



# Al-Risala 1990

June

## An Honourable Solution

Job is one of those Prophets who find mention in the Qur'an. He was sent to the Israelites around the 8th century B.C. and according to Israeli tradition, lived in the ancient city of Uz in the southern part of Palestine.

Besides the various references to him in the Qur'an (4:163, 6:84, 21:83, 38:41), we find a whole book in the Bible entitled 'Job'. Further details about him are available in books on exegesis (commentaries on the Qur'an).

As we gather from different sources, he was very rich and in the best of health. But then his fortunes changed. He lost all his wealth and his body became diseased, all covered in festering sores. It was only natural that having become reduced to such a terrible condition, there would be times when his fury boiled over. It was at such a moment that he swore to his wife that when he recovered, he would whip her a hundred times. He hurled these words at her swearing by God.

Later, God's mercy descended on him once again and he was completely relieved of all his afflictions. His health came back to normal and he became even wealthier than before. But now he was faced with a terrible dilemma. He had sworn to God that he would whip his wife one hundred times. He knew full well that he had been in a state of acute depression when he had uttered these words and that his wife had committed no such offence as to merit such a harsh punishment. But, if he failed to whip her, he would be violating a sacred oath.

According to the Qur'an, at this crucial moment, God bade him take a one hundred twigs and, binding them into a bench, strike her with them just once. In this way, his oath was kept with just one light blow. His conscience was thus set at rest by the Almighty.

An important principle may be derived from this incident, that is, that on particular occasions, in special sets of circumstances, certain actions may be performed symbolically rather than in their real form. It can happen that personal or communal reasons render an act improper or unnecessary. Even then, it may not always be possible to avoid it altogether. This is when the *Shari'ah* advises carrying it out in a purely symbolic fashion.

I found an interesting application of this principle during my stay in Yemen in 1989. Since ancient times it has been the custom for all men in Yemen to wear a sword. Over the centuries this wearing of the sword did not just remain a simple custom, but became a symbol of manliness. Anyone who did not wield a sword was regarded as being inferior. This practice was actually a legacy from the tribal age, for in those days, defence was a personal prerogative. Everyone was personally responsible for his own defence. But now in this present age of organized states, defence has become the duty of the state. That

is why every country finds it necessary to have an elaborate system of policing. Thus a change in the times has rendered the carrying of a sword a quite unnecessary practice.

On this account the younger generations of Yemen started voicing the opinion that the practice of wearing swords must come to an end. The tradition of centuries, however, stood in the way of its being abandoned altogether. But a *via media* was eventually found. Instead of a real sword, a symbolic sword would be used.

The majority of modern Yemen now adopt this practice, having discarded the full-sized swords in favour of small, blunt swords, called *al-jambia*, which they always keep sheathed. In this way, their reputation for manliness remains undiminished and, even more important, there has been no break with tradition.

I was reminded of this by a news item in the papers of April 5, 1990 which carried a prominent picture of two men wielding large swords. These were the Sikh MPs, Mr. Simranjeet Singh Mann and Mr. Dhan Singh Mann who have been elected to the Lok Sabha on the Akali Dal ticket from Punjab.

According to the report both these MPs were barred from entering Parliament House on April 4 because of their insistence on carrying their full-length swords with them to take the oath. On the instructions of Mr. Rabi Ray, the watch and ward staff told them that they could enter only if they deposited their swords at the gate. At this point they staged an impromptu 15 minute dharna outside the main portico against the orders of the speaker. The picture was taken at the time of the dharna.

The Sikhs consider that as a matter of religion they must always have their swords (kirpan) by them. The sword is the emblem of their religion. To give up a practice sanctified over the centuries is, to them, like forsaking religion itself. This being so, it is almost impossible to persuade them to stop wearing swords.

In ancient times, this practice had its value, but now it has become unnecessary. Besides, it is against the spirit of the times. But Sikhs go on facing this problem again and again in various forms. Such traditionalists are looked upon by many as misfits in the world of today.

One practicable solution to this problem lies in adopting the principle mentioned above, that they start using a symbolic sword instead of a real sword.

The Christians have already adopted this principle. According to their beliefs, Jesus was crucified on the cross. The cross, therefore, is held sacred and it is their religious emblem.

The cross is used by Christians in several ways, one being that, they wear it on their body. Wearing a full-size cross would have been indeed very awkward. So they opted for using the cross as a symbol. A miniature version of the cross is kept on their person, usually being worn around the neck.

I would sincerely advice my Sikh brothers to give serious thought to this matter, rather than protest against it. They would do well-to adopt the above-mentioned principle, for in discarding their full-length swords in favour of small, symbolic swords, they would spare themselves the ignominy of being branded fanatics, and would bring themselves truly into line with the spirit of the times.

4 June 1990

### The hypocrisy of climbing on bandwagon.

When the Prophet emigrated from Mecca to Medina, 'Abdullah Ibn Ubayy and his associates did all they could to make life difficult for the Prophet, and obstruct him in his mission. With the Battle of Badr, when great leaders of the Quraish were slain, 'Abdullah Ibn Ubayy's group realized that there was no stopping the progress of Islam. Outwardly, they accepted Islam. But since they were not sincere in their conversion, they soon took to plotting against the faith.

4 June 1990

## Giving the Credit to God

Ms. Bharati Mukherji, an Indian now settled in the USA since 1961, has authored a book called, *The Middleman and Other Stories* which has been awarded a prize for the best fiction of 1988 by the National Book Critics Circle of New York.

On receiving this information, the *Times of India* (January 13) contacted Ms. Mukherji on the telephone in Manhattan and asked her how she had reacted to the news of this award. Ms. Bharati replied that she was thrilled about it.

There are endless multitudes of people in this world who are thrilled at the news of recognition and reward. But is there a single soul anywhere who is thrilled that God, our true Benefactor, has endowed us with minds and bodies and given us the right set of circumstances to win our laurels? Possibly not. But it is true, nevertheless, that without these gifts from the Almighty, we should never win through to ultimate success.

It is the mind, with its extraordinary capabilities, a healthy body, plus all the other factors which go towards building up a favourable set of circumstances, which enable human beings to think, plan, act and to bring their aspirations to fruition. All this is undoubtedly the gift of our Maker. The truth is that in this world every feat is a feat accomplished by God. Man on his own can do nothing. The credit for success must, therefore, go to God. If human beings could only realize this, they would prostrate themselves before God at every single one of their success. It is the foolish man who regards his success as his own single-handed, unaided achievement. What should fill him with gratitude to God becomes a mere source of worldly pride.

5 June 1990

**A good society is one In which one can, freely criticize and rebuke others.**

It happened once that a certain group of people had a grudge against Abdul Aziz ibn Abu Bakra. On one occasion they even went to the extent of knocking him down. His son ran to his assistance, but his father told him not to make a move. "Really," he said, "if anyone has to die, I would prefer it to be myself." His son asked him why. "I am afraid," Ibn Abu Bakra answered, "that I should be alive at a time when I will not be able to call for righteousness and forbid evil, for then there will be no good in the world."

## What is Freedom?

*How many people who think they are free will be turned into slaves in the next world, and how many enslaved people will find themselves set free in the life to come ....*

Dr. Martin Luther King, Jr., born in Atlanta on January 15, 1929 was a leader of the blacks in America, where the Negro population has crossed the 22 million mark. Since the blacks have never been considered equal to white men, Martin Luther King pledged himself to securing equal rights for his community. But he did not choose the path of violence. Instead, he opted for non-violent resistance. With his extraordinary oratorical skills, he very soon became popular. He used to say in his speeches, "We are engaged in a creative battle to end the long night of racial injustice."

Martin Luther King won recognition so widely in his own lifetime that he was awarded the Nobel peace prize in 1964. There was a group of white racists, however, who abhorred his activities, and one of their member, a certain James Earl Ray shot him dead on April 4, 1968. A case was filed against Ray, and an American court sentenced him to 99 years imprisonment. The inscription on the grave of Martin Luther King read, 'Free at last'.

To Martin Luther King and his people, freedom meant freedom from the domination of the whites. When death liberated their leader from such domination, they declared him to be free. But this speaks only of their unawareness. Man's freedom, in the real sense of the word, is being set free from the eternal hellfire of the next world. For this to take place, he must be made deserving of eternal paradise.

How many people who think they are free will be turned into slaves in the next world, and how many enslaved people will find themselves set free in the life to come .... But most people are unaware of this greatest of realities.

7 June 1990

## To the Students

On the occasion of addressing the students of an Arabic school, I narrated a tradition which has been recorded in the *Sahih* of Ibn Hibban on the authority of Abu Dhar, a companion of the Prophet. According to this tradition, one of the qualities of a wise Muslim is awareness of contemporary realities.

This is a very important observation. It implies that it is not just religious learning that we must seek, but also a thorough knowledge of the times we live in. It is only then that we can truly serve the cause of religion.

Having an awareness of the general situation does not mean just having a knowledge of all the oppression of and plots against Muslims. This, as I see it, is superficiality rather than true knowledge. This is to skim over the surface without ever plunging below to discover the reality. True knowledge is acquired by making in-depth studies and not just on the basis of judging by appearances.

We may know for certain that other countries are engaged in plotting and oppression, but the essential thing to be learnt is what factors have enabled these communities to do so with such success, for they are able to plan their attacks on Islam and to carry them out, without our religious and secular leaders ever being able to foil them.

The real shortcoming of Muslims at the present time is their failure to come to grips with current affairs. They are fully conversant with the past, while remaining in ignorance of the present. What is happening is totally beyond them. Even if some of our leaders appear knowledgeable, their grasp is only of surface values, never of underlying causes.

The students of our religious school should not expend all their energies in money-making pursuits. If they want their abilities to be put to the best use, they should serve Islam and work towards the resurgence of the Islamic community. To this end, it is incumbent upon them to have a thorough-going knowledge of the modern age and to be fully aware of the modern developments which have rendered our traditional methods obsolete and ineffective from any practical point of view.



## God's Succour

Much has been written by historians to explain the extraordinary Arab conquests during the life of the Prophet and later in the early period of Islam. The *Encyclopaedia Britannica* says: "At Least three aspects of the contemporary situation of Byzantium and Persia account for the phenomenal ease with which the Arab overcame their enemies: first, both empires, exhausted by wars had demobilized before 632 A.D. (Vol. III, p. 557). This is only partially true from the historical standpoint, for both of these superpowers still had considerable military forces with which to resist the Muslim onslaught.

It is with this first aspect that we are concerned, for this blood confrontation between these superpowers was surely direct succour from God in favour of Islam. In the present world, God's help comes to mankind in the veil of cause and effect. Therefore, so that these powers should not be in a position to pose a powerful threat to Islam, God weakened them before the Muslim attack.

Even today, God's succour can take material shape on this earth, provided the believers can, by their actions, make themselves deserving of it, just as the Muslims of the early period proved themselves deserving candidates for God's assistance.

Divine succour can take innumerable forms. But only God knows in which form and for whom he will send it. It is a certainty, however, that for those who are unswerving in their faith in God and who act as God commands, divine succour will descend in one or other of the myriad forms conceived of by the Almighty.

8 June 1990

**The greatest work is that which requires the greatest effort on one's own part**

The Prophet mentioned three of the most difficult actions; to be just with people in matters concerning oneself; to help one's brethren with one's wealth; and to remember God in all circumstances.

## A Time for Construction

The tree, by analogy, tells us that, in the beginning, all men need a period for construction. It tells us when to send down our roots; when in other words to consolidate the trunk; when to develop our personal strength.

The universe is a silent book of God, expressing divine truth in the form of allegory. If man could but hear the silent language of the universe, he would find in it a great storehouse of realization.

Look, for instance, at the tree. When it first sprouts from the ground, it is a delicate, fragile plant. Its trunk and branches are too weak to resist the storm. What does this young sapling do then? It becomes all softness. The gales come, but it shows no defiance. It simply sways in the direction the wind is blowing. It follows the advice of this hemistich of the well-known poet Hali, "*chalo tum udhar ko hawa ho jidhar ki.*" (Go with the wind, wherever it be from).

However, when we look at the same plant twenty years later, it presents a totally different picture. Now it stands firmly on its large, stout trunk. The word "bending" has been taken right out of its vocabulary. No longer influenced by the blasts of wind, it stands erect on its massive roots. Now it rises from the soil as a 'tree', whereas, beforehand, it was just a sapling.

Thus the tree, by analogy, tells us that, in the beginning, all men need a period for construction. It tells us when to send down our roots; when in other words to consolidate the trunk; when to develop our personal strength. During this initial period, we should not attempt to live as we would after consolidation has taken place, but should become the very embodiment of adjustment.

Anyone who fails to realize this in the initial stages, will forfeit this valuable period for construction; having failed to avail of this period, he will never reach the stage of the final build-up. Such a person will always be like a weak plant; he will never achieve the state of a strong, consolidated tree.

## Programme

Dr. M.C. Sharma (41) visited our Centre on July 19, 1989. Born in Churu (Rajasthan) he became associated with the RSS during his school day, and is still associated with this organization. At school he was one of its staunchest members. He even subscribed to the view that Mahatma Gandhi was responsible for all the misfortunes of India. His hero was Godse, the man who shot Gandhi dead in 1948.

He continued to hold these extremist ideas when Mrs. Indira Gandhi, former prime minister of India, imposed emergency rule in 1975. Many RSS workers were imprisoned, Dr. Sharma being one of them. He told us that he had nothing with which to engage himself during his imprisonment, so he began studying books on Mahatma Gandhi. Books by him and on him were easily available in the jail, so he did not find any difficulty in gaining access to them.

He confessed that these books made a deep and lasting impression upon him. When he came out of jail, he was a changed person. Now he believed that Gandhi was the greatest leader of this country. And that people like Savarkar (founder of the RSS) could not have been the leaders of modern India. It was people like Gandhi and Nehru who were needed to undertake this task.

After hearing this story from the lips of Dr. Sharma, the idea took shape in my mind that one of the important tasks to be undertaken in India was the establishment of a centre in a peaceful place, away from the hustle and bustle of city life. Here all sorts of facilities should be available according to modern standards for the understanding and study of Islam. The centre should also have arrangements for proper places to stay. Then educated non-Muslims should be invited there and asked to stay for a few days, or a few weeks, and efforts should be made to introduce Islam to them. If such a centre could come into being, the same benefits could be had on a vast scale as Dr. Sharma received as an individual during imprisonment.

Such a centre would be a means of bringing non-Muslims close to Islam. Such a venture could well open the doors in this country to the making of a new history of Islam.

## A Simple Solution

The following is an incident as retold in the Urdu Monthly, *Zikra*, in its issue of November, 1989.

A certain person was once touring a desert area in a tanga (horse-drawn carriage) when signs of a storm appeared on the horizon. The tanga-driver immediately halted his vehicle for as he explained to his passengers, the storms in that area could assume frightening proportions. "They are so strong that they can carry away anything, great or small, which comes in their path. All the signs tell us that it is just such a storm which is on its way, so you had best get down from the carriage and try to save yourself."

With the storm almost upon him, the passenger headed for a tree to take shelter behind its trunk. Seeing this, the driver called, out to him, "Never take shelter under a tree. It is very dangerous! The greatest of trees fall to the fury of the storm. There is only one way to save yourself. Lie face down on the ground." The passenger did as he was told, which was just as well, for when the gale came, its intensity was such that it carried trees and rooftops in its wake. The tanga-driver and his passenger, however, were unaffected by it as they lay motionless on the ground. When the gale had finally blown itself out, the two men stood up, quite unhurt. The passenger was very glad that he had taken the tanga driver's advice.

The intensity of the storm is always greater above ground level. The ground, therefore, never receives its full impact. But tall trees are hit by its full force that is why they are uprooted during storms. The grass, which hardly rises above the ground, is seldom affected, and is certainly never uprooted. Obviously, in a storm, the best thing to do is keep well down.

This is one of nature's lessons, which shows us the way to avoid the storms of life. The simplest way at such times is to keep a low profile. For example, when someone speaks in provocative terms, put your hands over your ears. When someone throws dirt on the wall of your house, wash it off with water. When someone indulges in slogan-shouting against you, engage yourself in praying for him.

## The Straight Path

### What is the straight path?

According to the Qur'an God has laid down a set path for the entire universe – even for so small a creature as the bee (16:68-69) – a path which every part of the universe must strictly follow: “Then turned He to the heaven when it was smoke, and said unto it and unto the earth: Come both of you, willingly or loth. They said: We come obedient” (41:11).

Just as it is imperative that all things of the universe move on the path appointed by God, so that they may be perfect in their functioning, so also must man – if he aspires to success – submissively follow the divinely appointed path (16:69). But, as man is “on trial” in this world, he has not just been told the path he must follow, but has also been given the license to hold to it, or to reject it as he sees fit, “Lo, we have shown him the way, whether he be grateful or disbelieving”(76:3). Even so, once God has shown man the straight path, he ought to follow it in the belief that it is the only way that leads to success: “How should we not put our trust in God when He hath shown us our ways? ... In God let the trusting put their trust,”(14:12). If man, influenced by some fleeting temptation, strays in some other direction, he will lose his foothold on God's path; and when he loses that, he will meet with nothing but failure in this life (6:154).

A man remains a human being in the eyes of God only so long as he remains on the straight path. One who deviates from it, descends to the level of an animal.

'Who is more rightly guided? He that goes grovelling on his face, or he that walks upright along a straight path?'

'Say: "It is He who has created you and given you ears and eyes and hearts. Yet you are seldom thankful" (67:22-23).

Thus we learn from the Qur'an that following the straight path means living the kind of life in which we make use of the powers of the intellect and the heart. Now, what is special about these powers? Their speciality lies in their expressing the superiority of man over other creatures; it is these powers which raise him from the level of mere existence to that of the moral human being. The animals, on the contrary – though they too are living beings – are only minimally possessed of the powers of feeling and reasoning with which man has been so plentifully endowed. Humans who misuse these God-given capabilities degrade themselves, willingly or unwillingly, to the level of animals. Such men have, therefore, been likened to dogs(7:176), asses(62:5) and cattle(25:44). The most degraded among them are referred to as monkeys, pigs(5:60) and even worse.

This is something which is quite easily understood, yet there are many who treat this subject as if it were beyond the powers of the human intellect. Such people in the eyes of God are blind and deaf.

According to the 95th verse of the Qur'an, man was created in the highest form, then cast down to the lowest. The former, the 'highest form', meant 'human', while the latter, the 'lowest form', meant 'animal'. That is to say that God created men with the *status* of human, but left them in the *animal state*. This is the trial that man must go through; he must raise himself from the lowly state of an animal to the heights of humanity.

"Had it been our will, we would have exalted him through (our signs); but he clung to this earthly life and succumbed to his fancies."

Such verses as apply the terms blindness, deafness and sottishness to men, do not use them in the literal, biological sense. Nor were those so described lying in some abysmal state of drunkenness. The adjectives 'blind', 'deaf' and 'sottish' were actually applied to men of great learning and wisdom, who were, in fact, great leaders of their times. To their credit, they built great houses and forts and were experts in business, agriculture and the cultivation of orchards. They were leaders not only of peoples but of whole countries. In connection with the above quoted verse, one heard the name of Arabia's Umayya ibn abi al-Salt, who was famous not only for his leadership and generosity, but also for his poetry and wisdom. Similarly, a man of the later days of Moses, Balaam, son of Beor, is described in such terms, although he was one of the most distinguished men of Iraq in learning and piety. According to Ubadah ibn al-Samit, this verse was also applied to the leaders of the Quraysh who were in effect, leaders of the whole of Arabia, being custodians of the Kabah.

That being so, why were they called 'blind' and 'deaf'? To understand this, one should study the difference between man and animal. Apparently, an animal has all that a man has and can do all that a man does. He moves about, eats and drinks, sees and hears, and feels pain or happiness. Wherein lies the difference? Biologists tell us that what differentiates man from the animals is his capacity for conceptual thought. That is to say that he is able to think about something, which is not necessarily present in material terms, and then believe in it. Animals do not possess this capability. This explains the difference between the human and the animal state. In the latter state, one is unmoved except by material reality, material utility and the avoidance of harm; in the human state, fact and states of affairs become of importance once the mind has grasped their truth. Thus, what distinguishes humans from animals is the capacity of the former for ratiocination and their ability to plan their lives on the basis of mental acceptance of truths. The Qur'an says: "This book is not to be doubted. It is a guide for the righteous who have faith in the unseen."(2:2)

That is, the Qur'an cannot be a guide for those who are never moved by anything other than material reality, material utility and the fear of harm. The Divine Book will guide only those who are ready to accept such truths as have no force of external reality to back them, their importance being wholly in the mind. In other words, the state of animality is characterised by *belief in the seen* while the state of humanity is characterised by *belief in the unseen*.

According to a tradition, the Prophet said of Abu Bakr's acceptance of Islam: "Whenever I invited someone to Islam, he would show some doubt or hesitation. The only one who did not do so was Abu Bakr, who accepted the faith without hesitation or second thoughts as soon as I talked to him of Islam, (*Al-Bidayah wa'l-Nihayah*).

In his evaluation of Islam purely on its merits, Abu Bakr attained to the highest point of humanity. There were some who accepted Islam because of the Prophet's charisma, or the miracles, or the ineffable style of the Qur'an, or the conquest of Mecca, or the material gains brought by Islam; but Abu Bakr had reached such heights of conceptual thought that he could accept or reject a thing purely for its beauty or its ugliness.

When, at the time of his death, Abu Bakr nominated Umar Faruq to the Caliphate, there was a general feeling of unrest. Talha ibn 'Ubaidullah came to him and said: "The people have sent me to you as their messenger. They say that you have seen all along how strict 'Umar has been with us. When you pass on your work to him, what then will become of us? And then, if God questions you about this choice, what answer will you give Him? But there were others who had attained to such a high state of humanity that they could see beyond appearances: they knew that 'Umar's strictness was not a personal failing but a matter of faith. They knew that his God-fearing heart was the greatest surety of his remaining *staunch on matters of faith*. 'Uthman ibn Affan pointed out that they should not look only at what was on the surface, but should also consider what lay beneath, for what was inside him far surpassed his exterior.

The man on the straight path develops the highest capacity for discernment. When the Quraysh heard the Prophet recite the Qur'an, they exclaimed: "This is the work of a poet!" They did not, of course, use the word poet in any derogatory sense; yet, even so, to God this conveyed only partial, not total faith (69:41). If they called it the work of a poet, it was merely to indicate their assessment of it as a literary achievement in which the teachings of the ancient Abrahamites were presented in a novel way. Interpreted as such, the Qur'an well deserves to be acknowledged as a literary masterpiece. The fact remains, however, that it ought rather to be regarded as the sole repository of Higher Truth and that it should be grasped in full faith.

Just one day before the entry into Mecca, when the Prophet asked Abu Sufyan to testify to the Islamic faith, the latter said, "By my parents, you are undoubtedly very forbearing, very tolerant, nobler and of higher derivation than others, yet I still have some qualms about your prophethood." Later, the Prophet's uncle Abbas apprised Abu Sufyan of the delicacy of the occasion, whereupon he recited the article of faith and became a Muslim. It had been easier for Abu Sufyan to acknowledge the Prophet's nobility and perseverance than to concede that he was a genuine Prophet; even after his conversion, he had the psychological satisfaction that the difference between him and the Prophet was one of personal worth, and not that his ideas had been incorrect vis a vis the Prophet's. No doubt the acceptance of moral worth is for easier than the recognition of another's ideology.

(*Al-Islam*, pp.48-51)



## A Truth of Nature

C.P. Dole has rightly said: "Goodwill is the mightiest force in the universe." These words were not idly spoken, for they express a fact of nature. Suppose you speak harshly to a friend, dishonour him, ill-treat him. You will find that this causes him to forget all about his friendship with you. He will be overwhelmed with the urge to take his revenge on you. The friend who was showering you with flowers will now feel like throwing stones at you. However, if you speak sweetly to someone you consider an enemy, meet his needs, help him in time of trouble, give him a glass of cold water when he is thirsty, you will find that he has suddenly changed. One who appeared to be your sworn enemy has now become your friend and well-wisher.

By endowing man with the ability to be magnanimous, even to an enemy, God has given us a great gift. He has made it possible even for the empty-handed man to conquer others – by kindness. It takes bullets to kill lions and wolves, but all it takes to conquer man is the merest hint of good behaviour. Man is easily subjugated in this way. But fools make heavy weather of this simplest of tasks.

## Nature and Science Speak About God

### 2

**The Brain** is the central office which controls, directs and co-ordinates the varied activities of all the innumerable organs of the body. It receives messages from each of the senses, interprets them, sends the proper replies to the organs concerned so that the body reacts appropriately (jumps out of the way of approaching car, for instance), and registers all the information received in the archives of the memory. Think of a huge telephone exchange in continual contact with every man, woman and child on earth, sending and receiving messages to and from each one every few seconds – and you have a faint idea of the incredibly complex organization of the brain.

In the white and grey matter of the brain there are nearly a thousand million nerve cells, each of which is, by turns, an electric battery and a small telegraph transmitter. Each cell branches out into a number of fine conducting threads, the nerve fibres, which extend to all parts of the body. A large number of them run down the hollow back-bone, twisted together into a thick cable, the spinal cord, admirably protected by the bony and well-cushioned walls of the spine. Through these tiny threads, each of which is covered with an insulating sheath, a current flows at the speed of about 70 m.p.h., carrying messages to and from the brain, with marvellous speed and accuracy. There is an elaborate system of relays, condensers, switches, etc., which permits the transmission of the most unexpected messages between the brain and each of the millions of cells it controls, without the least confusion or delay.

The most complicated radio station, the most up-to-date telephone exchange is like a tin of sardines compared to the incredibly elaborate maze of the nerve system of the brain.

**The Ear:** Long before man discovered wireless, the ear knew all that was to be known about the reception of sound waves. The human ear consists of a funnel beautifully adapted to pick up sounds and equipped with fleshy folds which enable it to perceive the direction from which the sounds come. Inside the ear, fine hairs and a sticky wax prevent harmful insects, dust, etc. from getting in. Across the inner end of the funnel there is a tightly stretched membrane, the ear-drum, which vibrates like the skin of a tabla when sound waves strike it. The vibrations are passed on and amplified by three bones (called the hammer, the stirrup and the anvil) whose relative sizes are precisely adjusted to produce just the needed amplification. Indeed these bones never grow: they are of exactly the same size in the infant and in the adult.

The amplified vibrations are carried by the bones to another membrane just beyond which lies the wonderful organ of hearing, the inner ear. This is a small tube (the cochlea) coiled up like the shell of a snail, and filled with a liquid in which a harp of 6,000 strings ranging in length from 1/20th to 1/2 mm.,

hangs suspended. Each string vibrates to a particular frequency of sound so that the ear can hear all possible combinations of 6,000 different sounds. The vibration of the strings are transmitted to 18,000 nerve cells whose fibres communicate with the brain.

**The Eye** is the world's most efficient television station: it takes flawless pictures in colour and transmits them without the least blurring to the brain. It takes a photographer to appreciate fully the working of the eye. Like any camera it is a small dark box, with an aperture in front fitted with a transparent pane. In front of the pane there is a shutter of variable speed, (the iris) with an adjustable slit and automatic release. Behind, there is the crystalline lens whose curvature is continually adjusted by automatic muscles so that whatever is looked at is always sharply in focus. Six large powerful muscles control the movements of the eye and point it in any desired direction.

The delicate parts of this precision Instrument are kept clean by the eyelids which are window-wipers and use a cleaning fluid secreted by the gland at the corner of the eye and poured in through a siphon. A constant temperature is maintained, as in any laboratory with highly sensitive apparatus, by means of a heat regulating membrane, the choroid. The photographic plate of the eye is a small screen at the back, the retina, on to which the images of the things we see are focussed. The retina can take 10 different pictures each second or 800,000 pictures a day, wiping itself clean after each. It is so 'fast' that 30,000 separate points of light can be recorded by a single square millimeter (the size of a nail head) of its surface. All the pictures are in vivid colour, with sharp outlines, and delicate shading; they are, besides, movies and in 3-dimensions, thanks to the stereoscopic focus of the two eyes.

**The Heart** is a small organ, about the size of the fist, (4 inches long and 2 ½ inches broad), weighing not much more than eight ounces, yet this small pump can work prodigiously. It keeps on pumping day and night for a whole life-time without the least pause, rating some 100,000 strokes a day and sending about a gallon of blood circulating through the body once every 13 seconds. In a single day the heart pumps enough blood to fill a good-sized oil truck; in a single year it could fill in train of 65 large oil wagons.

The heart is specially built for the immense job it has to do. Its walls are made up of very tough muscular fibres, and it is surrounded by a double membrane (the pericardium) containing a fluid which lubricates its continual movement. The beat of the heart takes place in two steps as first the upper and then the lower half contracts. This enables each half of the heart to rest while the other is beating. Inside, the heart is divided into 4 chambers, two upper chambers called the auricles and two lower chambers called the ventricles. Blood always flows from the auricles to the ventricles, and this one way traffic is maintained by umbrella-shaped valves which guard the openings between the two sets of chambers.

**Digestion:** The digestive system can be looked upon as a factory where food is tasted by the tongue, then crushed by the teeth, moistened with saliva and finally, – after elaborate precautions to avoid shunting mistakes, – is pushed through the gullet into the stomach, a chemical plant where the most astonishing changes occur. Here millions of cells, too small to be seen, produce a dozen highly complex

chemicals which break up the food we have eaten, whether it be meat, spinach, or rice, or cheese, into simpler substances which can be absorbed by the cells of our body and built up into our flesh and bone. The chemical changes that take place are truly marvellous – well beyond the capacity of the best equipped of our laboratories. And there are five million of these little chemical units in the stomach, some forty million in the intestines, and more than three and a half billion in the liver. They produce, not only the chemicals needed to digest our food, where and when required, but also effective remedies against diseases like cholera and dysentery. At the same time the liver manufactures substances which help the body to burn some of the food we have eaten to provide the heat and energy every living being needs. The digestive system is not only a chemical factory, but a power house as well.

**The Lungs:** These are organs which bring the blood into contact with clean fresh air – for they knew, long before we ourselves were aware of the fact, that to purify the blood nothing is better than a good bath of oxygen.

At each breath, air is drawn into more than 1,500,000 little air-sacs in the lungs, which if spread out would cover an area of some 200 square yards – the size of a nice little vegetable plot. These little balloon-like sacs are made of a thin elastic tissue which allows air to pass through but prevents blood from oozing in.

The blood is carried to the lungs through 50,000,000,000 tiny hair thin tubes which form a close network all along the outside of the little balloons of the lungs. Each day they bring in some 10,000 litres of blood. Oxygen is sucked in by the red blood cells, while waste products of the body like carbon dioxide and water are given up by the blood, pass into the little air sacs, and are breathed out.

As long as a child is in the womb of its mother its lungs do not function, and the flow of blood is turned away from the lungs by means of a special little door in the heart. As soon as it is born, the baby, who is on the verge of suffocation, utters a loud cry. The cry produces a whole series of wonderful changes. The great bags of the lungs open and air rushes in to fill them. A great flow of blood is drawn into the lungs which like a violent draught of air slams shut the little door inside the heart which had hitherto turned the blood away.

**The Skin,** with its vast network of sensitive fibres spread over the body's surface is equally fascinating. The moment a hot object comes in contact with our skin, or even comes close to it, about thirty thousand hot cells feel it, and instantly report it to the brain. Similarly, there are two lakhs and fifty thousand "cold cells" within our skin which crowd the brain with messages as soon as contact is made with a cold object. The body then begins, to shiver and veins in the skin become dilated in order to make up for the loss of warmth in the body. When intense heat is "reported" to the brain, three million perspiratory glands are activated to release the cool fluid we recognise as perspiration. The nervous system is divided into different parts, one of them being the autonomic branch, which deals with reflex functions that are performed within our body, such as digestion, respiration, heart beats and so on. This autonomic branch is further subdivided into two systems: the sympathetic system, which causes activity

and the parasympathetic system, which serves as a brake. If our body were under the exclusive control of the sympathetic system, the heart would beat so rapidly that death would result. And if our body were left to the mercy of the parasympathetic system, the beating of our heart would be totally arrested. Both these systems function in perfect co-ordination with each other. Whenever our body is exposed to excessive stress and strain, causing a sudden need for extra strength to withstand it, the sympathetic system dominates, making the lungs function more rapidly, and pumping adrenalin into the system from which the body may derive extra energy. But while we are asleep, the parasympathetic system has the upper hand, anaesthetizing all our bodily activities.

Throughout the universe there are countless examples of such superb organization, far surpassing even the most advanced systems of man-made machines. The imitation of nature has latterly begun to be treated as a regular object of scientific enquiry. Until very recently the scope of science was confined to the discovery of unknown forces in nature, and their practical applications. But now the study of various organic systems of nature is receiving special attention in scientific spheres. This branch of science is called bionics. It seeks to understand how nature functions, transmitting nature's patterns into mechanical form, in order to solve the myriad problems which arise in the field of engineering.

Such imitations of natural systems in the field of technology is well illustrated by the camera, which is, in fact, a mechanical reproduction of the function of the eye. The lens, the diaphragm and the photosensitive film correspond respectively to the outer layer of the eyeball, the iris and the retina. No one in his right mind would claim that a camera had come into existence accidentally, but there are a good number of intellectuals in this world who believe that an eye came into existence by the merest chance.

At the Moscow University, a device has been developed for the detection and measurement of infra-sonic vibrations. It is five times more powerful than conventional apparatus, being able to detect and report the approach of a storm twelve to fifteen hours in advance. What was it which provided the pattern? Credit must go to the humble jellyfish whose organs are highly sensitive to infrasonic vibrations. Engineers simply imitated them. Similarly radar, a device of prime importance in defence technology, is a mechanical copy of the bat's use of sonic waves to compensate for its blindness.

These are but a few of the many examples. Physical science and technology have, in fact, received hints from nature on innumerable occasions for the development of novel concepts; so many problems that still remain an enigma to scientists have often been solved by nature long before. Yet, but for the human mind, the camera and the teleprinter system could not have come into existence. It is even more unthinkable that the formidably complicated system of the universe could have come into existence without there having been a creative intelligence behind it. There is something quite irrational in refusing to believe in an organizer of an organized universe. The human mind has, indeed, no rational grounds for denying the existence of God.

The universe is not just a heap of garbage. Quite the contrary. It is invested with a profound significance. This fact explicitly shows that some Mind is at work behind the creation and sustenance of the universe. It is impossible for anything to be as meaningful as the universe is without an intellectual planning behind it. A universe coming into existence by a blind, materialistic process could never evince such sequence, order and meaningfulness. The universe is such a wonderfully balanced organization that it is quite inconceivable that the order and balance could have come about accidentally. In his book *Man Does Not Stand Alone* A. Cressy Morrison points out that:

So many essential conditions are necessary for life to exist on our earth that it is mathematically impossible that all of them could exist in proper relationship by chance on anyone earth at one time. Therefore, there must be in nature some form of intelligent direction. If this be true, then there must be a purpose.

In support of this view, we reproduce below a paper on this subject written by Frank Allen, a prominent biophysicist whose specializations are colour vision, physiological optics, liquid oil production and glandular mutations.

It has often been made to appear that the material universe has not needed a Creator. It is undeniable, however, that the universe exists. Four solutions of its origin may be proposed: first, that it is an illusion – contrary to the preceding statement; second, that it spontaneously arose out of nothing; third, that it had no origin but has existed eternally; fourth, that it was created.

To be continued