

**TITLE:** *World Pictures of Cosmas*

**DATE:** 547 A.D.

**AUTHOR:** *Cosmas Indicopleustes of Alexandria*

**DESCRIPTION:** Much of the tone of medieval European cartography and geography is reflected and exemplified by the work of Cosmas of Alexandria (later being conferred with the honorary surname of *Indicopleustes*, i.e., the “Indian - sailor”). During this time cartography was heavily “Christianized” as evidenced by the many religious themes and references incorporated in and even dominating many of the surviving maps from the Middle Ages. For many centuries following the fall of the Western Roman Empire, there appears to have been in Christian Europe but little interest in the fundamental principles of geographical or astronomical science. The theories of the Greeks and the Romans respecting a spherical earth and a spherical firmament encompassing it, in illustration of which they had constructed globes, were not entirely forgotten, but such theories in general were considered to be valueless hindrances rather than helps to the theological beliefs of the new Christian era.

Though the early Church Fathers were inclined to reject the idea of a globular earth, there were not a few among who found the theory of a circular earth an acceptable one. The latter, it is true, was an early Greek belief, having been entertained in Homer’s day (900 B.C.), and as having been passed down to succeeding centuries, but Christian writers did not find in the fact of its pagan origin a particular argument for accepting it; on the contrary, the Bible was held by many to be the fountain of all knowledge, and a sure guide no less in the solution of problems pertaining to the physical sciences than in the solution of problems pertaining to faith and doctrine. What was contained in the *Scriptures* found a more ready acceptance than what was to be found in “pagan writers”. Isaiah’s statement, “*It is He that sitteth upon the circle of the earth,*” was regarded as one altogether adequate on which to found a theory of the form of the earth, and it was accepted by such biblical interpreters as Lactantius, Cosmas Indicopleustes, Diodorus of Tarsus, Chrysostom, Severian of Gabala, by those who were known as the Syrians, by Procopius and Decuil. Men, however, such as Basil, Gregory of Nyssa, and Philoponos inclined strongly toward the Aristotelian doctrine of a spherical earth. Isidore of Seville (#205) appears to have been a supporter of the spherical doctrine, as was also the Venerable Bede, who, in his *De atura rerum*, upholds the doctrine of a spherical earth on practically the same grounds as those advanced by Aristotle.

In illustration of the doctrine of a circular earth, terrestrial globes certainly could not have been thought of as having any practical value. With a rejection of the spherical theory of the ancients very naturally went the rejection of their globes.

The rejecting of ‘classical’ geography and the impetus and rationale for this theocratic trend, while not originating with Cosmas, was synthesized and exaggerated in his works. Both philosophically and cartographically Cosmas’ ideas were strictly dictated by his literal interpretation of the Bible. Cosmas’ personal history, however, is rather contradictory to his later narrow interpretation of geography because he was originally a traveling merchant by profession. He claimed to have sailed the Red Sea and the Indian Ocean, trading at the market places of *Abyssinia* and *Socotia*, western India and Ceylon/Sri Lanka, among others. This extensive travel can be substantiated through examination of his detailed description of these areas. As a climax to this unusually broad and worldly experience Cosmas embraced Christianity, going so far as to become a religious monk to demonstrate the depth of his conversion. It has been estimated that between the years of 535 and 548 A.D., in the solitude of a Sinai cloister,

Cosmas wrote, besides his memoirs, an explanation of the universe entitled *Topographia Christiana* [Christian Topography].

Unfortunately, the book which he devoted to a description of countries, and which would have revealed his fine powers of observation, has not survived, like all of his other works - his *Astronomical Tables*, *Commentaries on the Psalms*, *on the Song of Songs*, and *on the Gospels*. Some of his geographic descriptions are to be found as part of the *Topographia*, and a few fragments of the above writings do exist.

The original manuscript of the *Christian Topography* by Cosmas has been lost. The oldest of the three extant codices dates from the ninth century and is preserved in the Vatican Library in Rome (Cod. gr. 699), a very fine uncial manuscript, containing sketches drawn by Cosmas himself, but wanting entirely the twelfth book, which is the last. The other two, dating from the 11<sup>th</sup> century, are preserved in the Library of the St. Catharine Monastery in Sinai (Cod. gr. 11 86) and in the Laurenziana Library in Florence (Plut. 9.28) respectively. All three manuscripts are lavishly illustrated. From the text of the *Christian Topography* it seems quite clear that the original codex contained illustrations. The miniatures accompanying the scientific exposition are mostly the same in all three codices, and they are not only mentioned in the text but also very closely related to it. This close relationship makes it almost certain that they reproduce the illustrations of the original sixth-century manuscript. The situation is different in the case of the biblical illustrations that accompany the theological supplement to the treatise. Their relationship to the text is somewhat problematic and it seems that at least some of them were included in the *Christian Topography* at a later date. There is, besides, in the Imperial Library in Vienna, a Cosmas manuscript, but this contains only a few leaves of the *Topography*. This treatise, completed around 547 A.D., remained rather obscure until 1706 when it was first published in its entirety (the Florentine codex collated with that of the Vatican) by a Benedictine monk, Father Montfaucon, as part of a larger work entitled *Nova Collectio Patrum et Scriptorum Graecorum*.

The *Christian Topography* contains references to nearly seventy authorities selected from among philosophers, historians, travelers, doctors of the Church, soldiers, and statesmen. Cosmas' primary objective and motivation in writing the treatise was to discredit the "false and heathen doctrine of a spherical earth". This he accomplishes with reprehensible religious zeal in the first book [chapter]. In order to disprove the pagan writers with such stature as Plato, Aristotle, Strabo, Pythagoras, Eudoxus, Pytheas of Marseilles, Ptolemy, Eratosthenes, and many others, Cosmas used two very effective weapons: the words of God and his "common sense".

In subsequent *Books (II-XII)* he fulfills his secondary objective, that of revealing the "true doctrine" of the universe and the earth's place in it, as defined by Cosmas' interpretation of the Scriptures, confirmed by the Church Fathers (*Book X*) and even non-Christian sources (*Book XII*).

In addition to the above mentioned classical/pagan writers, Cosmas also takes issue with fellow Christian writers, such as Saint Basil, Isidore of Seville, Origen and others who either avoided the controversy of a spherical earth or argued on the side of the pagan scientists. Some of his fellow Christian writers openly declared that it did not matter so far as faith was concerned whether the earth was a sphere, a cylinder or a disc. But this sort of rationalizing was not good enough for Cosmas. God had once explained to Moses on Mount Sinai exactly how the *Tabernacle* was to be built, and when it was found in the writings of Saint Paul that there was a passage which could be interpreted to mean that the *Tabernacle* was a picture of the world, it was quite natural for the

Church Fathers to envision the world as a vast tabernacle: a tent with a rectangular base, twice as long as it was broad, and with an arched roof supported by four pillars. Both prophets and apostles, says Cosmas, agree that the *Tabernacle* was a true copy of the universe, the express image of the visible world.

Using this biblical passage by the Apostle Paul (*Hebrews IX:1-2*) which declares that the first Tabernacle was a pattern of this world, for the first “*had ordinances of divine service and a worldly sanctuary; for there was a tabernacle made; the first wherein was the candlestick and the table and the shew-bread, which is called the Sanctuary*”. Cosmas undertakes, with much else, to explain the symbolism of that Tabernacle in detail. In calling it worldly, Cosmas explained, St. Paul was indicating a sort of pattern of the world; the candlestick represents the luminaries of the heavens (sun, moon, stars); the table was an analogy to the earth itself and the shew-bread symbolized the fruits produced from the world. Cosmas applied the same logic in his conception of the shape of the world, for the *Scripture* said “*thou shalt make the table in length two cubits and in breadth one cubit*” (*Exodus XXXVII:10*). This indicated to Cosmas that the earth was flat and twice as long, from east to west, as it was broad. Moreover, the earth was suspended, as Job said (*Job XXXVIII:38*), on nothing, but was founded on God’s stability.

The heavens come downward to us in four walls, which, at their lower sides, are welded to the four sides of the earth beyond ocean, each to each. The upper side of the northern wall; at the summit of heaven, curves around and over, till it unites with the upper side of the southern wall, and thus forms, in the shape of an oblong vault, the canopy of heaven, which Cosmas likens to the vaulted roof of a bathroom.

This great dome is divided into two strata by the firmament; from the earth to the firmament is the present dispensation of angels and men containing the land, the sea and the inhabitants of the world, with the angels hovering close to the “roof” holding the sun, moon and stars which they controlled. In the second storey, from the firmament to the arch of the second heaven, was to be found the kingdom of the blessed (the saints and angels) and enthroned at the top was Christ himself. From some passages in *Book IX* it may be inferred that Cosmas estimated the distance from the earth to the firmament as double the distance from the firmament to the summit of the Upper Heaven.

The sun, said Cosmas via Solomon, in rising, turns first toward the north, where it went down, and thence hastened to the place in which it arose”. The earth, he tells us, gradually rising up from the south, extends westward, until it culminates at last in a huge conical mountain situated somewhere in the far-away frozen north. Behind this immense cone, the sun at the close of the day disappears from view, and leaves not only the world which we inhabit in darkness, but is the source of darkness “*even to the ocean beyond our earth, and thence to the land on the other side of our ocean,*” until, having circled round the cone, it reappears in the east to give birth to a new day. These facts were “proved” by the furniture of the Tabernacle. Here the candlestick, placed to the south of the table of shew-bread, typified the heavenly bodies shining on the earth; the molding that Moses put around the table of shew-bread signified the ocean encompassing our present world; and by a “*crown of palm’s width*” beyond the molding, was indicated the former world of the patriarchs on the other side of the ocean, where man lived before the flood.

In all this Cosmas passed beyond the position of most of the theologians such as Lactantius (the “Christian Cicero” of the third century) who preceded him. Where they had only denied, he affirmed, and affirmed with definitiveness. The faithful Christian in

earlier times had been content to doubt or dispute the theory of a round world, and the monstrous fallacies such as the *Antipodes* associated with this pagan error; but, until Cosmas, they were never offered a clear alternative - God's word for man's. The system extrapolated by Cosmas was constructed from the *Scriptures* and no 'true Christian' could doubt such a source as this.



Cosmas Indicopleustes World Map, ninth century, 23.3x31.5 cm.

Predicated upon the concept of a "flat earth" and oriented with North at the top and Paradise in the East (right) where the human race dwelt until the Flood when they were transported across the now impassable Ocean. We cannot return to Paradise, but the four rivers regularly flow from Paradise to this world by means of submarine passages

To illustrate this interpretive description of the earth and the universe, the *Christian Topography* contains, in all probability, the oldest Christian maps to have survived. There is little doubt among scholars that the numerous sketches - of the world, of the northern mountains, of the *Antipodes* in derision and the rest - which are to be found in the 10<sup>th</sup> century Florentine manuscript copy were really drawn by Cosmas himself (or under his



direction) during the sixth century; and are thus contemporary with the *Madaba* mosaic map (#121) and at least two centuries earlier than the map of *Albi* (#206), or the original sketch of the Spanish monk Beatus (#207).

Cosmas believes that the *oikoumene* [known inhabited world] is an island encompassed by the ocean in the same way as the middle part of the table is encompassed by the golden wreath. The notion of the *oikoumene* as an island was accepted by ancient geographers with just a few exceptions: Herodotus (484 – 425 BC) noted that the perception of the *oikoumene* as an island should not be accepted uncritically because it had not been proven, and Hipparchus (fl. 161–126 BC) and Ptolemy (AD 90–168) both believed that all seas were land-locked.

The world, as expressed by Cosmas on one of his diagrammatic maps shown here, is rectangular and flat, and is divided into two parts: present and antediluvian. The central part of the rectangular landmass (the present) is surrounded by a likewise rectangular unnavigable *Oceanus* which, in turn, is surrounded by another earth or borderland, *Terra ultra Oceanum*, in which the *Paradise* of Adam was located and “where men lived before the Flood”. Located in the eastern portion of this antediluvian ‘borderland’ or *Paradise* can be found a large rectangular lake, and from this the ‘four sacred rivers’ flow, somehow, through or under the *Oceanus* to the inhabited present world.

Of these the Pheisôn [Pison] is the river of India, which some call the Indus or Ganges. It flows down from regions in the interior, and falls by many mouths into the Indian Sea, enjoying all of the same products as the Nile, from crocodiles to lotus flowers . . . The Geôn [Gihon or Nile] again, which rises somewhere in Ethiopia and Egypt, and discharges its waters into our gulf by several mouths, while the Tigris and Euphrates, which have their sources in the regions of Parsarmenia, flow down to the Persian Gulf . . .

On Cosmas’ map four seas break the regular outline of the *oikoumene*: the Mediterranean in the west, the Caspian in the north, and the Arabian Gulf (Red Sea) and the Persian Gulf in the south. Cosmas describes and represents the seas as four gulfs of the ocean. This perception of the seas may have been determined by the influence of *Genesis* 1:9, in which all the waters under the firmament gather in one place and therefore only one body of water can exist – an interpretation requiring all seas to be connected. This opinion appears in the *Hexaemeron* of Basil of Cesarea. However, a comparable notion of the seas is given in the *Geography* of Strabo:

Our inhabited world, being girt by the sea, admits into itself from the exterior sea along the ocean many gulfs, of which four are very large. Of these four gulfs the northern one is called the Caspian Sea (though some call it the Hyrcanian Sea); the Persian Sea and the Arabian Gulf pour inland from the Southern Sea, the one opposite the Caspian, the other about opposite the Pontus; and the fourth, which far exceeds the others in size, is formed by the sea which is called the Interior Sea or Our Sea.

When Cosmas describes his conception of the seas as the gulfs of the ocean, he admits that this view is in agreement with the opinions of pagans:

There are, in our part of the earth, four gulfs penetrating into it from the Ocean, as is attested by pagans, in accordance with truth, when they deal with this subject, that is: this gulf of ours, which extends along Roman land from Gadeira,

penetrating into the earth from the west, the Arabian Gulf, called the *Erythrean* and *Persian*, both penetrating from *Zingium* (Ziggion) in the south-east part of the earth, next to so-called *Barbaria*, where the land of Ethiopians terminates. They know *Zingium*, those who navigate across the Indian Sea. It is situated beyond the frankincense-bearing country called *Barbaria*, which the Ocean borders before, penetrating into both gulfs. The fourth gulf penetrates from the northeastern part of the earth. It is called the Caspian Sea or Hyrcanian.

According to Cosmas, the four “corners” or extremes of the world are occupied by four nations [i.e., races of man]. In the east are the *Indians*, in the south the *Ethiops*, in the west the *Celts* and in the north the *Scythians*. But their regions are not of equal extent. As the world is an oblong, and the length of it is from east to west, the nations dwelling upon these sides have a far wider range than those that are placed at the two ends. The *Scythians* occupy what is left over from the course of the sun (i.e., the North); the *Ethiops* over against them extend from the “Winter East to the Shortest West”.

A very similar structure of the earth, consisting of the *oikoumene*, surrounded by the Ocean, which in turn is surrounded by the other earth where *Paradise* is located, is described by Ephrem the Syrian (306-373) and Narsai (died 502). Furthermore, to illustrate the structure of the earth, Ephrem compares it with the altar built by Moses described in Exodus 27:1. The similarity of this comparison to that in the *Christian Topography* suggests that Cosmas was probably inspired by an East Syrian source. Yet the fact that Cosmas compares the earth to the table rather than to the altar is striking; the altar is square, while the table is twice as long as wide, a proportion given to the earth by many ancient geographers. This is not the only characteristic of Cosmas’ earth which tallies with the accounts of ancient geographers. The notion of the *oikoumene* as an island was accepted by the majority of ancient geographers. The seas, including the Caspian, were usually described as the gulfs of the Ocean. Moreover, the Black Sea on Cosmas’ map is depicted in the form of two semicircles aligned on top of a straight line. The text of Cosmas’ treatise offers no explanation for such a shape. However, Strabo and Pliny the Elder both compare the shape of the Black Sea to a Scythian bow made of two semicircular horns joined to one another. On the whole, Cosmas gives an image of the *oikoumene* that essentially corresponds to that described by ancient geographers. He correctly locates the sources of the Blue Nile in Ethiopia. Although at some point he confuses the Indus and the Ganges, his geography is unaffected by the miraculous origin of the rivers of *Paradise*; rather, he believes that their sources in the *oikoumene* are merely the points where they resurface after travelling through the Ocean. In effect he maintains a division between what could be explored and known, that is the *oikoumene*, and the miraculous, that is *Paradise*, placed beyond impassable *Ocean*.

Concerning the dimensions of the world Cosmas writes: “for if, on account of a miserable trade, men now try to go to the *Seres*, would they not much rather go far beyond, for the sake of *Paradise*, if there were any hope of reaching it?” The *Seric* or *Silk Land*, indeed, lay in the most distant recesses of India, far past the Persian Gulf, and even past the island of Ceylon. It was also called *Sina* [Malaya?], and just as Barbary or Somaliland had the ocean on its right, so this remote country was washed by the ocean on the left. And so the Brahmin philosophers declared that if you stretched a cord from *Sina*, through Persia, to the Roman Empire, you would exactly cut the world in half.

“Moreover, for as much as beyond *Sina* on the east, and beyond *Cadiz* on the west, there is no navigation, it is between these points that we can best measure the length of the world;” just as from the land of the *Hyperboreans* “living behind the north wind,” and from the

Caspian, that flows in from the Arctic waters, to the *Southern Ocean* and the extreme coasts of Ethiopia, one may estimate the breadth. The first will be found to be about 400 stages; the second about 200. Specifically, the breadth - from the *Northern Ocean* to Byzantium, 50 stages; from Byzantium to Alexandria, 50 stages; from here to the Cataracts, 30 stages; from here to the area called *Axum*, 30 stages; and from here to the incense-bearing coast of Barbary, a district called *Sasou*, about 50 stages. The length - from *Sina* to Persia, was 150 stages; from here to the Roman Empire, at *Nisbis*, 80 stages; from here to *Seleucia*, 13 stages; and to Cadiz more than 150 stages.

There are, of course, many omissions, and in fact the Cosmas map, having no place-names, does not show any of the places described in the *Christian Topography*. His geographical knowledge is quite impressive; he seems to be well informed even about places as distant as China, and he gives some information about India, *Taprobane* (Sri Lanka), and the countries on the shores of the Red Sea. Some of this information could have been acquired during his journeys and some from other travelers or from books. Generally, it is difficult to pinpoint the sources he uses. Even in the case of the theories, whose origin seems to be fairly clear, we must maintain some caution. Such is the case with the rivers of *Paradise*, which according to Cosmas flow underground for part of their course. This image in the *Christian Topography* probably derives from the Syriac sources, as only those sources picture the rivers as flowing not only underground but also under the ocean. Yet it is interesting that numerous ancient sources describe various rivers, very frequently the Nile, as flowing underground for part of their course. Philo of Alexandria (ca. 20 B.C. - after A.D. 40) hypothesized that all four rivers of Paradise flowed underground, although not under the ocean, before resurfacing at various points of the *oikoumene*.

An interesting insight into the influence of ancient geography on Cosmas' map is provided by the peculiar shape that is given to the Black Sea. Cosmas does not mention it anywhere in his treatise, but the fact that it is shown in the same way in all three manuscripts makes it quite likely that this iconography appears on the original map. In all three maps the Mediterranean is shown with two gulfs in the north. The eastern of these gulfs has a peculiar shape and is joined with the Mediterranean by a rounded intermediary sea; the main part, farther north, is represented as consisting of two parts, each vaguely semicircular with the convex side facing up, aligned on the east-west line. The southern shore is depicted as a straight line. This distinctive shape allows one to recognize the northern part as the Black Sea and the southern part as the Sea of Marmara. This depiction corresponds with the descriptions of these seas given by Strabo and Pliny, who compare the shape of the Pontus to that of the Scythian Bow. In accordance with the description of Strabo, the eastern part of the sea is shown as slightly bigger than the western one. Interestingly, both Strabo and Pliny describe Lake Maeotis (the Sea of Azov) as adjoining Pontus, but it does not appear on Cosmas' map.

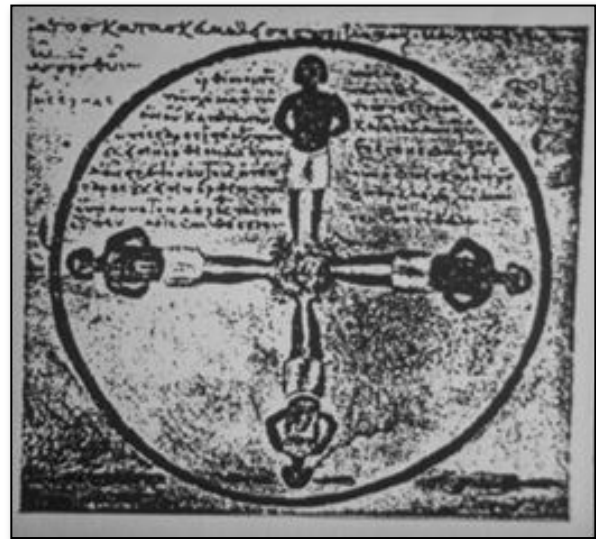
Cosmas, like all good Christian geographers, shrank from the idea of an inhabited part of the world in the *Antipodes*, separated from Christianity by an ocean belt near the equator. The theory of such a region, found in some of the pagan writings of the early Greeks and later by the likes of Macrobius (#201), Isidore (#205) and other perpetuators of pagan thought, was impossible, according to Cosmas, on two counts. In the first place, the region, if indeed there was land there, would be uninhabitable because of the withering heat. In the second place, the inhabitants could not possibly be descended from Adam, since the Ark of Noah carried the sole survivors of the great Flood. The subject of the *Antipodes* and the possibility of inhabitants in that region

became an important theological issue, ably debated by St. Isidore of Seville in the sixth century. Two hundred years later Virgil of Salzburg with Basil and Ambrose agreed that even though it was a delicate subject, it was not necessarily closed to the Church. Cosmas was most emphatic on the subject. Pagans, he said, "*do not blush to affirm that there are people who live on the under surface of the earth . . . But should one wish to examine more elaborately the question of the Antipodes, he would easily find them to be old wives' fables. For if two men on opposite sides placed the soles of their feet each against each, whether they chose to stand on earth or water, on air or fire, or any other kind of body, how could both be found standing upright? The one would assuredly be found in the natural upright position, and the other, contrary to nature, head downward. Such notions are opposed to reason and alien to our nature and condition.*"

In support of the same truth, Cosmas quotes the added testimony of Abraham, David, Hosea, Isaiah, Zachariah and Melchizedek, who clenched the case against the *Antipodes* - "*For how, indeed, could even rain be described as 'falling' or 'descending' in regions where it could only be said to 'come up'?*" Over against these disproofs of folly and error stands the countless array of evidences for the true tabernacle theory, for the flatness and immutability of earth, founded upon God's stability, and for the shape of heaven, stretched like a skin-covering over our world, and glued to the edges of it at the horizon.

The place of Cosmas in history has been sometimes misconceived. No scholar admits that Cosmas' works had any major impact or traceable influence on medieval geographical thought. For, on the whole, its influence is only slightly, and occasionally, traceable. Its author stated his position as an article of Christian faith; but even in those times there was anything but a general agreement with his didactic conclusions. The subtleties of Cosmas were left to the Greeks, for the most part; the western geographers who pursued his line of thought were usually content to stop short at the merely negative dogmas of the Latin fathers; and no great support was given to the constructive tabernacle-system of the Indian merchant.

Yet, after all, the *Christian Topography* will always be remarkable for other than the intended purposes. It represents perhaps the final warning of a certain habit of mind, of that religious dogmatizing which fears nothing but want of faith. Quite apart from the genuinely useful notes that it contains of commercial and missionary travel, it is also one of the earliest important essays in scientific or strictly theoretic geography, within the Christian era, written by a Christian thinker. It is extraordinary that Cosmas should have really done some work in astronomy, and yet should have denied every lesson that astronomy teaches and nearly every assumption on which its progress has been based, yet so stand the facts; and in the *Topography* we have to deal, not with a mere fabulist like Solinus, still less with a servile statistician or tabulator, but with a bold and independent cosmographer. Had he not set out with the purpose of making facts conform to pre-judgments and forcing the heavens to tell the glory of God, Cosmas





might have advanced the science that he set himself the task to overthrow. But it was this very destructive purpose that led him to write. He recognized no good in knowledge apart from the word of the Scriptures; and the observations which are to be found like fossils scattered among the layers of his arguments are, in part, merely to illustrate the latter, and, in part, as we mentioned, are probably taken from his other treatise. In the *Topography* Cosmas was mainly interested in constructing a theological system of the universe: never before or since was so complete and so ambitious an attempt made in this direction; but considerable knowledge, many opportunities, and some education were here allied to fervent piety. It was not because of ignorance or through living in the "Dark Ages" that Cosmas wrote as he did. He flourished at the time when Christianity perhaps most entirely and exclusively controlled a major area of the civilized world; and he seems conscious, not of a feeble and barbarized mind, but rather of having all knowledge for his province. He was not without profane science, but he now saw it (and saw through it) in the light of theology, the crown of sciences.

Cosmas Indicopleustes' synthesis of the ancient and biblical cosmologies as elaborated in his *Christian Topography* (c. 550), and particularly his map of a flat rectangular earth, became a symbol of the decline of cosmology and geography for scholars of the modern period. They believed that Cosmas' original worldview, influenced largely as it was by the Antiochene school of theology, was typical not only for Byzantine science but also for medieval science in general. In fact, it was mostly the Nestorians of Syria who accorded the cosmology of Cosmas real authority. It remained unknown in Latin Europe and, judging by Patriarch Photius' criticism of the *Christian Topography* in the ninth century, the book did not gain unreserved acceptance among the Constantinople intellectual elite. Nevertheless, the existence of richly illustrated manuscripts bears testimony to the fact that Cosmas continued to elicit interest and attract a devoted following of readers in both ninth-century Constantinople and 11<sup>th</sup> century Athos. In the late Middle Ages, there was a resurgence of interest in the *Christian Topography* in the southern and eastern Slavic lands.

S.N. Gukova notes that Cosmas may have subordinated the description of the physical world to moral and ethical objectives. For Cosmas, the model of the world is the tabernacle of Moses. His description of the universe follows the description of the tabernacle in the Book of Exodus; in particular, the form of the inhabited earth corresponds to the rectangular form of the shewbread table as described in *Exodus* 25.23 and 37.10.

The image of the rectangular earth fringed with the ocean was popular in the times of Cosmas. Floor mosaics in churches of the second half of the fifth century and of the sixth century at Nicopolis in Epirus, Heraclea Lyncestis, and other Byzantine cities fill the rectangle of the earth with depictions of flora and fauna and show fish in the ocean. These mosaics express a worldview that sees church as the model of the universe, and the placement of a map of the inhabited world in the foundation of that model is a manifestation of the mystical symbolism of the early Middle Ages. Cosmas started with a similar approach, but insisted on a literal interpretation of the symbol, developing an absurdly rigid cosmological system.

The idea of a spherical earth was well known and accepted both in the East and in the West during the entire period discussed in this book. One can find an interesting confirmation in Byzantine Psalters that illustrate *Psalms* 101 and 103 with a symbol of the round earth. Two human figures stand on the opposite sides of the earth. M. V. Shchepkina dates the earliest of these *Psalms* between 829 and 837.5 In the Vatican

*Psalter* of the second half of the 11<sup>th</sup> century, the men standing on the earth are in both cases called the 'Antipodes'.

In the Florentine manuscript of the *Christian Topography*, a similar symbol was used to demonstrate the stupidity of those who believed in the existence of the *antipodeans*. In the *Psalter*, the irony of Cosmas completely disappears. The *Psalter* illustrations do not reject the idea of a spherical earth and the existence of the antipodeans, but rather take it for granted; in this respect they resemble the illustrations in Gossouin's *Image du monde* of c. 1245.

Cosmas was not a mere theoretician of geography. When he was a merchant in Alexandria, Cosmas traveled much, which was the reason for his nickname, *Indicopleustes*, 'Indian voyager'. It is not clear what exactly is signified by 'India', as he demonstrates a firsthand knowledge of only the Red Sea and northwest of Africa.

**LOCATIONS:** *Nova Collectio Patrum et Scriptorum Graecorum*, Florentine Codex, Biblioteca Medicea Laurenziana, Florence, Italy (Cod. Plut. IX.28)  
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- \*Safi, A., *Mapping Paradise*, pp. 160-162.
- \*Stevenson, E.L. *Terrestrial and Celestial Globes*, p. 36.
- \*Talbert, Richard J. A., Unger, R. W., *Cartography in Antiquity and the Middle Ages: Fresh Perspectives, New Methods (Technology and Change in History)*, pp.139-153.

\*illustrated

Here is the sketch of the grid as drawn by Cosmas around 547-5413 CE in his manuscript *Christian Topography*. The inhabited earth is the rectangle enveloped by the blue oceans, oriented with north at the top. *Paradise* is at the East separated from the earth by a narrow stretch of land. The four principle winds are represented by colorful vignettes of horn blowing heads inside red circles, located in the surrounding ocean. The surrounding ocean itself is inscribed *OKEANOS* (Ocean) with large letters. The legends located at the top, inside the external landmass describes it as: *The region where people lived before the deluge, now inaccessible to humankind*.

The earth is presumed to be a flat rectangle, with a single high rising protrusion at its northern edge, around which the sun and the moon revolve and behind which they are concealed when invisible. The known inhabited region of the world (*oikoumene*) colored orange is outlined in the center, including the Mediterranean (blue, but flaked) and some of its surrounding topography. This is encased in another rectangular strip of orange land, separated from the central part by the Ocean - where people used to live before the Flood, to the east of which is *Paradise*, brimming with fruit-bearing trees, shrubs and colorful flowers. The four green colored rivers emerge from *Paradise*, passing through the external world and under the ocean, emerge inside the *oikoumene* to continue running their courses. The map does not contain names of countries and the legends refer mainly to geographical areas, rivers and seas.

Some of the important features of Cosmas' earth are indicated by the numbers superimposed on the original map, shown below:

#### A - The Seas:

1. The Caspian Sea, which is the circular bulge protruding into the land from the north.
2. The Romaic Gulf (Mediterranean Sea) is the large sea extending inland from the west.
3. The first northward protruding branch from the Mediterranean is the Adriatic Sea and
4. The second branch is The Aegean Sea, which extends northward through the Sea of Marmara (a bulge) continuing north.
5. This extension leads to the Black Sea and the Sea of Azov.
6. The first circular bulge in the south is the Arabian Gulf (the Red Sea)
7. The second bulge is the Persian Gulf and the Arabian Sea.

#### B - The Four Rivers of *Paradise*:

8. Euphrates, which flows from *Paradise*, passes through the outside world, sinking underground it emerges somewhere south of the Caspian and continues its flow to the Persian Gulf.
9. Tigris, which also flows from *Paradise*, going underground and emerging south of the Caspian, continuing into the Persian Gulf.
10. *Phison* or *Indus*, which flowing out of *Paradise* crosses the lands external to the inhabited regions of the earth, passes under the surrounding Ocean and flows into the Arabian Sea,
11. *Gihon*, which traverses the land outside the known world approaching and crossing the surrounding Ocean from the south, eventually flowing into the Mediterranean.

#### C - Other features has shown include;

12. Anatolia (Asia Minor)
13. *Paradise*, the *Garden of Eden*, east of, and separated from, the *oikoumene*, full of trees and flowers.

14. The all embracing Ocean, surrounding the inhabited lands.

15. The world beyond the Oceans, bearing the legend *where mankind used to live before the Flood*.

It must be noted that the idea of rivers running underground or under the oceans are supported by the Bible and by Pliny (only regarding the Nile).

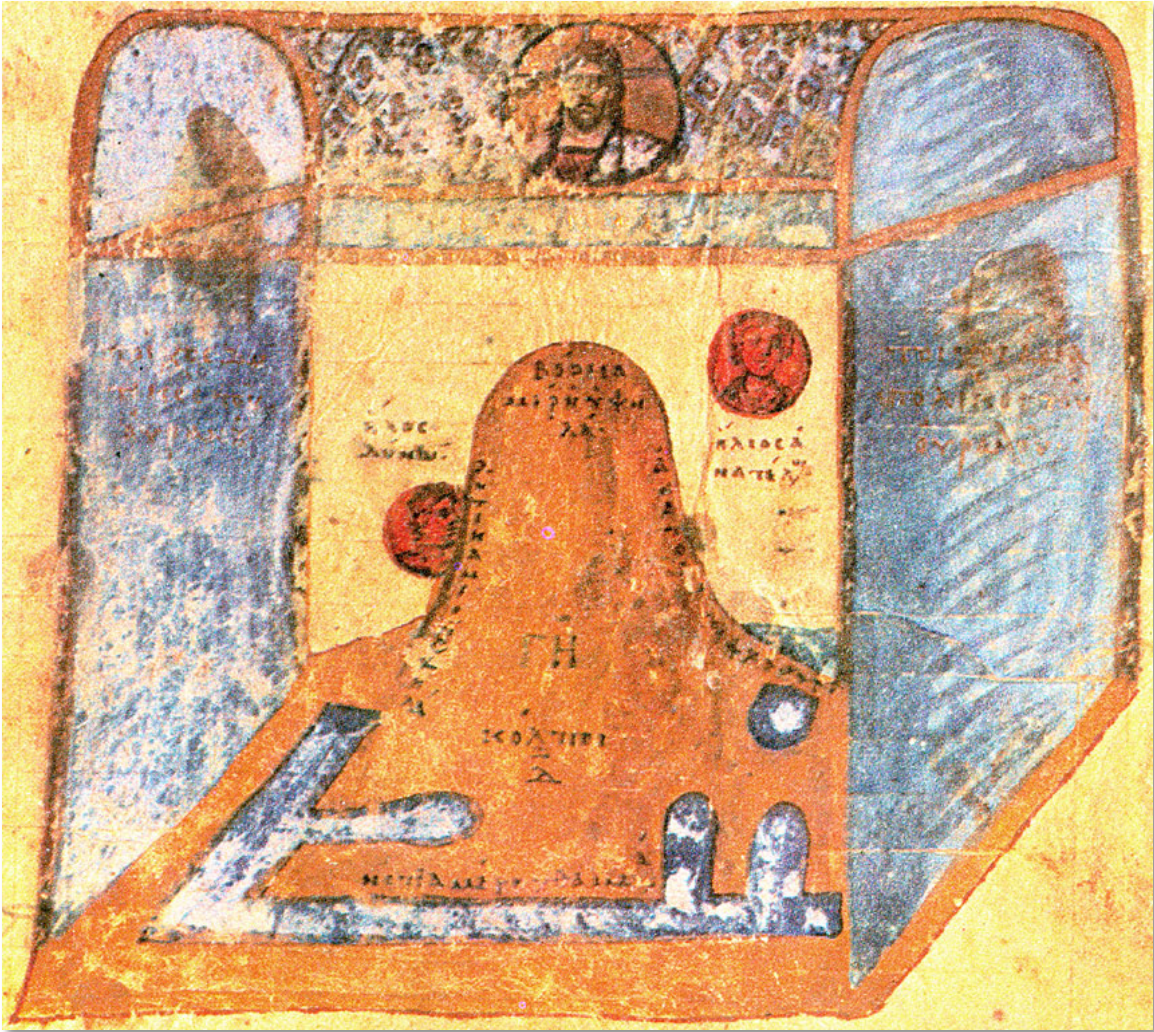




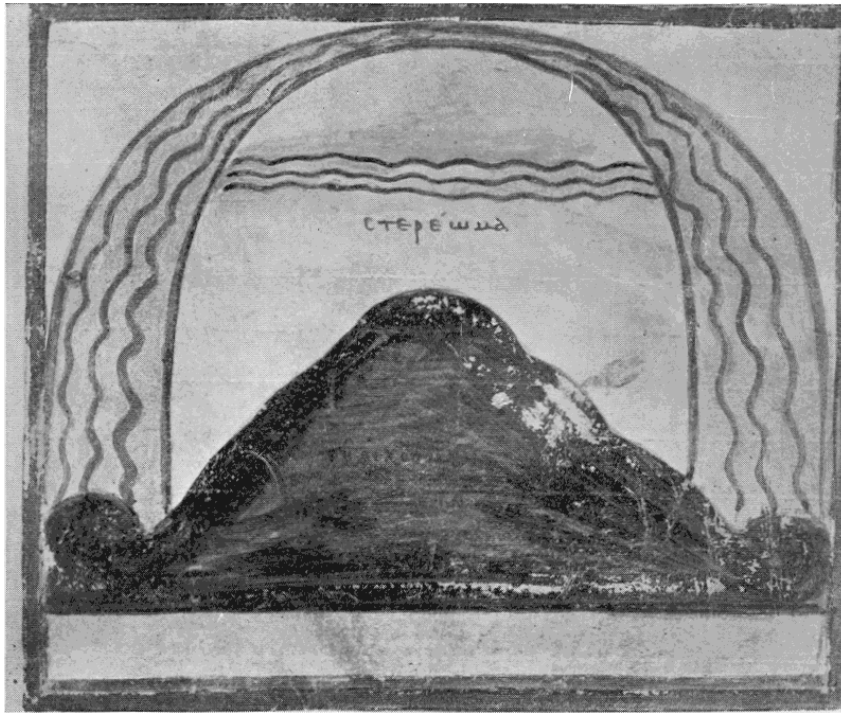


Unknown artist, A sketch of Cosmas' pattern of the universe, Codex Sinaiticus graecus 1186, fol. 65r, 11<sup>th</sup> century, probably from Cappadocia, now at St. Katherine's monastery, Sinai.





Unknown artist, A more detailed sketch of Cosmas' pattern of the universe, Codex Sinaiticus graecus 1186, fol. 69r, 11<sup>th</sup> century, probably from Cappadocia, now at St. Katherine's monastery, Sinai.

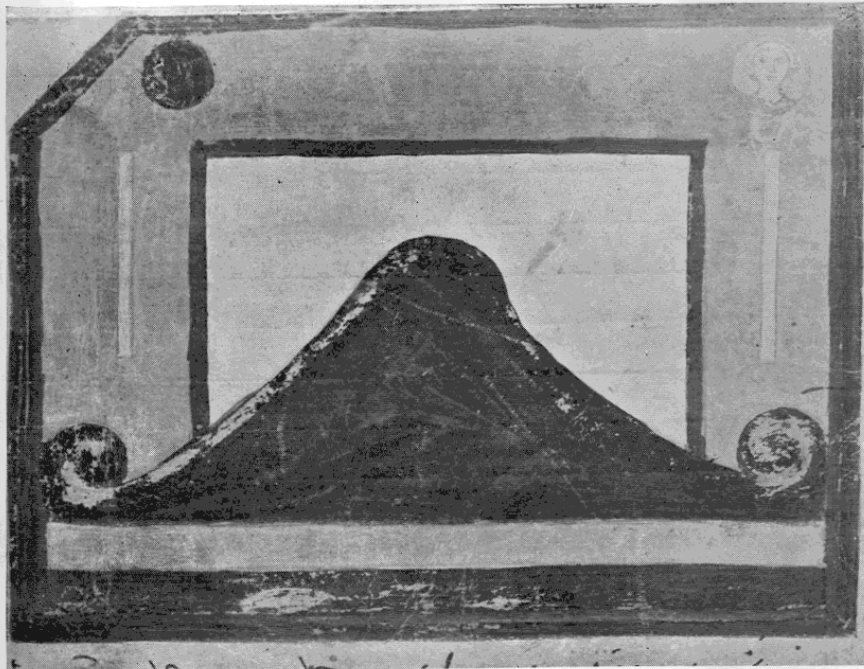


The firmament.

Plate II

From L, fol. 90<sup>v</sup>, after *χώροι δύο* (p. 128, l. 30).

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*Dawn of Modern Geography.*]



The world and the pillars of heaven.

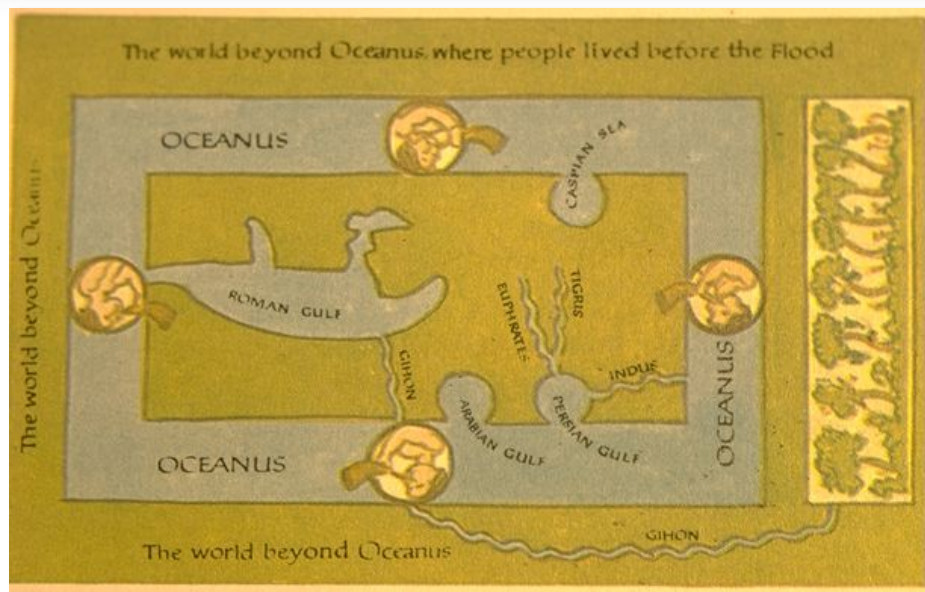
Plate III

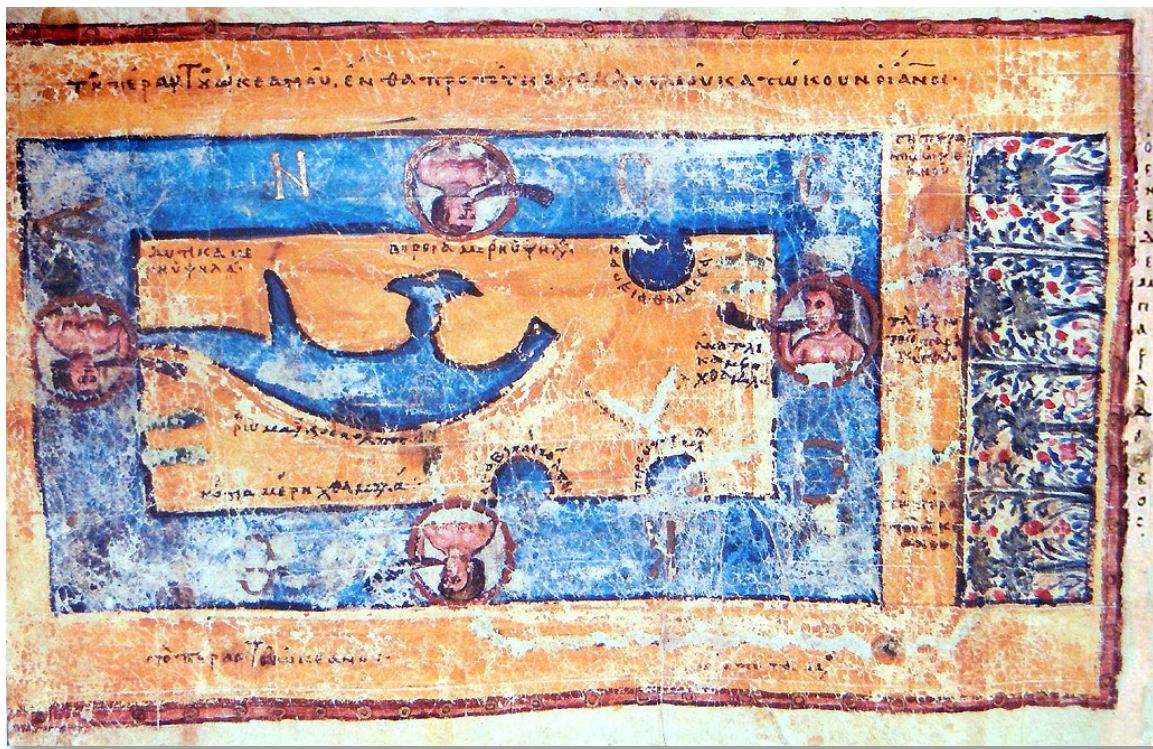
From L, fol. 92, after *πύλος* (p. 129, l. 21).

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*Dawn of Modern Geography.*]









Unknown artist, Cosmas' map of the earth, Codex Sinaiticus graecus 1186, fol. 66v, 11<sup>th</sup> century, probably from Cappadocia, now at St. Katherine's monastery, Sinai





Cosmas, *Christian Topography*, copy from 7-8<sup>th</sup> century, Bibliotheca Apostolica, the Vatican, MS Vat. Gr.600, f.40v  
 End of the 10<sup>th</sup> or beginning of the 11<sup>th</sup> century (Cavallo), probably Iviron Monastery on Mount Athos.  
 260 x 190 mm. North is at the top. Eight geographic names noted. Waterways are blue, the land is in yellow color, and the legends are written in red.

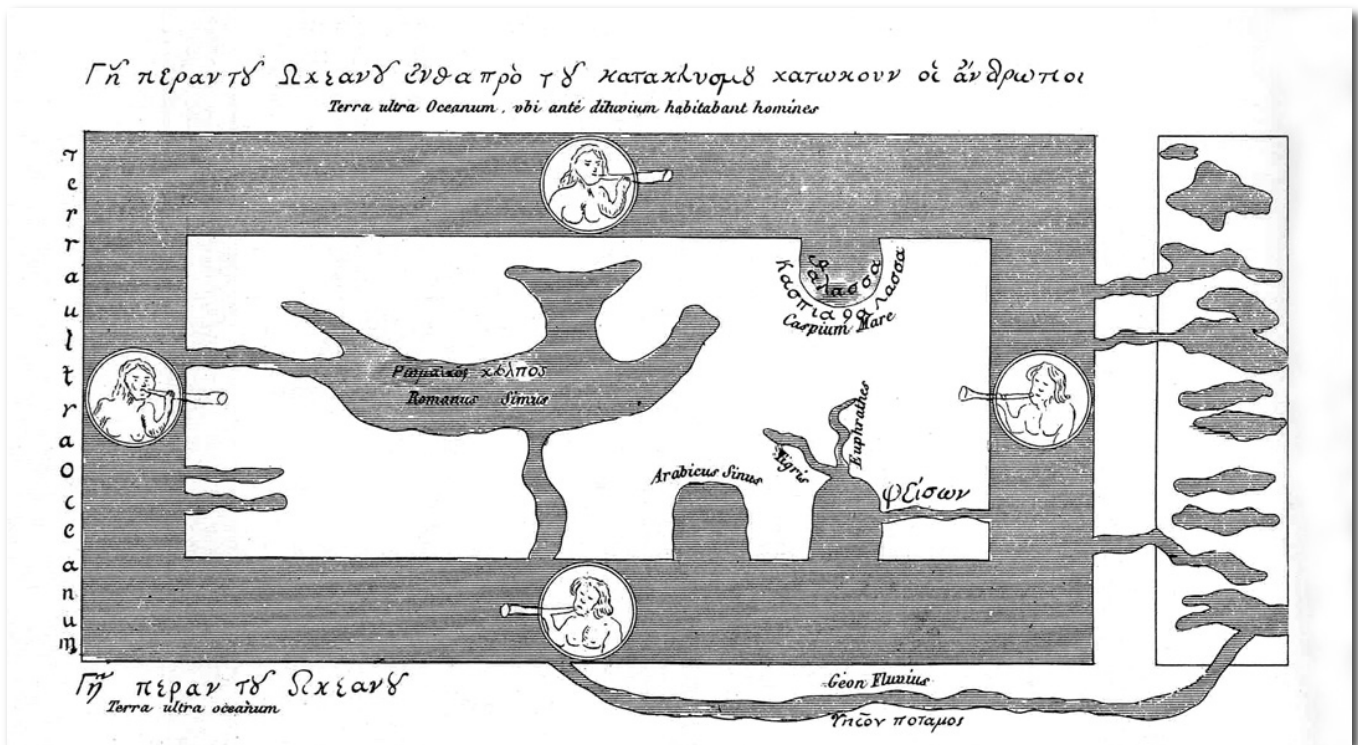


The inhabited land on these maps is represented by a rectangle with a 2 :1 ratio of length to width. It is washed by a rectangular ocean. Behind the ocean, the maps show 'the land on the other side of the ocean where humans dwelt before the flood'. That land extends in all directions. In the east it includes *Paradise* with blooming gardens. The four rivers that originate in *Paradise* later continue their course in the inhabited world. In the north and west of the inhabited world there are mountains, behind which the sun sets for the night. In the south and east, there are lowlands. Cosmological ideas reflected in these maps are very original. Nevertheless, as noted by Heinrich Wuttke, the basic structure of the inhabited world is amazingly similar to the schematic western European maps with four gulfs. Common features include the rectangular inhabited world; the outline of the Mediterranean water system, 'the Roman Gulf' which singles out the Adriatic Sea, the Aegean Sea, and the Black Sea; and depiction of three similar gulfs - the Caspian Sea in the north, and the Persian Gulf and the Arabian Gulf in the south.

Among Byzantine images of rectangular world, the maps in the *Octateuch* (the first eight books of the Bible) are the closest to Cosmas maps. One of the manuscripts with a map was written in Constantinople in the second quarter of the 12<sup>th</sup> century for Isaac Comnenus, whose name is mentioned between 1138 and 1152. The second *Octateuch* with a map, by a provincial scribe, perished in the fire of Izmir (Smyrna) in 1022. The maps serve as illustrations to *Genesis* I.24, showing the rectangular land filled with 'quadrupeds and wild beasts' and waters stocked with fish. As opposed to the illustrations in the *Christian Topography*, the maps in the *Octateuchs* have no geographic names. The influence of Cosmas' cartography reveals itself in depictions of personified winds. Some of the animal images also have analogues in the illustrations to the *Christian Topography*. Cynthia Hahn has demonstrated, however, that the initial idea to embellish the *Octateuch* with a map appeared independently of the *Christian Topography*, and that the role of Cosmas' book was limited to modifying this map. An earlier, 11<sup>th</sup> century *Octateuch* contains two



poorly preserved maps on one page. They do not display characteristic features of the maps from the *Christian Topography*, but show a round and, it seems, spherical world, upon which one can probably discern the contours of the Mediterranean





## EXPLANATION OF THE PLATES.

Plate 1.—The picture on the left represents the City of Adulè—that on the right an Ethiopian travelling from Adulè to Axomè. The lower picture on the left is the tablet with the Greek inscription copied by Cosmas. It is surmounted by the figure of Ptolemy Euergetès, standing in a warlike attitude. The throne represented on the right is ascribed to the same Ptolemy by Cosmas, but erroneously. It was placed at Adulè by an Axumite conqueror. The writing on the right of it is Διόφωτος Ἰερολυμίτης, Ptolemy's chair.

Plate 2.—The figure of the earth and the heaven, as Cosmas and the ancient Fathers conceived it. The cross-bar represents the firmament.

Plate 3.—A picture of the waters above the firmament.

Plate 4.—A representation of the conical mountain, and also of the sun and the moon under the firmament. The inscription along the pillars is : οἱ στήλοι τοῦ οὐρανοῦ, the pillars of the heaven.

Plate 5.—A tracing of the inhabited world (γῆ οἰκουμένη).

Plate 6.—A representation of the oblong rectangular figure of the earth which we inhabit, with its surrounding ocean, which is itself surrounded by the other earth which was the seat of Paradise and the abode of man before the Flood. The four gulfs which penetrate into our earth from the ocean, and the rivers which flow into it from Paradise, are also depicted. Above the ocean in the outer earth is this inscription : Ἡ γῆ πᾶσα τοῦ ὕδατος ἔσθ' ἐπὶ τοῦ κατακλυσμοῦ καὶ τοῦ ὕδατος, the earth beyond the ocean where men dwelt before the Flood. The lateral inscription is : Ἡ γῆ πᾶσα τοῦ ὕδατος, the earth beyond the ocean. The inscription in the figure of the great gulf coming from the west is Ὑψιστοῦ Κόλπος, the Roman gulf, i.e., the Mediterranean. The gulf coming from the north Cosmas calls Κασσπία Θάλασσα, the Caspian Sea. The name of the northern river is Φρισών, and of the southern Ἰνδὸν ποταμὸς, the Pison and Gihon of our bibles.

Plate 7.—A representation of the earth with the walls which come down to it from heaven. The four gulfs are shown, and the conical mountain in the north-west whence the earth slopes downward to the south.

Plate 8.—A picture of the conical mountain with three circling lines to show the paths of the sun as he moves round it at different altitudes, thus making the nights shorter or longer. The words written here are μεσπὴ νύξ, μέση νύξ, μεγάλη νύξ, short night, night of medium length, long night.

