

Chapter 7

Fire is one of the four elements. It is light and more buoyant than the others, and it both burns and gives light. It was made by the Creator on the first day, for sacred Scripture says: 'And God said: Be light made. And light was made.' According to what some say, fire is the same thing as *light*. Others speak of the cosmic fire above the air and they call it ether. 'In the beginning,' then, which is to say, on the first day, God made the light to adorn and enhance all visible creation. For, remove the light and everything will be in darkness and will be indistinguishable and incapable of displaying its inherent comeliness. 'And God called the light day, and the darkness night.'¹ Darkness, moreover, is not a substance, but an accident, because it is the absence of light. For light is no part of the substance of the air.² Hence, it was just the absence of light in the air that God called darkness; and darkness is not the substance of the air but the absence of light—which indicates an accident rather than a substance. Furthermore, it was not night that was called first, but day, so that day is first and night last. Accordingly, the night follows the day, and we have a period of a day and a night from the beginning of one day to that of the next—for Scripture says: 'And there was evening and morning one day.'³

And so, during those three days, day was made by the alternate diffusion and shutting out of the light at the divine command. On the fourth day God made the great luminary, the sun that is, to terminate and control the day. Thus it is that the day is determined by the sun, for, when the sun is above the earth it is day; and the duration of the day is that of the sun's course over the earth from east to west. He made a lesser luminary, too—that is, the moon—and the

1 Gen. 1.3,1,5.

2 Cf. Basil, *Homily 2 on the Six Days* 5 (PG 29.40C).

3 Gen. 1.5.

stars to determine and control the night and give it light. Now, it is night when the sun is below the earth, and the duration of the night is that of the sun's course underneath the earth from west to east. Thus, the moon and the stars have been set to light the night—but this does not mean that they are always under the earth during the daytime, for even in the daytime there are stars in the heavens over the earth. However, when the sun is shining at the same time as the stars and the moon, it dims them by its brighter radiance and keeps them from showing.

It was into these luminaries that the Creator put the primordial light, not that He was in want of any other light, but that that particular light might not remain idle. For the luminary is not the light itself, but its container.⁴

They hold the seven planets to be of the number of these luminaries and they say that their motion is opposite to that of the heavens, for which reason they have been called planets, or wanderers. For it is said that the heavens move from east to west, whereas the planets move from west to east. And the heavens bear the seven planets around with themselves by their own more rapid motion, as it were. The names of the seven planets are as follows: Moon, Mercury, Venus, Sun, Mars, Jupiter, and Saturn. Furthermore, it is said that there is one planet for each of the celestial spheres:

In the first, that is to say, the highest, Saturn.

In the second, Jupiter.

In the third, Mars.

In the fourth, the Sun.

In the fifth, Venus.

In the sixth, Mercury.

In the seventh and lowest, the Moon.

They follow the unceasing course set for them by the Creator according as He founded them, as the divine David says: 'The moon and the stars which thou hast founded.'⁵

⁴ Cf. Basil, *Homily 6 on the Six Days* 2-3 (PG 29.120-121)

⁵ Ps. 8.4.

By saying 'founded' he meant the stability and immutability of the order and succession given them by God. For He arranged them 'for signs, and for seasons, and for days and years.'⁶ It is by the Sun that the four solstices are determined. The first of these is the spring solstice, for it was at the spring solstice that God made all things, which is evident from the fact that even down to the present time the budding of the flowers takes place then. It is also called an equinoctial solstice, because both the day and the night are twelve hours long. It is determined by the mean rising of the sun. The spring is mild and promotes the growth of the blood, and it is warm and wet. It stands midway between winter and summer, being warmer and drier than winter and cooler and wetter than summer. This season extends from March [21] to June 24. Then, as the sun rises farther and farther to the north, the summer solstice follows. Summer stands midway between spring and autumn. From spring it has warmth and from autumn dryness, for it is hot and dry. It also promotes the growth of the yellow bile. The summer solstice has the longest day, fifteen hours long, while its night is very short indeed, being nine hours long. Summer extends from June 24 to September 25. Then, the sun comes back again to its mean rising, summer is succeeded by autumn, which has a sort of medium coolness and warmth, dryness and wetness. It stands midway between summer and winter and has its dryness from summer and its cold from winter, for it is by its nature cold and dry. It also promotes the growth of the black bile. This solstice is also equinoctial, both its day and its night being twelve hours long. Autumn extends from September 25 to December 25. Then, as the sun's course becomes shorter and lower, that is to say, southerly, the winter solstice follows. Winter is cold and wet. It stands midway between autumn and spring and has its cold from autumn and its wetness from spring. The winter solstice has the shortest day, nine hours long, and the longest

6 Gen. 1.14.

night, fifteen hours long. Moreover, winter promotes the growth of the phlegm, and extends from December 25 to March 21. Thus, the Creator made wise provision against our contracting serious sicknesses from passing from the extremes of cold, heat, wetness, or dryness to the opposite extremes—for reason tells us that sudden changes are dangerous.

In this way, then, the sun produces the seasonal changes and, through them, the year. It also causes the days and nights: the former by rising and being over the earth, the latter by going down underneath the earth. By withdrawing, it causes the other luminaries to shine: the moon, that is, and the stars.

Now, they say that there are also twelve signs of the zodiac, made up of the stars in the heavens and having a motion contrary to that of the sun, the moon, and the five other planets, and that the seven pass through these twelve signs. Thus, the sun completes one month for each sign of the zodiac and in twelve months passes through the twelve signs. The following are the names of the twelve signs of the zodiac, and their months:

The sun enters *Aries* on March 21, *Taurus* on April 23, *Gemini* on May 24, *Cancer* on June 24, *Leo* on July 25, *Virgo* on August 25, *Libra* on September 25, *Scorpio* on October 25, *Sagittarius* on November 25, *Capricorn* on December 25, *Aquarius* on January 25, *Pisces* on February 24.

The moon passes through the twelve signs of the zodiac every month, because it is lower and travels through them more rapidly. For, if you put one orbit within another, the inside one will be found to be smaller. Thus, because it is lower, the course of the moon is shorter and more quickly completed.

Now, the Greeks say that all our affairs are governed by the rising, setting, and conjunction of these stars and of the sun and moon. With such things is astrology concerned. But we say that, while they do give indications of rain and

drought, cold and heat, wetness and dryness, winds, and the like, they give absolutely no indication of our actions.⁷ For we have been made free by the Creator and we control our own actions. But, if everything that we do is governed by the movement of the stars, then whatever we do we do by necessity.⁸ Now, what is done by necessity is neither virtue nor vice, and, if we have neither virtue nor vice, we deserve neither reward nor punishment. Hence, God will prove to be unjust when He gives good things to some and tribulations to others. What is more, if all things are driven and moved by necessity, then God will not be exercising either control over His creatures or providence for them. Reason also will be useless to us, for, if we have no control over any of our actions, then it is useless for us to make our own resolves. But reason has been given to us so that we may deliberate, which is why every being that is rational is also free.

We say that the stars do not cause anything to happen, whether it be the production of things that are made, or events, or the destruction of things that are destroyed. Rather, they are signs of rains and atmospheric change. One might possibly say, however, that, although they do not cause wars either, they are signs of them; and that the condition of the atmosphere, which is determined by the sun, moon and stars, in various ways favors various temperaments, habits, and dispositions. Nevertheless, habits are something under our own control, for, in so far as they are subject to the reason, they may be controlled and cultivated by it.

And there are comets, too, which oftentimes appear as portents of the death of kings. They are not of the number of the stars which have existed from the beginning, but by the divine command they take form at just the right time and then are dissolved again. And neither was the star that was seen by the Magi at the time of the Lord's gracious and saving birth according to the flesh for us one of those that

7 Cf. Basil, *op. cit.* 5 (PG 29.128-129).

8 Cf. Nemesius, *On the Nature of Man* 35 (PG 40.741).

were made at the beginning. This is also evident from the fact that they make their course now from east to west, and now from north to south, and that they now disappear and now appear. For this is not in accord with the regularity and the nature of the stars.⁹

One should note that the moon is lit by the sun. This is not because God was unable to give it its own light, but rather, that harmony and order might be imposed upon creation, with one ruling and another being ruled, and that we might be taught to have things in common with others, to share with them, and to be subject to them—first of all to the Maker and Creator, God and Lord, and then to them whom He has appointed to rule. Nor is it for me to inquire why this particular one rules; rather, I should thankfully and willingly accept all things that come from God.

The fact that the sun and moon suffer eclipse utterly refutes the folly of those who worship the creature rather than the Creator,¹⁰ and it shows that they are subject to change and variation. Now, anything that is subject to change is not God, for by its very nature it is subject to corruption and change.

The sun suffers eclipse when the mass of the moon, becoming like a sort of partition wall, casts a shadow and does not permit the light to get through to us. The extent of the eclipse, then, is proportionate to the amount of the mass of the moon concealing the sun. Now, even though the mass of the moon be smaller, do not be surprised, because, although it is maintained by some that the sun is many times larger than the earth, and by the holy Fathers that it is equal to the earth in size, it oftentimes is hidden by a small cloud, or even by a hillock or a wall.

The eclipse of the moon is brought about by the earth's shadow, when the moon is fifteen days old and directly opposite at its highest point, the sun being below the earth

⁹ Cf. Basil, *On the Nativity of Christ* (PG 31.1469-1472).

¹⁰ Cf. Rom. 1.25.

and the moon above the earth. For the earth casts a shadow and the sunlight is unable to light the moon, so that it is eclipsed.

Moreover, one should know that the Creator made the moon as full—in other words, as it is fifteen days old—for it was fitting that it should be created in its most perfect state.¹¹ However, as we said, the sun was created on the fourth day. Therefore, the moon was eleven days ahead of the sun, for from the fourth to the fifteenth there are eleven days. For this reason, the twelve lunar months have eleven days less than the twelve solar months every year. For the twelve solar months have 365 and a quarter days, whence the quarter accumulating through four years makes one full day, which is called *bissextile*—and that year has 366 days. On the other hand, the lunar years have 354 days, because from the time of its nascency, or renewal, the moon waxes until it is fourteen and three quarters days old, and then it begins to wane and wanes until it is twenty-nine and a half days old and becomes entirely dark. Then, having again made contact with the sun, it is reborn, or renewed, thus giving a reminder of our own resurrection. Consequently, the moon is eleven days behind the sun every year. Therefore, the Hebrews have an intercalary month every third year, and that year has thirteen months by reason of the accumulation of the eleven days.

Moreover, it is evident that the sun, moon, and stars are composite, and by their very nature subject to corruption. However, we do not know their nature. Thus, some say that when fire is apart from any matter it is invisible, whereas others say that when it is quenched it is changed into air.

The belt of the zodiac moves obliquely and is divided into twelve sections which are called signs of the zodiac. The sign of the zodiac has three decans, which is thirty degrees. The degree has sixty minutes. Therefore, the heavens

¹¹ Cf. Severus Gabal., *Homily 3 on the Creation of the World 2* (PG 56.449).

have 360 degrees, the hemisphere over the earth having 180 and that under the earth 180.

The *house* of Mars is Aries and Scorpio; that of Venus is Taurus and Libra; that of Mercury is Gemini and Virgo; that of the Moon is Cancer; that of the Sun is Leo; that of Jupiter is Sagittarius and Pisces; and that of Saturn is Capricorn and Aquarius.

Aries is the *ascension* of the Sun, Taurus that of the Moon, Cancer that of Jupiter, Virgo that of Mars, Libra that of Saturn, Capricorn that of Mercury, and Pisces that of Venus.

The moon is in *conjunction* when it is in the same degree as the sun. It is *nascent* when it is fifteen degrees distant from the sun. It is twice *rising* when it is sixty degrees distant and appears in the form of a crescent. It is twice *half full* when it is ninety degrees distant. It is twice *near full* and nearly fully lighted when it is 150 degrees distant. It is *full* when it is 180 degrees distant. It is twice *gibbous* when it is 120 degrees distant. And when we say that the moon is in a phase twice, we mean once when waxing and once when waning. It takes the moon two and one half days to pass through each sign of the zodiac.

Chapter 8

Air is a very subtle element and is both wet and warm. It is heavier than fire, but lighter than earth and water. It is the cause of breath and voice. It is colorless, that is to say it has no color by nature. It is clear and transparent, for it is receptive of light. It also serves three of our senses, since by it we see, hear, and smell. It can be heated or cooled, dried or made wet. All of its movements are local—motion upward, downward, inward, outward, to the right, to the left, and in a circle.

It does not have light from itself but gets it from the sun, the moon, the stars, and fire. This is what Scripture meant