinary processes of resonance. Fred Hoyle discovered these extraordinary processes, and in his book *Galaxies, Nuclei and Quasars*, he concluded that such precisely structured processes could not have arisen through the work of coincidences. Despite being a sworn materialist, he conceded that such double resonances had to be the result of design.¹⁶

In another article, he wrote:

If you wanted to produce carbon and oxygen in roughly equal quantities by stellar nucleosynthesis, these are the two levels you would have to fix, and your fixing would have to be just about where these levels are actually found to be...A commonsense interpretation of the facts suggests that a super intellect has monkeyed with physics, as well as chemistry and biology, and that there are no blind forces worth speaking about in nature. The numbers one calculates from the facts seem to me so overwhelming as to put this conclusion almost beyond question.¹⁷

This miraculous process so affected Hoyle that he was convinced other scientists could not possibly ignore this clear fact:

I do not believe that any scientist who examined the evidence would fail to draw the inference that the laws of nuclear physics have been deliberately designed with regard to the consequences they produce inside the stars.¹⁸



Carbon is the main building block for all Earthly life. The organic molecules composing the bodies of living things—proteins, fats and carbohydrates—are all formed from different carbon compounds. The atoms of carbon in your body as you read this book are actually leftovers from a supernova explosion, billions of years ago in the depths of space.



THE BALANCE OF GRAVITATIONAL FORCES

The physical laws of the universe are based on four primary forces: gravity, electromagnetism, and the so-called weak and strong nuclear forces. The values of each of the four have been fine-tuned to perfection for the universe as we know it to exist, and for human life.

Gravity is one of the most important forces affecting the universe's order. Newton declared that this force was responsible not only for apples falling to the ground but also that this mysterious force kept the stars in their orbits. Einstein introduced a new and deeper perspective to this phenomenon, theorizing about how it forced huge stars to collapse and turn into



One of the most important forces that affect the order of the universe is gravity. Newton declared this was an extraordinary force that not only caused apples to fall from trees, but also served to maintain the planets in their orbits.

black holes. Gravity also controls the expansion rate of the universe.

The force of gravity has a constant mathematical value that enabled the formation of the universe we live in.

Had this constant been a fraction greater than it is, the formation of stars in the universe would have accelerated to the point that where even the smallest stars would have reached a mass 1.4 times greater than that of our Sun. They would have then burned up so quickly and unpredictably that the necessary conditions for life on any planets orbiting them could not have developed. Life depends on stars as small as our own Sun.

Had the constant of gravity been a little greater than its current value, all stars of the universe would have already collapsed into black holes. Furthermore, gravitational forces acting on even the smallest planets would have been so great that no life forms larger than insects could have survived.

At the other extreme, had the force of gravity been a fraction weaker, the largest stars in the universe could never have exceeded 0.8 times the mass of our Sun. These smaller stars would have burned long enough and been stable enough to support life on the planets orbiting them, but the heavy elements essential for the formation of planets and life could never have emerged in the first place. Iron and the other heavier elements can be created only in the cores of huge stars. Only stars of huge mass can produce and scatter beryllium—and other elements, necessary for the formation of planets and life—into interstellar space.

As you can see, even very small fluctuations in gravitational forces would have prevented the formation of life—and therefore, humans. Fluctuation of a slightly higher magnitude in



Were the force of gravity any weaker, our Earth would escape the gravitational pull of the Sun and drift off into space. Were it just a little stronger, we would plunge into the Sun and be destroyed.

gravitational forces would have caused the collapse of the universe within itself; a fraction smaller, and stars and galaxies could not have formed in the first place.

Obviously, since we do exist on Earth, none of these negative possibilities has taken place. Every detail of the universe has been designed and created according to a flawless plan, and in perfect order. Almighty God has created the universe we live in a series of extraordinary miracles and in unequalled harmony:

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

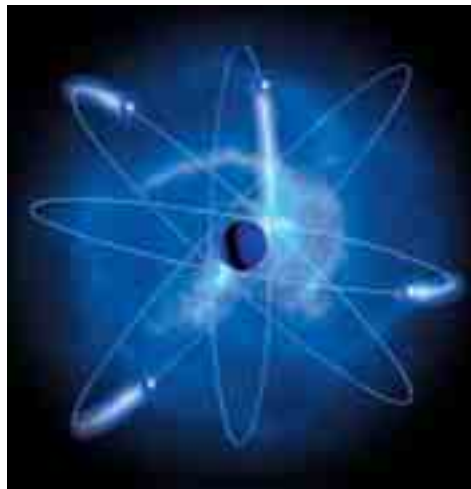
HARMONY BETWEEN THE OTHER FORCES IN THE UNIVERSE

Investigating the other forces acting on the universe besides gravity, we discover that they too have fine-tuned values balanced at crucially critical ratios.

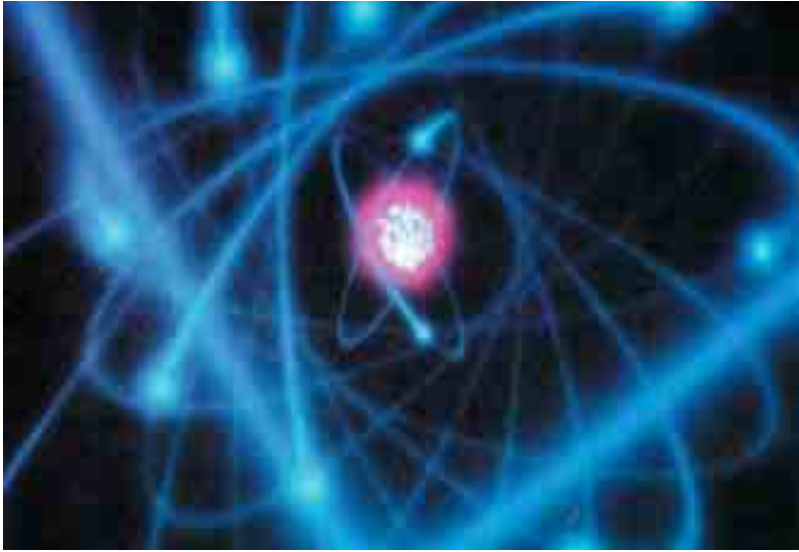
Electromagnetic Forces

As we all know, all living and non-living things are formed of the building blocks called atoms, which in turn are composed of protons and neutrons in their nuclei, and electrons that orbit the nucleus at high speed. The number of an atom's protons determines its type. For instance, an atom with only one proton is hydrogen; an atom with two is helium, and one with 26 protons is called iron. The same is true for all other elements.

The protons in the atomic nucleus have a positive electrical charge, whereas the electrons orbiting it have a negative charge.



Electromagnetic force joins together the protons and electrons in the atom.



Were electromagnetic force just a little weaker or stronger, atoms could not combine or stay together. As a result, molecules essential to life could never form.

This opposing electrical charge creates an attraction between protons and electrons, keeping the electrons in their orbit around the nucleus. The force that binds the protons and electrons of opposing electrical charge is called the *electromagnetic force*.

The nature of electrons' orbit around the nucleus determines the type of bonds that can exist between individual atoms and what type of molecules they can form.

Had the value of the electromagnetic force been a fraction smaller, fewer electrons could have been retained in orbit around atomic nuclei. Had it been slightly greater, no atom could bond with any other. Either way, the molecules necessary for life could never have been assembled.

Strong Nuclear forces

The so-called “strong” nuclear force holds together the protons in the nuclei of atoms. As already mentioned, protons are particles with a positive electrical charge. According to the laws of electromagnetism, particles of opposing electrical charge attract one another, and those of the same charge repel each other. In other words, protons and electrons attract one another, while protons repel other protons—and electrons repel other electrons.

In the nuclei of many larger atoms, tens of protons are found clustered together. Under normal circumstances, any protons brought together should have repelled one another into space with great force. But not so: Protons stay clustered together with great consistency, because an even greater force acts on them than of electromagnetism, which would have them repel one another.

This so-called strong nuclear force is the strongest force in



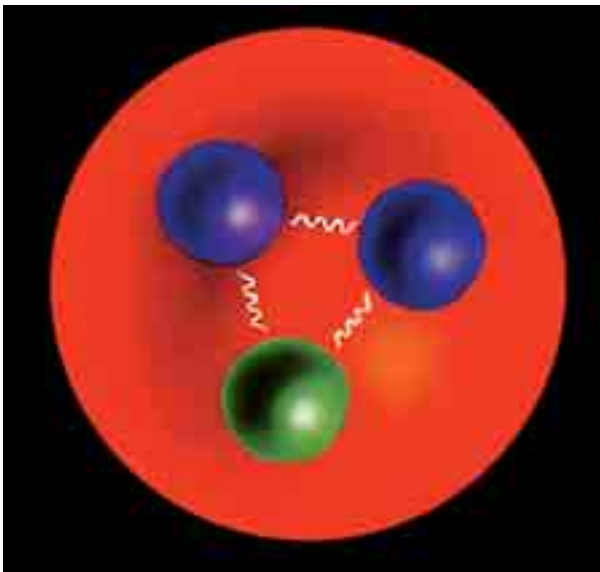
One concrete example of nuclear power's impressive effects is the detonation of an atomic or hydrogen bomb.



the universe. Its great power can be unleashed by detonating atomic or hydrogen bombs. This source of energy has been fueling the Sun for the past 4.5 billion years and has been calculated to continue to do so for another five billion years. The mathematical value of this extraordinary force is one of the universe's most critical. Changes of a few percentage points to the value of the strong nuclear force's constant would have forestalled the formation of carbon, the building block of life. Slightly higher fluctuations would alter all present laws of physics and wreck the harmony and order in the universe.

The balance between the strong nuclear force holding atomic nuclei together and electromagnetism rests on the most precise values.

Had the strong nuclear force been even slightly weaker, it could not have held together the cluster of protons in the nuclei.



Strong nuclear force is the greatest universal force, which holds together neutrons and protons in the atomic nucleus.

Because of electromagnetic forces acting on them, they would have repelled one another into space. That would have made impossible the formation of atoms with more than one proton. Therefore, the only possible element in the universe would have been hydrogen.

On the other hand, had the strong nuclear force been only a fraction larger in relation to the electromagnetic force, the element hydrogen with its single proton could never have been formed. The strong nuclear force would have dominated the electromagnetic force, so that every proton in the universe would have shown a tendency to cluster. As we have just said, hydrogen with its single proton could not have emerged. In this case, even if stars and galaxies had formed, they would have had totally different properties. Clearly, if these elementary forces were not balanced just as they are, no supernova, star, planet or atom could have been formed—and consequently, no life either.¹⁹

The Weak Nuclear Force

The remaining one of the four elementary forces also has a precisely determined constant value. This force is carried by some sub-atomic particles and causes a form of radioactive breakup. One example of this type of radioactive “split” is when a neutron breaks up to release three particles—one proton, one electron and one anti-neutron.

As you can see from this example, the neutron—one of the fundamental particles in the atomic nucleus—is actually comprised by the combination of three other, smaller particles. The

weak nuclear force causes the neutron to break up into its component particles; and it too has a precise value that keeps this order and harmony intact.

If the weak nuclear force's value were even fractionally greater, neutrons would break up more readily and thus become a rarity throughout the universe. In such a case, hardly if any helium, with two neutrons in its nucleus, could have been created since the Big Bang. As we know, helium is the second lightest element after hydrogen, and so without the necessary helium, the heavier elements essential for life could not have been produced in the nuclear core of stars. As stated before, heavier elements

like carbon, oxygen and iron are produced by the fusion of helium nuclei in the core of huge stars. In short, helium is the "raw material" of heavier elements.

Without helium, no heavier elements necessary for the formation of life could have come about.

On the other hand, if the weak nuclear force were



The weak nuclear force carried by subatomic particles was created with a very delicate balance to ensure the formation of the universe in which we live.

weaker by even a fraction, then most, if not all of the hydrogen from the Big Bang would have been transformed into helium. That, in turn would have increased to abnormal levels the quantity of heavier elements in the core of stars. This would have made life impossible.

One factor that makes the weak nuclear force so critical is its effect on the subatomic particles called neutrinos. These particles play a vital role in the supernova explosions that blast into space the heavier elements necessary for life. This weak nuclear force is the only force able to act on neutrinos.

If the “weak” nuclear force were any weaker, neutrinos could move freely without being affected by gravitational forces. During a supernova’s explosion, consequently, they would be able to escape without reacting with the outer spheres of the star, thus preventing heavier elements from being ejected into space. But had the weak nuclear forces been greater, neutrinos would have remained trapped in the center of supernovas and again, couldn’t have let the heavier elements be ejected into space.

Paul Davies states that the elementary laws of physics have been optimized for human existence, and that if their quantitative values had been slightly different, our universe would have become an altogether different place. He continues:

Had nature opted for a slightly different set of numbers, the world would be a very different place. Probably we would not be here to see it...Recent discoveries about the primeval cosmos oblige us to accept that the expanding universe has been set up in its motion with a cooperation of astonishing precision.²⁰

Arno Penzias, who, along with Robert Wilson detected the

cosmic background radiation for the first time, which effort earned them the Nobel price in 1965, makes the following statement about this extraordinary design:

Astronomy leads us to a unique event, a universe which was created out of nothing, one with the very delicate balance needed to provide exactly the conditions required to permit life, and one which has underlying (one might say "supernatural") plan. ²¹

Robert Astrow, founder and former director of NASA's Goddard Institute for Space Studies, expresses this as follows:

Thus, according to the physicist and the astronomer, it appears that the Universe was constructed within very narrow limits, in such a way that man could dwell in it. This result is called the anthropic principle. It is the most theistic result ever to come out of science, in my view... ²²

As we have explained elsewhere in great detail, the forces acting on the universe, within their own ratios as well as the balances existing between them are miracles that cannot be explained by chance. The numerical values, responsible for the harmonious balances in the universe, do not fluctuate by even one or two percentage points. And these extraordinary balances have been preserved without a hitch since the first day of the universe, making them even more remarkable. As Astrow points out, these facts all prove that the universe has been designed diligently and its precise order was given. Such a miraculous order certainly could not have come about by itself, coincidentally. To claim that it formed and organized itself would be irrational. This flawless order has been formed and organized by God, the infinitely Wise and Mighty Creator.

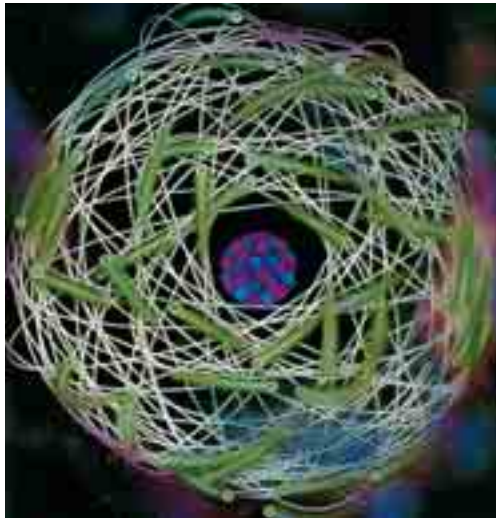
THE MAGNIFICENT HARMONY BETWEEN PROTONS AND ELECTRONS

The Harmony in Electric Charges

In terms of both mass and volume, protons are much larger than electrons. A proton's mass is 1,836 times that of an electron. To make the comparison more visual, if an electron were the size of a hazelnut, a proton would be the size of a human being. In other words, electrons and protons are highly dissimilar.

Interestingly, though, they carry equal electrical charges, except that one is positive the other negative, such that an atom's electrical charges are balanced. Nothing forces or requires this equality: If anything, their electric charges should reflect their respective physical characteristics; i.e., the electron's charge

The masses of protons and electrons—the basic particles which make up the atom—are very different. Yet miraculously, their electrical charges have been created equally in number. This extraordinary harmony is most important to maintaining equilibrium in the universe in which we live.



should be smaller than the proton's, in proportion to its smaller size.

But what would have happened if the electric charge of proton and electron were not equal?

Every atom in the universe would have carried a positive electric charge, because of their more massive protons. As a consequence, all atoms would have repelled one another.

What if this were to happen now, with all the atoms in the universe repelling one another?

The results would be extraordinary. Let's begin with the changes to your body that would take place. If such were to occur, your arms and the hands that hold this book would disintegrate at once. Not only your hands and arms, but also your legs, head, eyes, teeth—in short, every bit of your body would just disintegrate into thin air. The room you are in, as well as the world outside, would disappear—together with all the seas and mountains and the planets of the solar system. They all would be irretrievably lost. What we call the universe would be a chaos of atoms repelling each other.

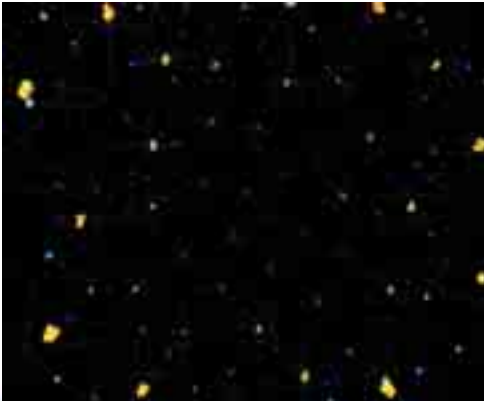
What is the imbalance between the electric charges of protons and electrons needed for such a disaster to take place? If the difference were small as a percentage point, would this disaster still happen, or is the critical limit more like only one thousandth? In his book *Symbiotic Universe*, George Greenstein has the following to say:

Small things like stones, people, and the like would fly apart if the two charges differed by as little as one part in 100 billion. Larger structures like the Earth and the Sun require for their existence a yet more perfect balance of one part in a billion billion.²³

The Harmony in Numbers

The proportion of protons to electrons in the universe is most important. This ratio permits the delicate balance between the mass gravitational and electromagnetic forces. While the universe was still less than one second old, anti-protons eliminated an equal number of protons—their oppositely-charged counterparts—, leaving behind a specific remaining number of protons, to form the building blocks of our present-day universe. The same thing happened between electrons and positrons (anti-electrons). Astonishingly, the numbers of protons and electrons remaining is the same, with only the very smallest difference between them: 1 in 10^{37} .

This equality is essential for the universe's electromagnetic equilibrium, because any imbalance in the number of protons and electrons would have caused same-charged particles to repel one another into the distance. Sub-atomic particles would not have been able to form atoms, which in turn could not have formed stars and the matter in the universe. Galaxies, stars and planets—including our Earth, so perfect for life—would never have come into existence.



The total number of protons and electrons in the universe has been calculated with the greatest precision. Both kinds of particles are practically identical in number.

The equality is of crucial importance to ensure the universe's electromagnetic balance.

A MIND-BOGGLING PROBABILITY

When all physical variables are considered together, what is the likelihood of a universe able to support life like ours to form by chance? Perhaps one in a billion billion, or one in a trillion trillion, or even less?

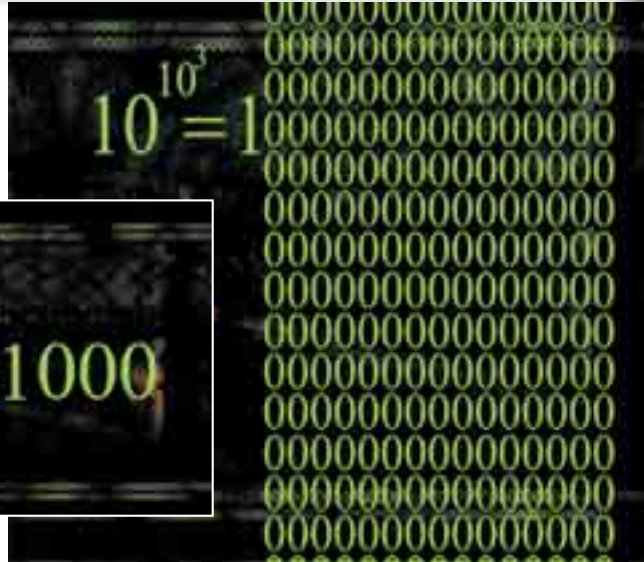
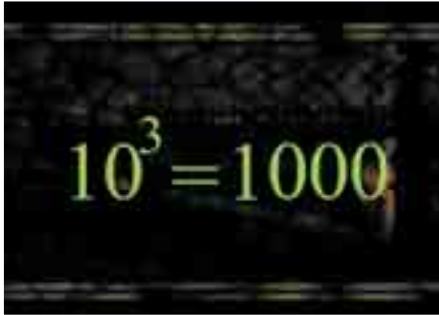
This number was calculated by renowned mathematician Roger Penrose, a close colleague of Stephen Hawking. He considered all physical variables, accounted for all their possible sequencing combinations, and among all the other possible outcomes of the Big Bang, he computed the probability of the formation of a life-sustaining environment.

Penrose's calculations yielded the following result: 10^{123} over 10. What this number actually means is difficult to comprehend. The number expressed as 10^{123} in mathematical terms has 123 zeros following the number 1. (This is already a number greater than the total of all the atoms in the universe, of which there are approximately 10^{78}). But the number calculated by Penrose is far greater for it has 10^{123} zeros following the number 1.

We can try to make sense of this literally astronomical number with a few examples. 10^3 is another way to express the number 1,000. 10^3 over ten, on the other hand, is a number formed by 1,000 zeros placed to the right of the 1. Nine zeros next to the 1 make a billion. Twelve zeros following the 1 make a trillion, but a number with 10^{123} zeros after the 1 is a number with no name or definition in mathematics.

In mathematics, a probability smaller than 1 in 10^{50} is considered "zero probability," yet it is a number far greater than a trillion times trillion times trillion. In short, the statistic that

10^3 means 1,000.
 10^{10} represents a number expressed by 1 followed by 1000 zeros.



Penrose calculated tells us that it is impossible to explain the universe by chance. About his number, which lies far beyond the limits of our comprehension, he says the following:

This now tells how precise the Creator's aim must have been, namely to an accuracy of one part in $10^{10^{123}}$. This is an extraordinary figure. One could not possibly even write the number down in full in the ordinary denary notation: it would be 1 followed by 10^{123} successive 0's. Even if we were to write a 0 on each separate proton and on each separate neutron in the entire universe—and we could throw in all the other particles for good measure—we should fall far short of writing down the figure needed. ²⁴

The universe we live in was formed as a probability of 1 in a number way beyond mathematical definition, and in just the necessarily perfect proportions. This is a clear proof of creation. No doubt, the fact that we live in such a perfect universe is not the result of blind coincidences, nor the doing of senseless atoms. The entire universe, with all its flawless systems and all the things and beings it contains, came into existence by the perfect creation of our Lord God.

$$10^{10^{123}} = 1$$


$$10^{123} = 1$$


Professor Roger Penrose, the famous British mathematician, calculated the probability of a universe that allowed life to come into being by chance. He included all physical factors in his calculations, bore in mind the number of different ways they could be strung together, and worked out the chances of an environment capable of sustaining life emerging amidst all the other probable outcomes of the Big Bang.

The probability that Penrose calculated was: 1 in 10^{123} !

It's hard even to imagine the significance of such a number. In mathematics, 10^{123} signifies a 1 followed by 123 zeroes (*above left*).

Even this number, representing a 1 followed by 123 zeroes, is a literally astronomical figure, even greater than the total of all atoms in the universe (10^{78}). But the number calculated by Penrose is far greater for it has 10^{123} zeros following the number 1. Penrose says, "Even if we were to write a 0 on each separate proton and on each separate neutron in the entire universe—and we could throw in all the other particles for good measure—we should fall far short of writing down the figure needed."





CHAPTER - 2

THE SOLAR
SYSTEM AND THE
MIRACULOUS
ORDER IN THE
CREATION OF THE
EARTH

THE LOCATION OF THE SOLAR SYSTEM IN THE GALAXY

The location of our solar system in the Milky Way is the product of awe-inspiring order and flawless design. Its trajectory is far from the center of the galaxy, and outside its spiraling arms.

Stars and planets in a spiral galaxy like the Milky Way are structured around the bloated core. The spiraling arms move away from the center of the galaxy at a consistent angle and plane. The spaces between these arms contain only a negligible number of solar systems—and our own solar system is one of these rare examples.

Is it somehow relevant that our solar system is located between the spiral arms of the galaxy?

First, it means that we are far removed from the gases and other debris contained in the spiraling arms, giving us a clean, clear view of the universe from where we are. Had our solar system been located inside these spiral arms, our view would have been considerably obscured. As Michael Denton writes in his book *Nature's Destiny*:

What is so striking is that the cosmos appears to be not just supremely fit for our own being and for our biological adaptations, but also for our understanding... Because of the position of our solar system on the edge of the galactic rim, we can gaze farther into the night to distant galaxies and gain knowledge of the overall structure of the cosmos. Were we positioned in the center of a galaxy, we would never look on the beauty of a spiral galaxy nor would we have any idea of the structure of our universe.²⁵



The Solar System's location in the Milky Way is the product of flawless design. Life on Earth would be impossible if it were elsewhere in the Galaxy.

Normally, stars located between spiral arms cannot maintain their position for prolonged periods of time, since they are eventually absorbed into the spirals. Yet our solar system has maintained its orbit between the galaxy's spiral arms for the past 4.5 billion years.

Our location's stability is due to the fact that our Sun is one of very few stars positioned on the trajectory called "galactic co-rotation radius."

For a star to maintain its position between two spiral arms depends on its distance from the core of the galaxy. In other words, it needs to be on the co-rotation radius, so that it travels around the center at the same speed as do the spiral arms.²⁶ Among our galaxy's billions of stars, only our Sun has both this special position as well as the required velocity.

Our position, outside of the spiral arms where stars cluster, is also the safest place in the universe, since here we are removed from gravitational forces that could destabilize the orbits of planets.

Also, we are out of reach of the deadly effects of supernova explosions. In any other part of the galaxy, our Earth could not have survived the 4.5 billion years it took to make it a place suitable for human life.

Thanks to the creation of our solar system in this special position, life—and human life—can be sustained on Earth. This is the reason why we can investigate the universe we live in and observe the unequalled, supreme, spectacular artistry in God's creation.

The location of our solar system, just like the laws of physics governing the universe, is proof that it was designed for human existence.



THE PRECISE ORDER IN OUR SOLAR SYSTEM

The solar system that is home to our Earth is one of the best places to observe the universe's precise order and harmony. The unequalled order that controls all planets, large or small, within the solar system has been responsible for its stability over the past 4.5 billion years.

In our solar system, there are nine planets, and orbiting them are the 54 satellites discovered so far. Beginning with the nearest to the Sun, these planets are: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Neptune, Uranus and Pluto. Out of all these planets and their satellites, Earth is the only one with a surface and atmosphere suitable for life.

The balance between the Sun's gravity and any planet's centrifugal force prevents it from being flung out into space. The Sun's massive gravitational force attracts the planets, which can only withstand this force and not fall into the Sun's nuclear furnace because of the centrifugal forces their motion creates. If the planets' speed were a little slower in their orbits, however, they would be rapidly pulled into towards the Sun, which would swallow them up.

The opposite is also possible. Were the planets to rotate any faster, the Sun's gravitational forces would not be powerful enough to keep them in their orbits and they would be cast out into space. However, a fine balance between these forces exists, and the solar system preserves it.

This balance of forces differs separately for each planet in



The planet Jupiter, with its strong gravity, has been created as a protective shield, allowing for life on Earth. With its huge mass and strong magnetic field, Jupiter acts as a cosmic minesweeper for Earth. Thanks to Jupiter, thousands of meteors and comets are prevented from targeting the Earth and creating great damage.

any solar system, since their respective distances to the Sun vary. Their masses are different too, which means that they must revolve around the Sun at different velocities in order to maintain their equilibrium. The same balanced forces exist for the Earth.

The latest discoveries in astronomy reveal that the existence of other planets in our solar system is vital for the Earth's safety and orbit. The system's largest planet, Jupiter, is a good example. With its exact location within the system, it plays a crucial role in maintaining the Earth's balance. Recent astrophysical calcula-

tions reveal that Jupiter's present orbit is partly responsible for the consistency of the other planets' orbits within the solar system

Huge planets like Jupiter have been discovered in many other solar systems, but they are far from having a stabilizing influence on their systems or from protecting any other, smaller planets therein. Peter D. Ward, a Professor of Geological Sciences at the University of Washington, says:

All the Jupiters seen today are bad Jupiters. Ours is the only good one we know of. And it's got to be good, or you're thrown out into dark space or into your sun.²⁷

Another reason why Jupiter is so important for us is that if it did it not exist, there would be no life on Earth, due to the high number of meteorite impacts our planet would be exposed to. The magnetic field created by Jupiter's huge mass bends the trajectory of comets and meteorites entering the solar system and prevents them from targeting the Earth. Jupiter acts as a

All the masses, sizes, and distances between planets in the Solar System were created in a perfect equilibrium.





protective gravitational shield for the Earth.

Yet another way Jupiter protects the Earth is revealed by astronomer George Wetherhill in his article entitled "How Special Jupiter Is":

Without a large planet positioned precisely where Jupiter is, the earth would have been struck a thousand times more frequently in the past by comets and meteors and other interplanetary debris. If it were not for Jupiter, we wouldn't be around to study the origin of the solar system. ²⁸

It has been calculated that the Earth-Moon planetary system also plays a vital role in preserving balance in the solar system.





In the absence of this duo, Jupiter's huge mass would cause great instability to inner planets like Mercury and Venus; with the result that their orbits would approach one another closer and closer. This in turn would force Mercury out of the solar system and alter the orbit of Venus. Scientists developed a computer model of the solar system, clearly revealing that the order and consistency preserved for billions of years was only possible only by the ideal mass and positioning of planets within the solar system. With the slightest change to the existing order within this system, our solar system, including the Earth, could not exist.

The Astronomical Journal described the extraordinary design inherent in our solar system in its November, 1998 issue:

Our basic finding is nevertheless an indication of the need for some sort of rudimentary "design" in the solar system to ensure long-term stability...²⁹

In short, our solar system's structure has been designed specifically for human life. God reveals His miraculous Creation in many verses of the Qur'an and commands us to ponder them:

He has made night and day subservient to you, and the Sun and Moon and stars, all subject to His command. There are certainly Signs in that for people who use their intellect.
(Qur'an, 16:12)

BALANCES ON THE EARTH

SURFACE GRAVITY

If stronger:

Atmosphere would retain too much ammonia and methane.

If weaker:

Planet's atmosphere would lose too much water.



DISTANCE FROM PARENT STAR



If farther:

Planet would be too cool for a stable water cycle.

If closer:

Planet would be too warm for a stable water cycle.

THICKNESS OF CRUST

If thicker:

Too much oxygen would be transferred from the atmosphere to the crust.

If thinner:

Volcanic and tectonic activity would be too great.



INCLINATION OF ORBIT

If too great:

Temperature differences on the planet would be too extreme.

If far less: Again, temperature differences on the planet would be too extreme.



ROTATION PERIOD



If longer:

Diurnal temperature differences would be too great.

If shorter:

Atmospheric wind velocities would be too great.

GRAVITATIONAL INTERACTION WITH MOON

If greater:

Tidal effects on the oceans, atmosphere, and rotational period would be too severe.

If less:

Orbital obliquity changes would cause climatic instabilities.



MAGNETIC FIELD

If stronger:

Electromagnetic storms would be too severe.

If weaker:

Inadequate protection from hard stellar radiation.



ALBEDO

(Ratio of Reflected light to total amount falling on surface)



If greater:

Runaway ice age would develop.

If less:

Runaway greenhouse effect would develop.

OXYGEN TO NITROGEN RATIO IN THE ATMOSPHERE

If larger:

Advanced life functions would proceed too quickly.

If smaller:

Advanced life functions would proceed too slowly.



These examples, just a few of the sensitive balances essential for life to emerge and survive on Earth, are sufficient to reveal that the universe and the Earth could not have come into existence by chance.³⁰

CARBON DIOXIDE AND WATER VAPOR LEVELS IN ATMOSPHERE

If greater: Runaway greenhouse effect would develop.
If less: Greenhouse effect would be insufficient.



OXYGEN LEVEL IN ATMOSPHERE



If greater:
Plants and hydrocarbons would burn very easily.
If less:
Living things could not respire.

OZONE LEVEL IN ATMOSPHERE

If greater:
Surface temperature would be too low.
If less:
Surface temperatures would be too high; too much UV radiation would reach the surface.



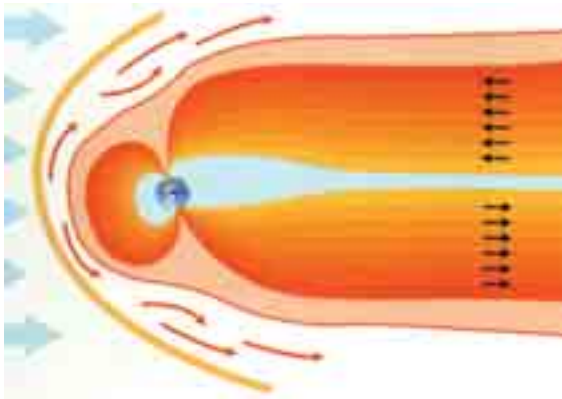
THE SIZE OF THE EARTH AND THE IDEAL PROPORTIONS IN ITS INTERIOR

Equally as important as the Earth's distance from the Sun, and rate of rotation is its size and composition, just right for forming and sustaining life.

When we compare the Earth to Mercury (only 8% of the Earth's mass) and Jupiter (318 times the Earth's mass), we see that planets span a wide range in terms of size. Considering this it is obvious that the Earth couldn't be of just the right mass by coincidence.

Investigating the properties of the planet we live on, American geologists Frank Press and Raymond Siever write the following:

And Earth's size was just about right—not too small as to lose its atmosphere because its gravity was too small to prevent gasses from escaping into space, and not so large that its gravity would hold on to too much atmosphere, including harmful gases.³¹



The type, proportion, and reaction speeds of heavy elements in the Earth's core play a highly important role in forming the protective magnetic field around the Earth, which protects us from all harmful rays and particles from outer space.

Besides the mass of the Earth, its internal composition is also designed specifically to support life. Because of its inner core of iron, Earth has a magnetic field, which is crucial for the preservation of life. Press and Siever explain:



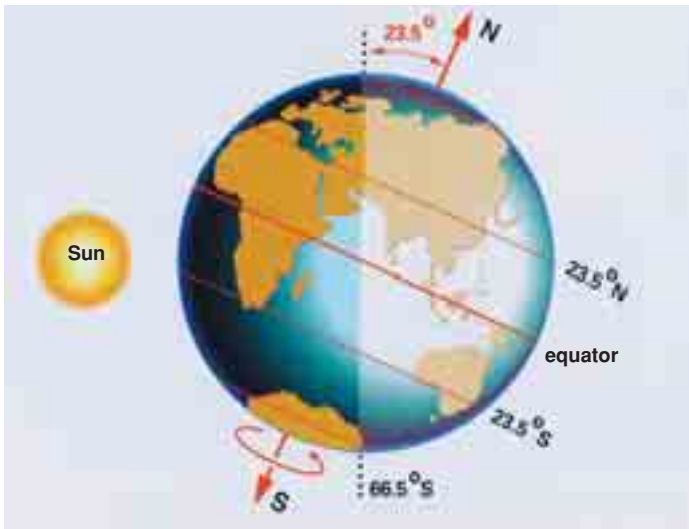
The earth's interior is a gigantic but delicately balanced heat engine fueled by radioactivity ...Were it running more slowly, geological activity would have proceeded at a slower pace. Iron might not have melted and sunk to form the liquid core, and the magnetic field would never have developed...if there had been more radioactive fuel and a faster running engine, volcanic gas and dust would have blotted out the Sun, the atmosphere would have been oppressively dense, and the surface would have been racked by daily earthquakes and volcanic explosions.³²

The magnetic field that Press and Siever describe is vital for our survival. It is caused by the core of the Earth which is composed of heavy, magnetic metals like iron and nickel. The inner core is solid and the outer core, liquid. These two layers rotate around one another, and their motion creates the magnetic field, which radiates far beyond the Earth's atmosphere and protects the planet from the dangers of outer space. Deadly cosmic radiation emitted from stars including our own Sun cannot penetrate this protective shield. The Van Allan belts, tens of thousands of kilometers above the Earth, provide more protection

from such deadly radiation.

The Earth is sometimes exposed to massive bursts of cosmic radiation. These plasma clouds have been calculated to have energy equivalent to 100 billion Hiroshima bombs, but only 0.1% of it gets past the Earth's magnetic field and that is absorbed by the Earth's atmosphere in any case. The electrical energy needed to produce this magnetic field is a current of 1 billion amperes, which is close to the total electrical energy produced by mankind since history began.

If not for the Earth's magnetic shield, life on Earth would be destroyed by deadly radiation or would never have formed in the first place. However, since the core of the Earth has just the right properties, as Press and Siever point out, the world we live in, is protected in this way.



The angle of tilt of the Earth's axis, 23 degrees and 27 minutes, prevents extreme heat which might afflict between the poles and the equator. Were it not for that tilt, the temperature differences between the poles and the equator would rise still further, making impossible a life-supporting atmosphere.

THE EARTH'S TEMPERATURE IS WITHIN A NARROW BUT SPECIAL SPECTRUM

Frank Press and Raymond Siever also explain the fine-tuning of the Earth's surface temperature. As they say:

Life as we know it is possible over a very narrow temperature interval. This interval is perhaps 1 or 2 percent of the range between a temperature of absolute zero and the surface temperature of the Sun.³³

Preserving this temperature range depends as much on the heat emitted by the Sun as on the distance between the Sun and the Earth. It has been calculated that only a 10% decrease in the solar energy reaching the Earth would result in the Earth's surface being covered by a layer of ice covering, many meters thick. Likewise, if a little more energy reached the Earth, all living beings would roast.

The Earth's ideal temperature is as crucial as its balanced diffusion; and this balance is achieved by special means. For instance, the Earth's axis is tilted by 23° 27'. This prevents the buildup of extreme heat that could prevent the formation of the atmosphere between the poles and the equator. If the axis was not tilted by this degree, the temperature difference between the equator and the poles would increase dramatically thus making the Earth an uninhabitable place.

The Earth's rotation around its own axis aids in the balanced distribution of heat. Each rotation takes only 24 hours, which factor is responsible for short days and nights. This is why the temperature difference between day and night is relatively



Many independent factors, such as the Earth's distance from the Sun, its speed of rotation around its own axis, its angle of tilt, and surface features all let the planet be warmed in a manner suited to life, and for heat to be spread across the planet in a balanced way.

small in comparison to Mercury's, where a single day is longer than one year. In other words, one rotation of Mercury around its axis takes longer than one rotation around the Sun. Temperature can fluctuate by as much as $1,000^{\circ}\text{C}$ ($1,832^{\circ}\text{F}$) between Mercurial day and night.

The Earth's shape, too, has been created to aid the heat distribution. The temperature difference between the poles and the equator is approximately 100°C (212°F). If such a difference were to occur on a smooth sphere, storms at speeds of up to $1,000\text{ km/h}$ (621 miles/hour) would wreak havoc across the Earth. However, the world has been provided with obstacles

such as mountain chains and oceans to break up the path of such potential strong air currents. These are, from east to west, the Himalayas beginning in China, the Taurus Mountains in Anatolia, and the Alps in Western Europe; the Atlantic Ocean in the West, and the Pacific in the East. Excess heat produced around the equator is modified toward the north and south as the ocean waters balance temperature fluctuations in a gradual, controlled manner.

There are also self-regulating climate control mechanisms. For instance, if any particular area is exposed to excessive heat, water evaporation increases accordingly. Clouds condense in the sky, reflecting some of the Sun's radiation and thus preventing any further increase of surface temperatures.

Many independent factors such as the Earth's distance to the Sun, its speed of rotation, angle of axis, and surface structures all play their part in keeping surface temperature at levels necessary to sustain life as well as even out heat distribution.

Those who reject the notion that the distance between the Sun and the Earth is intentional argue that many stars in the universe, both larger and smaller than our own Sun, have their own planetary systems. If a star is much more massive than our Sun, than any planet ideal for life would need to be at a greater distance than is the Sun from the Earth. For instance, a planet orbiting a red giant at a distance of our Pluto could have a mild climate suitable for life, like the one we enjoy here on Earth.

But this proposition is invalid for one very important reason: It does not take into account that stars of different mass emit different radiation. A star's mass, correlated to its surface temperature, determines the wavelength of its emitted radiation. For



instance, our Sun's surface temperature of around $6,000^{\circ}\text{C}$ is responsible for the emission of ultraviolet, visible light and infrared radiation. Had its mass had been greater, its surface temperature should have been greater too.

This, in turn, would increase the energy value of the Sun's radiation resulting in higher emission of deadly ultraviolet waves. This reality demonstrates that stars emitting the kind of radiation able to support life as we know it must have a mass very similar to our Sun's. Also, if one of their planets is to support life, it must be at a distance equivalent as the Earth from our Sun. To put it differently, a planet orbiting a red or blue giant, or any other star of noticeably different mass, cannot provide a life-supporting environment. The only source of energy suitable for life is a star like ours, and the only ideal distance is that between us and the Sun.

From what we have related here thus far, you can gather that both Earth and Sun have been created by God, right down to the smallest detail, to support human life in the best possible way. The distance between Sun and Earth is perfect, which in itself is a miracle beside the hundreds, even thousands of other details that are exactly as they need to be. This magnificent life-supporting system exceeds human comprehension. It is impossible to have been the product of coincidences, that all the stars and planets formed by "senseless atoms" could be placed by chance exactly where they have to be, that they could accidentally, all by themselves, establish laws governing their behavior and, accordingly develop the appropriate systems. These flawless systems are all proof of God's unique creation and supreme might.

The Qur'an reveals God's supremacy, his total control over the universe and the Earth, and that mankind should be thankful to him for all this:

Your Lord is God, Who created the heavens and the Earth in six days and then settled Himself firmly on the Throne. He covers the day with the night, each pursuing the other urgently; and the Sun and Moon and stars are subservient to His command. Both creation and command belong to Him. Blessed be God, the Lord of all the worlds. (Qur'an, 7:54)

And He has made the Sun and Moon subservient to you holding steady to their courses, and He has made the night and day subservient to you. He has given you everything you have asked Him for. If you tried to number God's blessings, you could never count them. Man is indeed wrongdoing, ungrateful. (Qur'an, 14:33-34)

IDEAL RATIOS IN THE ATMOSPHERE

The Earth's atmosphere is a cocktail of different gases in the proper ratio (78% nitrogen, 21% oxygen, 1% carbon dioxide and other gases like argon), formed by a combination of extraordinary conditions and designed to support life.

Let us begin with oxygen, the most important gas because life forms from simple one-celled bacteria up to complex human beings depend on oxygen for the many chemical reactions that produce their energy. This is why we need to breathe continuously. Interestingly, the percentage of oxygen in the air we breathe is very carefully arranged. As Michael Denton says:

Could your atmosphere contain more oxygen and still support life? No! Oxygen is a very reactive element. Even the current percentage of oxygen in the atmosphere, 21 percent, is close to the upper limit of safety for life at ambient temperatures. The probability of a forest fire being ignited increases by as much as 70 percent for every 1 percent increase in the percentage of oxygen in the atmosphere.³⁴

British biochemist James Lovelock further explores this critical ratio:

Above 25% very little of our present land vegetation could survive the raging conflagrations which would destroy tropical rain forests and arctic tundra alike... The present oxygen level is at a point where risk and benefit nicely balance.³⁵

The percentage of oxygen in the atmosphere is preserved by a perfect cycle. Animals continuously inhale oxygen and exhale carbon dioxide. Plants, on the other hand, absorb carbon dioxide

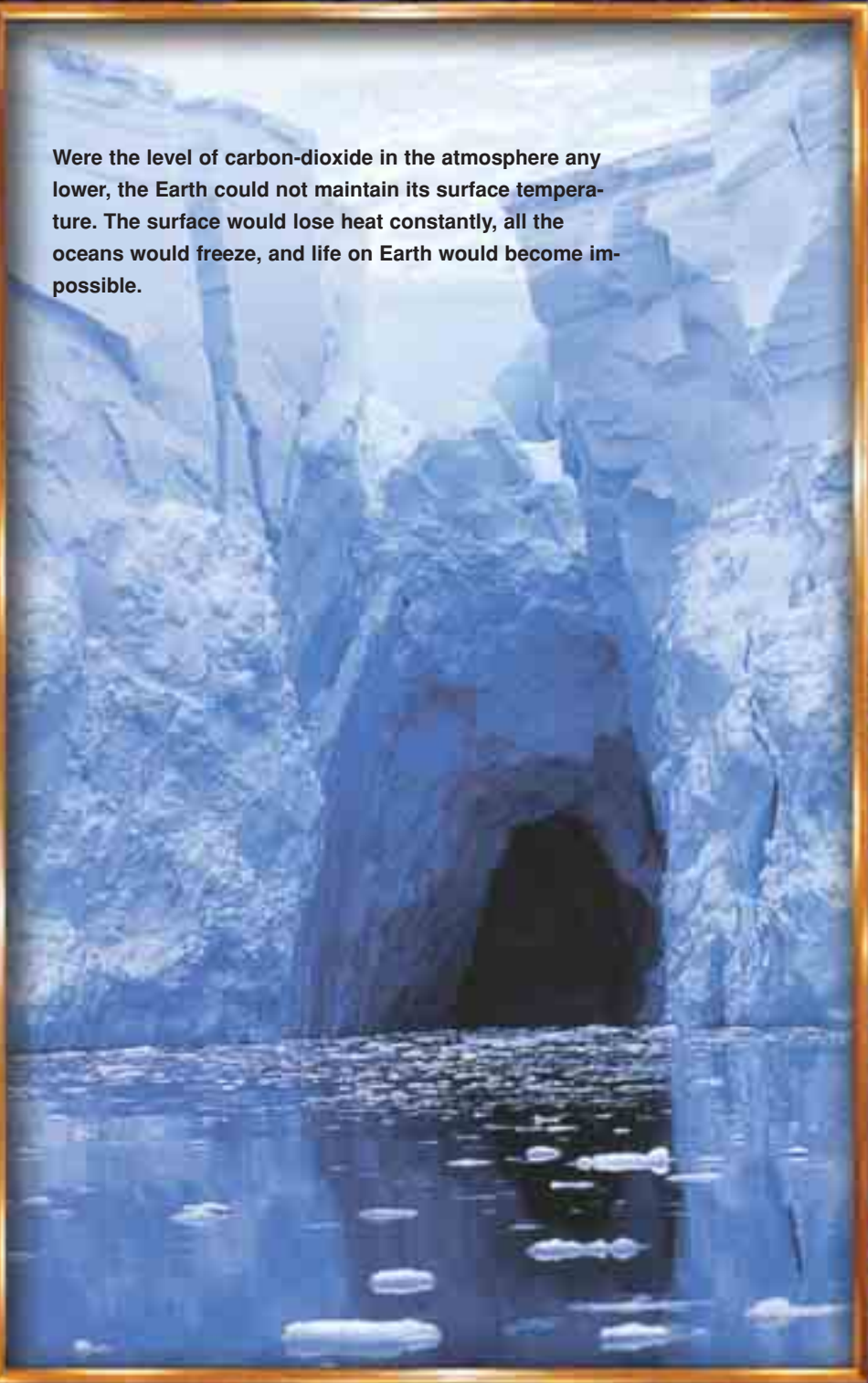


Were the level of oxygen in the atmosphere only a little higher, the Earth would soon turn into an uninhabitable planet. The first tiny spark would give rise to giant conflagrations, and the dry land would soon be reduced to dead, ashen waste.

and give out life-sustaining oxygen. Every day, plants release billions of tons of oxygen into the atmosphere, even though they re-absorb some of it at night, when they are not photosynthesizing.

If these two life forms, plant and animal, were to use the

Were the level of carbon-dioxide in the atmosphere any lower, the Earth could not maintain its surface temperature. The surface would lose heat constantly, all the oceans would freeze, and life on Earth would become impossible.



same process, they'd turn the Earth into a lifeless planet. If both produced oxygen, for instance, in a very short time the atmosphere would acquire highly flammable properties, and the tiniest spark would cause fires on a massive scale. Most of the dry land would burn. If, on the other hand, both life forms produced carbon dioxide, oxygen in the atmosphere would quickly be used up and all life forms that continued to respire would suffocate.

However, God has balanced life forms so perfectly that the oxygen in the air remains constant, at the ideal ratio crucial to life. According to Lovelock, this ratio is **"at a point where risk and benefit nicely balance."**

The mix of atmospheric gases is balanced, with each occurring at its ideal quantity. Even carbon dioxide, useless to us, is a very important substance because it prevents some of the infrared sunlight reflected by the Earth from escaping back into space, and thus assists heat retention. Biological and tectonic processes on the Earth preserve the balance of atmospheric gases vital for life, and have done so for millions of years. Yet another fact that proves the existence of God, Who has created this flawless order.

Carbon dioxide in the atmosphere has been calculated to increase the average surface temperature by 35° C (95° F). This means that if there was no atmospheric CO₂, the Earth's average temperature would be -21° C (-5.8 ° F) instead of 14° C (57.2° F). All oceans would freeze over. Most larger life forms would cease to exist.

THE DENSITY OF AIR

The density of air, ideal for respiration, is yet another exactly perfect aspect of the atmosphere.

Air pressure is 760 mmHg, and its density works out to be 1 gram per liter at sea level, where its viscosity is 50 times greater than water's. These values might appear irrelevant, but are actually vital for human life because, as Michael Denton puts it, "The overall composition and general character of the atmosphere—its density, viscosity, and pressure, etc.—must be very similar to what it is, particularly for air-breathing organisms."³⁶

When we breathe, our lungs use up energy in order to pump the air in and out. Like all forms of matter, air is resistant to movement. But thanks to the properties of the gaseous atmosphere, this resistance is very weak, making it easy for our lungs to inhale and exhale. If that resistance were stronger, our lungs would begin to struggle. You can easily grasp this with an experiment: It's easy to draw water into a syringe, but harder to draw honey, because honey has a higher density and lesser fluidity.

If the atmosphere's values of density, fluidity, and pressure were altered by even a fraction, inhaling would become as hard as drawing honey into a syringe. One could argue that the syringe's needle could be made wider, in other words, the lung's airways could be enlarged. But if we did that in the case of the capillaries in the lungs, the result would be to reduce the size of the area in contact with air, with the result that less oxygen and



If the atmosphere's density and viscosity were slightly different, we would find breathing air as difficult for our lungs as sucking honey up through a syringe.



carbon dioxide would be exchanged in the same amount of time and the respiratory needs of the body would not be satisfied. The air we breathe in has the absolutely right density, fluidity and pressure and fits the bill just fine.

On this subject, Professor Michael Denton states the following:

It is clear that if either the viscosity or the density of air were much greater, the airway resistance would be prohibitive and no conceivable redesign of the respiratory system would be capable of delivering sufficient oxygen to a metabolically active air-breathing organism... By plotting all possible atmospheric pressures against all possible oxygen contents, it becomes clear that there is only one unique tiny area... where all the various conditions for life are satisfied... It is surely of enormous significance that several essential conditions are satisfied in this one tiny region in the space of all possible atmospheres.³⁷

Our atmosphere's properties must be right not only for respiration purposes, but also to keep our "blue planet" blue. If the pressure were to be decreased by as little as a fifth, water evaporation over the land and oceans would increase dramatically. Higher water vapor content in the atmosphere would create a global greenhouse effect, dramatically increasing the planet's average temperature. On the other hand, if the atmospheric pressure doubled, water vapor in the atmosphere would be greatly reduced, with most of the world's land area becoming desert.

None of these possibilities occur, however, because God has created the world, the solar system, and the whole universe flawlessly. He has created the whole of the Earth in order to provide us with suitable living conditions. God reveals this perfect creation in the Qur'an and demands that we reflect on these examples to appreciate his creation:

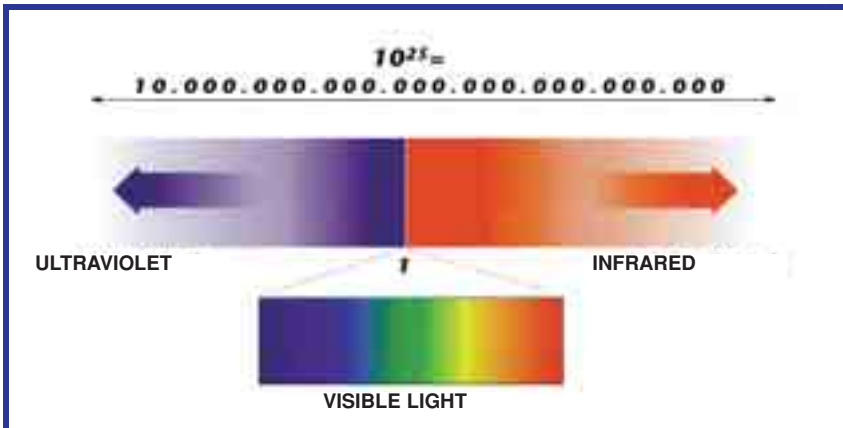
God is He Who raised up the heavens without any support—you can see that—and then established Himself firmly on the Throne. He made the Sun and Moon subservient, each running for a specified term. He directs the whole affair. He makes the Signs clear so that hopefully you will be certain about the meeting with your Lord. It is He Who stretched out the Earth and placed firmly embedded mountains and rivers in it and made two types of every kind of fruit. He covers over day with night. There are Signs in that for people who reflect. In the Earth there are diverse regions side by side and gardens of grapes and cultivated fields, and palm-trees sharing one root and others with individual roots, all watered with the same water. And We make some things better to eat than others. There are Signs in that for people who use their intellect. (Qur'an, 13:3-4)

THE MIRACLE OF VISIBLE LIGHT

Not all the stars and other sources of light in the universe emit the same type of radiation. Different types of radiation are classified according to their respective wavelengths. They fall along a huge spectrum, with gamma rays being the shortest and radio waves the longest. The difference between these shortest and longest waves is 10^{25} (ten times billion times billion times billion). Miraculously, most of the Sun's radiation lies in the same bundle of wavelengths within this vast spectrum, because only that narrow band contains the radiation necessary to support life.

The vastness of this spectrum becomes clearer when you realize that the shortest wavelength is 10^{25} times shorter than the longest. 10^{25} is written out as a 1 with 25 zeros following it, like this: 10,000,000,000,000,000,000,000. To fully comprehend the magnitude of this number, it helps to make some comparisons. For instance, the 4.5 billion years that have passed since the Earth's creation can be converted to 10^{17} seconds. If you wanted to count to 10^{25} , you would have to count day and night for a period 100 million times longer than the age of the Earth. **If we were to pile 10^{25} playing cards on top of one another, we would leave the Milky Way behind and cover about half the distance of the known universe!** ³⁸

The different wavelengths in the universe are spread across that wide a spectrum, but within it, interestingly, our Sun covers only the narrowest bandwidth. 70% of the Sun's radiation has wavelengths between 0.3 and 1.5 microns. Within this narrow



Visible light emitted by the Sun occupies just one single sector in the 10^{25} different wavelengths in the universe. Most interestingly, the rays that support life on Earth fall within that range of one in 10^{25} . That rays emitted by the Sun are squeezed into such a narrow range, capable of supporting life on Earth, reveals an intelligent design that cannot be explained in terms of chance. The ideal types of rays emitted by the Sun were selected from among trillions of trillions of possible wavelengths.

bandwidth are three different types of light; visible light, infrared, and some ultraviolet.

All three types of light combined make up an almost insignificant section of the total spectrum. In other words, they would be represented by one of the 10^{25} cards.

But why does the Sun's radiation lie within this narrow bandwidth?

The answer to that question is extremely important: It's the only type of radiation that can support life on Earth.

Addressing this question in *Energy and the Atmosphere*, British physicist Ian Campbell says that "the radiation from the sun (and from many sequence stars) should be concentrated into a minuscule band of the electromagnetic spectrum which provides precisely the radiation required to maintain life on earth is very remarkable." According to Campbell, this situation is "staggering."³⁹

THE EXTRAORDINARY RELATIONSHIP BETWEEN SUNLIGHT AND PHOTOSYNTHESIS

Plants have been doing something for hundreds of millions of years that no high-tech lab, run by scientific specialists, has yet been able to do: They produce their own nutrition by a process called photosynthesis, using sunlight. A precondition of this process, however, is that suitable light reach the plants in the first place.

Photosynthesis is made possible by the light-sensitive chlorophyll molecules in the plants' cells. But chlorophyll however can make use of light at a certain wavelengths only, and the ones emitted by the Sun are just right. (Interestingly, the one required for photosynthesis is one in the 10^{25} different wavelengths.)

That sunlight identical to the light necessary for photosynthesis shows its perfect design. In *The Symbiotic Universe*, American astronomer George Greenstein writes as follows:

Chlorophyll is the molecule that accomplishes photosynthesis... The mechanism of photosynthesis is initiated by the absorption of sunlight by a chlorophyll molecule. But in order for this to occur, the light must be of the right color. Light of the wrong color won't do the trick.

A good analogy is that of a television set. In order for the set to receive a given channel it must be tuned to that channel; tune it differently and the reception will not occur. It is the same with photosynthesis, **the Sun functioning as the transmitter in the analogy and the chlorophyll molecule as the receiving TV set.** If the



As a result of photosynthesis, the cells in plant leaves store solar energy as food. All life obtains its energy from sunlight, either directly or indirectly. But only within a very specific range of light can any plant make photosynthesis. This range corresponds exactly to the spectrum emitted by the Sun.

molecule and the Sun are not tuned to each other—tuned in the sense of color—photosynthesis will not occur. As it turns out, the sun's color is just right.⁴⁰

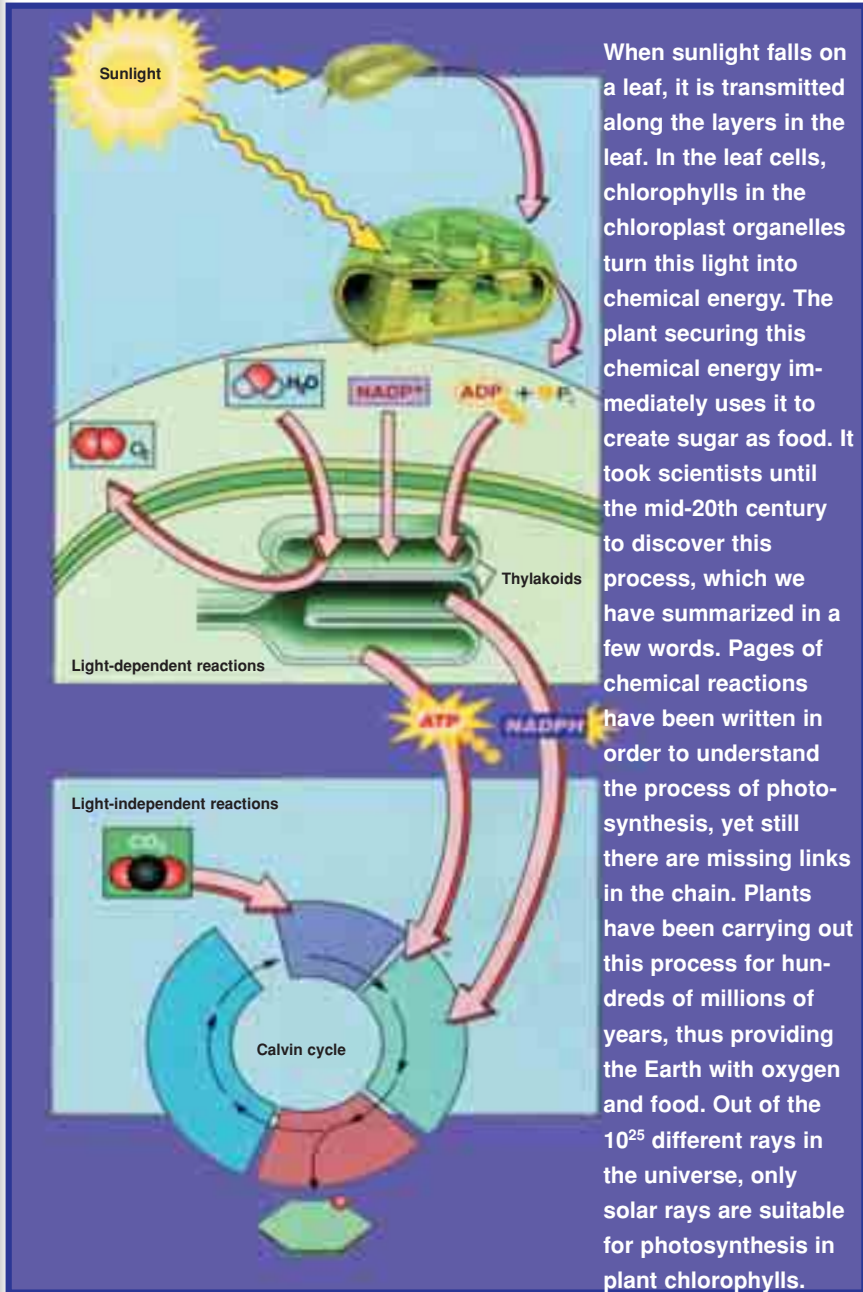
Those who examine this subject of plants and photosynthesis su-



With regard to visible light, another interesting point is that its different colors can travel varying distances through water. Red light, for example, comes to an end below 18 meters (59 feet). Yellow light can travel up to 100 meters (328 feet). Green and blue light descend to 240 meters (787 feet). This design is most important, because the light necessary for photosynthesis is primarily blue and green. Since water can transmit light of these colors further than other wavelengths, plants that make photosynthesis can live at depths of up to 240 meters (787 feet).

perficially could argue that if sunlight had different properties, plants would have adapted accordingly. But this is most certainly impossible. George Greenstein admits that this is, even though he is an evolutionist:

One might think that a certain adaptation has been at work here: the adaptation of plant life to the properties of sunlight. After all, if the Sun were a different temperature could not some other molecule, tuned to absorb light of a different color, take the place of chlorophyll? Remarkably enough the answer is no, for within broad limits all molecules absorb light of similar colors. The absorption of light is accomplished by the excitation of electrons in molecules to higher energy states, and the same no matter what molecule you are discussing.

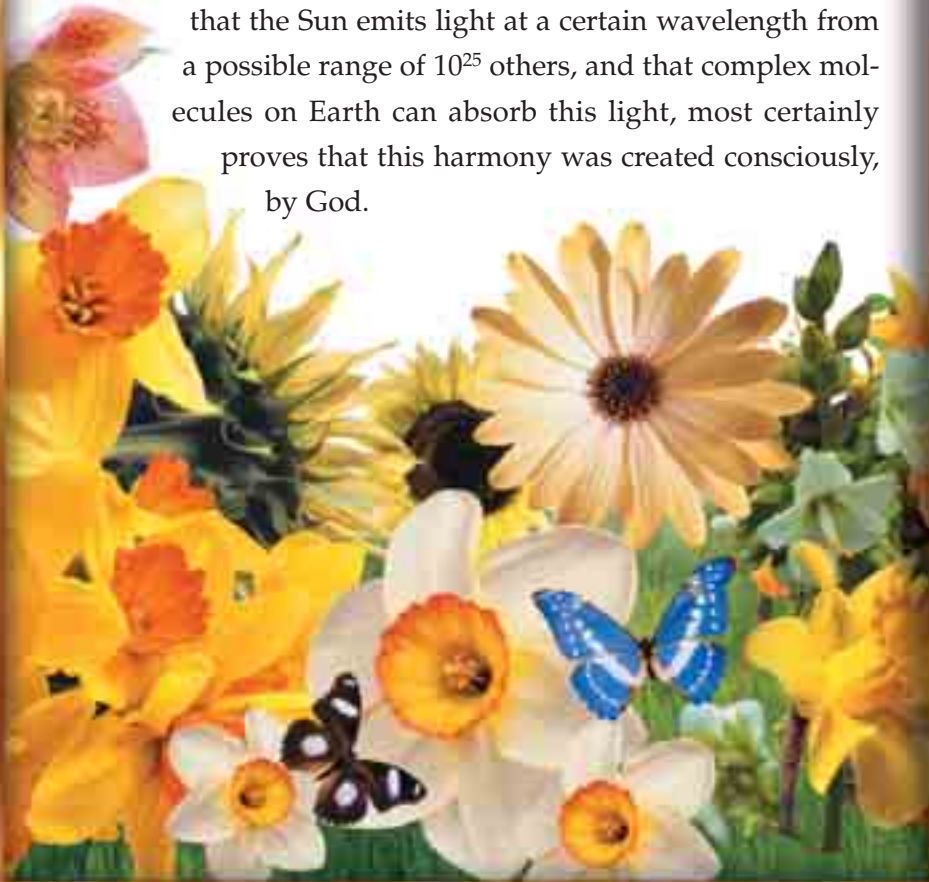


When sunlight falls on a leaf, it is transmitted along the layers in the leaf. In the leaf cells, chlorophylls in the chloroplast organelles turn this light into chemical energy. The plant securing this chemical energy immediately uses it to create sugar as food. It took scientists until the mid-20th century to discover this process, which we have summarized in a few words. Pages of chemical reactions have been written in order to understand the process of photosynthesis, yet still there are missing links in the chain. Plants have been carrying out this process for hundreds of millions of years, thus providing the Earth with oxygen and food. Out of the 10^{25} different rays in the universe, only solar rays are suitable for photosynthesis in plant chlorophylls.

Furthermore, light is composed of photons, packets of energy and photons of the wrong energy simply can not be absorbed... As things stand in reality, **there is a good fit between the physics of stars and that of molecules.** Failing this fit, however, life would have been impossible.⁴¹

Essentially, Greenstein says that for a plant to photosynthesize, it requires a definite bandwidth of light, which sunlight perfectly fulfills.

Greenstein states that the harmonies between the physical properties of stars and of molecules are so extraordinary that they cannot possibly be explained by coincidences. The fact that the Sun emits light at a certain wavelength from a possible range of 10^{25} others, and that complex molecules on Earth can absorb this light, most certainly proves that this harmony was created consciously, by God.



THE EXTRAORDINARY HARMONY BETWEEN SUNLIGHT AND THE EYE

Only the “visible light” wavelengths on the electromagnetic spectrum can enable biological vision. The largest part of the radiation emitted by the Sun falls within this parameter.

For vision to occur, the cells of the retina must be photosensitive, in other words, able to register photons. This requires that photons fall within the visible spectrum, because photons of different wavelength are either too weak or too strong to be registered by retina cells. Altering the size of the eye would make no difference, because what matters is the size of the cells, the harmony between them, and the wavelength at which the photons occur.

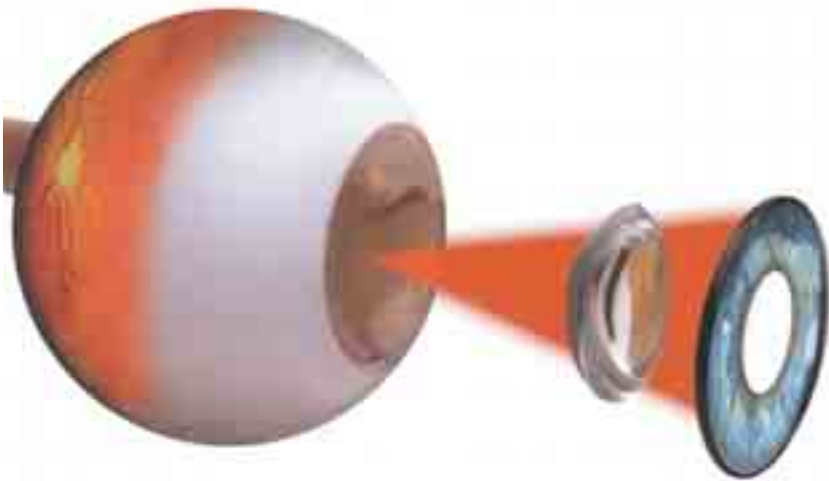
As we all know, organic molecules—the building blocks of living cell structures—are produced by a diversity of different combinations of carbon atoms. The “seeing” cells they form register only visible light.

Consequently, eyes of living beings register only the visible light emitted by the Sun. These factors combine to create vision. God specifically created both the eye and the Sun that emits light at the proper wavelength for it to perceive.

Professor Michael Denton investigated this subject in great detail in his book *Nature's Destiny*, concluding that an organic eye could produce vision only within the limits of visible light. No other theoretically conceivable eye design can register different wavelength:



Light emitted by the Sun is at an ideal wavelength that permits living things on Earth to be able to see.



UV, X-ray, and gamma rays are too energetic and are highly destructive, while infrared and radio waves are too weak to be detected because they impart so little energy interacting with matter.. And so it would appear that for several different reasons, the visual region of the electromagnetic spectrum is the one region supremely fit for biological vision and particularly **for the high-resolution vertebrate camera eye of a design and dimension very close to that of the human eye.** ⁴²

Taken all together, this all leads to the conclusion that the Sun is carefully designed to emit radiation at a certain bandwidth (1 in 10^{25}), providing heat, supporting the biological functions of complex life forms, enabling photosynthesis and making possible vision for living beings on Earth. This critical balance is certainly not driven by erratic, coincidental processes. All this has been created by God, the Lord and Governor of the heavens, the Earth, and everything in between. Every detail He creates confronts us with a chain of miracles, demonstrating the infinite might of our Creator Who created everything.



THE EXTRAORDINARY SELECTIVENESS OF THE ATMOSPHERE

If the Sun's radiation has been designed to support life on Earth, the atmosphere plays an important role in letting through its wavelengths in the right combination and at the right ratio.

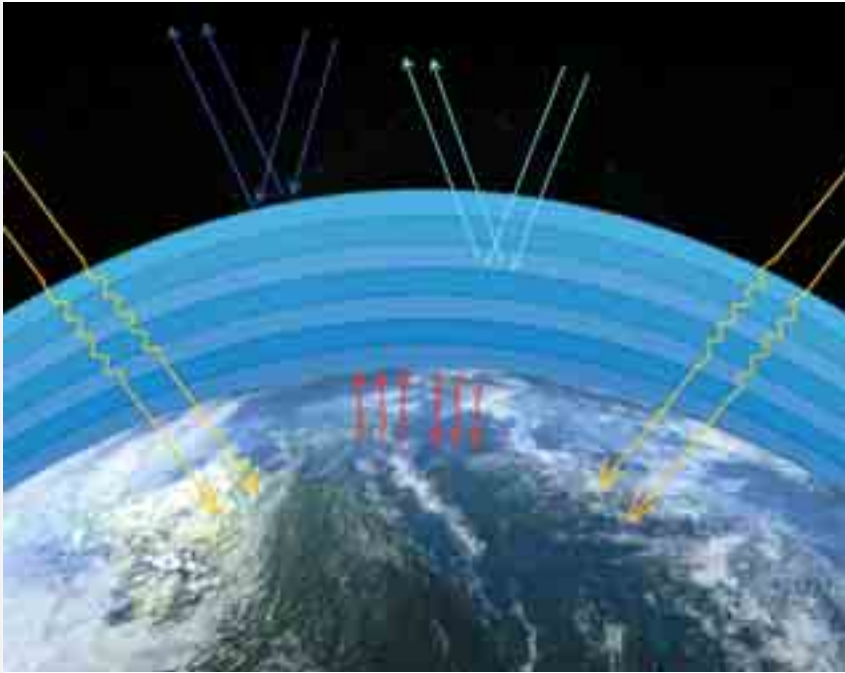
In order to reach the Earth's surface, radiation coming from space must pass through the atmosphere first.

If the atmosphere were not of a composition allowing it to filter through, it could be of no benefit. However, the atmosphere has a special filtering property that lets beneficial radiation penetrate.

The atmosphere's truly miraculous aspect is not that it lets radiation penetrate, but that it lets through only beneficial radiation—visible light and infrared radiation, while shielding us from other deadly types of radiation. Thus, the atmosphere is a crucial filter against cosmic radiation reaching the Earth from sources other than the Sun. Professor Denton explains:

Atmospheric gases themselves absorb electromagnetic radiation immediately on either side of the visible and near infrared... The only region of the spectrum allowed to pass through the atmosphere over the entire range of electromagnetic radiation from radio to gamma rays is the exceedingly narrow band including the visible and near infrared. Virtually no gamma, X, ultraviolet, far infrared, and microwave radiation reaches the surface of the earth.⁴³

It is impossible not to see the detail in this design. Out of a



The atmosphere admits rays that are beneficial to us and prevents harmful ones from passing, which requires an extraordinary selectivity. So ideal for life, such selectivity is the work of a flawless Creation.

possible range of 10^{25} different wavelengths, the Sun emits the type of radiation that is beneficial for us; and the atmosphere allows only it to pass through. (All but a fraction of the little ultraviolet radiation the Sun emits is prevented from passing the ozone layer.)

Interestingly, like the atmosphere, water is selective in its penetrability. Only visible light can penetrate it. Infrared radiation (heat energy) can penetrate miles of air, but only a few millimeters of water. Therefore, only the top few millimeters on the

surface of the world's seas are heated by the Sun's radiation. Heat absorbed by this layer is then gradually diffused downward, with the result that beneath a certain depth, the water temperature of all the seas is roughly similar, creating an environment conducive to aquamarine life.

Every other type of harmful or deadly cosmic radiation gets caught by this flawless filtering system, letting only beneficial radiations pass through.

These facts are very important. Whichever physical law of light we examine, we see that it is just as needed to enable life. *The Encyclopedia Britannica* expresses this extraordinary system as follows:

Considering the importance of visible sunlight for all aspects of terrestrial life, one can not help being awed by the dramatically narrow window in the atmosphere absorption and in the absorption spectrum of water. ⁴⁴

The transparency of both air and water are miraculous phenomena, both designed to support life. Surprisingly, though, it must be said that some people attribute with this flawless design to coincidences, believing that the atmosphere and the seas regulate their own levels of transparency. But neither water nor atmosphere—nor, for that matter, any other senseless thing in the universe—can create such systems. Erratic, coincidental events or unchecked developments cannot make the refined calculations needed to combine living things into a cohesive, harmonious whole.

Flawless design, balance, and order are apparent in the universe, in the world we live in, as well as every physical law.

Mankind has existed for hundred thousands of years unaware of this miraculous system and has scarcely begun to learn the details of the universe's magnificence. Man's abilities of comprehension, as the only intelligent being on Earth, are exceeded by these miracles, which clearly prove the existence of the Creator.

It is truly surprising that some people cannot recognize God's existence in all this magnificence. They do not appreciate God's infinite wisdom and knowledge, and do not comprehend that God governs everything and can create and recreate everything. God reveals:

Does not man see that We created him from a drop yet there he is, an open antagonist! He makes likenesses of Us and forgets his own creation, saying, "Who will give life to bones when they are decayed?" Say "He Who made them in the first place will bring them back to life. He has total knowledge of each created thing; He Who produces fire for you from green trees so that you use them to light your fires." Does He Who created the heavens and Earth not have the power to create the same again? Yes indeed! He is the Creator, the All-Knowing. His command when He desires a thing is just to say to it, "Be!" and it is. Glory be to Him Who has the Dominion of all things in His Hand. To Him you will be returned. (Qur'an, 36:77-83)

If you are surprised at their blindness, what could be more surprising than their words: "What, when we are turned to dust, shall we then be created all anew?" These are the people who reject their Lord. Such people have iron collars round their necks. Such people are the Companions of the Fire, remaining in it timelessly, for ever. (Qur'an, 13:5)

THE FINE-TUNING IN THE PHYSICAL PROPERTIES OF WATER

In his book *The Uniqueness of Biological Materials*, renowned biochemist Professor A. E. Needham states that liquid substances are necessary for life to form. If the laws of physics permitted only two of the three states of matter (*i.e.*, solids and gases), life could have never existed because in solids, atoms are too closely linked and static. They do not permit the dynamic molecular reactions that living organisms need to perform. In gases, on the other hand, atoms become too unstable and erratic to enable the complex mechanisms of living organisms to function.

In short, a necessary condition for the functions of life is a liquid environment. Water is an ideal or, perhaps, the ideal liquid. Its properties, extraordinarily conducive for life, have long attracted the attention of scientists. Water has thermal properties that appear to contradict some laws of nature but prove that it has been specifically created for life.

All known substances, including liquids, contract as their temperature decreases bar one. Decreasing volume means increased density and increased mass by volume which is why the solid state of liquids has greater mass. Water on the other hand, contracts until its temperature has fallen to 4° C (39.2° F) where it begins to expand again unlike any other liquid. It expands further when it freezes which explains why the solid state of water has less mass than its liquid state. In other words, whereas ice



Water freezes from the surface down, so that ice always floats and never sinks. If, like all other liquids, water became denser as it grows colder—in other words, if ice sank—then ice in oceans, seas and lakes would sink to the bottom. The surface would continue to freeze and sink, since there would be no surface ice layer to block out the cold. A large part of the Earth's oceans, seas and lakes would turn into huge masses of ice. No life could exist in the seas of such a world. In an ecological system where the seas were dead, life on land would not be possible either. In short, the Earth would be a dead planet—if water behaved “normally.”

should sink in water according to “normal” laws of physics, it floats.

This property of water is really crucial for the seas of the world. If it did not have this property, a great part of the water on the planet would freeze and life in lakes and oceans would cease. This fact needs to be looked at in greater detail. In many parts of the world, in cold winter days, temperatures fall below

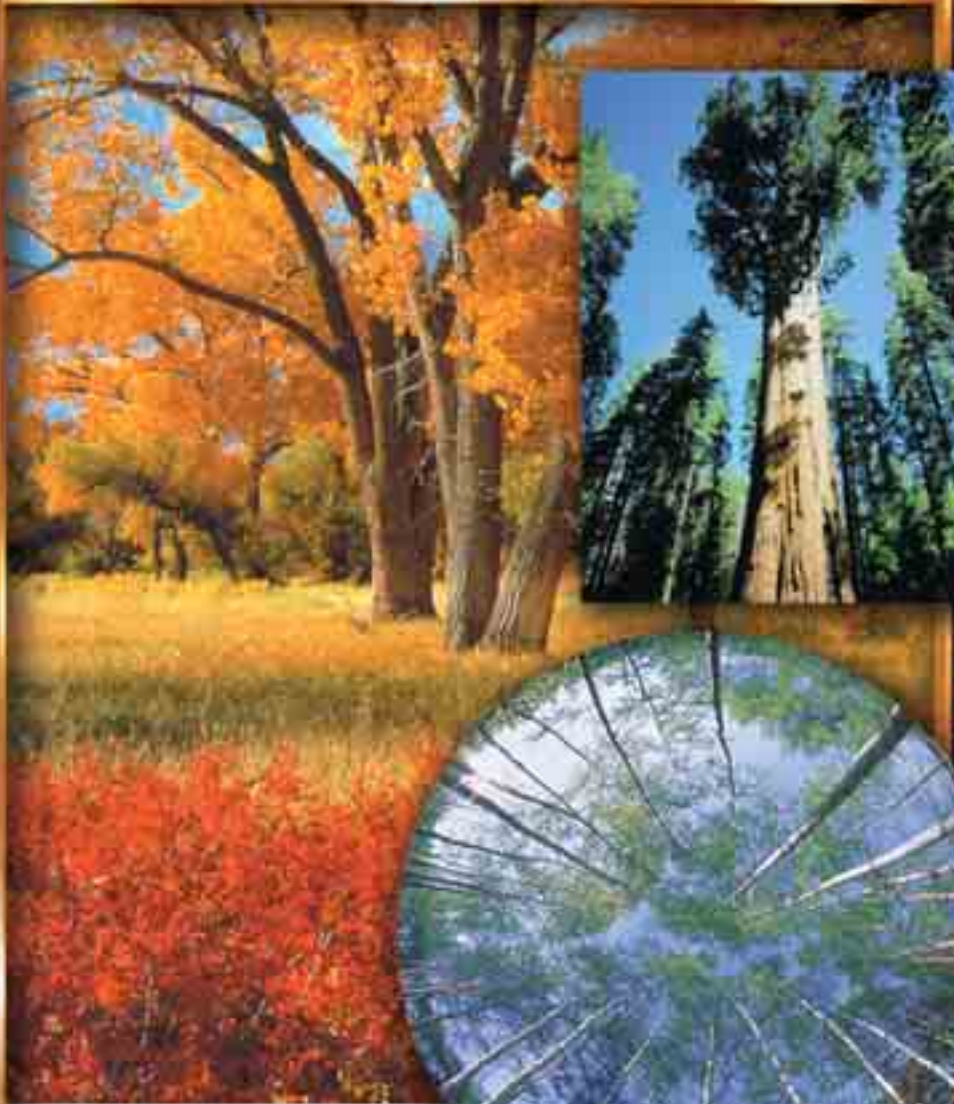
0°C. This coldness affects naturally seas and lakes alike and their temperature decreases accordingly. The cooler layers of water sink and the warmer layers rise to the surface where they are cooled by the cold air and begin to sink again. At 4° C (39.2° F) this cycle is broken, because water begins to expand again and becomes “lighter.” So, the water at 4° C (39.2° F) becomes the bottom layer and as we move up, the temperature decreases to 3°C (37.4° F) and then 2°C (35.6° F) and so on. At the surface the temperature falls to 0°C (32° F) and freezes but only at the surface. The water below at 4° C (39.2° F) is sufficient to guarantee the survival of fish and other aquamarine life.

What would happen if this were not so? What would happen if water were to behave “normally,” and its density were to increase inversely with the fall in temperature—and sink as ice?

In such a scenario, oceans, seas and lakes would freeze from the bottom upwards and keep on doing so, because there would be no insulating layer of ice at the surface. The deepest portions of all lakes, seas, and oceans would be-



A Chain of Miracles



With no pumps or muscular systems, plants raise water several meters from their roots in the Earth. The reason behind this is surface tension. Channels in plants' roots and stems have been designed in such a way as to take advantage of surface tension. These veins narrow as they rise, causing water to "climb" upwards. If the surface tension in water were as weak as in other liquids, plants would then be unable to obtain water and would desiccate. On a planet with no plant cover, human life would be impossible.

come one huge mass of ice, with a layer of only a few meters of water at the top. Even if the air temperature above were to warm again, ice at the bottom would never thaw. In the seas of such a planet, life could not be sustained; and in an eco-system where the seas are "dead," neither could life on land be sustained. In short, if water were to behave "normally," we would have a dead world.

Why does water not contract, but only until its temperature has fallen to 4°C? Then it begins to expand again! That paradox has never been answered by anyone.

Thanks to water's unique thermal properties, the temperature differences between summer and winter, day and night remain always within the levels tolerated by humans and other living things. If the world's land area were bigger than its water area, temperature differentials between day and night would increase dramatically. Most of the land mass would turn into deserts, making life impossible or at least, incredibly hard to sustain. Were water's thermal properties any different, we would have a planet extremely unfavorable to life.

Professor Lawrence Henderson, of the Biochemistry department at Harvard University, studied water's thermal properties and made the following comment:

To sum up, this property appears to possess a threefold importance. First, it operates powerfully to equalize and to moderate the temperature of the earth; secondly, it makes possible very effective regulation of the temperature of the living organism; and thirdly it favors the meteorological cycle. All of these effects are true maxima, for no other substance can in this respect compare with water. ⁴⁵

THE SURFACE TENSION OF WATER HAS BEEN SPECIFICALLY ADJUSTED TO SUPPORT LIFE

Any liquid's surface tension is created by the forces of attraction between its molecules. Thus, the surface tension of every liquid is different. Water's surface tension is greater than most other liquids', with significant biological effects on plant life.

How can plants possibly transport water from deep underground to branches and twigs many meters high, without the use of pumps or muscles? The answer is that the channels in plant roots and veins have been designed to take advantage of water's surface tension. These channels narrow towards the top of a plant, causing water to "climb" upwards.

What makes this design functional is water's great surface tension. Were it weaker, as in most liquids, terrestrial plants of any size would not be able to exist. An environment without plant life would mean no edible crops, no forage for animals, and thus, no human existence.

High surface tension causes also the breakup of rocks. Thanks to its high surface tension, water can penetrate the smallest crevices in rock formations. When temperatures fall below zero, water freezes and expands, exerting great force against the rock and expanding the crack eventually wedging it wider. This process is crucial in extracting the minerals locked in rock formations and also plays a vital role in soil formation.



Water's chemical and physical properties have been ideally created for humans' life and needs.

THE CHEMICAL MIRACLE IN WATER

Along with its physical properties, water's chemical characteristics are also extraordinarily conducive to life. For one thing, it's an ideal solvent, in as much as most chemical substances are water-soluble.

One important consequence is that a vast array of beneficial minerals and other substances reach the sea via river systems. It has been estimated that five billion tons of chemical substances, vital for aquamarine life, flow into the seas in just this way.

Water is a catalyst for almost all known chemical reactions, and its ideal tendency to join in chemical reactions is yet another one of its important chemical attributes.

Water is not extremely reactive nor corrosive like sulfuric acid, nor—on the other end of the scale—is it as inert like argon and other “noble” gases. As Professor Michael Denton states, “It seems that, like all other properties, the reactivity of water is ideally fit for both its biological and its geological role.”⁴⁶

New research into water's chemical properties reveals ever more details and aspects of its idealness for life. In this regard, Harold Morowitz, a renowned Professor of biophysics at Yale University, states the following:

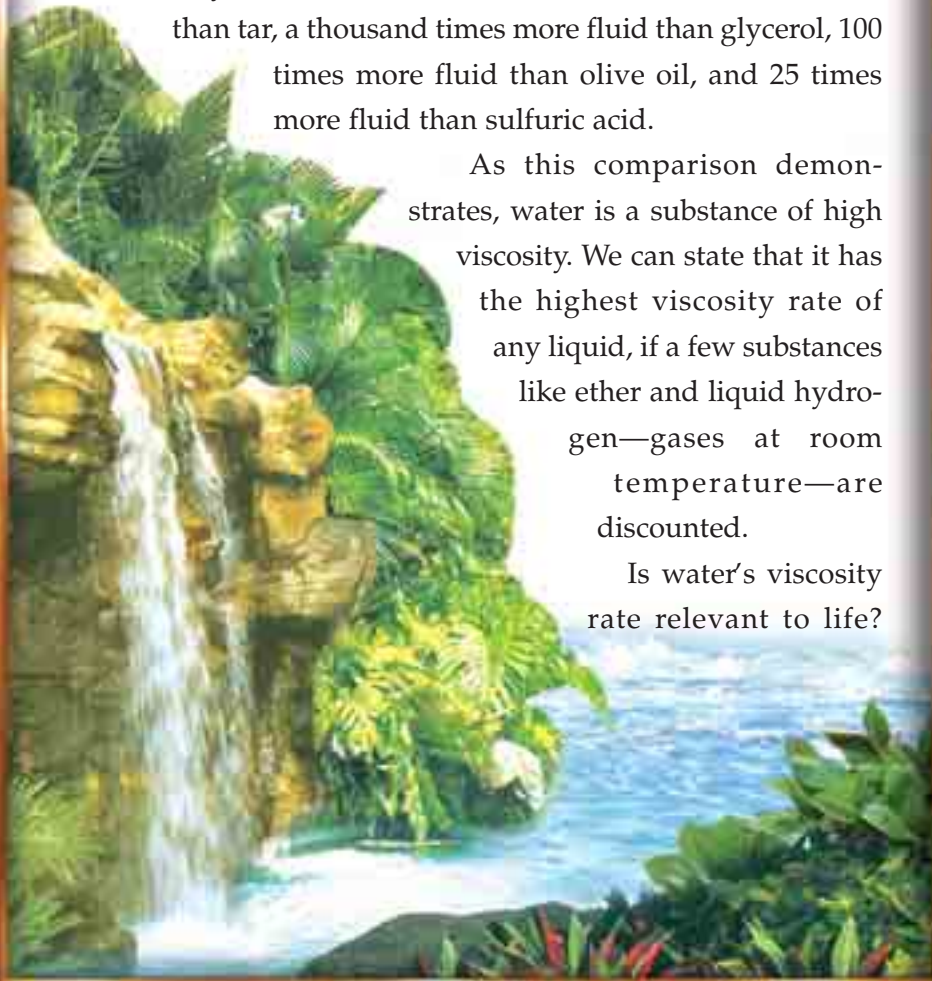
The past few years have witnessed the developing study of a newly understood property of water (*i.e.*, proton conductance) that appears to be almost unique to that substance, is a key element in biological-energy transfer, and was almost certainly of importance to the origin of life. The more we learn the more impressed some of us become with nature's fitness in a very precise sense...⁴⁷

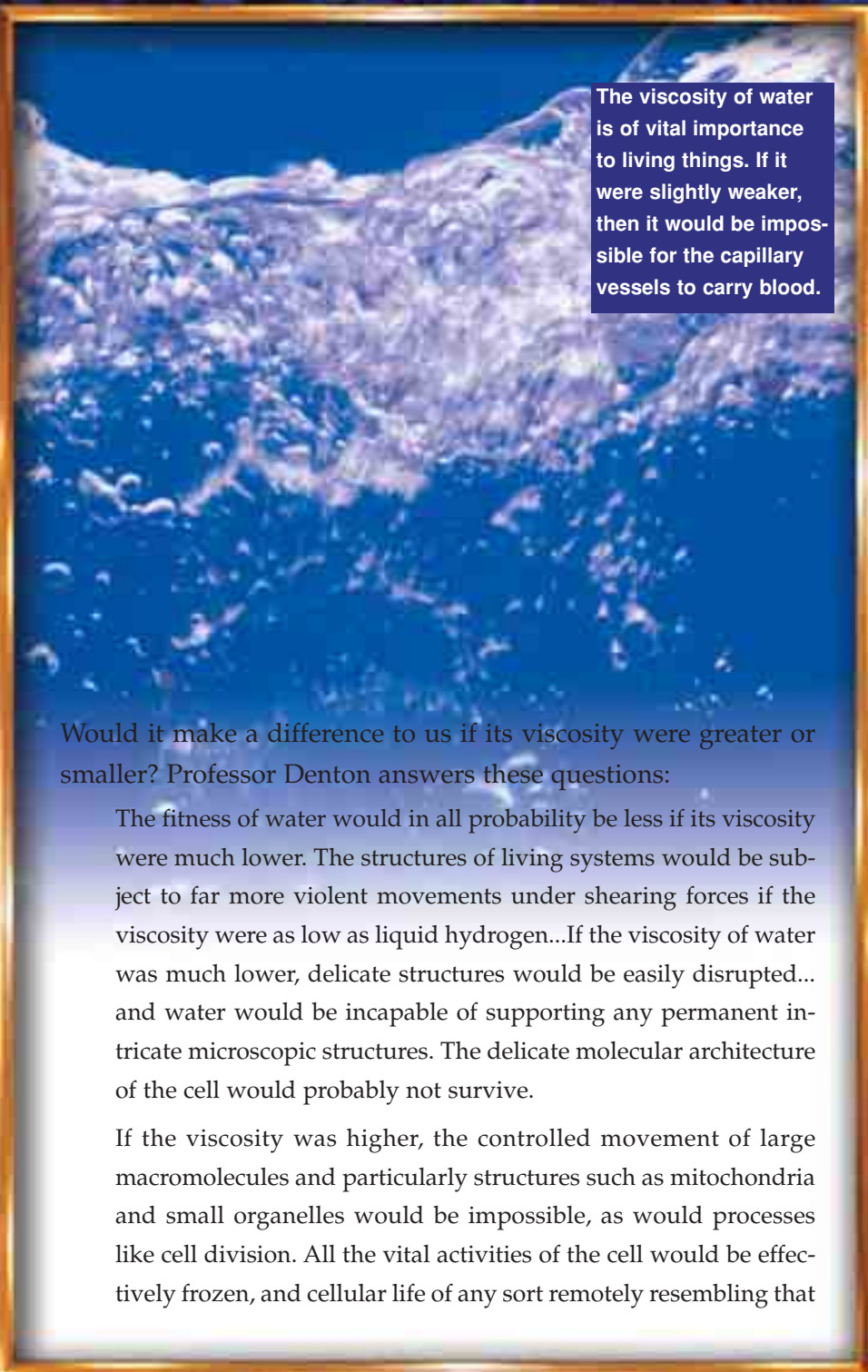
WATER'S VISCOSITY IS SET AT A CALCULATED RATE

When we say “liquids,” we imagine a highly fluid substance. But in reality, liquids’ viscosity rate can vary greatly. For instance the viscosity rates of tar, sulfuric acid, glycerol and olive oil are very different from one another. When these substances are compared with water, this range of differences is more clearly understood: Water is ten billion times more fluid than tar, a thousand times more fluid than glycerol, 100 times more fluid than olive oil, and 25 times more fluid than sulfuric acid.

As this comparison demonstrates, water is a substance of high viscosity. We can state that it has the highest viscosity rate of any liquid, if a few substances like ether and liquid hydrogen—gases at room temperature—are discounted.

Is water’s viscosity rate relevant to life?





The viscosity of water is of vital importance to living things. If it were slightly weaker, then it would be impossible for the capillary vessels to carry blood.

Would it make a difference to us if its viscosity were greater or smaller? Professor Denton answers these questions:

The fitness of water would in all probability be less if its viscosity were much lower. The structures of living systems would be subject to far more violent movements under shearing forces if the viscosity were as low as liquid hydrogen...If the viscosity of water was much lower, delicate structures would be easily disrupted... and water would be incapable of supporting any permanent intricate microscopic structures. The delicate molecular architecture of the cell would probably not survive.

If the viscosity was higher, the controlled movement of large macromolecules and particularly structures such as mitochondria and small organelles would be impossible, as would processes like cell division. All the vital activities of the cell would be effectively frozen, and cellular life of any sort remotely resembling that

with which we are familiar would be impossible. The development of higher organisms, which is critically dependent on the ability of cells to move and crawl around during embryogenesis, would certainly be impossible if the viscosity of water was even slightly greater than it is.⁴⁸

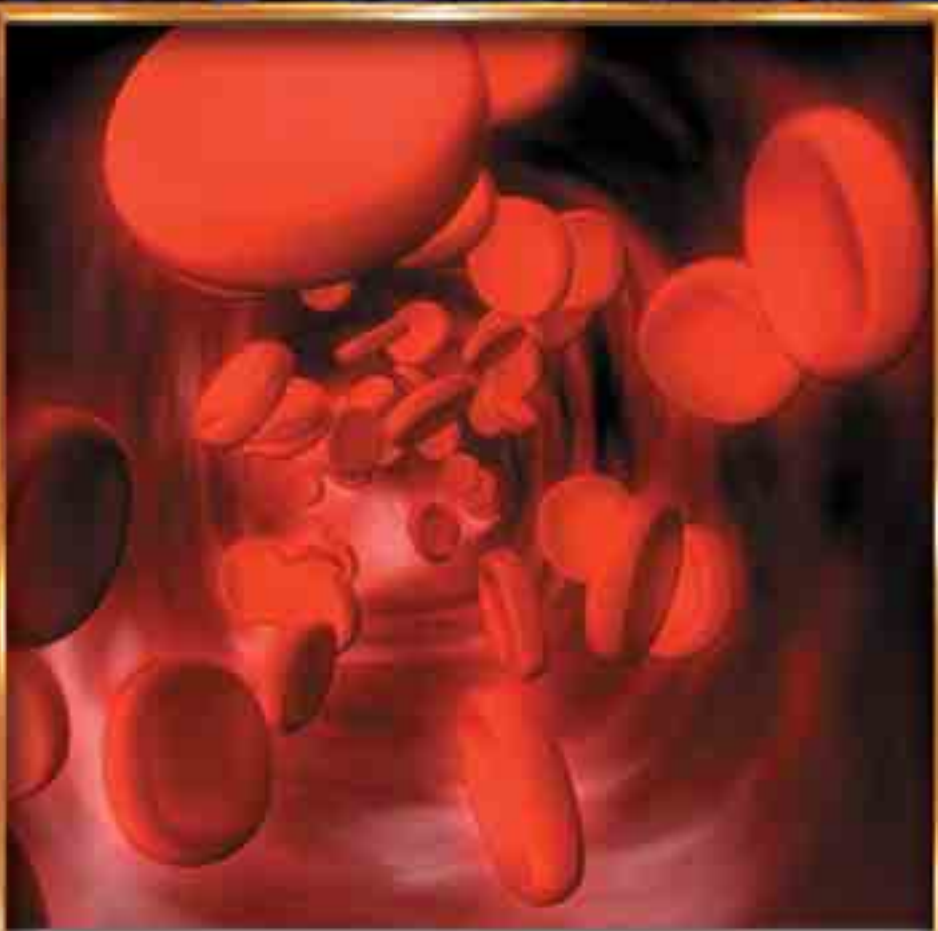
Water's high viscosity rate is vital for us humans, because were it a little less, the capillary network could not transport our blood. The complex network of blood vessels in the kidney, for instance, could never have originated.

Water's viscosity rate is vital not only to processes within cell structures, but also for metabolism as a whole.

All living beings larger than 0.25 of a millimeter have centralized body systems, because in any larger creature, nutrition and oxygen cannot be carried to cells by means of diffusion—that is, they cannot be absorbed directly by the fluids within cells.. Oxygen and nutrition from outside must be pumped by certain “channels” to the countless cells within the body, and waste material removed again. Veins and arteries are these channels, and the heart is the pump that creates the flow within them. The blood circulating around the body, as we know, is composed mostly of water. (When the cells, proteins, and hormones are removed from the blood, plasma remains—which is 95% water.)

This is why water's viscosity is so important to the circulatory system's effectiveness. Were its viscosity rate like tar's, obviously no heart could pump it. Not even a substance like olive oil, with a viscosity rate 100 million times higher than tar, could pass through the body's capillary network, even if the heart could pump it.

Let us inspect this subject more closely. The capillary net-



Ninety-five percent of blood consists of water. If water's viscosity of were as high as that of honey or tar, then your heart would be unable to pump blood.

work's purpose is to supply every cell in the body with oxygen, energy, nutrients and other substances, like hormones. For a cell to be able to receive these deliveries, it must not be further away than 50 microns from the blood vessel (one micron is one-thousandth of a millimeter). Cells at any greater distance could not be fed and, therefore, would die.

This is why the capillary network covers every bit of the human body. It comprises five billion blood vessels with a com-

bined length of 950 kilometers (590 miles). In some mammals, muscle tissue has 3,000 blood vessels per square centimeter. If 10,000 blood vessels of the capillary network were to be placed side by side, their combined width wouldn't exceed the width of a pencil tip. The diameter of these blood vessels is between three and five microns which means three to five thousands of a millimeter. ⁴⁹

Water's high viscosity rate lets blood pass through fine blood vessels without blockages or slowdowns. Professor Michael Denton states that were water's viscosity rate even slightly less, no circulatory system could preserve its functionality:

A capillary system will work only if the fluid being pumped through its constituent tubes has a very low viscosity. A low viscosity is essential because flow is inversely proportional to the viscosity... From this it is easy to see that if the viscosity of water had a value only a few times greater than it is, pumping blood through a capillary bed would require enormous pressure and almost any sort of circulatory system would be unworkable... If the viscosity of water had been slightly greater and the smallest functional capillaries had been 10 microns in diameter instead of 3, then the capillaries would have to occupy virtually all of the muscle tissue to provide an effective supply of oxygen and glucose. Obviously the design of macroscopic life forms would be impossible or enormously constrained... It seems, then, the viscosity of water must be very close to what it is if water is to be a fit medium for life. ⁵⁰

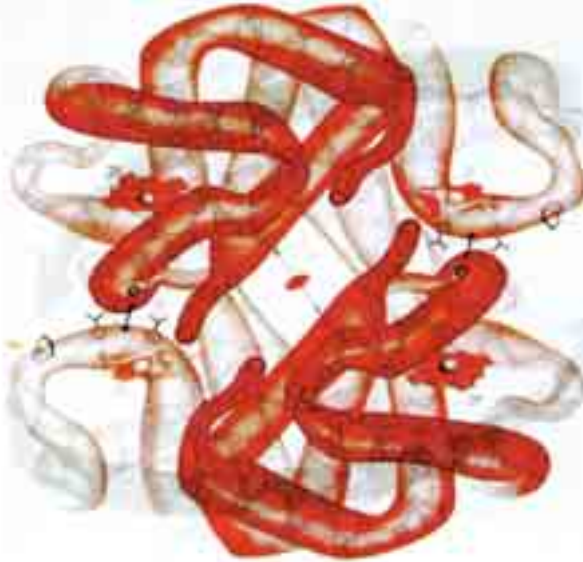
In short, like all of water's other properties, its viscosity too is just perfect for life. The viscosity of liquids covers a vast spectrum. But among the billions of different possible rates, water has been created with perfect viscosity.

THE FORMATION OF ATOMIC BONDS NECESSARY FOR LIFE REQUIRES THE TEMPERATURES WE HAVE ON EARTH

The various chemical bonds keeping atoms and molecules together are called *ionic*, *covalent* or *weak* bonds. Covalent bonds join the atoms in amino acids, the building blocks of proteins. Weak bonds keep the three-dimensional structure of the amino acid chains they form when they fold or twist together. In other words, if weak bonds did not exist, the proteins formed by chains of amino acids could not function, where there are no proteins, there is no life.

Interestingly, the temperatures needed to form covalent as well as weak bonds fall within the range existing on Earth. In reality, covalent and weak bonds are wholly different bonds and there is no natural reason why they should require the same temperatures to form.

Yet both types of chemical bonds occur *only* within the temperature range existing on Earth. Were they to form at different temperatures, proteins—therefore, life—could not form, because proteins require both types of bonding simultaneously. In other words, if the temperature ranges in which covalent bonds enable the formation of amino acid chains weren't also conducive to the formation of weak bonds, proteins could not develop their three-dimensional structure; and amino acids would remain as purposeless and dysfunctional chains. Likewise, if a temperature range suitable for weak bonds were not conducive to forming



Life has such a complex structure that not even a single protein in the millions in a single cell could have come about by chance.

covalent bonds, no chains of proteins could form.

This reveals that atoms, as the building blocks necessary for life, are in great harmony with the home of life, the Earth, as Professor Michael Denton points out in his book, *Nature's Destiny*:

Out of the enormous range of temperatures in the cosmos, there is only one tiny temperature band in which we have (1) liquid water, (2) a great plenitude of metastable organic compounds, and (3) weak bonds for stabilizing the 3-D forms of complex molecules.⁵¹

Denton stresses that all types of physical and chemical bonds necessary for the formation of life can exist effectively and simultaneously only within a very narrow temperature range—which exist only on Earth, among all the other planets in the solar system.

THE SOLUBILITY OF OXYGEN IS IDEAL FOR LIFE

Our bodies' ability to absorb oxygen is due, in turn, to water's ability to absorb it. When we breathe, the oxygen inhaled into our lungs enters our bloodstream almost instantly. In our blood, the protein called hemoglobin transports oxygen to the cells. Enzymes in cells, in turn, use the oxygen to burn carbon compounds called ATP to release energy.

All complex life forms produce their energy by this system, which depends on oxygen's solubility properties. If oxygen were any harder to dissolve, less of it could enter the bloodstream, and cells would be starved of energy. On the other hand, if oxygen were more readily soluble, its content in the bloodstream would increase enough to cause oxidation poisoning.

Interestingly, the water solubility of different gases can vary a million fold. Carbon dioxide, for instance, is 20 times more soluble than oxygen. Among the vast range of solubility properties of gases, oxygen has just the right solubility properties for us.

What would happen if it were otherwise?

Were oxygen less soluble in water (and therefore, in blood), less of it could enter the bloodstream, and cells would not receive enough oxygen—making survival more difficult for air-breathing creatures. No matter how much we breathed, gradually we would be starved of oxygen because sufficient quantities of what the air contained could not be delivered to the cells.

As stated above, if oxygen were more readily absorbed into the bloodstream, oxidation poisoning would occur. Oxygen can be a highly dangerous gas and deadly if taken in higher doses.

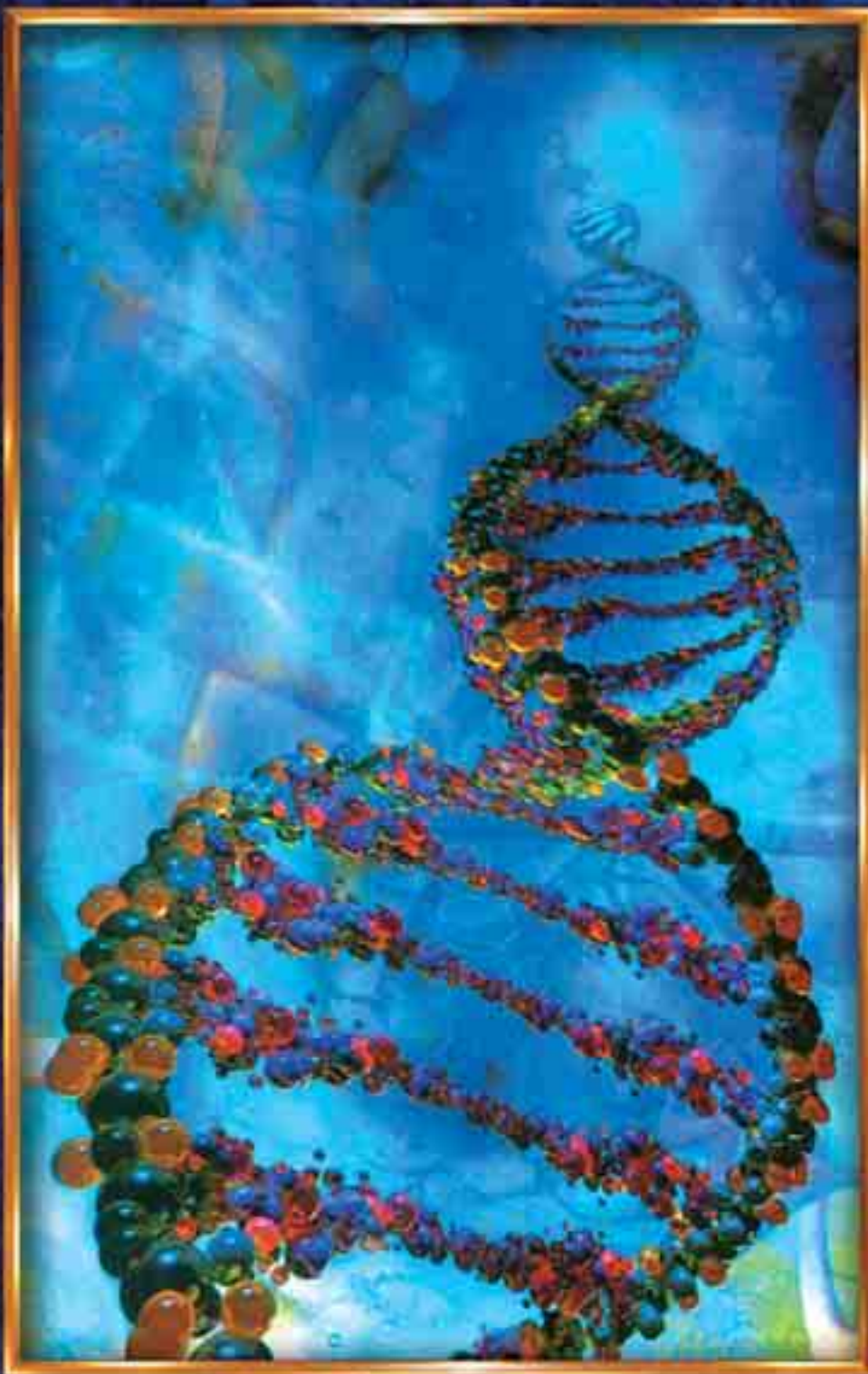
When the blood's oxygen ratio increases substantially, oxygen reacts with water to produce highly destructive byproducts. The body has highly complex enzyme systems to prevent or defuse such reactions, but were the body's oxygen content to increase further, these systems could not cope, and every breath we take would quicken death. About this, chemist Irwin Fridovich has this to say:

All respiring organisms are caught in a cruel trap. The very oxygen which supports their lives is toxic to them and they survive precariously, only by virtue of elaborate defense mechanisms.⁵²

The only thing that protects us from this dilemma—from oxygen poisoning or oxygen starvation—is that oxygen's solubility and our bodies' complex enzyme systems are created just as they should be. Clearly, God has created the air we breathe, as well as the systems that enable us to benefit from it, in perfect harmony.



The air we breathe, and the systems that allow us to make use of it, were created in perfect harmony.





CHAPTER - 3



THE MIRACLES
IN THE CREATION
OF LIVING BEINGS

NOT EVEN THE SIMPLEST LIVING THINGS ARE COINCIDENTAL

Thus far, we have explored that the harmony and balances in the universe, the solar system, and our Earth could not be products of coincidence. Each of these balances, we have seen, is a miracle of choice among countless alternative possibilities. And not even the simplest living organisms can form coincidentally. Robert Shapiro is a Professor of chemistry and DNA expert at New York University. A Darwinist, Shapiro calculated the probability of the 2,000 different proteins found in simple bacteria having formed coincidentally. He obtained the following result: 1 in $10^{40,000}$ (a number formed by 4,000 zeros following the number 1; which does not correspond to anything in the universe). And there are 200,000 different proteins in the human body!



Living things may appear so simple at first sight, but possess structures and systems so complex that could never have arisen by chance.

The chance of the 2,000 proteins in simple bacteria to form coincidentally is 1 in $10^{40,000}$. Since the number of different proteins in the human body is 200,000, nothing can put this improbability into perspective.

Chandra Wickramasinghe, Professor of Applied Mathematics and Astronomy at Cardiff University, has this to say about Shapiro's calculation:

The likelihood of the spontaneous formation of life from inanimate matter is one to a number with $10^{40,000}$ noughts after it...It is big enough to bury Darwin and the whole theory of evolution. There was no primeval soup, neither on this planet nor on any other, and if the beginnings of life were not random, they must therefore have been the product of purposeful intelligence.⁵³



IT'S IMPOSSIBLE FOR LIFE'S BUILDING BLOCKS TO FORM BY THEMSELVES

Protein molecules are the building blocks of life, and even the simplest one is so complex that it could never form accidentally. An average protein consists of 288 amino acids of twelve different types with 10^{300} (an astronomical number with 300 zeros) possible different sequencing combinations. But only one of these combinations can produce the relevant protein. All the other combinations are dysfunctional, or even harmful, chains of amino acids.

The probability of any such proteins to form by chance is 1 in 10^{300} . And in mathematics, any probability smaller than 10^{50} is considered an impossibility.

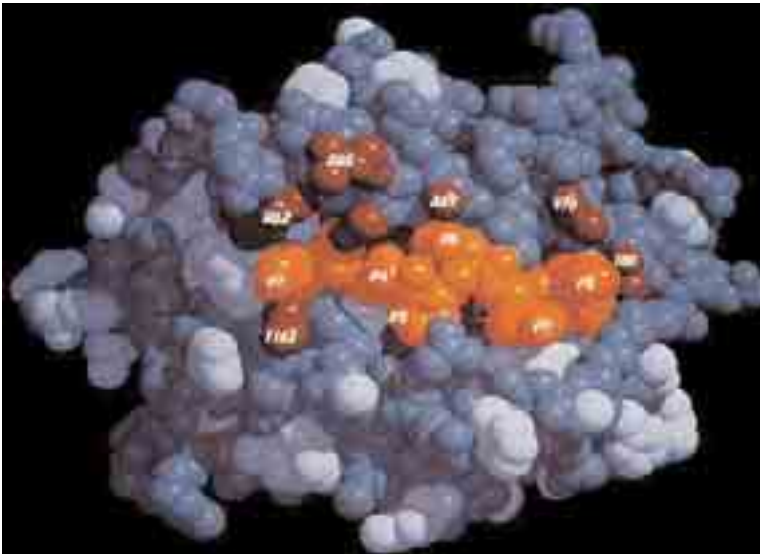
Yet a protein consisting of 288 amino acids is a simple affair when compared to the hugely complex proteins consisting of thousands of amino acids, in living beings. Applying the same probability calculation to these protein molecules makes the word *impossible* inadequate to describe their forming by chance.

But examining at the next stage of life formation reveals that proteins, by themselves, mean nothing much. *Mycoplasma Hominis* H39 is one of the most primitive bacteria known to man, but consists of 600 different proteins. In its case, we would have to apply probability calculations to 600 different proteins, and the results they would yield would be simply beyond impossible. Regardless of how much time we granted for amino acids to form proteins, they never could form by chance. The American

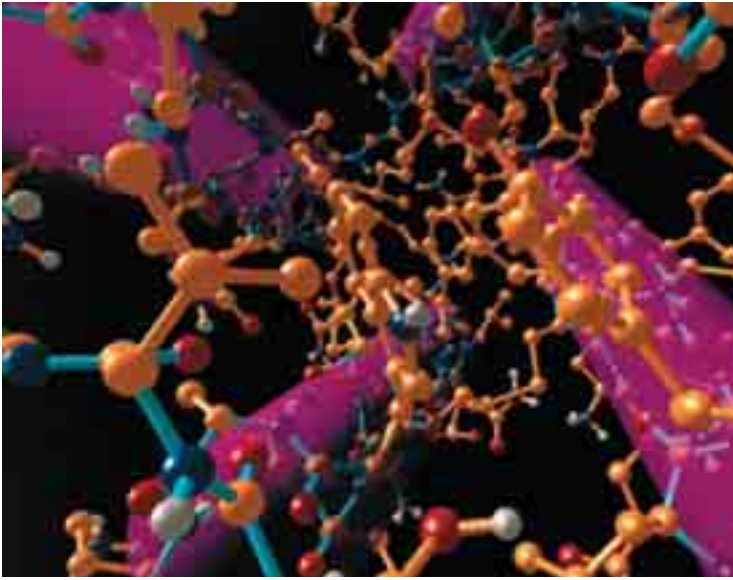
geologist William Stokes concedes this reality in his book, *Essentials of Earth History* where he states that were the surface of the universe's billions of planets covered with a watery concentrate for a duration of billions of years, still proteins could never have formed.⁵⁴ About the probability of the Cytochrome-C protein, necessary for life, to form by chance, he says:

The likely probability of the formation of a cytochrome-C sequence is zero... To accept the alternative—that some metaphysical powers beyond our definition must have effected its formation—isn't appropriate to the goals of science. Therefore, we have to look into the first hypothesis.⁵⁵

This statement reveals clearly that evolutionist scientists



One of the complex protein molecules that plays a role in one of the countless complex process in the body.



Proteins, the fundamental building blocks of living cells, are exceedingly complex molecules. Not even the simplest of them could have come into existence by chance.

consider the scientifically proven belief in “zero probability” as a scientific approach. In reality, principles of both logic and science demand that if a particular event has two possible explanations, where one has zero chance of being correct, then, the other explanation must be true. When principles of logic are applied to the zero probability of the Cytochrome-C protein’s forming by chance, it’s certain that it has been consciously made—in other words, created. This is the scientific, logical, and rational conclusion.

The materialist ideology forbids the acknowledgment of a Creator therefore compelling materialist scientists to reject scien-



No one would ever think that a seashore sandcastle had been produced by waves and natural conditions. A protein's structure is trillions of times more complex than a sandcastle's. Therefore, it's that many times more impossible for proteins to have been produced by chance natural conditions.

tific facts that contradict their philosophy. As a result, such scientists have no qualms in forsaking scientific facts that go against their grain. Instead, they try to impose their philosophies on the masses, which is why the of materialist scientists' integrity and trustworthiness are questionable.

ALL PROTEINS IN LIVING BEINGS ARE LEFT-HANDED; A FACT THAT CANNOT BE EXPLAINED BY CHANCE

For amino acids to form a functional protein, combining in the right number, in the right sequence and in their right three dimensional design is not enough. All the amino acids, without exceptions, must also combine to form a protein that is “left-handed.”

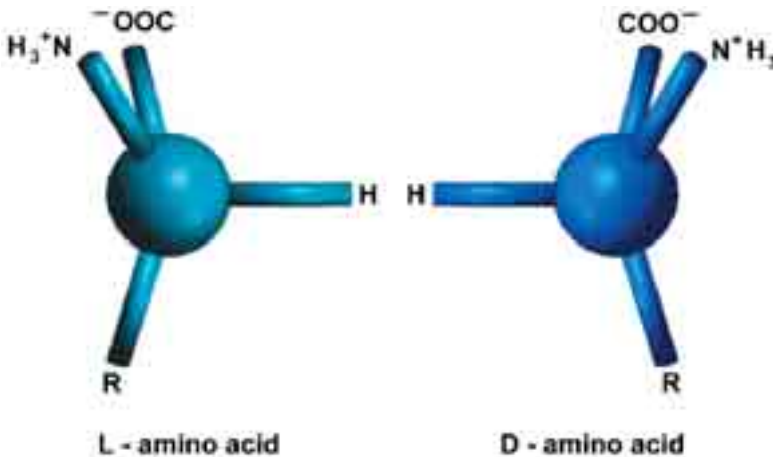
Chemically, all amino acids exist in either right-handed or left-handed form, their three-dimensional structures being symmetrical opposites, like human hands.

Amino acids from both camps can easily form bonds between them. But research has revealed one surprising fact: All proteins in all life forms, from the most primitive organisms to the most complex, are formed by left-handed amino acids. Even one right-handed amino acid within the structure renders it dysfunctional. Some experimenters introduced, right-handed amino acids into bacteria, and the bacteria immediately destroyed them. In some cases, the bacteria reconstructed left-handed amino acids from parts of the original right-handed ones.

For one moment, let's assume that, as evolutionists claim, amino acids formed themselves according to the laws of chance. There should be equal numbers of left and right-handed amino acids in nature and, consequently, in all living beings as well. This should be quite possible: Chemically, amino acids from both groups can easily bond with one another. In reality, though, all proteins in living beings are exclusively left-handed.

For evolutionists, it is still a mystery why proteins select only left-handed amino acids, completely ignoring all right-handed versions. They cannot find any explanation for such a conscious, deliberate selectiveness.

Furthermore, this attribute of proteins makes the evolutionist's "coincidence" proposition untenable. *The Britannica Science Encyclopedia*, an outspoken defender of evolution, states that the amino acids of all living organisms on Earth—and the building blocks of complex polymers such as proteins—share the same left-handed asymmetry. *The Encyclopedia* adds that this is tantamount to tossing a coin one million times and having it always come up heads. It also states that it's impossible to understand why molecules should have become left-handed or right-handed; that, fascinatingly, this choice is related to the origin of life on Earth. ⁵⁶



Although the chances of an amino-acid being right- or left-handed are 50-50, the amino-acids in every living thing is left-handed, indicating a planned creation.

If a coin thrown into the air millions of times always turns up heads, is it more logical to account for this in terms of chance, or in terms of someone's conscious intervention?



If a coin is flicked into the air millions of times, but always lands heads up, which is more rational; to ascribe it to coincidence, or to acknowledge someone's conscious intervention? The self-evident answer is, it's not possible for such a thing to be coincidental. And actually, the situation is even more complex than a coin's coming up heads every time. In spite of this, evolutionists seek refuge in chance rather than acknowledge conscious intervention. They believe the nonsensical claims that in order to form proteins, amino acids agreed to admit no right-handed amino acids as part of their game plan. In the face of all the facts revealed thus far, every rational human will realize that life has been designed and created in perfection by God.

LIFE ON EARTH EMERGED SUDDENLY, MIRACULOUSLY

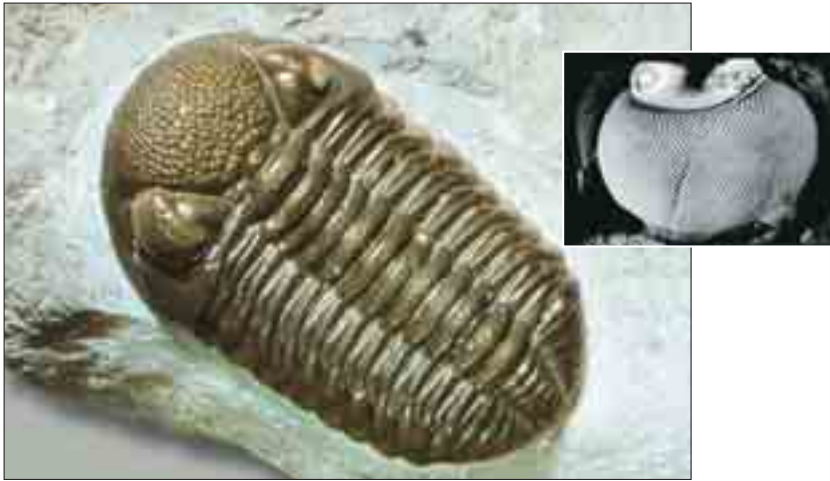
Never mind the biological impossibility of life emerging by chance: The fossil record shows that life on Earth emerged suddenly—and miraculously.

When we investigate the fossil record in layers of sedimentary rocks, it becomes apparent that life emerged suddenly. The deepest (oldest) layers of rock containing fossils, belong to the Cambrian era of around 520-530 million years ago.

Fossils from sedimentary rocks of the Cambrian era are of complex invertebrates like snails, trilobites, sponges, worms, jelly fish, star fish, and other crustaceans. Interestingly, all these



Complex living things that suddenly emerged on Earth in the Cambrian Period, with no so-called evolutionary ancestors behind them, totally refute the claims of the theory of evolution. Such a miraculous emergence can only signify Creation.



Trilobites, which appeared on Earth some 500 million years ago, possessed exceedingly complex organs. To the side can be seen a fossil trilobite's compound eye, with the same complex structure as the eyes of modern-day bees and flies.

different species emerged at the same time, which is why paleontologists call this miraculous event the "Cambrian explosion."

Life forms discovered in this layer had physiologically complex eyes, respiratory systems and metabolisms similar to those found in modern life forms. For instance, the trilobites' double-lens eye design is wholly miraculous. David Raup, geology professor at Harvard, Rochester and Chicago Universities says, "the trilobites 450 million years ago used an optimal design which would require a well trained and imaginative optical engineer to develop today."⁵⁷

These complex invertebrates emerged suddenly and completely, without any links to one-celled organisms or transitory life forms before them.

Richard Monestarsky, a staff writer of the popular evolutionist magazine, *Science News*, comments on the Cambrian explosion that astounds evolutionists:

A half-billion years ago,... the remarkably complex forms of animals we see today suddenly appeared. This moment, right at the start of Earth's Cambrian Period, some 550 million years ago, marks the evolutionary explosion that filled the seas with the world's first complex creatures. The large animal phyla of today were present already in the early Cambrian and they were as distinct from each other as they are today.⁵⁸

How did the Cambrian seas suddenly fill with such a diversity of invertebrate species, with no common ancestry? Evolutionists have never been able to answer the question. English biologist Richard Dawkins, one of the foremost names in evolutionist thought, has the following to say about on this fact that negates the thesis he espouses:

For example the Cambrian strata of rocks, vintage about 600 million years, are the oldest ones in





which we find most of the major invertebrate groups. And we find many of them already in an advanced state of evolution, the very first time they appear. It is as though they were just planted there, without any evolutionary history. Needless to say, this appearance of sudden planting has delighted creationists.⁵⁹

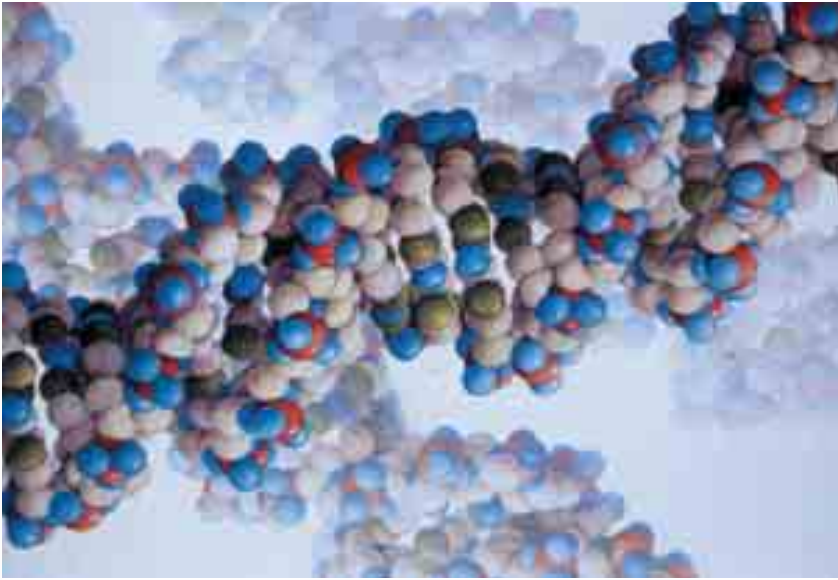
As Dawkins inadvertently concedes, the Cambrian explosion is clear proof for Creation: In the absence of any evolutionary ancestors, the only explanation for the sudden appearance of these living beings is Creation. Evolutionist biologist Douglas Futuyma states that, "Organisms either appeared on the earth fully developed or they did not. If they did not, they must have developed from preexisting species by some process of modification."⁶⁰ Since scientific data proves that life emerged suddenly, evolution is left with no leg to stand on, and now evolutionists openly or secretly concede now this reality.

DNA'S MIRACULOUS DESIGN

All the information about the bodies of living beings is encoded in the huge DNA molecules found within the nucleus of each cell. Living beings' DNA is formed by hundred of thousands of small molecules called nucleotides, of which there are four types. Their sequence is specific to each species. Each species' DNA contains the codes of that species' characteristics. The same is true for humans. It's thanks to our DNA sequence that man as a species is different from all other life forms; and each man's DNA makes him slightly different from every other man. We can compare nucleotides to letters in the alphabet. Since there are four different nucleotides, we can liken the DNA to a huge encyclopedia composed with an alphabet of four letters.

The sequence of the "letters" in the DNA molecule determines every detail of the human body. Besides details like height and the color of eyes, hair and skin, the blueprint for all 206 bones, 600 muscles, network of 10,000 hearing nerves, two million optic nerves, 100 million nerve cells and more than 100 trillion other cells is contained in every cell's DNA. If all the genetic information stored in the DNA were committed to printed pages, they would fill 900 volumes of 500 pages each. But this huge quantity of DNA information is encoded within the microscopic cell's nucleus.

The data contained in one DNA molecule would fill one million pages. In other words, a million encyclopedia pages'



worth of information are stored in the nucleus of each human cell, controlling all bodily functions. In comparison, one of the greatest encyclopedias of the world, the *Britannica* consists of 23 volumes with a total of 25,000 pages. An incredible picture emerges. Inside a microscopic cell's nucleus is a molecule that serves as a databank, 40 times larger than the world's greatest encyclopedia, with millions of different entries. This represents an encyclopedia of huge proportions, 920 volumes strong, unlike anything currently existing in the world. Research suggests that this huge "encyclopedia" contains five billion different bits of data.

This huge databank has existed in each of the 100 trillion cells of the billions of people who have ever existed since the first human. No doubt this reality is a clear demonstration of God's infinite might, as the Lord of the heavens and the Earth.

UNDER NATURAL CONDITIONS, DNA CANNOT POSSIBLY FORM BY CHANCE

Considering that there are 200,000 genes in the human body, it is just impossible that the millions of nucleotides forming these genes should line up accidentally, in the right sequence. Evolutionist biologist Frank Salisbury points out these impossibilities:

A medium protein might include about 300 amino acids. The DNA gene controlling this would have about 1,000 nucleotides in its chain. Since there are four kinds of nucleotides in a DNA chain, one consisting of 1,000 links could exist in $4^{1,000}$ forms. Using a little algebra (logarithms) we can see that $4^{1,000}=10^{600}$. Ten multiplied by itself 600 times gives the figure 1 followed by 600 zeros! This number is completely beyond our comprehension. ⁶¹

A “small algorithmic” calculation of 1 in $4^{1,000}$ means 10^{620} . This is a number with 620 zeros after the 1. When eleven zeros after ten express one trillion, it is hardly comprehensible what a number with 620 zeroes means. Paul Auger, the French evolutionist and scientist expresses the impossibility of any coincidental accumulation of nucleotides to create the RNA and DNA:

We have to sharply distinguish the two stages in the chance formation of complex molecules such as nucleotides by chemical events. The production of nucleotides one by one—which is possible—and the combination of these within very special sequences. The second is absolutely impossible. ⁶²

Dr. Leslie Orgel, the famous evolutionist and colleague of Stanley Miller and Francis Crick from California University,

comments on this impossibility:

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.⁶³

Other well-known evolutionist scientists acknowledge the same fact:

DNA cannot do its work, including forming more DNA, without the help of catalytic proteins, or enzymes. In short, proteins cannot form without DNA, but neither can DNA form without proteins.⁶⁴

“How did the Genetic Code, along with the mechanisms for its translation (ribosomes and RNA molecules), originate?” For the moment, we will have to content ourselves with a sense of wonder and awe, rather than with an answer.⁶⁵





A single human DNA molecule contains enough information to fill millions of encyclopedia pages.

THE SECRET BEHIND THE DIVERSIFICATION OF CELLS

For multiplication by cell division to become possible, first one cell must make a copy of itself—which in turn, in time, must produce further copies of themselves and so on, into millions of identical cells. But this process is far more complicated and mysterious than it appears. At some point during the process of cell division, and by an unknown trigger, certain cells begin to diversify into altogether different cells. In this way, cells originating from a common stem cell diversify, by cell division, to create different tissues and organs. Some become light-sensitive retinal cells, others liver cells. Still others become nerve cells sensitive to heat, cold or pain, or receptive to vibrations caused by sound.

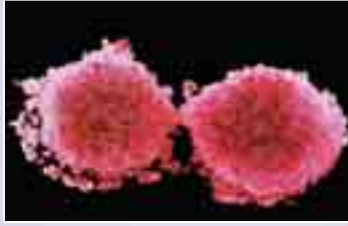
How can such diversification come about? Since a cell cannot decide on its own to specialize, who makes this decision?

All cells contain the same DNA data, yet produce different proteins. Two cells producing different proteins become different from one another. But how is it that two cells of common origin, and containing the same genetic information, suddenly begin producing different types of proteins and displaying different characteristics and behavior? Even though they are identical copies of each other, who directs them to produce different types of proteins?

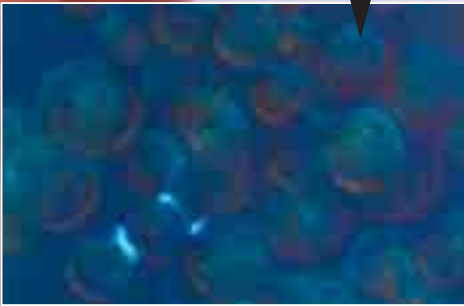
Hoimar von Ditfurth, a fervent advocate of evolution, comments on the mysterious developments taking place in the womb:

How a single egg cell divides to form so numerous differentiated cells, and the perfect natural communication and the cooperation between these cells top the events that amaze scientists. ⁶⁶

Likewise, other advocates of evolution fail to explain how one



(1)



(2)



(3)



(4)



Stem cells are the source of all the 200 different kinds of cell in the human body. (1) Stem cells are identical copies of one another, yet shortly afterwards, they begin to diversify into other cells, developing into soft tissues, of which energy-providing fat cells (2), wound-healing cells (3), and vein cells (4) are just a few.

single cell can set in motion a development that leads to the formation of different organs and tissues, culminating in the creation of a human being with 100 trillion cells. This miracle they call a dark corner of evolution.

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. (Qur'an, 59:24)

INTELLIGENCE IN BACTERIA

In recent years, research into bacteria has revealed that these one-cell organisms behave extremely intelligently, by responding to the situation in their environment. According to the renowned molecular biologist Michael Denton:

The amoeba, although the size of a small speck of dust, exhibits behavioral strategies which seem objectively indistinguishable from those of animals far higher up the scale. If an amoeba were the size of a cat, we would probably impute to it the same level of intelligence as we do to a mammal. Just how do such minute organisms integrate all the information necessary to make such apparently calculated intelligent decisions? ...the way it [the amoeba] integrates all the information necessary to pursue its prey, its decision to change direction, its persistence in the pursuit when its prey escapes, the sudden breakout of the smaller amoeba from its imprisonment in the interior of its captor at the moment when the wall of protoplasm was at its thinnest—all this remains to be fully explained in molecular terms.⁶⁷

In the above excerpt, the final sentence is most noteworthy. Amoebas' behavior cannot be explained on a molecular level—by chemical reactions or physical triggers. These monocellular organisms consciously make decisions and carry them out. But interestingly, they have neither brain nor nervous system. Each one is a simple cell made of proteins, fats and water.

Other examples of intelligent behavior are displayed by bacteria. According to the July 1999 issue of the famous French science magazine, *Science et Vie*, bacteria communicate with one another and make collective decisions, based on the information they receive.

According to the *Science et Vie* article, this communication is the

result of a highly complex system. The bacteria's surface area is able to send and receive electrical signals. Bacteria send signals containing data on the conditions of their environment, including nutritional information. Based on such information, they decide how often to divide and when to cease reproductive activities.

In short, living beings that are invisible to the naked eye gather information on their surroundings, interpret them, and communicate them to one another. They then decide on a joint action plan.

The fact that micro-organisms, devoid of brain and nervous system, can display behavior requiring intelligence, reason and consciousness, demonstrates that the source of such rational, planned, calculated and decisive action lies not within them. This situation reveals a clear miracle: Someone else directs them in a rational way. This being is God Who creates them and then directs each of their actions. This reality is not just true for bacteria but also for all other beings. As the Qur'an reveals: "...**There is no creature He does not hold by the forelock...**" (Qur'an, 11:56)



In recent years, observations of bacteria have shown that these single-celled creatures make decisions, based on their analysis of their environment. Such behavior, requiring intelligence, reason and consciousness, and performed by a micro-organism with no brain or nervous system, shows that the creature itself cannot be the source of this behavior. This reveals an obvious miracle: Another intelligence governs it—God, Who creates these creatures and inspires their behavior. This is true not only of bacteria, but for all living things.

CONCLUSION



As we stated at the beginning, these examples of miracles from the world of living beings are only a few links of an infinite chain of miracles. Whichever creations of God we regard, we are always examining a great miracle. But what's really important is that we notice and comprehend these miracles, because regardless of how clear and great a miracle is, only believers will see God's existence and infinite greatness therein.

Unbelievers will never acknowledge even a clear-cut miracle and will deny it because of their prejudices, pride, and worldly ambitions. Also, they make irrational and nonsensical comments, trying to bury miracles or portray them as common and normal, or even irrelevant. In reality, even just one of the miracles related in this book is enough to persuade any conscientious person of normal intelligence. But since deniers are devoid of logic and awareness, they cannot comprehend God's miracles all around them. These verses of the Qur'an describe the deniers' attitude towards miracles:

If they see a Sign they turn away, saying "There is no end to this witchcraft!" They have denied the truth and followed their whims and desires, but everything has its time. (Qur'an, 54:2-3)

As these verses show, deniers' disinterest of towards miracles is caused by their egotism and desire to satisfy selfish ambitions. Acknowledging miracles would mean that they would also have to accept the existence of God and Judgment Day, which in turn would mean they must accept that they must sub-

mit to His will, and will account to Him for their actions.

This is unacceptable to unbelievers, however, which is why they do not believe. But whether or not they choose to believe the truth, everything bides its time and meets its fate. Their denying miracles will not alter the truth, nor what they will receive in the Hereafter for what they have done.

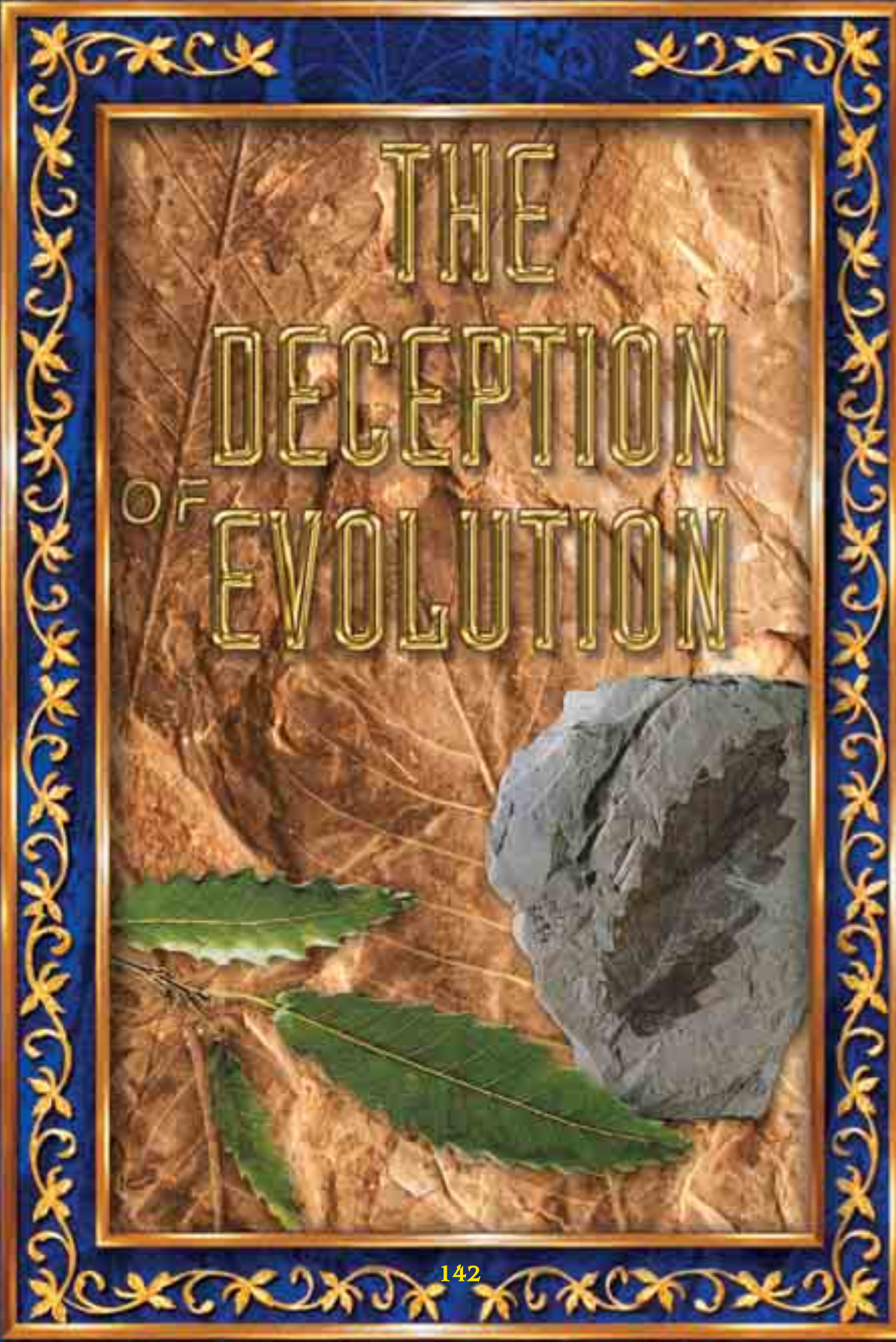
In reality, for unbelievers of all eras, it is God's eternally valid law that they cannot see the undisputable miracles in His creation. The verses say:

They have sworn by God with their most earnest oaths that



if a Sign comes to them they will believe in it. Say: "The Signs are in God's control alone." What will make you realize that even if a Sign did come, they would still not believe? We will overturn their hearts and sight, just as when they did not believe in it at first, and We will abandon them to wander blindly in their excessive insolence. Even if We sent down angels to them, and the dead spoke to them, and We gathered together everything in front of them right before their eyes, they would still not believe unless God willed. The truth is that most of them are ignorant. (Qur'an, 6:109-111)





THE
DECEPTION
OF
EVOLUTION

Darwinism, in other words the theory of evolution, was put forward with the aim of denying the fact of creation, but is in truth nothing but failed, unscientific nonsense. This theory, which claims that life emerged by chance from inanimate matter, was invalidated by the scientific evidence of clear "design" in the universe and in living things. In this way, science confirmed the fact that God created the universe and the living things in it. The propaganda carried out today in order to keep the theory of evolution alive is based solely on the distortion of the scientific facts, biased interpretation, and lies and falsehoods disguised as science.

Yet this propaganda cannot conceal the truth. The fact that the theory of evolution is the greatest deception in the history of science has been expressed more and more in the scientific world over the last 20-30 years. Research carried out after the 1980s in particular has revealed that the claims of Darwinism are totally unfounded, something that has been stated by a large number of scientists. In the United States in particular, many scientists from such different fields as biology, biochemistry and paleontology recognize the invalidity of Darwinism and employ the concept of intelligent design to account for the origin of life. This "intelligent design" is a scientific expression of the fact that God created all living things.

We have examined the collapse of the theory of evolution and the proofs of creation in great scientific detail in many of our works, and are still continuing to do so. Given the enormous importance of this subject, it will be of great benefit to summarize it here.

The Scientific Collapse of Darwinism

Although this doctrine goes back as far as ancient Greece, the theory of evolution was advanced extensively in the nineteenth century. The most important development that made it the top topic of the world of science was Charles Darwin's *The Origin of Species*, published in 1859. In this book, he denied that God created different living species on Earth separately, for he claimed that all living beings had a common ancestor and had 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 on Theory," the theory failed in the face of many critical questions.

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

Darwinism in the face of science can be reviewed under three basic topics:

1) The theory cannot explain how life originated on Earth.

2) No scientific finding shows that the "evolutionary mechanisms" proposed by the theory have any evolutionary power at all.

3) The fossil record proves the exact opposite of what the theory suggests.



Charles Darwin

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 that the theory cannot answer. However, first and foremost, we need to ask: How did this "first cell" originate?

Since the theory of evolution denies creation and 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. Such a claim, however, is inconsistent with 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, which asserts 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, maggots developing in rotting meat was assumed to be evidence of spontaneous generation. However, it was later understood that worms did not appear on meat spontaneously, but



Louis Pasteur

were carried there by flies in the form of larvae, invisible to the naked eye.

Even 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 the publication of Darwin's book, Louis Pasteur announced his results after long studies and experiments, that disproved spontaneous generation, a cornerstone of Darwin's theory. In his triumphant lecture at the Sorbonne in 1864, Pasteur said: "Never will the doctrine of spontaneous generation recover from the mortal blow struck by this simple experiment."⁶⁸

For a long time, advocates of the theory of evolution resisted these findings. 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 Twentieth Century

The first evolutionist who took up the subject of the origin of life in the twentieth century was the renowned Russian biologist Alexander Oparin. With various theses he advanced in the 1930s, he tried to prove that a living cell could originate by coincidence. These studies, however, were doomed to failure, and Oparin had to make the following confession:

Unfortunately, however, the problem of the origin of the cell is perhaps the most obscure point in the whole study of the evolution of organisms.⁶⁹

Evolutionist followers of Oparin tried to carry out experiments to solve this problem. The best known experiment was carried out by the 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, for the atmosphere used in the experiment was very different from the real Earth conditions.⁷⁰

After a long silence, Miller confessed that the atmosphere medium he used was unrealistic.⁷¹



Alexander Oparin

All the evolutionists' efforts throughout the twentieth century to explain the origin of life ended in failure. The geochemist Jeffrey Bada, from the 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.⁷²

The Complex Structure of Life

The primary reason why the theory of evolution ended up in such a great impasse regarding the origin of life is that even those living organisms deemed to be the simplest have incredibly complex structures. The cell of a living thing is more complex than all of our man-made technological products. Today, even in the most developed laboratories of the world, a living cell cannot be produced by bringing organic chemicals 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 a 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 considered to be impossible in practical terms.

The DNA molecule, which is located in the nucleus of a cell and which stores genetic information, is an incredible databank. If the information coded in DNA were written down, it would make a giant library consisting of an estimated 900 volumes of encyclopedias consisting of 500 pages each.

A very interesting dilemma emerges at this point: DNA can replicate itself only with the help of some specialized proteins (en-

zymes). However, the synthesis of these enzymes can be realized only 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.⁷³

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 habi-

tats 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 individual differences or variations occur.⁷⁴

Lamarck's Impact

So, how could these "favorable variations" occur? Darwin tried to answer this question from the standpoint of the primitive understanding of science at that time. According to the French biologist Chevalier de Lamarck (1744-1829), who lived before Darwin, living creatures passed on the traits they acquired during their lifetime to the next generation. He asserted that these traits, which accumulated from one generation to another, caused new species to be formed. For instance, he claimed that 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. In his book *The Origin of Species*, for instance, he said that some bears going into water to find food transformed themselves into whales over time.⁷⁵

However, the laws of inheritance discovered by Gregor Mendel (1822-84) and verified by the science of genetics, which flourished in the twentieth century, utterly demolished the legend that acquired traits were passed on to subsequent generations. Thus, natural selection fell out of favor 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 1930s. Neo-Darwinism added mutations, which are distortions formed in the genes of living beings due to such external factors as radiation or replication errors, as the "cause of favorable 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 formed as a result of a process whereby numerous complex organs of these organisms (e.g., 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 are always harmful.

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

First, genuine mutations are very rare in nature. Secondly,



Accidental mutations develop into defects in humans as well as other living beings. The Chernobyl disaster is an eye-opener for the effects of mutations.

most mutations are harmful since they are random, rather than orderly changes in the structure of genes; any random change in a highly ordered system will be for the worse, not for the better. For example, if an earthquake were to shake a highly ordered structure such as a building, there would be a random change in the framework of the building which, in all probability, would not be an improvement.⁷⁶

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 things, and leaves them disabled. (The most common effect of mutation on human beings is cancer.) Of course, 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, no such any imaginary process called "evolution" could 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 this theory, every living species has sprung from a predecessor. A previously existing species turned into something else over time and all species have come into being in this way. In other words, this transformation proceeds gradually over millions of years.

Had this been the case, 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."

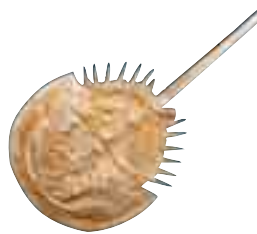
If such animals ever really existed, there should be millions and even billions of them in number and variety. More importantly, the remains of these strange creatures should be present in the fossil record. In *The Origin of Species*, Darwin explained:

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.⁷⁷

LIVING FOSSILS REFUTE THE THEORY OF EVOLUTION



100-150 million-
year-old starfish
fossil
(L. Cretaceous
Age)



450-million-
year-old
horseshoe crab
fossil from the
Ordovician Age.



150-200 million-
year-old dragon
fly fossil
(Jurassic-
Recent)



100-150 mil-
lion-year-old
shrimp fossil
(L. Cretaceous
Age)

Different groups of living things suddenly emerged with no similar ancestors behind them, and remained static for millions of years, undergoing no changes at all.

Darwin's Hopes Shattered

However, although evolutionists have been making strenuous efforts to find fossils since the middle of the nineteenth century all over the world, no transitional forms have yet been uncovered. All of the fossils, contrary to the evolutionists' expectations, show that life appeared on Earth all of a sudden and fully-formed.

One 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.⁷⁸

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, this is very strong evidence that all living things are created. The only explanation of a living species emerging suddenly and complete in every detail without any evolutionary ancestor is that it 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.⁷⁹

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

The Tale of Human Evolution

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

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

Evolutionists call man's so-called first ape-like ancestors *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, shows that these apes belonged to an ordinary ape species that became extinct and bore no resemblance to humans.⁸⁰

Evolutionists classify the next stage of human evolution as "homo," that is "man." According to their 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 twentieth century's most important evolutionists, contends in his book *One Long Argument* that "particularly historical [puzzles]



Evolutionist newspapers and magazines often print pictures of primitive man. The only available source for these pictures is the imagination of the artist. Evolutionary theory has been so dented by scientific data that today we see less and less of it in the serious press.

such as the origin of life or of *Homo sapiens*, are extremely difficult and may even resist a final, satisfying explanation."⁸¹

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.⁸²

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.⁸³

This situation apparently indicates the invalidity of the claim that they are ancestors of one another. Stephen Jay Gould explained this deadlock of the theory of evolution, although he was himself one of the leading advocates of evolution in the twentieth century:

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.⁸⁴

Put briefly, the scenario of human evolution, which is "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 foundation.

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 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" 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.⁸⁵

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.

Darwinian Formula!

Besides all the technical evidence we have dealt with so far, let us now for once, examine what kind of a superstition the evolutionists have with an example so simple as to be understood even by children:

The theory of evolution asserts that life is formed by chance. According to this claim, lifeless and unconscious atoms came together to form the cell and then they somehow formed other living things, including man. Let us think about that. When we bring together the elements that are the building-blocks of life such as carbon, phosphorus, nitrogen and potassium, only a heap is formed. No matter what treatments it undergoes, this atomic heap cannot form even a single living being. If you like, let us formulate an "experiment" on this subject and let us examine on the behalf of evolutionists what they really claim without pronouncing loudly under the name "Darwinian formula":

Let evolutionists put plenty of materials present in the composition of living things such as phosphorus, nitrogen, carbon, oxygen, iron, and magnesium into big barrels. Moreover, let them add in these barrels any material that does not exist under normal conditions, but they think as necessary. Let them add in this mixture as many amino acids and as many proteins—a single one of which has a formation probability of 10^{-950} —as they like. Let them expose these mixtures to as much heat and moisture as they like. Let them stir these with whatever technologically developed device they like. Let them put the foremost scientists beside these barrels. Let these experts wait in turn beside these barrels for billions, and even trillions of years. Let them be free to use all kinds of conditions they believe to be necessary for a human's formation. No matter

what they do, they cannot produce from these barrels a human, say a professor that examines his cell structure under the electron microscope. They cannot produce giraffes, lions, bees, canaries, horses, dolphins, roses, orchids, lilies, carnations, bananas, oranges, apples, dates, tomatoes, melons, watermelons, figs, olives, grapes, peaches, peafowls, pheasants, multicolored butterflies, or millions of other living beings such as these. Indeed, they could not obtain even a single cell of any one of them.

Briefly, unconscious atoms cannot form the cell by coming together. They cannot take a new decision and divide this cell into two, then take other decisions and create the professors who first invent the electron microscope and then examine their own cell structure under that microscope. Matter is an unconscious, lifeless heap, and it comes to life with God's superior creation.

The theory of evolution, which claims the opposite, is a total fallacy completely contrary to reason. Thinking even a little bit on the claims of evolutionists discloses this reality, just as in the above example.

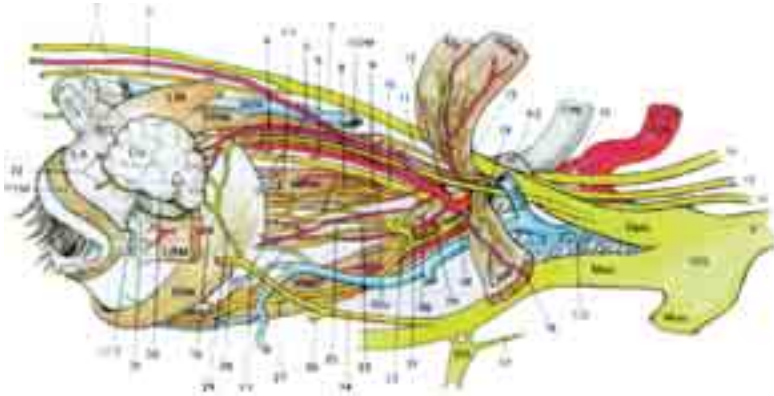
Technology in the Eye and the Ear

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 eye's retina. Here, these light rays are transmitted into electric signals by cells and reach a tiny spot at the back of the brain, the "center of vision." These electric signals are perceived in this center 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 its inside is completely dark, and that no light reaches the place where it is located. Thus, the "center of vision" is never touched by light and 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 twentieth century has not been able to attain it. For instance, look at the book you are reading, your hands with which you are holding it, and 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, colored, 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



Compared to cameras and sound recording machines, the eye and ear are much more complex, much more successful and possess far superior designs to these products of high technology.

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 with depth.

For many years, tens of thousands of engineers have tried to make a three-dimensional TV and achieve 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 special 3-D 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 of 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, and the inner ear sends these vibrations to the brain by translating them into electric signals. Just as with the eye, the act of hearing finalizes in the center 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 as 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 completely silent brain, you listen to symphonies, and hear all of the noises in a crowded place. However, were the sound level in your brain measured by a precise device at that moment, complete silence would be found to be 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 of this technology and the thousands of engineers and experts who have been working on this endeavor, 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 largest 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 human body's technology are extremely sharp and clear. A human ear never perceives a sound accompanied by a hissing sound or with atmospherics as does a hi-fi; rather, 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 man-made visual or recording apparatus 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 truth lies beyond all this.

To Whom Does the Consciousness that Sees and Hears within the Brain Belong?

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

The stimulations coming from a person's eyes, ears, and nose travel to the brain as electro-chemical nerve 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: Who perceives these electro-chemical nerve impulses as images, sounds, odors, and sensory events in the brain? There is a consciousness in the brain that perceives all this without feeling any need for an eye, an ear, and a nose. To whom does this consciousness belong? Of course it 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 answer these questions.

For this consciousness is the spirit created by God, which needs neither the eye to watch the images nor the ear to hear the sounds. Furthermore, it does not need the brain to think.

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

A Materialist Faith

The information we have presented so far shows us that the theory of evolution is incompatible with scientific findings. The the-

ory's claim regarding the origin of life is inconsistent with science, the evolutionary mechanisms it proposes have no evolutionary power, and fossils demonstrate that the required intermediate forms have 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 kept on the agenda of science. Some people even try to represent criticisms directed against it as an "attack on science." Why?

The reason is that this theory 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 to explain 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.⁸⁶

These are explicit statements that Darwinism is a dogma kept alive just for the sake of adherence to materialism. 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 (e.g., birds, fish, giraffes, tigers, insects, trees, flowers, whales, and human beings) originated as a result of the interactions between matter such as pouring rain, lightning flashes, and so on, 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.

The Theory of Evolution Is the Most Potent Spell in the World

Anyone free of prejudice and the influence of any particular ideology, who uses only his or her reason and logic, will clearly understand that belief in the theory of evolution, which brings to mind the superstitions of societies with no knowledge of science or civilization, is quite impossible.

As explained above, those who believe in the theory of evolution think that a few atoms and molecules thrown into a huge vat could produce thinking, reasoning professors and university students; such scientists as Einstein and Galileo; such artists as Humphrey Bogart, Frank Sinatra and Luciano Pavarotti; as well as antelopes, lemon trees, and carnations. Moreover, as the scientists and professors who believe in this nonsense are educated people, it is quite justifiable to speak of this theory as "the most

potent spell in history." Never before has any other belief or idea so taken away peoples' powers of reason, refused to allow them to think intelligently and logically and hidden the truth from them as if they had been blindfolded. This is an even worse and unbelievable blindness than the Egyptians worshipping the Sun God Ra, totem worship in some parts of Africa, the people of Saba worshipping the Sun, the tribe of Prophet Abraham (pbuh) worshipping idols they had made with their own hands, or the people of the Prophet Moses (pbuh) worshipping the Golden Calf.

In fact, God has pointed to this lack of reason in the Qur'an. In many verses, He reveals that some peoples' minds will be closed and that they will be powerless to see the truth. Some of these verses are as follows:

As for those who do not believe, it makes no difference to them whether you warn them or do not warn them, they will not believe. God has sealed up their hearts and hearing and over their eyes is a blindfold. They will have a terrible punishment. (Qur'an, 2: 6-7)

... They have hearts with which they do not understand. They have eyes with which they do not see. They have ears with which they do not hear. Such people are like cattle. No, they are even further astray! They are the unaware. (Qur'an, 7: 179)

Even if We opened up to them a door into heaven, and they spent the day ascending through it, they would only say: "Our eyesight is befuddled! Or rather we have been put under a spell!" (Qur'an, 15: 14-15)

Words cannot express just how astonishing it is that this spell should hold such a wide community in thrall, keep people from

the truth, and not be broken for 150 years. It is understandable that one or a few people might believe in impossible scenarios and claims full of stupidity and illogicality. However, "magic" is the only possible explanation for people from all over the world believing that unconscious and lifeless atoms suddenly decided to come together and form a universe that functions with a flawless system of organization, discipline, reason, and consciousness; a planet named Earth with all of its features so perfectly suited to life; and living things full of countless complex systems.

In fact, the Qur'an relates the incident of Prophet Moses and Pharaoh to show that some people who support atheistic philosophies actually influence others by magic. When Pharaoh was told about the true religion, he told Prophet Moses to meet with his own magicians. When Moses did so, he told them to demonstrate their abilities first. The verses continue:

He said: "You throw." And when they threw, they cast a spell on the people's eyes and caused them to feel great fear of them. They produced an extremely powerful magic. (Qur'an, 7: 116)

As we have seen, Pharaoh's magicians were able to deceive everyone, apart from Moses and those who believed in him. However, his evidence broke the spell, or "swallowed up what they had forged," as the verse puts it.

We revealed to Moses, "Throw down your staff." And it immediately swallowed up what they had forged. So the Truth took place and what they did was shown to be false. (Qur'an, 7: 117-118)

As we can see, when people realized that a spell had been cast upon them and that what they saw was just an illusion, Pharaoh's magicians lost all credibility. In the present day too, unless those

who, under the influence of a similar spell, believe in these ridiculous claims under their scientific disguise and spend their lives defending them, abandon their superstitious beliefs, they also will be humiliated when the full truth emerges and the spell is broken. In fact, world-renowned British writer and philosopher Malcolm Muggeridge, who was an atheist defending evolution for some 60 years, but who subsequently realized the truth, reveals the position in which the theory of evolution would find itself in the near future in these terms:

I myself am convinced that the theory of evolution, especially the extent to which it's been applied, will be one of the great jokes in the history books in the future. Posterity will marvel that so very flimsy and dubious an hypothesis could be accepted with the incredible credulity that it has.⁸⁷

That future is not far off: On the contrary, people will soon see that "chance" is not a deity, and will look back on the theory of evolution as the worst deceit and the most terrible spell in the world. That spell is already rapidly beginning to be lifted from the shoulders of people all over the world. Many people who see its true face are wondering with amazement how they could ever have been taken in by it.

*They said "Glory be to You! We have no
knowledge except what You have thought us.*

You are the All-Knowing, the All-Wise."

(Qur'an, 2: 32)

NOTES:

1. F. Heeren, *Show Me God. Wheeling, IL, Searchlight Publications, 1995, p. 200.*
2. George F. Ellis, "*The Anthropic Principle: Laws and Environments,*" *The Anthropic Principle*, F. Bertola and U. Curi, ed. (New York: Cambridge University Press, 1993), p. 30.
3. Paul Davies, *Superforce: The Search for a Grand Unified Theory of Nature*, New York: Simon & Schuster, 1984, p. 243.
4. Roger Penrose, *A Brief History of Time* (feature film), (Burbank, CA: Paramount Pictures, Inc., 1992).
5. Fred Hoyle, *The Intelligent Universe*, London, 1984, pp. 184-185.
6. J.N. Willford, "*Sizing up the Cosmos: An Astronomers Quest,*" *New York Times*, March 12, 1991, p. B9, emphasis added.
7. Paul Davies, *Superforce*, p. 184, emphasis added.
8. *Bilim ve Teknik* (Science and Technics), no. 201, p. 16, emphasis added.
9. Stephen Hawking, *A Brief History Of Time*, Bantam Press, London: 1988, pp. 121-125, emphasis added.
10. A.H. Guth, "*Inflationary Universe: a possible solution to the horizon and flatness problems,*" in *Physical Review D*, 23. (1981), p. 348.
11. Paul Davies, *God and the New Physics*. New York: Simon & Schuster, 1983, p. 189.
12. Michael Denton, *Nature's Destiny*, The New York: The Free Press, 1998, p. 11.
13. George Greenstein, *The Symbiotic Universe*, New York: William Morrow, 1998, p. 21, emphasis added.
14. Paul Davies, *The Mind of God* (New York: Simon and Schuster, 1992), p. 199.
15. George Greenstein, *The Symbiotic Universe*, pp. 43-44.
16. Paul Davies, *The Final Three Minutes*, New York: BasicBooks, 1994, pp. 49-50 (Quoted from Hoyle).
17. Fred Hoyle, "*The Universe: Past and Present Reflections,*" *Engineering and Science*, November 1981, pp. 8-12.
18. Fred Hoyle, *Religion and the Scientists*, London: SCM, 1959; M. A. Corey, *The Natural History of Creation*, Maryland: University Press of America, 1995, p. 341, emphasis added.
19. Michael Denton, *Nature's Destiny*, pp. 12-13.
20. Paul Davies, *The Accidental Universe*, Cambridge: Cambridge University Press, 1982, Foreword, emphasis added.
21. Hugh Ross, *The Creator and the Cosmos: How Greatest Scientific Discoveries of the Century Reveal God*, Colorado: NavPress, revised edition, 1995, pp. 122-23, emphasis added.
22. Robert Jastrow, *God and the Astronomers*, New York, W.W. Norton, 1984, pp. 21, 22, emphasize in original.
23. George Greenstein, *The Symbiotic Universe*, pp. 64-65, emphasis added.
24. Roger Penrose, *The Emperor's New Mind*, Penguin Books, 1989; Michael Denton, *Nature's Destiny*, The New York: The Free Press, 1998, p. 9.
25. *Ibid.*, p. 9.
26. Michael Denton, *Nature's Destiny*, p. 262.
27. Y.N. Mishurov and L.A. Zenina, 1999. *Yes, The Sun is Located Near the Corotation Circle.* *Astronomy & Astrophysica* 341, pp. 81-85.
28. Peter D. Ward and Donald Brownlee, "*Rare Earth: Why Complex Life is Uncommon in the Universe*", www.godand-science.org/apologetics/designss.html
29. G. W. Wetherill, "*How Special is Jupiter?*," *Nature*, vol. 373, 1995, p. 470.
30. Innanen, Kimmo, S. Mikkola, and P. Wiegert, 1998, "*The earth-moon system and the dynamical stability of the inner solar system.*" *The Astronomical Journal* 116:

2055-2057.

31. Hugh Ross, *The Fingerprint of God: Recent Scientific Discoveries Reveal the Unmistakable Identity of the Creator*, Oranga, California, Promise Publishing, 1991, pp. 129-132.

32. F. Press, R. Siever, *Earth*, New York: W. H. Freeman, 1986, p. 4.

33. *Ibid.*, p. 4.

34. Michael Denton, *Nature's Destiny*, p 106

35. *Ibid.*, p.121.

36. James J. Lovelock, *Gaia*, Oxford: Oxford University Press, 1987, p.71.

37. Michael Denton, *Nature's Destiny*, p. 127.

38. *Ibid.*, p. 128.

39. *Ibid.*, p. 51, emphasis added.

40. Ian M. Campbell, *Energy and the Atmosphere*, London: Wiley, 1977, pp. 1-2, emphasis added.

41. George Greenstein, *The Symbiotic Universe*, p. 96, emphasis added.

42. *Ibid.*, pp. 96-97.

43. Michael Denton, *Nature's Destiny*, pp. 62, 69, emphasis added.

44. *Ibid.*, p. 55.

45. *Encyclopaedia Britannica*, 1994, 15th ed., volume 18, p. 203.

46. Lawrence Henderson, *The Fitness of the Environment*, Boston: Beacon Press, 1958, p. 105.

47. Michael Denton, *Nature's Destiny*, p. 32.

48. Harold J. Morowitz, *Cosmic Joy and Local Pain*, New York: Scribner, 1987, pp. 152-153.

49. Michael Denton, *Nature's Destiny*, p. 33.

50. *Ibid.*, p. 35.

51. *Ibid.*, pp. 35-36.

52. *Ibid.*, pp. 115-116.

53. Irwin Fridovich, "Oxygen Radicals, Hydrogen Peroxide, and Oxygen Toxicity," *Free Radicals in Biology*, (ed. W. A. Pryor), New York: Academic Press, 1976, pp. 239-240.

54. Fred Hoyle, *Chandra Wickramasinghe, Evolution from Space*, New York, Simon & Schuster, 1984, p. 148.

55. W.R. Bird, *The Origin of Species Revisited*, Nashville, Thomas Nelson Co., 1991, p. 305.

56. Ali Demirsoy, *Kalitım ve Evrim (Inheritance and Evolution)*, Ankara: Meteksan Publications, 1984, p. 61.

57. *Fabbri Britannica Bilim Ansiklopedisi (Fabbri Britannica Science Encyclopaedia)*, vol. 2, no. 22, p. 519.

58. David Raup, "Conflicts Between Darwin and Paleontology," *Bulletin, Field Museum of Natural History*, vol. 50, January 1979, p. 24.

59. Richard Monastersky, "Mysteries of the Orient," *Discover*, April 1993, p. 40.

60. Richard Dawkins, *The Blind Watchmaker*, W. W. Norton, London, 1986, p. 229.

61. Douglas J. Futuyma, *Science on Trial*, New York, Pantheon Books, 1983, p. 197.

62. Frank B. Salisbury, "Doubts About the Modern Synthetic Theory of Evolution," *American Biology Teacher*, September 1971, p. 336.

63. Paul Auger, *De La Physique Theorique a la Biologie*, 1970, p. 118.

64. Leslie E. Orgel, "The Origin of Life on Earth," *Scientific American*, vol. 271, October 1994, p. 78.

65. John Horgan, "In the Beginning," *Scientific American*, vol. 264, February 1991, p. 119.

66. Douglas R. Hofstadter, *Gödel, Escher, Bach: An Eternal Golden Braid*, Vintage Books, New York, 1980, p. 548

67. Hoimar von Ditfurth, *Im Anfang War Der Wasserstoff (In the Beginning was Hydrogen)*, p. 126

68. Michael Denton, *Nature's Destiny*, p. 228.

69. Sidney Fox, *Klaus Dose, Molecular Evolution and The Origin of Life*, W.H. Freeman and Company, San Francisco, 1972, p. 4.

70. Alexander I. Oparin, *Origin of Life*, Dover Publications, NewYork, 1936, 1953 (reprint), p. 196.

71. "New Evidence on Evolution of Early

Atmosphere and Life", *Bulletin of the American Meteorological Society*, vol 63, November 1982, p. 1328-1330.

72. Stanley Miller, *Molecular Evolution of Life: Current Status of the Prebiotic Synthesis of Small Molecules*, 1986, p. 7.

73. Jeffrey Bada, *Earth*, February 1998, p. 40.

74. Leslie E. Orgel, "The Origin of Life on Earth", *Scientific American*, vol. 271, October 1994, p. 78.

75. Charles Darwin, *The Origin of Species by Means of Natural Selection*, The Modern Library, New York, p. 127.

76. Charles Darwin, *The Origin of Species: A Facsimile of the First Edition*, Harvard University Press, 1964, p. 184.

77. B. G. Ranganathan, *Origins?*, Pennsylvania: The Banner Of Truth Trust, 1988, p. 7.

78. Charles Darwin, *The Origin of Species: A Facsimile of the First Edition*, Harvard University Press, 1964, p. 179.

79. Derek A. Ager, "The Nature of the Fossil Record", *Proceedings of the British Geological Association*, vol 87, 1976, p. 133.

80. Douglas J. Futuyma, *Science on Trial*, Pantheon Books, New York, 1983. p. 197.

81. Solly Zuckerman, *Beyond The Ivory Tower*, Toplinger Publications, New York,

1970, pp. 75-14; Charles E. Oxnard, "The Place of Australopithecines in Human Evolution: Grounds for Doubt", *Nature*, vol 258, p. 389.

82. "Could science be brought to an end by scientists' belief that they have final answers or by society's reluctance to pay the bills?" *Scientific American*, December 1992, p. 20.

83. Alan Walker, *Science*, vol. 207, 7 March 1980, p. 1103; A. J. Kelso, *Physical Antropology*, 1st ed., J. B. Lipincott Co., New York, 1970, p. 221; M. D. Leakey, *Olduvai Gorge*, vol. 3, Cambridge University Press, Cambridge, 1971, p. 272.

84. Jeffrey Kluger, "Not So Extinct After All: The Primitive Homo Erectus May Have Survived Long Enough To Coexist With Modern Humans", *Time*, 23 December 1996.

85. S. J. Gould, *Natural History*, vol. 85, 1976, p. 30.

86. Solly Zuckerman, *Beyond The Ivory Tower*, p. 19.

87. Richard Lewontin, "The Demon-Haunted World," *The New York Review of Books*, January 9, 1997, p. 28.

87. Malcolm Muggeridge, *The End of Christendom*, Grand Rapids: Eerdmans, 1980, p. 43.