6. Concerning the Sky

The sky is the circumference of things created, both visible and invisible. For within its boundary are included and marked off both the mental faculties of the angels and all the world of sense. But the Deity alone is uncircumscribed, filling all things, and surrounding all things, and hounding all things, for He is above all things, and has created all things.

Since(8), therefore, the Scripture speaks of the sky, and the sky of the sky(9), and the skies of the skies(1), and the blessed Paul says that he was snatched away to the third sky(2), we say that in the cosmogony of the universe we accept the creation of a sky which the foreign philosophers, appropriating the views of Moses, call a starless sphere. But further, God called the firmament also sky(3), which He commanded to be in the midst of the waters, setting it to divide the waters that are above the firmament from the waters that are below the firmament. And its nature, according to the divine Basil(4), who is versed in the mysteries of divine Scripture, is delicate as smoke. Others, however, hold that it is watery in nature, since it is set in the midst of the waters: others say it is composed of the four elements: and lastly, others speak of it as a filth body, distinct from the four elements(5).

Further, some have thought that the sky encircles the universe and has the form of a sphere, and that everywhere it is the highest point, and that the center of the space enclosed by it is the lowest part: and, further, that those bodies that are light and airy are allotted by the Creator the upper region: while those that are heavy and tend to descend
occupy the lower region, which is the middle. The element, then, that is lightest and most inclined to soar upwards is fire, and hence they hold that its position is immediately after the sky, and they call it ether, and after it comes the lower air. But earth and water, which are heavier and have more of a downward tendency, are suspended in the center. Therefore, taking them in the reverse order, we have in the lowest situation earth and water: but water is lighter than earth, and hence is more easily set in motion: above these on all hands, like a covering; is the circle of air, and all round the air is the circle of ether, and outside air is the circle of the sky.

Further, they say that the sky moves in a circle and so compresses all that is within it, that they remain firm and not liable to fall asunder.

They say also that there are seven zones of the sky(6), one higher than the other. And its nature, they say, is of extreme fineness, like that of smoke, and each zone contains one of the planets. For there are said to be seven planets: Sun, Moon, Jupiter, Mercury, Mars, Venus and Saturn. But sometimes Venus is called Lucifer [Light-Bringer or Morning Star] and sometimes Vesper [Evening Star]. These are called planets because their movements are the reverse of those of the sky. For while the sky and all other stars move from east to west, these alone move from west to east. And this can easily be seen in the case of the moon, which moves each evening a little backwards.

All, therefore, who hold that the sky is in the form of a sphere, say that it is equally removed and distant from the earth at all points, whether above, or sideways, or below. And by ‘below’ and ‘sideways’ I mean all that comes within the range of our senses. For it follows from what has been said, that the sky occupies the whole of the upper region and the earth the whole of the lower. They say, besides, that the sky encircles the earth in the manner of a sphere, and bears along with it in its most rapid revolutions sun, moon and stars, and that when the sun is over the earth it becomes day there, and when it is under the earth it is night. And, again, when the sun goes under the earth it is night here, but day yonder.

Others have pictured the sky as a hemisphere. This idea is suggested by these words of David, the singer of God, Who stretchest out the skies like a curtain(7), by which word he clearly means a tent: and by these from the blessed Isaiah, Who hath established the skies like a vault(8): and also because when the sun, moon, and stars set they make a circuit round the earth from west to north, and so reach once more the east(9). Still, whether it is this way or that, all things have been made and established by the divine command, and have the divine will and counsel for a foundation that cannot be moved. For He Himself spoke and they were made: He Himself commanded and they were created. He hath also established them for ever and ever: He hath made a decree which will not pass(1).
The sky of the sky, then, is the first sky which is above the firmament(2). So here we have two skies, for "God called the firmament also Sky"(3). And it is customary in the divine Scripture to speak of the air also as skies, because we see it above us. "Bless Him," it says, "all ye birds of the sky," meaning of the air. For it is the air and not the sky that is the region in which birds fly. So here we have three skies, as the divine Apostle said(4). But if you should wish to look upon the seven zones as seven skies there is no injury done to the word of truth. For it is usual in the Hebrew tongue to speak of the sky in the plural, that is, as skies, and when a Hebrew wishes to say the sky of the sky, he usually says the skies of the skies, and this clearly means the sky of the sky(5), which is above the firmament, and the waters which are above the skies, whether it is the air and the firmament, or the seven zones of the firmament, or the firmament itself which are spoken of in the plural as 'skies' according to the Hebrew custom.

All things, then, which are brought into existence are subject to corruption according to the law of their nature(6), and so even the skies themselves are corruptible. But by the grace of God they are maintained and preserved(7). Only the Deity, however, is by nature without beginning and without end(8). Wherefore it has been said, "They will perish, but You endure"(1): nevertheless, the skies will not be utterly destroyed. For they will wax old and be wound round as a covering, and will be changed, and "there will be a new sky and a new earth"(2).

For the great part the sky is greater than the earth, but we need not investigate the essence of the sky, for it is quite beyond our knowledge.

It must not be supposed that the skies or the luminaries are endowed with life(3). For they are inanimate and insensible(4). So that when the divine Scripture saith, "Let the skies rejoice and the earth be glad"(5), it is the angels in the sky and the men on earth that are invited to rejoice. For the Scripture is familiar with the figure of personification, and is wont to speak of inanimate things as though they were animate: for example(6), "The sea saw it and fled: Jordan was driven back"(7). And again, "What ailed you, O sea, that you fled? And you, O Jordan, that you were driven back(8)?" Mountains, too, and hills are asked the reason of their leaping in the same way as we are wont to say, the city was gathered together, when we do not mean the buildings, but the inhabitants of the city: again, "the skies declare the glory of God"(9), does not mean that they send forth a voice that can be heard by bodily ears, but that from their own greatness they bring before our minds the power of the Creator: and when we contemplate their beauty we praise the Maker as the Master-Craftsman(1).
7. Concerning light, fire, 
the luminaries, sun, moon and stars

Fire is one of the four elements, light and with a greater tendency to ascend than the others. It has the power of burning and also of giving light, and it was made by the Creator on the first day. For the divine Scripture says, And God said, Let there be light, and there was light(2). Fire is not a different thing from what light is, as some maintain. Others again hold that this fire of the universe is above the air(3) and call it ether. In the beginning, then, that is to say on the first day, God created light, the ornament and glory of the whole visible creation. For take away light and all things remain in undistinguishable darkness, incapable of displaying their native beauty. "And God called the light day, but the darkness He called night"(4). Further, darkness is not any essence, but an accident: for it is simply absence of light. The air, indeed, has not light in its essence(5). It was, then, this very absence of light from the air that God called darkness: and it is not the essence of air that is darkness, but the absence of light which clearly is rather an accident than an essence. And, indeed, it was not night, but day, that was first named, so that day is first and after that comes night. Night, therefore, follows day. And from the beginning of day till the next day is one complete period of day and night. For the Scripture says, "And the evening and the morning were one day"(6).

When, therefore, in the first three days the light was poured forth and reduced at the divine command, both day and night came to pass(7). But on the fourth day God created the great luminary, that is, the sun, to have rule and authority(8) over the day: for it is by it that day is made: for it is day when the sun is above the earth, and the duration of a day is the course of the sun over the earth from its rising till its setting. And He also created the lesser luminaries, that is, the moon and the stars, to have rule and authority(1) over the night, and to give light by night. For it is night when the sun is under the earth, and the duration of night is the course of the sun under the earth from its rising till its setting. The moon, then, and the stars were set to lighten the night: not that they are in the daytime under the earth, for even by day stars are in the sky over the earth but the sun conceals both the stars and the moon by the greater brilliance of its light and prevents them from being seen.

On these luminaries the Creator bestowed the first-created light: not because He was in need of other light, but that that light might not remain idle. For a luminary is not merely light, but a vessel for containing light(2).

There are, we are told, seven planets amongst these luminaries, and these move in a direction opposite to that of the heaven: hence the name planets. For, while they say that the heaven moves from east to west, the planets move from west to east; but the
heaven bears the seven planets along with it by its swifter motion. Now these are the
names of the seven planets: Moon, Mercury, Venus, Sun, Mars, Jupiter, Saturn, and in
each zone of heaven is, we are told, one of these seven planets:

   In the first and 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.

The course which the Creator(3) appointed for them to run is unceasing and remains
fixed as He established them. For the divine David says, "The moon and the stars which
You established"(4), and by the word 'established,' he referred to the fixity and
unchangeableness of the order and series granted to them by God. For He appointed
them for seasons, and signs, and days and years. It is through the Sun that the four
seasons are brought about. And the first of these is spring: for in it God created all
things(5), and even down to the present time its presence is evidenced by the bursting of
the flowers into bud, and this is the equinoctial period, since day and night each consist
of twelve hours. It is caused by the sun rising in the middle, and is mild and increases
the blood, and is warm and moist, and holds a position midway between winter and
summer, being warmer and drier than winter, but colder and moister than summer. This
season lasts from March 21st till June 24th. Next, when the rising of the sun moves
towards more northerly parts, the season of summer succeeds, which has a place
midway between spring and autumn, combining the warmth of spring with the dryness of
autumn: for it is dry and warm, and increases the yellow bile. In it falls the longest day,
which has fifteen hours, and the shortest night of all, having only nine hours. This
season lasts from June 24th till September 25th. Then when the sun again returns to the
middle, autumn takes the place of summer. It has a medium amount of cold and heat,
dryness and moisture, and holds a place midway between summer and winter,
combining the dryness of summer with the cold of winter. For it is cold and dry, and
increases the black bile. This season, again, is equinoctial, both day and night consisting
of twelve hours, and it lasts from September 25th till December 25th. And when the
rising of the sun sinks to its smallest and lowest point, i.e. the south, winter is reached,
with its cold and moisture. It occupies a place midway between autumn and spring,
combining the cold of autumn and the moisture of spring. In it falls the shortest day,
which has only nine hours, and the longest night, which has fifteen: and it lasts from December 25th till March 21st. For the Creator made this wise provision that we should not pass from the extreme of cold, or heat, or dryness, or moisture, to the opposite extreme, and thus incur grievous maladies. For reason itself teaches us the danger of sudden changes.

So, then, it is the sun that makes the seasons, and through them the year: it likewise makes the days and nights, the days when it rises and is above the earth, and the nights when it sets below the earth: and it bestows on the other luminaries, both moon and stars, their power of giving forth light.

Further, they say that there are in the heaven twelve signs made by the stars, and that these move in an opposite direction to the sun and moon, and the other five planets, and that the seven planets pass across these twelve signs. Further, the sun makes a complete month in each sign and traverses the twelve signs in the same number of months. These, then, are the names of the twelve signs and their respective months:

- The Ram, which receives the sun on the 21st of March.
- The Bull, on the 23rd of April.
- The Twins, on the 24th of May.
- The Crab, on the 24th of June.
- The Virgin, on the 25th of July.
- The Scales, on the 25th of September.
- The Scorpion, on the 25th of October.
- The Archer, on the 25th of November.
- Capricorn, on the 25th of December.
- Aquarius, on the 25th of January.
- The Fish, on the 24th of February.

But the moon traverses the twelve signs each month, since it occupies a lower position and travels through the signs at a quicker rate. For if you draw one circle within another, the inner one will be found to be the lesser: and so it is that owing to the moon occupying a lower position its course is shorter and is sooner completed.

Now the Greeks declare that all our affairs are controlled by the rising and setting and collision(6) of these stars, viz., the sun and moon: for it is with these matters that astrology has to do. But we hold that we get from them signs of rain and drought, cold and heat, moisture and dryness, and of the various winds, and so forth(7), but no sign
whatever as to our actions. For we have been created with free wills by our Creator and are masters over our own actions. Indeed, if all our actions depend on the courses of the stars, all we do is done of necessity(8): and necessity precludes either virtue or vice. But if we possess neither virtue nor vice, we do not deserve praise or punishment, and God, too, will turn out to be unjust, since He gives good things to some and afflicts others. Nay, He will no longer continue to guide or provide for His own creatures, if all things are carried and swept along in the grip of necessity. And the faculty of reason will be superfluous to us: for if we are not masters of any of our actions, deliberation is quite superfluous. Reason, indeed, is granted to us solely that we might take counsel, and hence all reason implies freedom of will.

And, therefore, we hold that the stars are not the causes of the things that occur, nor of the origin of things that come to pass, nor of the destruction of those things that perish. They are rather signs of showers and changes of air. But, perhaps, some one may say that though they are not the causes of wars, yet they are signs of them. And, in truth, the quality of the air which is produced(1) by sun, and moon, and stars, produces in various ways different temperaments, and habits, and dispositions(2). But the habits are among the things that we have in our own hands, for it is reason that rules, and directs, and changes them.

It often happens, also, that comets arise. These are signs of the death of kings(3), and they are not any of the stars that were made in the beginning, but are formed at the same time by divine command and again dissolved(4). And so not even that star which the Magi saw at the birth of the Friend and Savior of man, our Lord, Who became flesh for our sake, is of the number of those that were made in the beginning. And this is evidently the case because sometimes its course was from east to west, and sometimes from north to south; at one moment it was hidden, and at the next it was revealed: which is quite out of harmony with the order and nature of the stars.

It must be understood, then, that the moon derives its light from the sun; not that God was unable to grant it light of its own, but in order that rhythm and order may be unimpressed upon nature, one part ruling, the other being ruled, and that we might thus be taught to live in community and to share our possessions with one another, and to be under subjection, first to our Maker and Creator, our God and Master, and then also to the rulers set in authority over us by Him: and not to question why this man is ruler and not I myself, but to welcome all that comes from God in a gracious and reasonable spirit.

The sun and the moon, moreover, suffer eclipse, and this demonstrates the folly of those who worship the creature in place of the Creator(5), and teaches us how changeable and alterable all things are For all things are changeable save God, and whatever is changeable is liable to corruption in accordance with the laws of its own nature.
Now the cause of the eclipse of the sun is that the body of the moon is interposed like a partition-wall and casts a shadow, and prevents the light from being shed down on us (6): and the extent of the eclipse is proportional to the size of the moon's body that is found to conceal the sun. But do not marvel that the moon's body is the smaller. For many declare that the sun is many times larger even than the earth, and the holy Fathers say that it is equal to the earth: yet often a small cloud, or even a small hill or a wall quite conceals it.

The eclipse of the moon, on the other hand, is due to the shadow the earth casts on it when it is a fifteen days' moon and the sun and moon happen to be at the opposite poles of the highest circle, the sun being under the earth and the moon above the earth. For the earth casts a shadow and the sun's light is prevented from illuminating the moon, and therefore it is then eclipsed.

It should be understood that the moon was made full by the Creator, that is, a fifteen days' moon: for it was fitting that it should be made complete (7). But on the fourth day, as we said, the sun was created. Therefore the moon was eleven days in advance of the sun, because from the fourth to the fifteenth day there are eleven days. Hence it happens that in each year the twelve months of the moon contain eleven days fewer than the twelve months of the sun. For the twelve months of the sun contain three hundred and sixty-five and a quarter days, and so because the quarter becomes a whole, in four years an extra day is completed, which is called bis-sextile. And that year has three hundred and sixty-six days. The years of the moon, on the other hand, have three hundred and fifty-four days. For the moon wanes from the time of its origin, or renewal, till it is fourteen and three-quarter days' old, and proceeds to wane till the twenty-ninth and a half day, when it is completely void of light. And then when it is once more connected with the sun it is reproduced and renewed, a memorial of our resurrection. Thus in each year the moon gives away eleven days to the sun, and so in three years the intercalary month of the Hebrews arises, and that year comes to consist of thirteen months, owing to the addition of these eleven days (8).

It is evident that both sun and moon and stars are compound and liable to corruption according to the laws of their various natures. But of their nature we are ignorant. Some, indeed, say that fire when deprived of matter is invisible, and thus, that when it is quenched it vanishes altogether. Others, again, say that when it is quenched it is transformed into air (9).

The circle of the zodiac has an oblique motion and is divided into twelve sections called zodia, or signs: each sign has three divisions of ten each, i.e. thirty divisions, and each division has sixty very minute subdivisions. The heaven, therefore, has three hundred
and sixty degrees: the hemisphere above the earth and that below the earth each having one hundred and eighty degrees.

The houses of the planets.
The Ram and the Scorpion are the abode of Mars;
the Bull and the Scales, of Venus(1);
the Twins and the Virgin, of Mercury;
the Crab, of the Moon;
the Lion, of the Sun;
the Archer and the Fish, of Jupiter;
Capricorn and Aquarius, of Saturn.

Their altitudes [hypsomata]:
The Ram has the altitude of the Sun;
the Bull, of the Moon;
the Crab, of Jupiter;
the Virgin, of Mars;
the Scales, of Saturn;
Capricorn, of Mercury;
the Fish, of Venus.

The phases of the moon.
It is in conjunction whenever it is in the same degree as the sun: it is born when it is fifteen degrees distant from the sun: it rises when it is crescent-shaped, and this occurs twice(2), at which times it is sixty degrees distant from the sun: it is half-full twice, when it is ninety degrees from the sun: twice it is gibbous, when it is one hundred and twenty degrees from the sun: it is twice a full moon, giving full light, when it is a hundred and fifty degrees from the sun: it is a complete moon when it is a hundred and eighty degrees distant from the sun. We say twice, because these phases occur both when the moon waxes and when it wanes. In two and a half days the moon traverses each sign.