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No. 1

IS EVOLUTION TRUE?

How the Creator
has Planned
for his Creatures

By

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No. 1.

How the Creator has Planned for His Creatures

IF we look upon things around us in the world with any thought, we will see that everything is suitably arranged to enable us to live, as well as the animals and birds and fish. The heat that comes from the sun is just what it needs to be, to enable the grass and the plants to grow, so that there may be food for the creatures. There is summer and winter as the seasons go round, which is a great advantage in many ways. The air is just right for us to breathe, as well as for the animals. There is plenty of water; and without this no plant or animal could live. The oceans are large enough to supply the rain needed to water the earth; and there are showers of rain as far inland as the middle of the continents. We can see this on the map; for there must be rain on the central mountains to make the rivers run from the Alps and other mountain ranges which are far from the sea.

Now, when we look around upon all this, it does not do just to say: Why, of course, that is the way things are. For we can see very well that they might have been different. Indeed, the worlds nearest to us which we can see best, show a great contrast to what there is here upon earth. On the Moon there is plenty of sunshine, for there is never a cloud, and the rocks get scorching hot; and there is no air to breathe. Then on Mars there is very little water indeed; and as for Jupiter, which is always surrounded by very thick and dense clouds, it is calculated that the ocean around it must be 1,500 miles deep.¹ Yet in this world there is land enough to

¹ Calculated by Dr. Harold Jeffreys, the eminent physicist, to account for the light weight of Jupiter. See "Monthly Notices," Royal Astron. Soc., Vol. lxxxiv, pages 534-538.

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grow grain and vegetables and fruit for the whole population to live on; and also large oceans from which the sun can draw up sufficient rain.

If we ask, then, how it is that things have come to be arranged as they are on this earth, and why all things are so well suited for the creatures and for human beings to live, we may hear more than one answer. Perhaps the most popular answer at present is, that it all came about by Evolution. This means that if we begin with a great mass of intensely hot material, it would gradually cool and become land and water. Then somehow life would begin in a simple way, and one kind of living thing would turn into another, until after a long time there would be all the plants and trees and birds and animals in the world; and last of all, the best among animals would turn into a man.

All this might be made into a very interesting story to tell to a young child who knew nothing about Chemistry and the different kinds of substances there are; and who had never learned what has taken place during the ages of the past, which Geology teaches us. But even then, this child might well ask whether there was not a fairy who waved a wand to make a fish turn into a lizard, or a frog into a bird. This would not be so foolish a question as we might suppose; for it would show that the child thought there must be a cause for anything which happens. This is seen to be true by men of learning; but after many years of searching and thinking, they cannot find any cause which would make one creature turn into something else, quite different to what it was before.¹

¹ Dr. H. F. Osborn, the eminent palæontologist and an ardent advocate of Evolution, admits this frankly: "Our enhanced knowledge makes the problem of the causes of the origin of species infinitely more difficult even than it had appeared to Darwin." (Report of address to British Association for the Advancement of Science, in 1926.)

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Instead of this idea of Evolution, what we find in reality is that there must have been planning beforehand, to prepare the world for the creatures which were to live in it. If a boy wanted to keep a rabbit, would we not think him very careless when he bought it, if he had no hutch ready to put it in, and nothing to give it that it could eat? When we look into all that we know of the world of long ago, we will see that the Creator arranged in advance for the well-being of His creatures, before He placed them in the sea or on the land. This is plain in the account of the creation at the beginning of the Bible; and from what we read there, a little child can understand that God caused the grass to grow before He made the sheep. We find always that He made preparation in advance for what He intended to do afterwards.

The Light.

The account of the creation in the first chapter of Genesis is like a series of pictures of the world as it was at different times; and as we look, we hear also what is said. In the first picture that we are shown, the earth was "without form and void," that is, empty; and darkness was upon the face of the deep. The material of the world was there, without any living thing in it; and all in darkness. Then God said: "Let there be light, and there was light."

But at this early time, we may ask: What use was the light? God did not need light for what He was doing; for "the darkness and the light are both alike to Him." At that time there was no eye in the whole world to perceive the light; there was not even a plant that needed it to help it to grow. So when God commanded the light to shine out of darkness, this was plainly the first preparation for the things which He intended to make; because He knew beforehand what they would need. The light was there, because plants, when they came to be,

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could not grow without it. The light was there, in readiness for the seeing creature which would be created later on.

May we not thus understand that God must have had all His plans for the world in His mind from the first. We feel the more sure of this when we read next that "God saw the light that it was good." Now, what is the most simple meaning of this? If a lady says when she is buying wool for knitting: "That is good, that will do"; she means that it is quite suitable for what she intends to use it for. Any material may be good in this sense, if it will exactly answer its purpose. So the light was good, and perfectly suitable; for light and heat are just the thing to enable plants to produce the corn and fruit needed by the animals as well as by human beings. Indeed, we are only beginning to find out, through science, how "good" light is. For it not only makes things visible, but it is purifying and healing, and helps to keep us free from disease.

We can better understand now than in former times why light is placed almost at the very beginning in the story of creation. For we are finding how very primary light is. Heat and light go together, for they both radiate from the sun, and they are much the same in their nature; and they are the starting point of all the natural force and power in the world.¹ We can only bow before the wisdom of the Bible, when it puts light on the first day of creation.

The Clouds.

In the story of the creation in Genesis, we have next a picture of the earth in the very early times. From what is said, we understand that there was

¹ On these points, see remarks by Sir Ambrose Fleming, in "Creation and Modern Cosmogony," Victoria Institute, London, 1930. See also Sir James Jeans on the primary character of light; in "The Mysterious Universe," page 78.

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then an ocean all round the world, with mist and fog upon it everywhere. (It is possible that the water of the ocean was quite hot then, which would account for such a heavy mist of steamy vapour.) So the next thing that God did was to make a firmament or expanse, that is, a clear space between the waters of the ocean below, and the water in the clouds above. This word "firmament" cannot mean anything hard or solid; for the clouds are above it, and the rain comes through it; and we read further on that the birds fly in the "firmament of heaven." So what is meant by this word, is the expanse of clear air below the clouds.

We can very easily see how important it was, if any creatures were ever to live in the world, that there should be clear air. For it would be unwholesome for the animals, and for us too, if it were always damp and misty; and the birds could not see where to fly to find their food. An expanse of clear air between the ground and the clouds was thus very necessary, if any beasts and birds were to live in health and comfort.

But how is it that the clouds float upon the air, and why do they not settle down on to the ground? For clouds are vapour of water, and this is heavier than the gases which the air is made of. If an airship is to float in the air, it must be filled with a very light gas, such as hydrogen or helium. We are not surprised, then, that the Lord should ask Job: "Dost thou know the balancing of the clouds?" (Job xxxvii. 16.) For there is much about it that is not easy to explain.

A very little chemistry, however, will open up the way to understand the chief reason why the clouds float up. We know that the air is a mixture of two gases; but unfortunately we have no English names for them, and we have to use Greek names, and call them nitrogen and oxygen. These are not far from the same weight. But water is a com-

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pound of hydrogen and oxygen, combined together into a molecule; so that a molecule of the vapour of water is heavier than an atom of either nitrogen or oxygen gas. So at first sight we do not see why water vapour should float on air. But it is found that the gases of the air are not in the state of single atoms; the atoms of nitrogen are combined in pairs, and so are the atoms of oxygen. The air thus consists actually of molecules made of double-atoms of these gases; and according to the law of gases, this makes the air just twice as heavy as though the nitrogen and oxygen were in single atoms. The result of this is that water vapour is not quite two-thirds as heavy as air.¹

We may take this as an example, to show how far back the forethought of the Creator went. For if the clouds were to rise in the air, the three elementary gases that air and water are made of needed to have special properties when they were first created. The character of the different elements was impressed upon them by the Creator at first, so that they would act as He wished them to; and prove suitable to serve afterwards for what He had in mind. We may thus get a glimpse of His ways, and see something, if only dimly, of the planning of His great design in nature.

There is much else about the clouds and the rain that is very interesting; and the way that the earth is watered to make things grow, is a reason for praise and thanks to the Lord. (See Ps. cxlvii. 7, 8.)

The Ocean and the Land.

As far back in the history of the world as we can be at all sure of, we find that there was a universal ocean all around it. This is very generally believed in science, and from the Bible also we under-

¹ See the clear explanation of the molecular condition of air, with tables of densities, in the "Annuaire du Bureau des Longitudes" for 1930, pages 443 to 451. In this publication all the latest physical data are given annually.

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stand that it was so. (What the world was like before that, our science is unable to tell us with any certainty; and it is mostly theory.) The first thing needed to make it possible for trees and animals to live, was what we read in Genesis: that God caused the dry land to appear; and then there was not only land, but seas with shores. For even in the water, very little life would ever be possible in a shoreless ocean.

Another change took place at that time, which we might not have thought of if it had not been mentioned in the Bible. In the Psalm which describes the creation in poetical language, we read that when the land rose out of the ocean, the waters fled at the rebuke of God; and "at the voice of Thy thunder they hasted away." So there were mighty thunderstorms then. We can see that this is reasonable, because thunderstorms take place when hot air meets colder air; and now that there was land, the air would become warmer over it than over the sea. The air was not so unequally heated while there was a universal ocean. The land would therefore give great help in breaking up the clouds; for ascending currents of warmer air would rise, and there would be new winds. There would thus be spaces of blue sky where the sun would be seen, and the moon and stars would appear at night.¹ This seems to be the reason why the heavenly bodies are not mentioned before this, in the account of the creation. (See Gen. i. 14.)

Plant Life.

In the world as it has come to be, now that the land has risen out of the water, we can see how far the preparations for life have been carried forward. For (1) there is light and heat, and also sunshine;

¹ On this question, and the growth of plants in diffused light, see explanations as early as 1857 by Hugh Miller, the geologist, in "Testimony of the Rocks," pages 158-159, and 200-201.

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(2) there is a space of clear air between the ground and the clouds above; (3) there is now land for plants and trees to grow on. We find then that the Creator had made everything ready in the world for plants and trees to grow, when He said: "Let the earth bring forth grass, the herb . . . and the fruit tree" (Gen. i. 11).

Yet the purposes of God go on from one step to another; and He used the plants themselves to prepare the world further for things still to come. For vegetation not only makes the world beautiful with its flowers and fruit, and provides animals with food, but plants and trees serve other useful purposes. One very useful thing is that one kind of tree will help another kind to grow. The trees that came first in the world, in the early ages, did this in a large and wide way, as we will now explain.

When things first began to grow out of the ground at the command of God, what did they have to grow in? We may not well know what the land was like when it came up out of the water, but we can be sure there was no soil or garden earth; for this is mostly made of decayed vegetable matter from other plants, and there was none of this to begin with. But we can follow some of the ways of the Creator, in what He did. For there are some trees which can grow in almost pure sand. Some kinds of pine can do this, when they are planted in drifted dunes of sand along the coast, to prevent the sand from drifting further over the fields.¹ Now, the pine is amongst the earliest trees known;² and it gradually forms good soil as its needles and cones fall on the ground and decay. Its roots do not go down deeply, where there would only be more sand; but they spread on the very surface, to seek out any nourishment there is. We can see groves of pine

¹ The "Pin maritime" is extensively used for this purpose on the coasts of France.

² It is known as far back as the beginning of the Devonian.

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near sandy shores at the present day, thus building up good soil; and the trees that can next grow among them when there is soil enough, are the birches.

We can understand, therefore, that there were kinds of plants and trees at first which were made to prepare the way for others, by making good ground; so that in a later age higher kinds of trees could grow, which bear fruit and nuts. May we not see in this, the planning of the Creator, as He gradually made the world ready for the animals that He intended to make? There is another preparation, however, which was needed for all living creatures, whether in the sea or on the land, which we will think about next.

Animal Life.

All creatures that live need to breathe, even while they sleep. The shells and fish in the sea breathe with gills, instead of lungs; and what they must all have is oxygen, which is the life-giving gas in the air. But oxygen would be far too strong if it were pure; so the air is only one-fifth oxygen and four-fifths nitrogen. The nitrogen only serves to dilute the oxygen, in the same way that a strong medicine is diluted when it is mixed with water. We may well ask how it happens that the air is thus mixed in the right proportion for us and the animals to breathe.

For a further question is why there should be oxygen in the air at all? The more chemistry and mineralogy we know, the more this question puzzles us. For oxygen combines so readily with other elements, as the rocks show clearly; it makes up nearly half the weight of all the more common rocks. This is true of granite, sandstone, limestone and others, as well as ordinary sand and clay. When oxygen is so eager to combine with anything else it can find, the wonder is that any free oxygen should

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be left over in the air.¹ We may well thank the Creator for His forethought in causing the air to be as it is; when this is beyond our comprehension to explain.

We may next ask, how do shells and crabs and fish get oxygen to breathe, when they live in the water? It is because of one of the very remarkable properties of water itself; that it can dissolve air. The air is not mixed with water, like the bubbles we see when we open a soda-water bottle; it is dissolved in the water, the way sugar is. Not only so, but the oxygen of the air is fully twice as soluble as the nitrogen; which is a great advantage to all the water animals. The waterfalls and rapids in rivers help to dissolve the oxygen; and in the sea, the breaking waves help likewise. This is one way in which the stormy wind fulfils the word of the Lord and accomplishes His purpose. For it thus helps the sea creatures to have oxygen to breathe.

The Needs of the Higher Animals.

When the land animals came into existence, they found light, air, and water in the world, ready for them to use. It is also clear that the Creator had bestowed qualities upon light and air, long ages before, which only came into use now that there were animals which needed to see and hear. This is also true of water, which in several ways acts differently from other substances; yet these wondrous properties came to be helpful. To mention only one of these, water can dissolve more substances (such as salt and sugar) than any other liquid that exists. We have no clear idea why it is that water can do this; but if it had not this property

¹ One theory to meet the difficulty is that the oxygen is due to decomposition of carbon dioxide by early plant life; but this is far from adequate.

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animals could not have the right kind of blood; and even the trees could not have proper sap to nourish them.¹

Another thing that the animals found ready for them was food; and we can take grass, and other green herbage, as the simplest food, which multitudes of the creatures live upon. For God said when He created the animals: "To every beast of the earth . . . I have given every green herb for meat." For God made this grow, and had made it suitable for their food.

When we think of grass as food, it is certainly noteworthy that it has a wholesome juice, exactly suited to nourish the deer or the sheep which eat it. The grass does not need this mild and nourishing juice for its own benefit; for many plants with poisonous juices grow rankly and spread widely. There is the Deadly Night-shade, the Aconite plant, the Poison Ivy; their juice makes strong medicine, which is given only in drops. Yet these plants thrive well; and it might be better for grass to be poisonous too, for it would then be less likely to be eaten up! It is plain, therefore, that God intended the grass to be for food. Even when it is dried to make hay, it is still nourishing. Grass is also extremely hardy not easily killed by frost or drought; and some kind of grass can grow in almost any climate. It could not be better suited to feed the flocks and herds, either of wild creatures or cattle.

Can we not see from all this, that God had a purpose in view in what He made, and that He was planning for the creatures He was going to bring into the world? For God causes the grass to grow for the cattle, that He may bring food out of the

¹ At least seventy-five different mineral salts are fairly soluble in water; as well as acids and alkalis, albumin, glucose, and other organic substances. These are in no way changed by solution in water; whereas acids change what they dissolve into new compounds.

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earth; and the pastures are clothed with flocks, so that they shout for joy, they also sing (Ps. civ. 14 and lxx. 13.) The ground and the grass rejoice in doing what God meant them for.

Higher-Class Food.

There is food of a higher class than grass, which the Bible refers to as "the herb yielding seed." When we speak of seed as food, we may perhaps think first of the birds; for they live chiefly on seeds and berries. We know, too, how squirrels like nuts; and these are properly seeds. But the most important seeds for food are grain and corn, such as wheat and oats, barley, rye, maize. In some countries, rice and millet are more used than any other grain. All these are very nourishing; for seeds contain the highest type of nutrition that plants produce.¹ A child could thrive and grow on meal made from oats or corn, or on bread made from wheat; with perhaps some milk.

The seed is often contained in fruits which are themselves good food, although not so nourishing as corn. Yet in some hot countries the people live almost entirely on bananas, plantains, dates and olives. Some primitive tribes dry quantities of berries in the sun, to keep for winter. Most animals as well as birds like fruit; pigs are fond of peaches and cherries, and even a worm loves to live inside an apple.

These various kinds of food show us the wide meaning in the words of God when He says that He gives to the beasts their food. They have also the advantage of all the other things He has arranged. They have light and sunshine, and there is day and

¹ The proteins and vegetable albumins, as distinguished from the carbohydrates like starch, which are of lower grade as nourishment.

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night, summer and winter. So the highest kinds of animals are able to live in the world; the deer and horses, the elephant and the hippopotamus, as well as bears and wolves. The air is now used by the beasts and the birds to breathe; they quench their thirst at the streams that run among the hills; there is food of every kind for them all. It was all perfectly right, for God saw every thing that He had made, and behold, it was very good. The Psalms are full of praise to the Lord for all that He has done for the creatures; and are we ourselves too unthinking to join in these praises?

Preparations for Man.

When we thus see that the tender mercies of the Lord are over all His works, we would almost expect that before He created Man, He would make special preparation for him. Would it not be like the ways of God to prepare a special place for Man, and not put him into the world amongst the wild animals? This is just what we read in the Bible. "The Lord God planted a garden . . . and there He put the man whom He had formed. And out of the ground made the Lord God to grow every tree that is pleasant to the sight, and good for food." Man was thus given every opportunity; but we know the sorrowful story that follows. The man and woman took their own way instead of God's way; they chose for themselves and disobeyed God. Therefore the Lord God sent them forth from the garden, among the thorns and thistles in the world outside (Gen. ii. 8, 9, and iii. 18, 23.)

This was the first time since the world began that any created thing or creature upon earth had failed to do exactly what God meant it to do. The light from the beginning was good; the trees made the world ready for what was to come; and living

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things, from the first shells to the higher animals, fulfilled the purposes of their Creator. But man turned aside and went astray from the way of life that the Lord God intended him to take.

Yet God will not allow His great and good plan to be upset and brought to nothing. There is yet to be a paradise for all who will turn to God and be reconciled to Him. For Christ has promised to His followers that He will "prepare a place" for them; a place where "God Himself shall be with them, and be their God."

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