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Orderliness And Coordination In The World

Look at a book; it consists of millions of letters and thousands of words, all of them in a proper arrangement. What is the relation between these letters and words? Are they placed haphazardly besides each other without any system? Or they are arranged in a systematic manner?

After you read the book, you conclude that all the letters, words, sentences and different sections of it are perfectly connected to each other and appropriately placed one after another in order to achieve a single aim. These letters and words are arranged in a particular way and each of them has a peculiarity. You will understand well that an aim was followed in arrangement and compilation of these letters and words.

You will also realize that the compiler of the book possessed intellect and understanding and was previously aware of his work and he arranged the letters and words with foresight and aim in this particular way; and that he is an expert of his field. In an organized collection, each of its parts is related to others and follows a single aim. Every part is having a particular position and function, that if it is placed in another place or does not perform its function, its job would remain incomplete and the intended aim would not be realized.

Can you have the feeling that it came into being on its own coincidentally without any aim? Can you imagine that an existing being without sense and perception – for example the wind – has pulled the pen across the paper and this book was produced through this process? You can never imagine that the book came into being automatically without an objective and cannot in any way presume that it came into existence through a thing lacking sense and perception and it coincidentally took the shape of this book. Because you know that every phenomenon has an appropriate cause and if someone was to make such a supposition, you would laugh at him and consider his statement senseless. Therefore the presence of the book and systematic arrangement of its words lead us to conclude the following:

Firstly, that the book is having a writer or a compiler.

Secondly, that the writer is wise, intelligent and expert in his field and that he followed a particular aim in

his work.

In the same way, every orderly and aimed mechanism leads you to conclude that it has a wise and an aware maker and as much complex that machine, as much would be the capability of its maker.

The great book of creation is also having letters, words and sentences; every existing thing and phenomenon are words and sentences of this great book. Occurrences and phenomenon of the world are not haphazard and random, on the contrary like letters and words of the book; they have order and coordination throughout. In this great book, you would see that in the structure of human body, which is a book of creation, there are hundreds of systematic and orderly mechanisms and in the structure of each of them you would see precision and accuracy. This system is made up of various organs that work in unison. They cooperate with each other and fulfill the needs of each other. Every system of the human body is like a huge workshop. And all these workshops are connected to each other. All the physical organs of man work in order and coordination, so that man can continue to live.

Human body also is unable to survive all by itself. On the contrary, it depends on various other existing things like water, air and different types of nourishments; trees, plants and animals; and also various natural minerals of the earth. He cannot live without them and he is also dependent on the heat and light of the sun, the orderly movement of the earth and the rotation of the days and night and the different seasons.

So much so, that you would say that all of them shape a single real entity in which perfection, organization and compatibility is maintained. Look at this great book of creation; that is this world, carefully and take note of its searching and beautiful words; you would definitely see coordination and system in them. What do you see? You would well understand that this great creation has not come into being by coincidence and without any objective. Senseless and imperceptive Nature could not have brought into existence such a precise system. It cannot write such a meaningful and aimed book.

By looking at the world and by understanding its connection and coordination, you would nicely be able to discover its actual cause. You would conclude the world is a creation of a wise and powerful being, who created it with a particular aim and who is also controlling it. You would see this system everywhere; every phenomenon you study, you will become aware of the knowledge and power of the God, creator of the world. And this way of looking and pondering is the best way to recognize God; and it is called as the evidence of order.

Numerous verses of Quran emphasize contemplation on the creation of the earth and the heavens, sun and stars, animals and plants, systematic appearance of day and night, physical development of man, differences of colors, faces and languages in order to discover the creator of the world.

Water Cycle

Distribution of water between existing things is very remarkable and amazing. The real sources of water are the seas, oceans and lakes. Water is distributed throughout the earth from these bountiful sources.

Water of oceans, seas and lakes, under the effect of the heat of sun, turns to vapor and rises to the sky. Vapors wander in sky with the movement of winds. When temperature and pressure reach a particular level, they appear in form of clouds and float to various parts of the earth by the movement of fast and slow winds, where they drop as rain, soaking up the earth and giving rise to vegetation and greenery. Rain water then seeps into the earth and is stored in it for needful times. The stored water sometimes erupts from the lap of mountains in form of springs or human beings make efforts to dig wells and gain from the life-giving sources of water in the earth.

Drops of rain, in special circumstances, fall to the ground slowly and beautifully in form of snow. Snow which is very beneficial for vegetation as it turns into water gradually and seeps into the earth and is stored underground or emerges as springs and rivers and becomes available for those who need it and in the end return to the seas.

The quality of the rising of vapor and its being transferred from one place to another by the help of wind itself deserves contemplation. If wind power had not been there, how the clouds would have been distributed in the atmosphere? How they would have traveled here and there? If the heat of the sun had not been there, would the water of the sea have turned into vapor? If the water had only turned into vapor at temperature of a hundred degrees, would it have been sufficient for existing beings? Would human life have been possible in those circumstances? If rain had not fallen down in drops, what difficulties it would have brought? For example, if rain fell from the sky in one place in form of a stream, what would happen? Would it have been able to seep into the earth in a gradual manner and be stored in it?

Quality of rain and snow in purifying the atmosphere is also remarkable and worth pondering. If rain and snow had not absorbed the toxins and dirt of the atmosphere, would you have been able to breathe?

Now you must have noted what valuable qualities are present in water, snow and rain. How the sea and sun, wind and cloud and rain etc. act in a precise coordinated way to provide means of life for us and other existing things.

What does this system and coordination prove? Is it not the best proof that intelligence and determination had a role in the creation of this magnificent world? Does this system and coordination not tell us that a wise and a powerful being has created this world? And that He created man and other existing things and all that they need?

Now, that we have mostly understood well the value, importance and qualities, we must see what the

Almighty Allah has fixed as our duty before these bounties. He has commanded us to enjoy the benefits of these bounties and be obedient and thankful to Him. That we drink it and give to others; that we may purify ourselves and our surroundings through it. We should take care that we must not waste it, that we should be thrifty in using water so that others may not have to face its shortage. We must not pollute rivers, streams, seas and sea shores. We should try to save underground water bodies and use this great divine bounty in a nice way, on which human, animal and plant life depends to populate the earth and to guarantee the needs of all.

The Almighty Allah says in the Holy Quran:

وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ

“...and We have made of water everything living.” (21:30)

And He says:

اللَّهُ الَّذِي يُرْسِلُ الرِّيَّاحَ فَتُثِيرُ سَحَابًا فَيَبْسُطُهُ فِي السَّمَاءِ كَيْفَ يَشَاءُ وَيَجْعَلُهُ كِسْفًا فَتَرَى الْوَدْقَ يَخْرُجُ مِنْ خِلَالِهِ فَإِذَا أَصَابَ بِهِ مَنْ يَشَاءُ مِنْ عِبَادِهِ إِذَا هُمْ يَسْتَبْشِرُونَ

“Allah is He Who sends forth the winds so they raise a cloud, then He spreads it forth in the sky as He pleases, and He breaks it up so that you see the rain coming forth from inside it; then when He causes it to fall upon whom He pleases of His servants, lo! they are joyful.” (30:48)

And He says:

هُوَ الَّذِي أَنْزَلَ مِنَ السَّمَاءِ مَاءً لَكُمْ مِنْهُ شَرَابٌ وَمِنْهُ شَجَرٌ فِيهِ تُسِيمُونَ / يُنْبِتُ لَكُمْ بِهِ الزَّرْعَ وَالزَّيْتُونَ وَالنَّخِيلَ وَالْأَعْنَابَ وَمِنْ كُلِّ الثَّمَرَاتِ إِنَّ فِي ذَلِكَ لَآيَةً لِقَوْمٍ يَتَفَكَّرُونَ

“He it is Who sends down water from the cloud for you; it gives drink, and by it (grow) the trees upon which you pasture. He causes to grow for you thereby herbage, and the olives, and the palm trees, and the grapes, and of all the fruits; most surely there is a sign in this for a people who reflect.” (16: 10–11)

Green Leaves

All of us require food and we cannot survive or work without nourishment. Trees and plants prepare food for us. The green leaves of plants are small food-making workshops; they work and produce food for us.

Plants and trees obtain water and minerals from soil through roots and transport them to the leaves

through stems.

Carbon dioxide also, which is present in the atmosphere enter the leaves through numerous tiny pores and light and solar energy also heats up the leaves.

At that time, the workshop of green leaves starts working and prepares food with the help of the sun.

Plants produce more food than what is required for their own use; they use some of it and the rest is stored for us.

Sheep and cows also require food and they graze on green grass and feed on grains and produce for us milk, cheese and meat. Fowls also feed on grain and produce eggs and chicken for us.

All animals and beasts are in need of plants and the food of all of them is prepared through green plants. No human being or animal can produce their food without the help of plants. All are in need of plants.

Human beings are in need of plants and animals, and animals require plants and plants require water, soil, carbon dioxide and sunlight to prepare the food.

Now let us see who has created the sun, so that it may shine on the earth and distribute light and energy for the plants to produce food for us. Who has created these systematic and coordinated trees and plants and given to the green leaves the power of producing food?

That wise and powerful being is God, who is all knowing and all powerful.

That wise and powerful creator loves us so much that through foresight He has created everything that we might ever need. We also love Him; we thank Him for His bounties, accept His guidance and follow them – who can guide our life better than Almighty God?

Digestive System

We require food for health, survival, movement and work. Materials required by our body are present in the foods that we eat. But most of them are not absorbed into our body in their original form; on the contrary they have to be digested. Digestion is the process of breaking up the food that we eat into a form that can be absorbed into our body to produce nourishment.

And this important function is performed through the digestive system. Digestive system consists of a tube which begins from the mouth and ends at the last outlet (anus). Passing through this small workshop, food undergoes hundreds of thousands processes and fine and amazing reactions and becomes digested and absorbable. So many elaborate processes take place, which can hardly be described over here. Some of them are mentioned by way of examples.

We shall divide the digestive tract into parts and explain the function of each part in brief.

Mouth: Some organs are present in the mouth which are effective in digestion: lips, tongue, teeth (in particular way), jaws and three pairs of salivary glands.

When the morsel enters the mouth, the lips close the entrance so that the food may not fall out. The tongue rotates in the mouth and places the morsel under the teeth. The lower jaw moves up and down so that the morsel may be chewed and become soft. All this time, the salivary glands secrete liquids and enzymes on the surface of the morsel so that it may help in digestion. Secretion of salivary glands continues at other times also and keeps the tongue and lips moist to facilitate speaking and breathing and also to help in the sense of taste.

Throat and the process of swallowing: Three passages are present in the gullet, the nasal tube, respiratory tube and the food tract, which is connected to the stomach. Food must not enter the air tube or it would disrupt breathing and we would choke. When the morsel in the mouth is ready to be swallowed, the tongue gathers it and sends it to the throat. At that same time the uvula is raised and closes the nasal tube. The air tube is also closed by the epiglottis. The only thing open at that moment is the food tube and the morsel enters it and by the worm like movements is propelled to the stomach.

Circular muscles in the last part Esophagus (cardia) is normally contracted and it prevents the stomach juices from entering the esophagus, but on receiving worm-like motions to this end, the contraction of muscles goes away and the entry of food to the stomach is facilitated.

Stomach: The food matter remains in the stomach for a period of time. Different types of foods stay in the stomach for different lengths of time. After the food enters the stomach, weak contractions appear in its muscles. They become stronger and more frequent gradually. These contractions in the form of worm-like waves begin from below (cardia) and throughout the length of the stomach travel to the pyloric sphincter, and as they reach the pyloric sphincter they become stronger and causing the softening of food matter and its mixing with the gastric juices.

There are numerous glands in the inner wall of the stomach that secrete enzymes and special liquids on the surface of the food; with this action starch is converted into glucose and protein is changed to amino acids. Also the food matter is converted into smaller particles fit to be absorbed by the different cells of the body. The food matter through these actions and reactions assumes the form of a paste, which is called as chyme and after that it gradually enters the duodenum.

Duodenum: The initial part of the small intestine is called duodenum. When the food enters the small intestine, it first passes through the duodenum and at this place through pancreas and gall bladder liquids are sprayed on its surface, which affect digestion of food in a systematic manner.

Small intestine: The food does not stay in the small duodenum; on the contrary it passes through it into the small intestine. Matter resultant from digestion of food through the small intestine is absorbed and enters the blood stream, so that with the circulation of blood it may come at the disposal of all the cells of the body. The inner surface of the small intestine has numerous folds through which the digested food is

absorbed into the blood stream and transferred to the liver.

Large intestine: The large intestine is the last part of the digestive tract. When food enters the large intestine no useful or absorbable matter remains in it. Things that remain behind in it are a quantity of water, salts and a little undigested food matter. The walls of the large intestine absorb the water and salts and in the end, half solid excrement including dead and alive bacteria and indigestible matter remains in the rectum till it is excreted through the anus.

Mechanism of Sight

Even now as you read this book you are concerned with eyes and are completely aware of their value and existence. But perhaps till now you have not rightly thought about the construction of this small but complex and delicate organ of sight. The eye is one of the most beautiful and amazing signs of Almighty Allah; such that by studying it and pondering on the process of its creation, it is possible to discover the existence of the wise and powerful God, who is the creator of the world; and to become cognizant of the unlimited aspects of knowledge and power. There are so many amazing aspects of the human eye that it is not possible to mention all of them in this book. But we shall indicate some of them here. First of all let us become aware of the structure of the eye ball and after that we can take up the discussion of knowing God.

Structure of the Eye

The eye ball is the real instrument of seeing, which works like a camera – on the contrary more complex than a camera. The eye ball is made up of three layers: sclera, choroids and retina.

1. What is the Sclera? It is a veil which is hard, firm, white and turbid and is approximately one millimeter thick. It covers the complete eye ball and protects it. Front of this sheet (sclera) is transparent in order to allow light to enter the eye. It is known as the cornea.

2. What is the Choroid? It is a thin and black curtain inside the sclera and which changes the interior of the eye into a dark chamber. Inside the choroid are a large number of blood veins which supply nutrition to eye structures and in fact choroids is also the food giving layer of the eye. The front portion of the choroid is in the form of a circular curtain fixed behind the cornea and which is known as iris.

There is an aperture in the center of iris, three to six millimeters in diameter and it is known as the pupil. The pupil automatically enlarges and contracts to regulate light entering the eye.

3. What is the retina? Retina is innermost sensitive layer of the eye. Images of bodies which come before the eye fall upon this curtain; the inner surface of the retina is the first colored layer. A jelly like substance called vitreous humor fills the space between lens and retina. The lens, iris and cornea are nourished by a clear fluid, aqueous humor, formed by the ciliary body and which fills the space between lens and cornea. Two types of receptors – rods and cones – are present. Rods are mainly found in the

peripheral retina and enable us to see in dim light and to detect peripheral motion.

They are primarily responsible for night vision and visual orientation. Cones are principally found in the central retina and provide detailed vision for such tasks as reading or distinguishing distant objects. They also are necessary for color detection. These photoreceptors convert light to electrochemical impulses that are transmitted via the nerves to the brain. Rods are approximately 120 million and cones are five million in number.

The fluid flows from ciliary body to the pupil and is absorbed through the channels in the angle of anterior chamber. The delicate balance of aqueous production and absorption controls pressure within the eye. Optical nerves connect the retina to the brain.

Yellow spot – at the rear of the eyeball there is a depression on the retina wall ellipse in shape and it is one millimeter in diameter and called as the Yellow spot. The Yellow spot is exactly in line of the pupil and it focuses the light that falls on it. Yellow spot is a part of retina and is its most sensitive portion and conical cells are compressed here in concentration and each of them is connected through a nerve to the center of sight in the brain. In order to see bodies clearly, our eyes automatically circle the surface of that body whose image falls on the Yellow spot.

Transparent Mantles of the Eyeball

Transparent mantles of the eyeball are parts which allow light to pass through them and which focus on the surface of retina. These transparent mantles are as follows: Cornea, Aqueous humor, lens and Vitreous body.

1. Cornea: It is the same frontal part of the sclerotic, which is foremost and transparent.
2. Aqueous humor: It is a transparent liquid, which fills up the space between cornea and lens.
3. Lens: It is a body, which is curved at both the ends and is present in the front portion of the eye and behind the iris. It is better that you know that the lens is suspended with the help of suspension ligaments and is joined to the choroid and conceals the surface of the lens with a delicate, transparent and adjustable veil called as crystalloid. The lens is composed of long cord-like cells and some of them even have nucleus. The lens cords are hard and concentrated and they form the nucleus of the lens.
4. Vitreous body: It is a transparent matter, which fills the inner space of the eyeball and is partly condensed in the form of a delicate curtain.

How do we see objects?

From the bodies that are placed before our eyes, rays of light are reflected to our eyes; these rays cross the cornea and enter the lens through the pupil. They pass the lens as well till they are reflected on the Yellow spot at the rear of the eyeball on the surface of retina. In this manner their image, which is

reflected and reduced in size falls on sensitive conical cells of the Yellow spot. These cells convey the image through optical nerves to the centre of sight in the brain. The soul or the self of man in this way is able to see objects through this process and reactions and it can become aware of the color, volume and distance of those objects.

Adjustment of image

You know that objects are clearly visible only if their image falls exactly on the Yellow spot, neither behind it nor in front of it. In ordinary circumstances the lens can throw a clear image of anything that is at a distance of six meters or more on the most sensitive part of the eye that is the Yellow spot. But the lesser the distance of the object to eye, the lesser would be its visibility as its image would fall much behind the Yellow spot and hence that object would not be seen clearly.

But according to the plan that is in force in the creation of the eye, this difficulty has been solved in a beautiful manner, in the way that curvature of the lens is changeable. A healthy and normal eye automatically adjusts the curvature of its lens according to the distance of the object whose image it wants to focus on retina. If the distance of the object is lesser than normal the curvature of also increases in accordance with it so that its image falls exactly on the Yellow spot. In such a way: that ciliary muscles exert pressure on the eye and this causes the suspensory ligaments to be elongated as a result of which the surrounding of the lens is stretched and in its middle it is having a hard nucleus, which does not allow the stretching beyond a certain point. In order to see the near objects, the thickness of the lens increases as a result of which the distance of its focus changes and in order to see objects at a distance its thickness decreases. This process is known as focusing. It is one of the most minute and swift action of the eye, which is performed during the seeing of objects. In every moment that we see around us and see the near and far scenes and things, our lens changes its thickness hundreds of times in succession and we see all the objects nicely and clearly. Have you so far paid attention to these minute actions of the eye?

We know that this small body is composed of hundreds of smaller organs and millions of different types of cells and each of them have a special function and they perform these functions. Apparently the eye is a small body, but in fact it is a great workshop, which accurately and regularly functions as a camera. It is a collection, which is compatible, aimed and connected and which follows a single aim and fulfills an important need of man; that is to see objects. Truly, if there had been no sight, how dark this world would have been for us?!

Now we pose the following questions to our intellect and listen to its replies: Did the three layers of the eye appear on their own or it is someone else who had created them with foresight?

Did the transparent covering of the eye become transparent by chance or it is someone else who made them transparent so that light may pass through it?

How did the eye come to have transparent aqueous humor and vitreous body? Who has constructed these two liquids with special viscosity and formula? Were the glands that secrete these liquids aware of the needs of the eye? Did the pupil come into being automatically or it was the man who knew that the eye needed an aperture so that light may pass through it, and so he created it in this way?

Has the pupil itself selected the required diameter through foresight or it is someone else who has designed and created it in this way? Does the pupil know that it needs to be opened and shut to regulate the passage of light through it? Or it is someone else who informed it of this need and who created it in this way? Did the Yellow spot come to be located in line with the pupil and focus of the lens so that image may form on it or it is someone else who has placed it there?

Did the most sensitive cells of retina come to be situated exactly at the Yellow spot in line with lens or it is someone else who has placed them in this way? Do the optical nerves connect to the cells of yellow spot by chance so that their messages may be transferred to the brain or it is someone else who has preplanned this? Do the optical nerves connect the eye to the brain in aimless way by chance or they have an aim and a creator with aim who has done this?

Who has created the optical lens with such precision and which expert physicist has planned it?

Is the eye also aware of the science of physics and the discussion of lenses? Is the lens aware of its sensitive position? Is the covering of the lens automatically adjustable? Has the eye itself made the act of focusing possible for the lens or it is someone else who has determined this? And whether...?

Lastly, has this systematic, compatible and aimed device come into existence through chance and coincidence or it is a wise and a powerful creator who has created it? The reply is clear to all those who have sense: Study of intricate and diminutive machinery of our eye guides to its wise and powerful creator and in this intricate machinery, we ourselves see the signs of His knowledge and unending power.

Secondary Organs Of The Machinery Of Sight

Here we shall learn about the first of the secondary organs of the machinery of sight – without which the process of seeing remains defective. We would become familiar with it and after that through posing of questions we will seek to know who their creator is.

As mentioned before the machinery of sight consists of two parts: 1. The eyeball, which performs the function of seeing 2. Secondary organs, which are responsible for protecting the eye and ensuring its movement and hygiene. These organs are as follows: Eye socket, eyelids, tear glands, muscles surrounding the eyes and nerves. We shall explain each of them briefly to know about their functions:

1. Eye socket: It is a bony hollow in the shape of a pyramid whose base is in the front and its tip is at the back. Eye socket is divided into two parts with a concave curtain: the front portion of which is the abode

of the eyeball and the rear portion contains the optical nerves, muscles surrounding the eyeball, sensitive nerves and nerves of movement and blood veins; and the space between them is filled with fat tissue.

2. Eyebrows: Which are situated at the frontal portion of the eye socket and they prevent sweat from entering the eyes.
3. Eyelids: They are shaped as parts of skin which are stretched over the eyeball. Every eyelid has skin in its front surface portion and in its rear portion, muscles and tissues are attached to it. The inner surface of the eyelid is covered with a transparent tissue named conjunctiva. Muscles of the eyelid are of two types: 1. Muscles, which contract opening the eyelids 2. Circular muscles, which are pulled over the eyeball.

The function of the eyelids is to protect the eyeball and to prevent entry of foreign objects into it, especially during sleep when there is no need of the function of the eye; it covers its whole surface and protects it from possible dangers. Moreover, in the inner edge of the eyelids, holes are arranged and these (25 or 26 holes) secrete a special type of fat to soften the eyeball. The upper eyelid through systematic and swift movement conveys tears to every part of the eyeball and keep it moist and also does not allow any dust or dirt to accumulate in it.

4. Eyelashes: Which are in the form of some short strands of hair which grow from the edge of the eyelids.
5. Tear glands: Glands situated in the external upper portion of every eye are named as tear glands. These glands produce tears, which are composed of water and a little quantity of salt. Tears secreted from these glands keep the surface around the eyelids covering the eye always moist, and they wash it; the remaining tears collect in the inner corner of the eye and from there are sent to the nose through the tear duct where they gradually evaporate moistening the air which is inhaled.
6. Muscles surrounding the eye: These muscles of the eyeball cause it to move in different directions as follows:
 - A) Directly outward, which takes the eyeball outward. B) Directly inward, which takes the eyeball inward and towards the nose. Contraction of directly outward muscles of each eye usually moves along with the muscles of the other eye as a result of which both eyes move to the right or the left in unison.
 - C) Directly upward muscles, which move the eyeball to the top. D) Directly downward muscles, which move the eyeball down etc.
7. Nerves: These include the optical nerves, which receive optical messages from retina and transfer it to the center of brain in form of electrical impulses and other nerves.

Now we pose the following questions to ourselves: Is the eye aware of its importance and intricacy of its

own existence that chose this solid eye socket as its abode? Or it was by chance that it came to occupy this safe place? Or it was someone else who provided this safe refuge to it as a result of foresight?

Did the eye itself brought into existence eyebrows above itself in order to prevent the entry of sweat? Or the eyebrow was aware of this need of the eye and it hastened to offer this help? Or it was someone else who created eyebrows above the eye?

Did the eyelids by chance become as such in order to protect and wash the eyes? Were the eyelids aware of the hygiene required by the eye that they rubbed fat over its surface and washed it through tears and continuous swift movement? Or it was a wise and a powerful creator who determined this?

Were the tear glands placed in the eye by chance? Who has devised the composition of this disinfectant liquid? Did the tear glands know that salty water is necessary to disinfect the surface of the eye? Is the hole in the corner of the eye – through which the excess tears are drained – come into existence by chance? Or it was the eye which procured this aperture? Was the eye aware of the need of the nose and the respiratory organs to moisten the inhaled air that it causes the excess tears to drain into the nose? Or it was a wise and a powerful creator who designed all this through foresight?

Do the holes that secrete fat in the eyelids come into being on their own? Or the eye, since it needed them, created them? Were the eyelids aware what help they are rendering to maintain the hygiene of the eye by secreting this fat?

Did the muscles of the eye and eyelids with those variations come into being of their own? Or did the eye bring them into existence? Or it was someone else who determined them on the basis of foresight?

Did the optical nerves with all their intricacy and specialty, connect the eye to the center of sight inside the brain automatically? Or it is a knowing being who has determined this connection?

In other words: Is such compatible and systematic collection, all parts of which are connected to each other and pursue and realize a single aim – that is to see – is it possible that it come into being on its own?

Yes, every intelligent person will reply that in such a compatible, interconnected and systematic collection – in whose make-up hundreds of laws and thousands of miniaturizations and amazements have come into action – it cannot be thought to have come into existence by chance or coincidence; it is the wise and a powerful creator who has brought them into existence.

This is the correct reply. When we look at the complex structure of the eyeball and when we study and contemplate on the connection of the eye to its secondary parts and the connection of all of them to the brain and the relationship of this collection with other parts of the body and the connection of the whole body to the outer world, we realize the whole world to be a single and great connection and witness that this great world is having a single, wise and powerful creator, who has created it and who also controls

it.

If we look closely and with insight; we would be able to see the signs of the power, knowledge and wisdom of the great creator of the world everywhere. We shall recognize Him and connect ourselves to him with sincerity. And we would humble ourselves in front of His power and greatness and we would thank for the innumerable bounties and blessings from the depths of our hearts. His pure love would permeate throughout our selves. We would realize that only He is worthy of worship and we would accept only His commands and we would submit only to Him.

Circulatory System

The circulatory system is an extremely remarkable and amazing system of the human body. Even as you read this book, your heart beats approximately seventy times every minute and with continuous and precise beats conveys nourishment and oxygen to all the cells of your body. Do you know what would happen if your heart stops beating only for a few minutes?

Study of our circulatory system (heart, veins, arteries and capillary hair...) guides us to the existence of a wise and a powerful creator.

Blood flows at the edge of and around all the cells of the body like a steam of water and it conveys nourishment and oxygen to them. Red globules float in the liquid of blood. In every cubic millimeter of blood, there are approximately five million red globules and in the body of every man there are around 25000 million red globules. These globules have a very intricate and remarkable function.

Their function is to convey oxygen to the cells and to recover carbon dioxide from them and in order to fulfill this life-giving function they to moving and circulating through the body nerves continuously. The length of this passage is great. An average red globule has the life-span of 120 days and new globules are being continuously manufactured by the blood making center of the body.

It would be better if we organize a scientific journey with a group of globules so that we may understand the various stages of this journey and we may be able to look closely at the intricate and amazing system of blood circulation. Definitely by seeing this systematic and amazing compatibility we would say: Great, wise and powerful is the creator, who has created such an elaborate system.

1. First stage

If you have a photo or a picture in your house; you should look at it, look at the left vertical of the heart. Our supposed journey begins at 9 am on Saturday in the company of a group of red globules, which are carrying oxygen with them. The contraction of the left ventricle creates a severe movement, which takes us to the outer stage. It is extremely amazing and interesting that we have reached into a wide and a branched canal, the aorta, which has many branches, distributes blood and conveys to every organ a fixed amount of blood.

2. Passage

Through continuous and repeated beatings, which reach us from the rear we are in such motion; and we ask the globules with whom we are traveling: What is our route and where are we headed? They reply: We are moving to the brain. Continuous contractions of the heart create new beats and send us forward; the passage gradually becomes narrow and narrower, so narrow that if it is almost a hundredth of a human hair; these are known as capillaries and they are extremely thin and have many loops.

3. Stage of narrow passages

We ask our co-traveler globules: Shall we rest for a while enroute? They reply: No, but at the edge of these cells we would reduce our speed and give them the oxygen that we are carrying and take carbon dioxide from them, which is the byproduct of the heating of the cells and take it back with us. Here we saw that the oxygen that the globules carry is given to the cells and the cells take up the freshly inhaled oxygen and give back carbon dioxide to the globules.

Moreover, we also saw that the cells secrete their excess matter into the blood stream so that the blood may take it away from there to be disposed at another place.

4. Return journey

The color and form of the red globules have changed and it is no more having that same joy and happiness and passing through other narrow and interlaced passages with which they are well acquainted; they are on the return journey. Where are they returning? To the heart on the return route they are being beaten continuously from the rear through the contractions of the heart and we are being pushed ahead as if something is pulling us ahead. Gradually the way widens and we pass through the aorta and reach a dark passage and ask what its name is. It replies: Artery (as impure blood passes through it) and finally we reach the end of our journey into the heart.

5. Entering the right atrium

Now that we have reached the heart, has our journey come to an end? No...on the contrary we rest only for a short while and the valve below us opens and all of us enter the right ventricle. It is explained that this ventricle is having three parts and its function is extremely sensitive. It operates only on one side and it opens only from the atrium into the ventricle and it does not open from the ventricle into the atrium. On the contrary it closes completely and without leaving any hole or gap for the blood to flow into the ventricle.

6. Severe beating

At the stage of the three-lobed ventricle, we feel that we have been given a hard push and thrown out of the right ventricle. Where are we going? To the lungs. What for? To obtain oxygen. Through some

continuous beatings, we reach to the alveoli. Globules are present at the edge of free air, which enters the lungs from outside. In the lungs, oxygen is picked up and carbon dioxide eliminated, and the oxygenated blood returns to the heart via the pulmonary veins, thus completing the circuit.

7. Entering the left atrium

After the globules take up oxygen they enter the atrium happily and the valve (mitral valve) opens downwards and goes into its first stage in the left ventricle as before. We immediately bids farewell to it before a powerful contraction could send us back to that same channel and thus we separate from our friends.

In this supposed journey we come to know about two types of blood circulations: General circulation and pulmonary circulation. General blood circulation begins from the left ventricle of the heart like a powerful pump and sends the blood to all the tissues of the body and ends at the right ventricle. Pulmonary circulation begins from the right ventricle and passing through capillaries reaches the lungs and after the exchange of oxygen and carbon dioxide, returns to the left ventricle.

Stages of heart beat

After a compatible and simultaneous contractions of the ventricles, the atriums open and pull the blood from the arteries to themselves and gradually fill up. At this point begins the general expansion of the heart as at this stage all the cavities of the heart are at rest:

1. Contraction of the atrium takes place after the general restfulness and sends the two bloods from the atriums to the ventricles.
2. Contraction of the ventricles, which on one hand send blood to body tissues and on the other hand send it to the lungs.
3. General rest

These three stages together occur in approximately one-eighth of a second and in this way the heart of a human being beats for 70 times a minute.

If we look at the intricate and systematic working of the heart and blood circulation, we would realize that this advanced and remarkable machinery is having a wise and a powerful creator who has created it with this minuteness and finesse.

To further motivate reflection we can pose the following questions to our intellects and seek replies to them:

1. With all this complexity and marvel, is it possible that the heart came into being on its own without any aim?

2. Do the atriums and ventricles of the heart themselves assumed their present shapes and forms?
3. Did the heart valves plan such a responsibility and specialty for themselves and then brought themselves into existence?
4. Has the elegant network of veins, capillaries and capillary hairs come into being automatically and by coincidence?
5. Has discipline, compatibility and cooperation between the heart and network of veins and respiratory system developed through chance? Or whether...?

Your intelligent reply is absolutely clear: A great, wise and powerful creator has created such an amazing system. God is great.

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