

from **Timaeus**

By **Plato**

(Translated by B. Jowett)

TIMAEUS: Why did the Creator make the world?...He was good, and therefore not jealous, and being free from jealousy he desired that all things should be like himself. Wherefore he set in order the visible world, which he found in disorder. Now he who is the best could only create the fairest; and reflecting that of visible things the intelligent is superior to the unintelligent, he put intelligence in soul and soul in body, and framed the universe to be the best and fairest work in the order of nature, and the world became a living soul through the providence of God.

In the likeness of what animal was the world made?—that is the third question...The form of the perfect animal was a whole, and contained all intelligible beings, and the visible animal, made after the pattern of this, included all visible creatures.

Are there many worlds or one only?—that is the fourth question...One only. For if in the original there had been more than one they would have been the parts of a third, which would have been the true pattern of the world; and therefore there is, and will ever be, but one created world. Now that which is created is of necessity corporeal and visible and tangible,—visible and therefore made of fire,—tangible and therefore solid and made of earth. But two terms must be united by a third, which is a mean between them; and had the earth been a surface only, one mean would have sufficed, but two means are required to unite solid bodies. And as the world was composed of solids, between the elements of fire and earth God placed two other elements of air and water, and arranged them in a continuous proportion—

Fire:air::air:water, and air:water::water:earth,

and so put together a visible and palpable heaven, having harmony and friendship in the union of the four elements; and being at unity with itself it was indissoluble except by the hand of the framer. Each of the elements was taken into the universe whole and entire; for he considered that the animal should be perfect and one, leaving no remnants out of which another animal could be created, and should also be free from old age and disease, which are produced by the action of external forces. And as he was to contain all things, he was made in the all-containing form of a sphere, round as from a lathe and every way equidistant from the centre, as was natural and suitable to

him. He was finished and smooth, having neither eyes nor ears, for there was nothing without him which he could see or hear; and he had no need to carry food to his mouth, nor was there air for him to breathe; and he did not require hands, for there was nothing of which he could take hold, nor feet, with which to walk. All that he did was done rationally in and by himself, and he moved in a circle turning within himself, which is the most intellectual of motions; but the other six motions were wanting to him; wherefore the universe had no feet or legs.

And so the thought of God made a God in the image of a perfect body, having intercourse with himself and needing no other, but in every part harmonious and self-contained and truly blessed. The soul was first made by him—the elder to rule the younger; not in the order in which our wayward fancy has led us to describe them, but the soul first and afterwards the body. God took of the unchangeable and indivisible and also of the divisible and corporeal, and out of the two he made a third nature, essence, which was in a mean between them, and partook of the same and the other, the intractable nature of the other being compressed into the same. Having made a compound of all the three, he proceeded to divide the entire mass into portions related to one another in the ratios of 1, 2, 3, 4, 9, 8, 27, and proceeded to fill up the double and triple intervals thus—

- over 1, $\frac{4}{3}$, $\frac{3}{2}$, - over 2, $\frac{8}{3}$, 3, - over 4, $\frac{16}{3}$, 6, - over 8:
- over 1, $\frac{3}{2}$, 2, - over 3, $\frac{9}{2}$, 6, - over 9, $\frac{27}{2}$, 18, - over 27;

in which double series of numbers are two kinds of means; the one exceeds and is exceeded by equal parts of the extremes, e.g. 1, $\frac{4}{3}$, 2; the other kind of mean is one which is equidistant from the extremes—2, 4, 6. In this manner there were formed intervals of thirds, 3:2, of fourths, 4:3, and of ninths, 9:8. And next he filled up the intervals of a fourth with ninths, leaving a remnant which is in the ratio of 256:243. The entire compound was divided by him lengthways into two parts, which he united at the centre like the letter X, and bent into an inner and outer circle or sphere, cutting one another again at a point over against the point at which they cross. The outer circle or sphere was named the sphere of the same—the inner, the sphere of the other or diverse; and the one revolved horizontally to the right, the other diagonally to the left. To the sphere of the same which was undivided he gave dominion, but the sphere of the other or diverse was distributed into seven unequal orbits, having intervals in ratios of twos and threes, three of either sort, and he bade the orbits move in opposite directions to one another—three of them, the Sun, Mercury, Venus, with equal swiftness, and the remaining four—the Moon, Saturn, Mars, Jupiter, with unequal swiftness to the three and to one another, but all in due proportion. ...

Thus was time made in the image of the eternal nature; and it was created together with the heavens, in order that if they were dissolved, it might perish with them. And God made the sun and moon and five other wanderers, as they are called, seven in all, and to each of them he gave a body moving in an orbit, being one of the seven orbits into which the circle of the other was divided. He put the moon in the orbit which was nearest to the earth, the sun in that next, the morning star and Mercury in the orbits which move opposite to the sun but with equal swiftness—this being the reason why they overtake and are overtaken by one another. All these bodies became living creatures, and learnt their appointed tasks, and began to move, the nearer more swiftly, the remoter more slowly, according to the diagonal movement of the other. And since this was controlled by the movement of the same, the seven planets in their courses appeared to describe spirals; and that appeared fastest which was slowest, and that which overtook others appeared to be overtaken by them. And God lighted a fire in the second orbit from the earth which is called the sun, to give light over the whole heaven, and to teach intelligent beings that knowledge of number which is derived from the revolution of the same. Thus arose day and night, which are the periods of the most intelligent nature; a month is created by the revolution of the moon, a year by that of the sun. Other periods of wonderful length and complexity are not observed by men in general; there is moreover a cycle or perfect year at the completion of which they all meet and coincide...To this end the stars came into being, that the created heaven might imitate the eternal nature. ...

To sum up: Being and generation and space, these three, existed before the heavens, and the nurse or vessel of generation, moistened by water and inflamed by fire, and taking the forms of air and earth, assumed various shapes. By the motion of the vessel, the elements were divided, and like grain winnowed by fans, the close and heavy particles settled in one place, the light and airy ones in another. At first they were without reason and measure, and had only certain faint traces of themselves, until God fashioned them by figure and number. In this, as in every other part of creation, I suppose God to have made things, as far as was possible, fair and good, out of things not fair and good. ...

Let us now assign the geometrical forms to their respective elements. The cube is the most stable of them because resting on a quadrangular plane surface, and composed of isosceles triangles. To the earth then, which is the most stable of bodies and the most easily modelled of them, may be assigned the form of a cube; and the remaining forms to the other elements,—to fire the pyramid, to air the octahedron, and to water the icosahedron,—according to their degrees of lightness or heaviness or power, or want of power, of

penetration. The single particles of any of the elements are not seen by reason of their smallness; they only become visible when collected. The ratios of their motions, numbers, and other properties, are ordered by the God, who harmonized them as far as necessity permitted.

The probable conclusion is as follows:—Earth, when dissolved by the more penetrating element of fire, whether acting immediately or through the medium of air or water, is decomposed but not transformed. Water, when divided by fire or air, becomes one part fire, and two parts air. A volume of air divided becomes two of fire. On the other hand, when condensed, two volumes of fire make a volume of air; and two and a half parts of air condense into one of water. Any element which is fastened upon by fire is cut by the sharpness of the triangles, until at length, coalescing with the fire, it is at rest; for similars are not affected by similars. When two kinds of bodies quarrel with one another, then the tendency to decomposition continues until the smaller either escapes to its kindred element or becomes one with its conqueror. And this tendency in bodies to condense or escape is a source of motion...Where there is motion there must be a mover, and where there is a mover there must be something to move. These cannot exist in what is uniform, and therefore motion is due to want of uniformity. But then why, when things are divided after their kinds, do they not cease from motion? The answer is, that the circular motion of all things compresses them, and as 'nature abhors a vacuum,' the finer and more subtle particles of the lighter elements, such as fire and air, are thrust into the interstices of the larger, each of them penetrating according to their rarity, and thus all the elements are on their way up and down everywhere and always into their own places. Hence there is a principle of inequality, and therefore of motion, in all time. ...

Water which is mingled with fire is called liquid because it rolls upon the earth, and soft because its bases give way. This becomes more equable when separated from fire and air, and then congeals into hail or ice, or the looser forms of hoar frost or snow. There are other waters which are called juices and are distilled through plants. Of these we may mention, first, wine, which warms the soul as well as the body; secondly, oily substances, as for example, oil or pitch; thirdly, honey, which relaxes the contracted parts of the mouth and so produces sweetness; fourthly, vegetable acid, which is frothy and has a burning quality and dissolves the flesh. Of the kinds of earth, that which is filtered through water passes into stone; the water is broken up by the earth and escapes in the form of air—this in turn presses upon the mass of earth, and the earth, compressed into an indissoluble union with the remaining water, becomes rock. Rock, when it is made up of equal particles, is fair and transparent, but the reverse when of

unequal. Earth is converted into pottery when the watery part is suddenly drawn away; or if moisture remains, the earth, when fused by fire, becomes, on cooling, a stone of a black colour. When the earth is finer and of a briny nature then two half-solid bodies are formed by separating the water,—soda and salt. The strong compounds of earth and water are not soluble by water, but only by fire. Earth itself, when not consolidated, is dissolved by water; when consolidated, by fire only. The cohesion of water, when strong, is dissolved by fire only; when weak, either by air or fire, the former entering the interstices, the latter penetrating even the triangles. Air when strongly condensed is indissoluble by any power which does not reach the triangles, and even when not strongly condensed is only resolved by fire. Compounds of earth and water are unaffected by water while the water occupies the interstices in them, but begin to liquefy when fire enters into the interstices of the water. They are of two kinds, some of them, like glass, having more earth, others, like wax, having more water in them. ...

These are the elements of necessity which the Creator received in the world of generation when he made the all-sufficient and perfect creature, using the secondary causes as his ministers, but himself fashioning the good in all things. For there are two sorts of causes, the one divine, the other necessary; and we should seek to discover the divine above all, and, for their sake, the necessary, because without them the higher cannot be attained by us.

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