

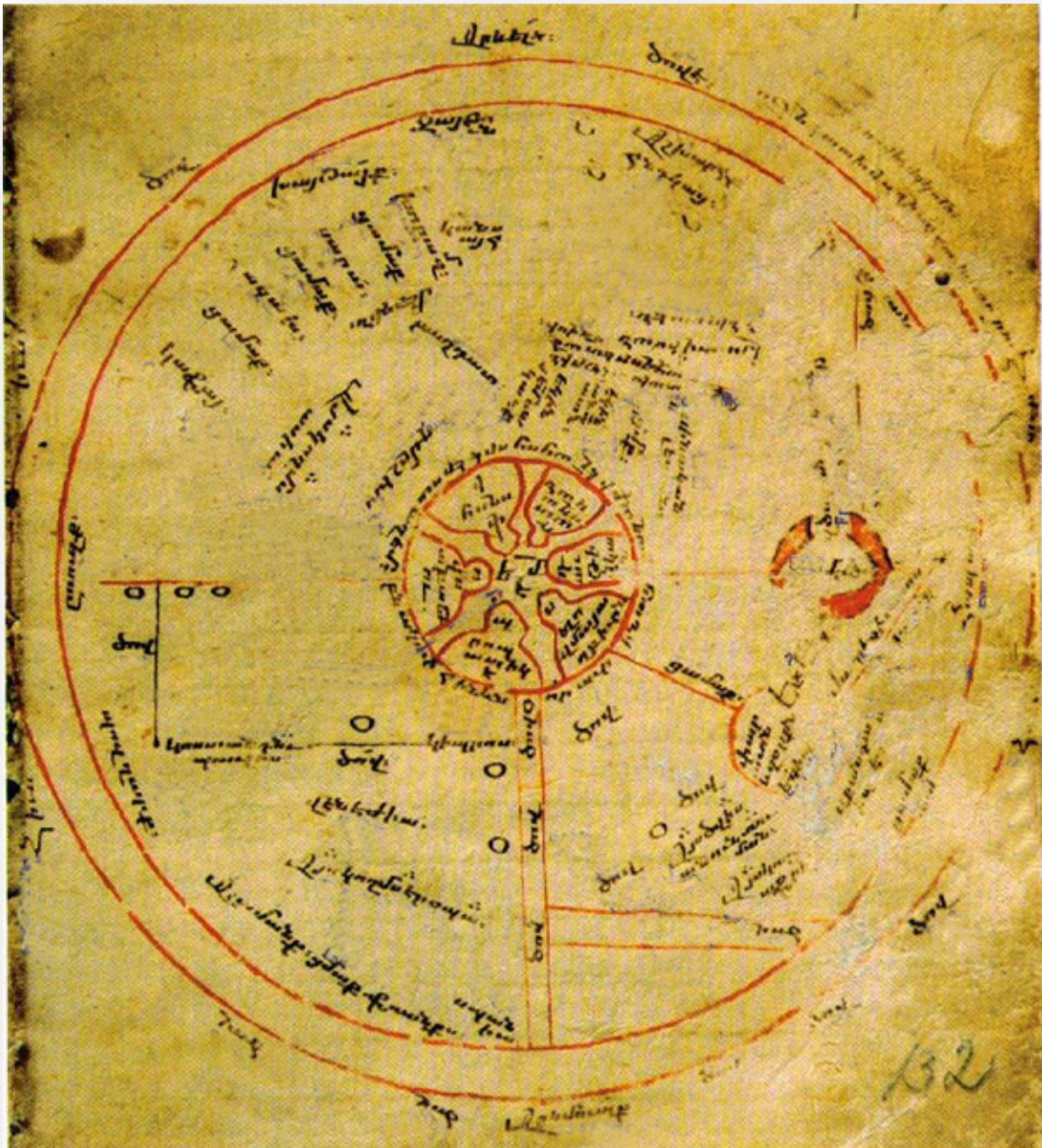
A Medieval Armenian T-O Map

By Rouben Galichian

The Matenadaran archive collection in Yerevan, capital of Armenia, contains some 14,000 manuscripts from the golden age of Armenian literature, beginning in the 5th century, and from later periods. Among these manuscripts are many illustrated works on astrology and astronomy as well as some on geography, but virtually nothing contains a map. The oldest geographical work originates from as early as the fifth century and is titled in Armenian *Ashkharhatzuytz* or *Mirror of the World*. One full and almost sixty abridged manuscript copies of this work have survived, thirty-three of which are in the Matenadaran. The original *Ashkharhatzuytz* is attributed by some to the 5th century Armenian historian Movses Khorenatzi, while others believe that it is the work of the 7th century scientist and astronomer Anania Shirakatzi. The text is based on the work of Pappus of Alexandria (late third or early 4th century AD), but the chapters relating to Armenia and neighboring countries have been expanded. A later version of the *Ashkharhatzuytz* by the 13th century historian and geographer Vartan Areveltzi is also extant in multiple copies (MS 3119, 4184 and others). Both the earlier and the later versions display the influence of Ptolemy, and as in the case of Ptolemy, no maps accompany these manuscripts.

One exception to the general lack of maps in the Yerevan archives is MS 1242, a collection of eighteen unrelated essays on religious, moral, mathematical and astronomical subjects dating mainly from the 13th to the 15th centuries. The manuscript is in various hands and has been written on paper. There are 205 numbered leaves, each measuring about 16.5 x 12.5 cm. Folio 131v contains a table of angles of the elevation of the solar orbit. The facing page, folio 132r, bears the circular world map. On the verso of the map page (fol. 132v) is the beginning of an article on mathematical riddles. The map has no obvious relation to anything else in the volume. This map is believed to be the oldest Armenian language map in existence. Its presence in the manuscript raises questions about how such an essentially non-Armenian-style map came to be made by an Armenian, and when, considering that this is the only T-O type map bearing Armenian inscriptions known to exist.

The map on folio 132r can be described as of the T - O type, but its construction has been modified. The two circles, drawn in red, that form the O measure 12.5 cm and 11.3 cm in diameter respectively, with the size of the larger circle being dictated by the width of the page. The horizontal arms of the letter T (stretching north and south from Jerusalem at the centre) are not represented by the rivers *Tanais* (Don) and Nile, as in conventional T-O maps, but by single red lines ruled, it would seem, to demarcate Asia from Europe and from Africa. Only the northern end of the single red line might be considered to represent the river *Tanais*, the traditional divide between Europe and Asia. Two vertical parallel red lines (running from Jerusalem to the western edge of the map) represent the unnamed Mediterranean Sea that separates Africa and Europe. In accordance with the Western Christian T-O maps, the Armenian map is oriented with East at the top.



Yerevan, Matenadaran, MS 1242, fol. 132r.

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Also as in many maps of the T-O genre, the centre is occupied by the Holy City of Jerusalem, which is shown with its six gates, each inscribed with its name in Armenian. The circular legend around the city reads *The city of Jerusalem populated in ancient and recent times by the Israelites* [the Armenian phrase reads *Bnakui hin yev nor avrinatz qaghaq I[sra] letzotz vor e Yerusaghem*]. The considerable prominence given to Jerusalem can be explained by the fact that the Armenian Church had, and still has, close ties with the Holy City and is one of the four custodians of the Holy Places, with a

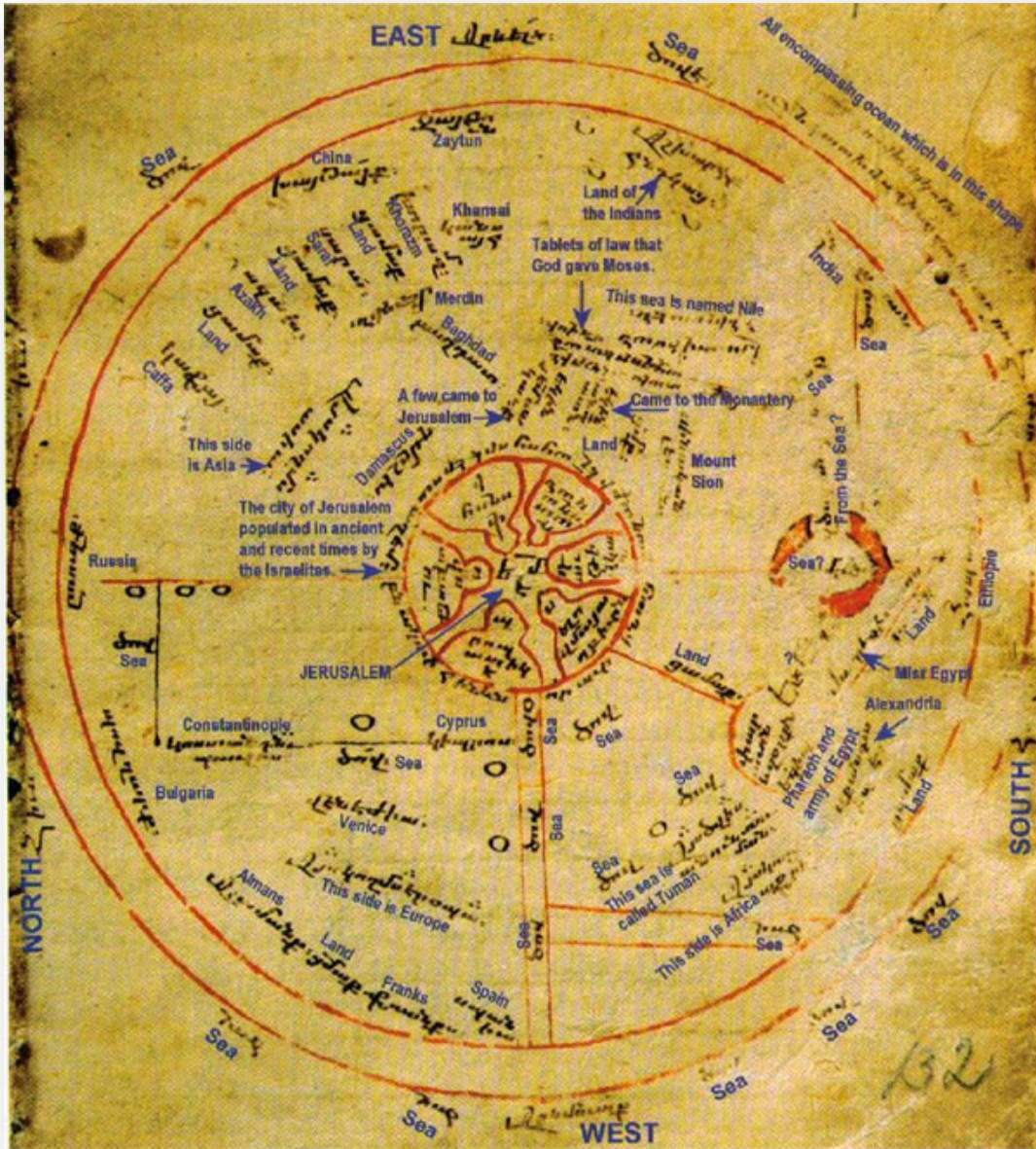
church, seminary and religious order active since the 5th century. It may be worth bearing in mind that for the first four centuries of Christianity it was predominantly an Asiatic and North African religion, and that the Christian world was not divided into a Latin West and a predominantly Byzantine East until after the Council of Ephesus in 431. Christianity had reached Armenia through the preaching of the Apostles Bartholomew and Thaddeus. It became the state religion in 301, after the conversion of King Tigran III, which makes the Armenian Church one of the oldest Christian entities. Armenian Christianity's ties with the Latin churches were severed in 554 over irreconcilable doctrinal differences.

In both shape and arrangement, the city sign is akin to that on the *Hereford mappamundi*, c.1290 (#226), although it lacks the enclosing crenulated walls of the *Hereford* map sign. It also resembles the plan of Jerusalem in another Armenian manuscript in the Matenadaran, the much later MS 1770 that dates from 1589. It contains a collection of religious, geographical, astronomical and historical works. In Section 11, containing a text related to the Old Testament, there is circular plan of the city of Jerusalem (fol. 392r), which is similar to the plan of the same city drawn in the centre of the world map of MS 1242. Although made in geographically widely separate locations, a common source or tradition may be suspected, especially were the Armenian map to prove to have been made before the end of the 13th century, which would place all these maps to within one hundred to one hundred fifty years of each other. The city plan in the 16th century MS 1770 also would seem to have been derived from the same common source or tradition.

As shown in the following Table, in addition to Jerusalem, twenty-seven place-names are found on the map. A number of descriptive legends are inscribed outside and inside the map proper. Outside the double-circle frame of the map are the names of the four cardinal directions *Hyusis*, *Harav*, *Arevelq* and *Arevmutq*, and the word *Dzov* [Sea] is written seven times. Because the encircling Ocean touches two sides of paper, the words *Hyusis* [North] and *Harav* [South] have had to be split. The significance of the two circles is made clear by the note, also on the outside, *The all encompassing ocean, which is in this shape*. The term *Sea*, it should be noted, as used on the Armenian T-O map, refers any substantial body of water, whether it be an ocean, sea, lake or river. Similarly the term *Land* does not denote a territory as such, but is placed wherever there is a significant gap between neighboring toponyms.

The least ambiguous continental division on the Armenian map is between Africa and Europe. This is shown by the pair of vertical red lines that descend from Jerusalem in the center to the outer Ocean and represent the Mediterranean, which is identified only by the word *Sea*. The Mediterranean contains four circular islands represented by small black circles. One circle, well to the north of the parallel lines is labeled *Kipros* [Cyprus]. The other three are unnamed. One of these is located at the eastern extremity of the Mediterranean Sea, within the parallel lines, whereas the other two lie just to the north of the lines.

The inscription to the left of the stem of the T, below the triangle formed by three dots, reads, *Ays koghms Eropa* [This side is Europe]. Around the periphery are the names of three nations, those of the *Bulgharq* [Bulgars], *Alamanq* [Germans] and *Franks* [Franks], and one country, *Spania* [Spain]. Further in from the Ocean two cities are named, *Kostandnupolis* [Constantinople] and *Venejia* [Venice]. The choice of these two cities within Europe is unlikely to have been accidental. Venice was an important entre port for Armenian merchants, and Constantinople, capital of the Byzantine Empire, was the most important religious and political centre outside Jerusalem.



English translation of the toponyms and legends, overlaid on the medieval Armenian T-O map

Table 1. Place-Names Found on the Armenian T-O Map

<i>In Asia:</i>		<i>In Europe:</i>	<i>In Africa:</i>
<i>Rasq</i> Russia	<i>Kansaih</i> Khansai	<i>Balgharq</i> Bulgars	<i>Misr-Yegiptos</i> Egypt
<i>Khaytai</i> China	<i>Zaytun</i> Zaytun	<i>Alamanq</i> Germans	<i>Skandaria</i> Alexandria
<i>Ashkharq Hndkatz</i> Lands of the the Indians	<i>Merdin</i> Mardin	<i>Franks</i> Franks	[<i>Karmir</i>] <i>Dzov</i> Red Sea
<i>Hndkastan</i> India	<i>Baghdad</i> Baghdad	<i>Spania</i> Spain	<i>Hapash</i> Ethiopia
<i>Kafa</i> Caffa	<i>Dmshkh</i> Damascus	<i>Kostandnopolis</i> Constantinople	<i>Tuman</i> Tuman (lake)
<i>Azach</i> Azov	<i>Nil</i> Nile	<i>Venejia</i> Venice	
<i>Khorazm</i> Oxiana	<i>Sinakan learn</i> , Mt	<i>Kipros</i> Cyprus	<i>In the centre:</i> <i>Yerusaghem</i> Jerusalem

The legend at the right of the T reads *Ays koghms Afrika* [This side is Africa]. Between the inscription and the Mediterranean, that is in western Africa, is a small circle which, being inland, can only denote a lake. Indeed, that is how it is identified, with the phrase *Ays dzovis anunn Tuman* [This Sea is named Tuman]. West of this water body, an unnamed river is shown by a pair of parallel red lines bearing the simple inscription *Sea*. These lines, drawn almost at right angles to the Mediterranean, connect with the outer Ocean. On the other (eastern) side of the legend indicating Africa a large red circle contains the legend *Paravon yev zorqn Yegiptosi* [Pharaoh and the army of Egypt]. To the right of this is the city of Alexandria (named *Skandaria*).

The Red Sea [*Karmir*] *dzov*; only the word sea is legible on the map) is shown as a bold open circle on the borders of Africa and Asia. It is outlined in black, colored solidly in red and interrupted as if to indicate the traditional crossing of the Israelites as they fled from Egypt. The legend that appears to refer to the Crossing of the Red Sea is worn and partly illegible. Southeast of this sea the inscription reads *Misr-Yegiptos*. *Misr* is the Arabic name of Egypt, used also in old Armenian, which the mapmaker has chosen to employ in conjunction with the later-day Armenian name of the country. Directly south of the Red Sea, near the shores of the surrounding Ocean, lies Ethiopia, named *Hapash*. The Nile is placed well inside Asia, where a vertical (east–west) red line running from close to the eastern Ocean towards the Red Sea bears the legend *Ays dzovis anun Nil asen* [This Sea is named Nile].

The division between Europe and Asia, normally marked with the horizontal crossbar of the T, here is demarcated with a single red line and is more complex. Two black lines, drawn at right angles to each other and to the red lines of the continental division and the Mediterranean, indicate the Aegean and Black Seas. A gap in the horizontal line for the Aegean, filled with the name *Kostandnupolis* [Constantinople], seems to imply that the line also represents the Dardanelles, the Sea of Marmara and the Bosphorus. North of Constantinople, the vertical black line, inscribed only as *Sea*, represents the Black Sea. The northern extremity of the red line dividing Europe and Asia, beyond the eastern end of the Black Sea, must also stand for the Sea of Azov (for which there is no place-name) and the river *Tanais*. Three unnamed islands are placed in this area, all at the eastern end of the Black Sea. Although the whole representation may be highly schematic, the way that the Aegean Sea is depicted as branching off from the Mediterranean to the west of Jerusalem and the east–west alignment of Black Sea, shown at right angles to the northern end of the Aegean near Constantinople, presents a more faithful picture of reality than many other T-O maps.

In keeping with T-O maps in general, the greater part of the Armenian map is

allocated to Asia, inscribed *Ays koghms Asia* [This side is Asia]. In the north, following the curve of the encircling Ocean, and on the borders of Europe and Asia, is written *Rusq* [Russia]. East of Russia a series of place-names is inscribed at right angles to the circle: *Kafa* [*Caffa*, the name given by the Italians to the Greek Crimean city of Theodosia], *Tzamaq* [Land], *Azach* [the city of Azov], *Tzamaq* [Land], *Sara* [Sarai], *Tzamaq* [Land], *Khorazm* [Oxiana] and finally, placed horizontally near the top of the map *Kansaih* [Khansai, a trading city in China]. *Caffa* is today the Ukrainian city of Feodosia in the Crimean Peninsula. *Sarai* refers to the capital of the Mongols; it is either *Sarai-Batu* (Old Sarai), built in 1240s, or *Sarai-Berke* [New Sarai], dating from around 1260. These cities were located in the region of Astrakhan, northwest of the Caspian Sea. The 14th century Arab traveler Ibn-Battuta (1304-1368/9) described the port of *Khansai* [*Khansa* in Arabic], located not far from *Zaytun*, another city on the map, as the largest metropolis in Chin. By adding the word *Land* between the toponyms, the mapmaker has tried to show that although these towns are widely separated and distant from each other, they constitute a chain of cities along a route that can only be the Silk Road.

In the east, in the upper part of the map close to the Ocean are the names *Khaytai* [China] and *Zaytun*, another Chinese trading port city. *Zaytun* was the Arabic name given to the port of *Quanzhou* or *Tseu-Tung* in the province of Fujian, China. In the Middle Ages it was an important trading centre for Arabs and Persians. According to Ibn-Battuta, this was the largest port [he] had ever seen, which could easily accommodate more than 100 large Chinese junks. The port was located across the sea from the island of Formosa. The 13th century traveler Marco Polo mentions *Zai-tun* and *Kin-sai* as being important cities, trading with Japan (*Zipangu*), as well as with the Arabs and Persians. Then comes *Ashkharq Hndkatz* [Lands of the Indians], followed well to the southeast by *Hndkastan* [Hindustan or India]. In the Middle Ages, the designation India was used loosely to refer to the lands east of Persia, Media and the Middle East. So here *Lands of the Indians* most probably refer to the northern and western neighbors of India, such as Persia and its neighboring countries, while *Hndkastan* denotes India proper.

The presence of these toponyms in the area between Europe and China bears witness to the importance of these towns and provinces in trade and commerce between East and West and is perhaps indicative of the period of the map's creation. It may also be that this is the earliest Christian map on which the toponyms *Caffa*, *Azov*, *Sarai*, *Zaytun* and *Khansai* are found. *Zaytun* and *Khansai* appear on the *Catalan Atlas* of 1375 (#246) as *Ciutat de Zaytun* and *Ciutat de Cansay*, respectively; Fra Mauro's map of 1459 (#249) contains these toponyms as *Cayton* and *Chansay*. Finally, towards the center of the map we see the cities of *Merdin* [Mardin], *Baghdad* [Baghdad] and *Dmshkh* [Damascus], all of which were important trading centers.

The dating of this map has been controversial. The geographer Mkrdich Khachaturian's suggestion that the map dates from 1206 is unlikely to be correct. His conjecture was based on the assumption that all the toponyms on the map are contemporary with the time of its creation. Furthermore he claimed that since *Mardin* appears prominently on the map, it must have been made before the conquest of that city by the Arabs, in the early 13th century. These are doubtful lines of argument; information took time to be disseminated, and maps were only slowly updated. Moreover, in the case of the Western *mappaemundi* the very essence of the map was the inclusion of old (historical as well as biblical) information together with contemporary places and events. It was usual for medieval maps, in short, to depict conditions in existence some time before their creation.

There is nothing, then, untoward in the inclusion on the Armenian map of Sara (*Sarai*), a city founded only in the 1240s by Batu Khan, the grandson of Mongol leader Gangiz Khan, who took over the territory of southern Russia and its Turkic speaking peoples during the early 13th century. The Flemish Franciscan William de Rubruck (1220-1293), who in 1253 travelled to the region, stated that [Sarah] Batu was one of the most important cities of the region. This posed a problem for Khachaturian, however, and he therefore had to insist that the toponym *Sara* related not to *Sarai-Batu* but to some other location, perhaps a putative island in the Caspian Sea, even though the Caspian is neither mentioned on the map nor has it ever had an inhabited island named *Sara*.

Khachaturian also proposed that based on paleographic evidence, the map was made in the Cilician Kingdom of Armenia during the Crusades, unfortunately not specifying which Crusade. It is hardly possible to date a manuscript precisely based on paleography alone, and, furthermore, the script used on the map is similar to that in a manuscript produced in Caffa in 1445 (Matenadaran, MS 8963), which is another collection of astrological and scientific subjects, with diagrams and calendars. Looking at the toponyms shown on the map, the question arises why a Cilician-Armenian mapmaker would have included the names of cities along the distant northern Silk Road, instead of the toponyms in his locality. This argument too lacks proper foundation.

Caffa, the first town listed in the row of toponyms along the northeastern periphery of the map, was only a small Crimean seaside town until the 13th century. Only after Genoese merchants had leased it from the Mongols, was it transformed into a flourishing commercial centre, trading with the East and rivaling the Venetian-controlled city of *Tanais* on the Sea of Azov. The earliest mention of *Caffa* in Armenian literature dates from the middle of the 13th century. By the middle of the 14th century, when numerous monastic scriptoria were in operation, the majority of *Caffa's* population of 70,000 were Armenian.

The presence of the name *Caffa* on the map is a strong indication that the map was made during the city's heyday, namely in the 14th century. Such a date would fit the suggestion that the Armenian mapmaker, who was most likely to have been a monk, either saw or was told about contemporary Italian T-O maps in *Caffa*, a city not only administered by the Genoese, but also to all intents and purposes functioning as an Italian city, and one of the most suitably located Armenian communities for intellectual as well as commercial contact with the West.

Since, in my view, the map has to postdate both the establishment of *Sarai-Batu* and *Sarai-Berke* (*New Sarai*, established 1257-1266) and the time when *Caffa* became an important conurbation, it cannot be dated to earlier than the third quarter of the 13th century. Hovhannes Hovhannisian, the other Armenian geographer who has studied the map, argues that the presence of the commercial centers of *Khorazm* [Oxiana] and *Sarai* are indicative of the period when the Mongols had close connections with *Khorazm* (that is, from the 1240s to the 1360s), and this explains the rationale behind his dating the map to as late as 1360. In Rouben Galichian's view, the most creditable hypothesis is that the map was created between the late-13th and mid-14th centuries, or even slightly later, which is in line with Hovhannisian's proposal.

While the majority of T-O maps produced in the Christian West depict Armenia, Mount Ararat and Noah's Ark, this Armenian mapmaker has chosen not to mention any of these Armenian features. Other biblical events and places are shown on the map, however: Jerusalem, the giving of the Tablets of the Law to Moses, Mount Sinai and the Red Sea. The legend to the southeast of Palestine, between Mount Sinai and the Nile reads *Takhtak orinatz zor yet[ur] a[stua]tz Moos[es]i*, which translates *Tablets of law that*

God gave Moses. The toponym for Mount Sinai reads *Sinakan learn*. In addition, two legends in Palestine read *Yekin anapatn* [Came to the monastery] and *Yekin Ye[rusaghe]m sakavq* [A few came to Je[rusale]m].

Monasteries are mentioned on very few Western maps. While the *Hereford mappamundi*, c.1290 (#226) and the *Sawley map*, 1180 (#215) each show a monastic establishment, the references to these have been placed on the banks of the Nile. The Armenian language has several different words that mean *monastery*, among them *liana*, *menastan* and *ananpat*. Significantly, in the present context, the usual meaning of the last is *desert*. The monastery on the Armenian map is not named but is defined as *ananpat*, which suggests a conscious choice, since on the *Hereford* map the whole legend reads *Monasteria Sancti Antonii in deserto*. Since the two Western maps and the Armenian map seem to have been made within one hundred and one hundred fifty years of each other, we can see the reference on the respective maps as further confirmation of the possibility of a common source.

In the end, the absence of reference on the Armenian map to Armenia itself or to any of its immediate neighbors, such as Persia and Assyria, is more puzzling. It can plausibly be deduced, that the author was familiar with Central Asia since current trends in commercial and political relations are well represented by the depiction of the Silk Road cities and major trading centers such as Baghdad, Damascus, Constantinople and Venice. It may also be suggested that the mapmaker was a native of the region, very likely from 14th century *Caffa*, then one of the most important Armenian cultural centers and the source of a large number of manuscripts of that date. Arguably, the lack of any references to Armenia itself could be attributed to the fact that he lived far from his homeland and felt no particular affinity with it.

The existence of this Armenian language T-O map, though, may be owed simply to the curiosity of an individual whose interest in Western maps and literature would have been a sufficient reason for him to create a map of his own in line with those of the Western mapmakers of the time, leaving us an Armenian map as remarkable for its uniqueness as for the hints it gives of the interconnections underlying the T-O maps and the *mappaemundi* of the West.

Location: Matenadaran archive collection in Yerevan, capital of Armenia

Size: 12.5 cm diameter

References:

Galichian, R., "A Medieval Armenian T-O Map", *Imago Mundi*, 60:1 2008, pp.86-92
 Khachaturian, Mkrdich M., "Medieval oval map in Armenian", *History of Science and Natural Sciences in Armenia* (Yerevan, Academy of Sciences of Armenia, 1976), 6: 213-39 (in Armenian)).



This is a very late example of a T-O world map, probably made in Bruges in 1482 for King Edward IV, the founder of the old Royal Library. A sumptuous example of Flemish illumination illustrating an encyclopedic work, it embodies the spirit of medieval civilization. Asia occupies the left, Africa the top right and Europe the lower right portions. The Mediterranean Sea is not shown and only the black African faces convey a hint of reality. The Royal Library was presented to the British Museum as a foundation gift by George II in 1757 (Royal MS 15 E III f.67^v)

The Noachide Dispersion in English *Mappae Mundi* c. 960 – c. 1130

By Marcia Kupfer, Independent Scholar

Peregrinations: Journal of Medieval Art & Architecture, Volume IV, No. 1, pp. 81-106.

How did medieval inhabitants of the British Isles understand their place on the Atlantic fringe of the known world, a place that, from the classical Roman perspective, put them outside the civilized order?¹ Exploring texts, maps, and pictorial art through the lens of cultural geography, historians have delineated various responses to the challenge of remoteness and insularity. Three mutually compatible solutions stand out. First and foremost are compensatory strategies of spiritual and ecclesial incorporation. Thomas O’Loughlin, Jennifer O’Reilly and Diarmuid Scully, for example, explicate Adomnan’s and Bede’s concern to integrate their respective communities into God’s unfolding plan for humanity.² Membership in Christendom, under the aegis of the Roman church, voided the extreme spatial and temporal remove from the scriptural wellspring of grace and election in the Holy Land. Patrick Gautier Dalche similarly interprets the production at Iona, perhaps during Adomnan’s abbacy, of the earliest detailed *mappa mundi* for which there is now compelling evidence.³ The cartographic representation brought the conversion of the oceanic frontier into relation with the mission of the apostles and early desert saints in the world’s interior regions.

This centripetal propensity, albeit foundational, should not be taken for granted. Martin Foys and Kathy Lavezzo have observed ways in which later Anglo-Saxon and English works reclaimed the periphery as a center in its own right.⁴ The hinterland of the frozen north became a zone of spiritual privilege akin to the desert where alienation from human society allowed for closeness to God. Separation from the world conferred an exceptionalism that validated a national identity in tension with the unifying project of *res publica Christiana*. Yet a third dynamic evades the binary of center and periphery.

¹ I am especially grateful to Martin Foys whose question during a discussion at Leeds 2011 prompted this study, and to Diarmuid Scully and Faith Wallis for their comments on an earlier draft. Ideas elaborated here were first sketched out for a piece on a different topic, “The Jerusalem Effect: Rethinking the Centre in Medieval World Maps,” in *Visual Constructs of Jerusalem*, ed. Bianca Kühnel with G. Noga-Banai and H. Vorholt (Turnhout: Brepols, forthcoming 2014). Some overlap has proved unavoidable.

² Thomas O’Loughlin, “The view from Iona: Adomnan’s Mental Maps,” *Peritia* 10 (1996), pp. 98–122; Jennifer O’Reilly, “Islands and Idols at the Ends of the Earth: Exegesis and Conversion in Bede’s *Historia ecclesiastica*,” in *Bede le venerable. Entre tradition et posterite*, ed. Stéphane Lebecq, Michel Perrin, and Olivier Szerwiniack (Lille: Université Charles de Gaulle, 2005), pp. 119–145; Jennifer O’Reilly, “Bede on Seeing the God of Gods in Zion,” in *Text, Image and Interpretation: Studies in Anglo-Saxon Literature and Its Insular Context in Honour of Eamonn O Carragain*, ed. Alistair Minnis and Jane Roberts (Turnhout: Brepols, 2007), pp. 3–29; Jennifer O’Reilly, “The Multitude of Isles and the Corner-Stone: Topography, Exegesis, and the Identity of the Angli in Bede’s *Historia ecclesiastica*,” in *Anglo-Saxon Traces*, ed. Jane Roberts and Leslie Webster (Tempe, AZ: Arizona Center for Medieval and Renaissance Studies, 2011), pp. 201–227; Diarmuid Scully, “Location and Occupation: Bede, Gildas and the Roman Vision of Britain” in *Anglo-Saxon Traces*, 2011, pp. 243–272.

³ Patrick Gautier Dalche, “Eucher de Lyon, Iona, Bobbio: le destin d’une mappa mundi de l’antiquité tardive,” *Viator* 41, multilingual issue (2010), pp. 1–22.

⁴ Martin K. Foys, “The Virtual Reality of the Anglo-Saxon Mappamundi,” *Literature Compass* 1/ 1 (2003): ME 016, 1–17; for an extended discussion, see his *Virtually Anglo-Saxon: Old Media, New Media, and Early Medieval Studies in the Late Age of Print* (Gainesville: University Press of Florida, 2007), pp. 110–158; Kathy Lavezzo, *Angels on the Edge of the World: Geography, Literature, and English Community, 1000–1534* (Ithaca, N.Y.: Cornell University Press, 2006).

Asa Mittman has considered the artistic ramifications of Britain's location on a continuum with the world's monstrous circumference.⁵ Not only did the "marvels of the east" propagate in manuscript illumination, but liminality—both dangerous and powerfully transformative—energized the very role of ornament. For his part, Nicholas Howe, in framing the Anglo-Saxon predicament, moves elegantly between all three complementary possibilities, magnetic attraction to Christian Rome, investment in the local and the vernacular, and fascination with the distant mirror of radical otherness.⁶

The inquiry at hand develops the "centripetal" argument in a reading of triplet English *mappae mundi*—three nearly identical versions of the same cartographic template—from the late 11th and early 12th century. The best-known and most artistically accomplished appears in the deluxe *computus* manuscript of c. 1110 from Thorney Abbey (Oxford, Saint John's College, MS 17, fol. 6r, hereafter SJ), a digital facsimile of which can be consulted in an Internet resource side-by-side with an extensive scholarly apparatus by Faith Wallis.⁷ (Figure 1) A sibling *computus* manuscript of c. 1120 from Peterborough includes a less carefully executed iteration (London, British Library, Harley MS 3667, fol. 8v, hereafter H).⁸ (Figure 2) Both compilations derive from, among other sources, an exemplar associated with the computist Byrhtferth of Ramsey Abbey (d. c. 1016), whose famous cosmological diagram lies in close proximity to the map in each book (SJ, fol. 7v; H, fol. 8r). Because the cartographic scheme pushes Jerusalem into the center of the *orbis terrae*, its design is usually attributed to new European engagement with the holy city during the era of the First Crusade.⁹ Wallis acknowledges the maps' alignment with contemporary continental examples that radically link "home" communities at the far west to Jerusalem at center. However, she also notes the strong appeal of such spatial connectivity in the Anglo-Saxon tradition. Already at the Synod of Whitby (663/664), in Bede's retelling, his champion Wilfred enlisted universalizing geography on behalf of the drive to orient the Insular liturgical calendar to the Roman date for Easter, the operation at the heart of the *computus*.¹⁰ Thematic and codicological ties between the map and Byrhtferth's Diagram in both SJ and H lead Wallis to posit an origin for the cartographic template at Ramsey.

⁵ Asa Mittman, *Maps and Monsters in Medieval England* (New York: Routledge, 2006).

⁶ See in particular Nicholas Howe, *Writing the Map of Anglo-Saxon England: Essays in Cultural Geography* (New Haven: Yale University Press, 2008).

⁷ Faith Wallis, "2. Computus Related Materials: 16. Mappamundi," *The Calendar & the Cloister: Oxford, St. John's College MS 17* (McGill University Library. Digital Collections Program, 2007), <http://digital.library.mcgill.ca/ms-17/index.htm>, accessed September 4, 2012. See also the author's unpublished doctoral dissertation, "Ms Oxford St. John's College 17: A Mediaeval Manuscript in Its Context" (Toronto: University of Toronto, 1985).

⁸ On the relationship between SJ and H, see Wallis, "2. Computus Related Materials: 19. Taxonomy of Knowledge," and *eadem*, "Ms Oxford St. John's College 17," p. 689.

⁹ Anna Dorothee von den Brincken, "Gyrus und Spera: Relikte griechische Geographie im Weltbild der Frühhochscholastik," *Sudhoffs Archiv* 73 (1989), pp. 129–144, esp. 141–144; Anna Dorothee von den Brincken, "Jerusalem on Medieval Mappaemundi: A Site Both Historical and Eschatological" in *The Hereford World Map: Medieval World Maps and their Context*, ed. P. D. A. Harvey (London: British Library, 2006), pp. 362–363; Ingrid Baumgartner, "Die Wahrnehmung Jerusalems auf mittelalterlichen Weltkarten," in *Jerusalem im Hoch- und Spätmittelalter. Konflikte und Konfliktbewältigung - Vorstellungen und Vergegenwärtigungen*, ed. Dieter Bauer, Klaus Herbers, and Nikolaus Jaspert, vol. 28, *Campus Historische Studien* (Frankfurt/Main: Campus, 2001), pp. 294–296; Ingrid Baumgartner, "Erzählungen kartieren. Jerusalem in mittelalterlichen

Kartenräumen" in Projektion- Reflexion-Ferne. Raumlische Vorstellungen und Denkfiguren im Mittelalter, ed. Sonja Glauch, S. Ko□bele, and U. Sto□rmer-Caysa (Berlin: De Gruyter, 2011), pp. 199-200.

¹⁰ Howe, *Writing the Map of Anglo-Saxon England*, pp. 126-128, 158, fleshes out this point.

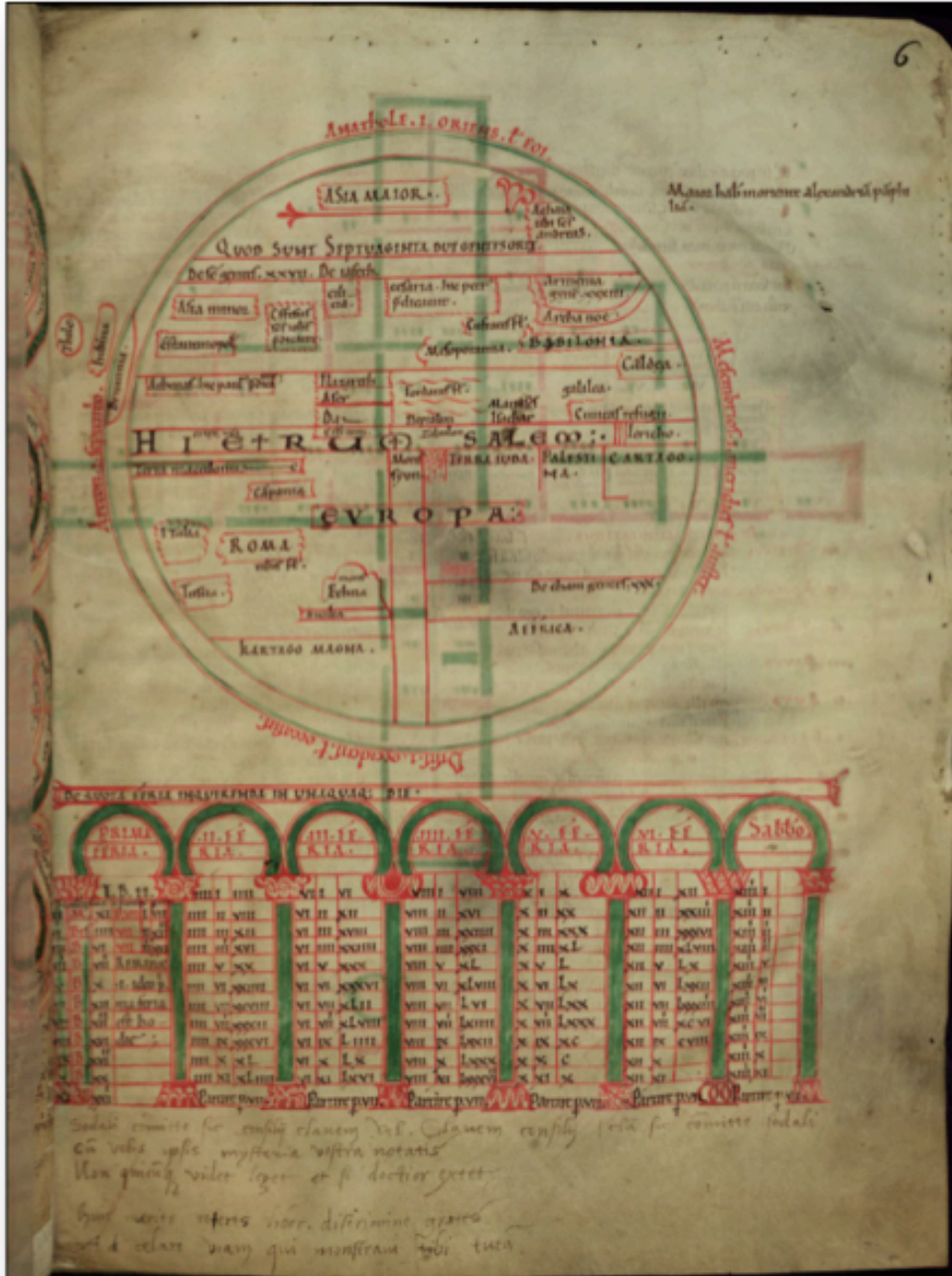


Figure 1. *Mappa mundi* in the Thorney *Computus*, c. 1110. Oxford University, St Johns College, MS 17, fol. 6r. Photo: by permission of the President and Fellows of St John’s College, Oxford).

meantime, he suggests that the source map initially served a pastoral function and traveled through Worcester to Ramsey, where it was only then incorporated into the scientific framework of the *computus*. Furthermore, he maintains that agreements between the Peterborough and Worcester analogues make Thorney the outlier. Whereas Wallis sees correlations with Byrhtferth materials as integral to the map's original formulation, Foys cautions that the linking components may be additions.

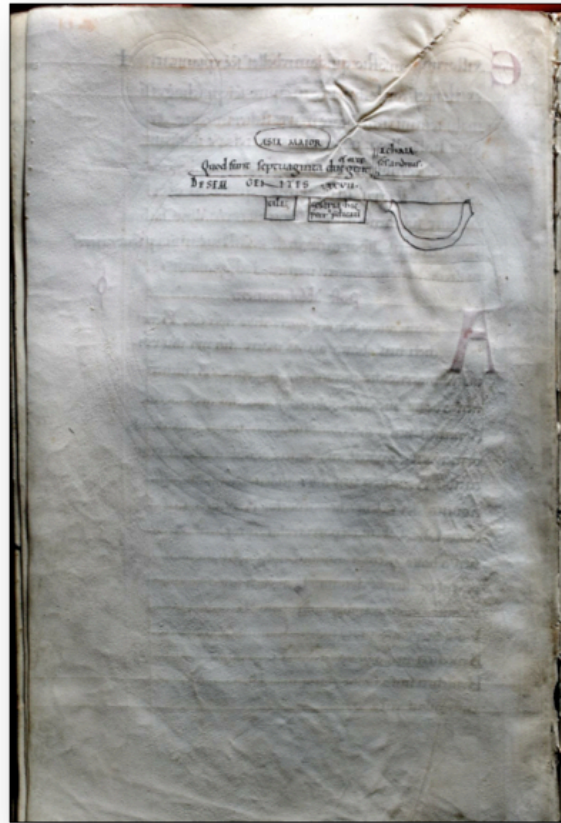


Figure 3. Unfinished *mappa mundi* in Commonplace Book of Bishop Wulfstan II, c. 1100. Cambridge University, Corpus Christi College, MS 265 p. 210. Photo: by permission of the Master and Fellows of Corpus Christi College, Cambridge.

Whether the cartographic template is an Anglo-Saxon invention, a product of the First Crusade, or a turn-of-the-century revision of an earlier design, I cannot answer.¹² My purpose is to elucidate the maps' formal organization and programmatic rationale, heretofore misunderstood. In clarifying the logic of the cartographic scheme, I will not so much adjudicate Wallis's and Foys's competing perspectives as triangulate them. Finally, I insert a fourth element into the conversation, an unfinished map of c. 1125 that shares the rhetorical conceit, but not the design of the triplets. (Figure 4) Its content, attenuated as it is, may shed light on missing elements unique to the Worcester version.

Wallis aptly characterizes the SJ map (and by implication its two analogues) as "a rather exceptional graphic gazetteer constructed of three overlapping lists: . . . provinces of the inhabited world . . . ; nations . . . descended from the three sons of Noah . . . ; and . . . places associated with Biblical and apostolic history."¹³ It is the idiosyncratic spatialization of the lists that remains to be explained. The triplet maps embed a T-O

schema, but refuse its formulaic means of establishing a tripartite *orbis terrarum*. The normative referential armature of the “T,” signifying the aquatic boundaries between the “continents,” is redefined along the horizontal axis and violated along the vertical axis. When at some point during the early Middle Ages the T-O schema for the tripartition of lands was amended to include reference to the Noachide dispersion of peoples, the resultant maps typically assigned Europe to Japheth, Asia to Shem, and Africa to Ham.¹⁴ The triplets, however, do not follow through on this score. Then, too, remarks Foys, the location of places “appears quite jumbled.”¹⁵ He and Evelyn Edson address the “muddled geography” and “confusion” by picking up Anna Dorothee von den Brincken’s idea that the maps adapt a north-oriented Byzantine model to the conventional true orientation of the Western medieval *mappa mundi*.¹⁶ Yet no evidence supports such a hypothesis, doubtful on its face, given that the minimal, scattered cartographic production extant from the Byzantine realm is altogether unrelated to the *mappa mundi* tradition.¹⁷ I show that the disruption of the T-O schema, the representation of the Noachide dispersion, and the arrangement of places go hand in hand, the whole homing closely to exegetical topoi rooted in Latin etymological gloss.

¹² I am inclined to date the map as it is found in the form preserved in SJ and H to c. 1100 for reasons outlined in my forthcoming article, “The Jerusalem Effect: Rethinking the Centre in Medieval World Maps,” cited in n. 1. This dating is upheld in a brilliant study by Faith Wallis, “*Computus*, Crusade, and Construction: Writing England’s Monastic Past and Future in Oxford, St John’s College 17” in *Writing England: Books 1100–1200*, eds. Elaine Trehearne and Oriana Da Rold, *New Medieval Literatures* 13 (2011), forthcoming. I am grateful to Professor Wallis for sharing her article with me prior to its publication.

¹³ See above n. 7.

¹⁴ The Noachide addition is sometimes mistakenly attributed to Isidore of Seville (d. 636). See ¹¹ Patrick Gautier Dalche, “L’heritage antique de la cartographie medievale: les problemes et les acquis” in *Cartography in Antiquity and the Middle Ages: Fresh Perspectives, New Methods*, eds. Richard J. A. Talbert and Richard W. Unger (Leiden: Brill, 2008), pp. 29–66, esp. 56–57; Chet Van Duzer and Sandra Saenz-Lopez Perez, “*Tres filii Noe diviserunt orbem post diluivium*: the World Map in British Library Add. MS 37049,” *Word & Image* 26/ 1 (2010), pp. 21–39, esp. 32–33; Chet Van Duzer, “A Neglected Type of Medieval *Mappamundi* and Its Re-imaging in the *Mare Historiarum* (BnF MS Lat. 4915, fol. 26v),” *Viator* 43/ 2 (2012), pp. 277–301, esp. 277–282. Van Duzer, “A Neglected Type of Medieval *Mappamundi*,” pp. 278–280, mischaracterizes the V-in-square figure as used to diagram the Noachide dispersion in copies of Isidore’s *Etymologiae* (Book 14), where it is almost always juxtaposed with a T-O map. The V-in-square figure does not correlate Noah’s sons with the world’s *partes*, which are nowhere included: the name Shem written inside the “V” cannot be said to “indicate” Asia, nor Japheth at left Europe, nor Ham at right Africa. Rather, the V-in-square functions precisely to offer an alternative to the tripartition of the T-O; the former epitomizes the distribution of peoples according to passages in *Etym.* 9.2, esp. lines 9, 25, and 37, which depend on Jerome, *Hebraicae Quaestiones in libro Geneseos*, 10.2–22. Early exegetical tradition hesitated too rigidly to align Noachide inheritance with the geographic division of lands. For example, Bede in *Hexaemeron*, 3.10.1–2: “the first-born Shem obtained Asia, the second son Ham Africa and the last-born son Japheth Europe – at any rate with the proviso that, since Asia is greater by far in the geographical area of its lands than either Europe or Libya, the descendants of Ham and Japheth also possessed some portions of Asia,” quoted from *On Genesis*, trans. Calvin B. Kendall, (Liverpool: Liverpool University Press, 2008), p. 215, see also 22–27. To read the V-in-square “by analogy” (278) with the T-O is thus to miss their *complementarity* – the two spatializing figures are based on different premises, both equally valid to the medieval editor(s) who interpolated them into Isidore’s text. Van Duzer finds “confusing” the “curious arrangement of the cardinal directions” around the V-in-square figure in *Etymologiae* manuscripts (279). Fair enough; however, the disposition – three directions instead of four, with

east at top, south at right, and west at left instead of at bottom – cannot be dismissed as “a strange error” (293, fig. 2). What is needed is an explanation for the why the west substitutes for the north, which is elided.

¹⁵ Foys, “An Unfinished *Mappa Mundi*,” p. 274, 275, 282 (quote, 275).

¹⁶ von den Brincken, “Gyrus und Spera,” pp. 141-144; Foys, “An Unfinished *Mappa Mundi*,” pp. 276-277 and n. 26 (for quotes), 282; Evelyn Edson, *Mapping Time and Space: How Medieval Mapmakers Viewed Their World* (London: British Library, 1997), pp. 86-92 and 179 n39.

¹⁷ A. O. W. Dilke, “Cartography in the Byzantine Empire,” in *Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, ed. J. B. Harley and David Woodward, vol. 1, *The History of Cartography* (Chicago: Chicago University Press, 1987), pp. 258-275.



Figure 4. Unfinished *mappa mundi* concluding Isidore’s *De natura rerum* in the *Computus* of William of Malmesbury, c. 1120–before 1125. Oxford, Bodleian Library, MS Auct. F. 3. 14., fol. 19v. Photo: Author’s, reproduced by permission of The Bodleian Libraries, Oxford University.

Within the imbricated lists enumerated by Wallis, the treatment of Jerusalem is especially salient. *HIERUSALEM* (without the *H* in the Peterborough version) boldly stretches across most of the horizontal bar of the “*T*,” the title is centered in SJ, but not quite in H, where it is roughly double the width. A miniscule *crux xpi* is written in superscript between the second and third letters, and a cross is drawn between the *E* and *R*; in SJ a second, partially encircled cross accentuates the juncture with the vertical

stem. These elements bring into play not the crucifixion, but the *sign of the cross*, an iconographic distinction on which it is necessary to insist.¹⁸ The image visually identifies Jerusalem *not as a place*, but as a dynamic movement of the cross that spans the world's breadth. The explosive burst of spiritual energy reaches all the way north, while at the south end, a small piece of the band is allotted to Jericho. If Jerusalem is the crossbeam that girds the ecumenical edifice, the tie that binds, it is also the foundation for the blocks of labels above even as it is the horizon for the sectors below.

Seconding the name Jerusalem is the inscription at the joint of the "T," *Mons Syon*. In SJ, the two stacked words fall just below the visible compass hole; in H the composition centers on this landmark. Next to the inscription at right appears a graphic symbol for "mountain," rows of arcs in one, a triangle in the other. The combined verbal and graphic device performs a double role: it designates a particular hill in the Christian topography of Jerusalem, while introducing the primary cognomen for the holy city itself. The treatment of the two names, Jerusalem and Zion, cues a commonly-known etymological gloss, originating in the Latin writings of the Church Fathers, absorbed into Old English homiletics, and widely circulated in any number of exegetical contexts on both sides of the Channel. To put the matter succinctly: as *Hierusalem* means *visio pacis*, so *Sion* means *speculatio*, a beholding from a watchtower or elevated look-out (*specula*).¹⁹ Zion is a figure of speculation, the contemplative ascent whereby the as yet embodied soul fixes its gaze far off on the eternal reward, Jerusalem/vision-of-peace, that awaits the blessed at the end time.²⁰ The allegorical senses of Zion and Jerusalem overlap in that both refer to the universal church, the former signifying its earthly existence and the latter its heavenly status, one the church militant, the other the church triumphant.

¹⁸ A corrective to Foy, "An Unfinished *Mappa Mundi*," p. 275.

¹⁹ For a sense of the patristic tradition, see Allan Fitzgerald, *Augustine through the Ages: an Encyclopedia* (Grand Rapids: Wm. B. Eerdmans Publishing, 1999), pp. 462-463. Augustine reiterates the gloss many times; particularly apt examples include his *Enarrationes in psalmos* 50.22, 64.3, 101.2.4, 134.26; and *De civitate Dei* 17.16. For the Old English tradition, see Paul E. Szarmach, "Visio Pacis: Jerusalem and Its Meanings," *Georgia State Literary Studies* 7, *Typology and English Medieval Literature* (1992), pp. 71-87, esp. 72 and 84 n8. On the importance of the *specula* to the function of the *mappa mundi*, see Patrick Gautier Dalche, "De la glose a la contemplation. Place et fonction de la carte dans les manuscrits du haut moyen age" in *Testo e immagine nell' alto medioevo* (Spoleto: Centro italiano di studi sull' alto medioevo, 41, 1994), vol. 2, pp.693-771, esp. pp. 753-769, reprinted in *Geographie et culture. La representation de l'espace du VIe au XIIe siecle* (Aldershot, Hampshire, Great Britain: Ashgate, 1997), no. VIII; idem, "L'heritage antique de la cartographie medievale," esp. pp. 58-61, and more expansively, idem, "Pour une histoire des rapports entre contemplation et cartographie au moyen age," in *Les meditations cosmographiques a la Renaissance*. Cahiers V. L. Saulnier 26 (Paris: Presses de l'universite Paris-Sorbonne, 2009), pp. 19-40, esp.19- 31. On how the trope "Jerusalem, *visio pacis*/ Zion, *speculatio*" relates *speculatio* to both *specula* and *speculum*, see my forthcoming *From Panoramic Survey to Mirror Reflection: Art and Optics in the Hereford Mappa Mundi*.

²⁰ Jean Leclercq, *Etudes sur le vocabulaire monastique du moyen age* (Rome: Herder, 1961), pp. 83-85; Robert Javelet, *Image et ressemblance au 12e siecle, du saint Anselme a Alain de Lille* (Paris: Letouzey et Ane, 1967), 1:376-90 and 2:287-94; O'Reilly, "Bede on Seeing the God of Gods in Zion," esp. pp. 18-29.

The ecclesial symbolism of the semantic nexus Zion/Jerusalem finds confirmation in the prominence accorded in the maps to Noah's ark, figure of the church par excellence.²¹ One thread in the rich exegetical fabric woven around the ark seems particularly relevant to the earthly/heavenly distinction triggered by the paired cognomina. For Bede, drawing on Augustine (*Contra Faustum* 12.19) and Isidore (*Quaestiones in Vetus Testamentum* 7.21), the ark at rest signifies the "Sabbath rest of the church expectant," the middle phase between its present tribulations and post-*saeculum* peace.²² The ark atop the "mountains of Armenia" means that the church: "not only awaits rest in this life but also acquires eternal rest in the next. And ... having trampled underfoot the peak of earthly ostentation, the church draws near to the soul with heavenly joys even while living in this exile on earth (*Hexaameron* 2.8.4)." ²³ Earlier in his commentary on the Flood, Bede offers that mountains submerged in the turbulent waters symbolize "all those who are proud and puff themselves up in the glory of this world (*Hexaameron* 2.7.18-19)." ²⁴ The maps situate *Armenia* and the ark farther to the south than usual, above *Babilonia*. The displacement is productive. It effectively creates new meaning by coupling tropological analogues – Armenia with its mountains, Babylon with its great tower – and eschatological antitheses, the ark of the church vs. its persecutor. The ark, like the cross, is a graphic sign rather than a narrative device. And, as will become increasingly clear, the organizing principle of the image is not geographical, but rhetorical.

Expanding laterally from Zion at the map's core juncture, Jerusalem embraces the world in the church. But how is the spiritual plenitude of the cross relayed along the east-west axis? This ecclesial concern, I submit, lies behind structural dislocations that distinguish the triplet maps. Uniquely in the Thorney version, the lead inscription couples *Iafeth* with *Sem*. Edson has suggested that the displacement of Japheth from Europe to Asia "could reflect" adherence to the biblical verse Genesis 9.27: "May God enlarge Japheth, and may he dwell in the tents of Sem, and Chanaan be his servant."²⁵ Foy's nonetheless finds it "puzzling" and "odd" "given the overwhelming cartographic tradition of locating Japheth in Europe."²⁶ The interpretive difficulty arises, however, because *we* remain fixated on a convention from which the cartographic design intentionally and meaningfully deviates. Edson's insight applies to more than just the inscription. Noah's blessing of Japheth, universally understood in Latin exegesis to be a prophecy pertaining to the church, motivates the program as a whole. The absence of Japheth's name from the Worcester and Peterborough versions is a red herring, a point to which I will return.

²¹ On this topic, see H. S. Benjamins, "Noah, the Ark, and the Flood in Early Christian Theology: The Ship of the Church in the Making," in *Interpretations of the Flood*, ed. Florentino Garcia Martinez and Gerard P. Luttikhuisen (Leiden: Brill, 1998), 134-49; and Jack P. Lewis, *A Study of the Interpretation of Noah and the Flood in Jewish and Christian Literature* (Leiden: Brill, 1968), pp. 101-120, 156-180.

²² Wallis, "Ms Oxford St. John's College 17," pp. 795-796.

²³ Bede, *Hexaameron*, 2.8 lines 1731-35 in the *Library of Latin Texts*, Series A (electronic resource, available by subscription at <http://apps.brepolis.net/BrepolisPortal/default.aspx>; hereafter LLT-A); *On Genesis*, trans. Kendall, p. 192.

²⁴ Bede *Hexaameron* 2.7 line 1645 in LLT-A; *On Genesis*, trans. Kendall, p. 189. ²⁵ Edson, *Mapping Time and Space*, p. 89.

²⁶ Foy's, "An Unfinished Mappa Mundi," p. 282 and n 47.

To the extent that the maps override the tripartite order of the T-O formula, they strengthen the ascendancy of Europe in association with Asia. The upper half of the *orbis terrae*, the more densely packed with inscriptions, comprises not only Asia as usual, but also the eastern portion of Europe (e.g. Athens, Constantinople, Achaia). The spilling over of Europe into Asia – the cartographic expression of Europe’s enlargement – quite literally illustrates Genesis 9.27. Straddling both lower sectors, the label *Europa* “rules over” the peoples descended from *Cham* in *Affrica*. This layout turns Africa into a subsection of Europe in conformity with the alternative, bipartite division of lands reported by Orosius (*Historiarum aduersum paganos libri septem* 1.2.1).²⁷ Because Africa is set *beneath* Europe, the legends *Terra Iuda* and *Palestina* at right below the arm of the “T” are not relegated to the wrong continent, but belong, like *Mons Syon* and *Iericho*, to the same Holy Land toponymy in which Jerusalem is embedded. The visual and calligraphic hierarchy of the design makes *Europa* the second most important word after Jerusalem (emphatically so in SJ), the former echoing the latter both formally (in SJ, down to the triangular formation of dots at the end of each word) and symbolically.²⁸ By virtue of the position at which *Europa* intersects the T’s vertical stem, the label forms the horizontal arm of a proper Latin cross “written” into the earth (in H, the lettering, though not its rectangular framing, maintains the conceit). The visual economy of the image realizes *Europa* as a *veritable crux christi geographica*, claiming the world’s western *partes* for the church.

The key source for the wording of the maps’ lead inscription supplies an exemplary reading of Genesis 9.27. Foys has pointed out that *Quod sunt septuaginta duae gentes ortae* “matches almost precisely text from Isidore’s *Chronicon* and his *Quaestiones in Vetus Testamentum*.”²⁹ In the *Quaestiones*, Isidore declares that the benediction foretells how “in the people of the nations the church has taken possession of the whole world.”³⁰ The gentile progeny of Japheth, Noah’s Benjamin, have moved into the domain of the patriarchs, prophets, and apostles, born of Shem, the eldest; the minor in temporal terms has become the major according to grace. Most importantly, Isidore interprets the blessing by way of Paul’s Epistle to the Ephesians, directly quoting verse 2.19: “you are now no longer strangers and foreigners, but you are citizens with the saints and members of God’s household.” The maps show the top half of the world to be the home of the apostles, three of whom preach in Greece and one in the Holy Land: Paul at Athens, John at Ephesus, Andrew at Achaia, Peter at Caesarea. To be sure, interest in representing the apostolic mission is an important aspect of the *mappa mundi* tradition since at least the seventh century, as Patrick Gautier Dalche has determined from the lost Iona work.³¹ But the maps under discussion have additional concerns to which they owe their peculiar form and content. They spatialize the ecclesial typology that informed Isidore’s recourse to a Pauline hermeneutic. For Augustine (*De civitate Dei* 16.2), Japheth’s merger into Shem stands for the union of Greek and Jew, that is, the uncircumcised and the circumcised.

²⁷ von den Brincken, “Gyrus und Spera,” p. 143.

²⁸ Baumgartner, “Erzählungen kartieren,” pp. 199-200, similarly notes the mirroring of the legends for Jerusalem and Europe in SJ.

²⁹ Foys, “An Unfinished Mappa Mundi,” p. 276 and n. 21

³⁰ Isidore, *Quaestiones* 8.8-10, PL 83, 236A-C: 8. “Et unde hoc factum est, nisi ex benedictione Japheth? in populo enim gentium, totum orbem terrarum occupavit Ecclesia. Hoc praenuntiabatur, cum diceretur: *Dilatet Deus Japheth, et habitet in tabernaculis Sem*. 9. Ecce quomodo dilatet Deus Japheth, et habitat in tabernaculis Sem, ut Paulus dicit: ‘*Non estis peregrini*

et hospites, sed estis cives sanctorum et domestici Dei, aedificati super fundamentum apostolorum et prophetarum (Ephes. 2.19).’ *Benedictus, inquit, Deus Sem; sit Chanaan puer illius. Dilatet Deus Japheth, et habitet in tabernaculis Sem. Hic Sem major natu ipse est, ex quo patriarchae, prophetae, et apostoli generati sunt.*¹⁰ Japheth autem gentium est pater, quia etiam *latitudo* interpretatur. Cum ingenti enim multitudine dilatatus est populus ex gentibus, qui cum prophetis et apostolis erat habitaturus. Siquidem et vidimus, juxta Noe patris propheticam benedictionem, in tabernaculo Sem transisse habitationem Japheth, hoc est, in domo legis et prophetarum Ecclesiam potius justificari, minorem quidem tempore, sed gratiae lege majorem.”

³¹ Gautier Dalche□, “Eucher de Lyon, Iona, Bobbio,” pp. 13-14.

In the triplet maps, the Noachide prophecy unfolds cartographically through Pauline metaphor. Paradigmatic order takes precedence over geographic location, with places layered in delineated horizontal strata. Japheth’s presence in Asia increases “latitude” by “latitude,” a formal strategy that coincides with the standard Latin etymology of the name Japheth, meaning *latitudo* (breadth, enlargement). Athens and Israelite tribes inhabit the same band above Jerusalem. In the next, the transition to a new spiritual regime occurs, for now Ephesus is paired with Caesarea, where Jesus had proclaimed the Petrine foundation of the church (Matthew 16.18) and where, later, Peter instructed his brethren among the circumcised to perform the first gentile baptisms (Acts 10.44-48). Caesarea, in SJ, falls exactly on longitudinal axis with Mount Zion; thus the historical site where the nascent church initiated its universal mission lines up with the allegorical figure of the same. Finally, the bundling of the Noachide origins of the church into the metaphor of Greek and Jew accounts for the translocation of Achaia, situated in the far southeast corner of *Asia Maior* diagonally across from Athens at north. In the first stratum, Greek Athens, however close to the Holy Land, represents the foreign party who receives God’s message originally designated for the children of Israel; in the third, it is from Greek Achaia, however distant, that the good news spreads to the eastern ends of the earth. The younger Japheth has now completely supplanted the elder Shem. The supersessionist argument proceeds through chiasmus.

Geographic subordination to paradigmatic logic is equally evident in the lower half of the *orbis terrae*. The maps combine the eastward dynamic of Japheth’s blessing with the westward progress of *translatio imperii*. The legends for the second and third world empires according to the Orosian series, *Terra Macedonum* and *Cartago*, lie directly across from each other at the cardinal north and south in a temporal stratum between *Babilonia* and *Roma*, the first and fourth, which lie on an east-west diagonal equidistant from the center point. Why the repetition *Kartago Magna* at the extreme west in the place where we might expect Gaul and Spain? Because here the iteration, respecting the design’s visual hierarchy, shows vanquished Carthage to be *inferior* to Rome in parallel with Africa’s subservience to Europe. Japheth, following the scriptural verse, has both entered into the house of Shem and become, through Rome, the master of Ham.

Says Paul in Ephesians, “you, who were once afar off, have been brought near through the blood of Christ” (2.13). These words, implied by Isidore’s reference to the Epistle, are the maps’ refrain. As Achaia, so too the British Isles have been radically displaced. Tailed by *Hibernia* and *Thile* (Thule) beyond the outer perimeter of the *orbis terrae*, *Britannia* is pinned to the end of the word *septentrio* in SJ and lined up with it in H. The visual linkage makes explicit Britain’s arctic association, a familiar geographical trope.³² Especially striking, however, is the archipelago’s northeastern position: instead of taking its usual place toward the western *finis*, Britain floats into the Greek sector of Asia (in H, fitting between Jerusalem and Athens). The archipelago’s eastward shift

neither reflects a shaky grasp of geography, nor is it the result of a confused rendition of some prior model. On the contrary, Britain's re-orientation signals a spiritual reversal of the physical order paralleling, as per Isidore's exegesis, the spiritual upset in the sons' birth order. The dislocation makes a statement about apostolic communion and renewal: through the power of the cross reaching to the farthest north, the farthest west is reborn in Shem's domain a full "citizen with the saints and member of God's household."³³

Britain's change of geographical place reflects its people's change of heart. Conversion to Christianity reverses the hardened disposition that follows from the glacial climate of the natural world. Diarmuid Scully's observations on the ways in which Gildas and Bede weave the arctic trope into their histories also pertain to the visual interpretation of the maps. The island experiences a "spiritual melting" as "part of the first warming of the cold gentile world that occurred in the age of the apostles, when Christ's followers began to preach the faith from Jerusalem at the center of the earth to its uttermost periphery."³⁴ To quote from a papal letter that Bede transcribes into his story of Northumbria's conversion, "it has pleased God . . . by the heat of his Holy Spirit wonderfully to kindle the cold hearts also of the nations seated at the extremities of the earth in the knowledge of Himself."³⁵

³² Scully, "Location and Occupation," pp. 245, 253-58, 268.

³³ The coupling of west and north in the world's Christianization is a trope also found in Radulfus Glaber's gloss relating the cardinal directions to Christ's crucifixion: "But here is matter for meditation. We have told how it very often happened that the infidels were converted to the faith of Christ in both the northern and western parts of the world, but we do not chance to have heard of the same thing happening in the east and south. This was faithfully foretold in the position of the Lord's cross from which he hung in the place called Calvary. When He was hung from the cross the immature people of the east were hidden behind His head, but the west was open before His eyes, ready to be filled with the light of the faith. So too His almighty right arm, extended for the work of mercy, pointed to the north, which was to be mellowed by the holy word of the faith, while His left was the lot of the south, which swarmed with barbaric peoples. But although we make but brief mention of this sacred portent it remains an inviolable tenet of our catholic faith that, in all places and amongst all peoples without exception, he who is regenerated by baptism and believes in the Almighty Father and His Son Jesus Christ and in the Holy Spirit, the one and only true God, and who performs some good deed through faith, will be acceptable to God, and everyone who persists in this way will live in blessedness the life eternal. Moreover, God knows why it is that men are more able to receive their own salvation in some parts of the world than in others. But we have said this because the Gospel of the Lord Christ, in coming to the regions of these two areas of the world, the north and the west, had laid the best foundations for the holy faith amongst these peoples while on the other hand it has penetrated less in the other two parts, the east and the south, and has left the peoples there trapped for longer in the wilderness of their own errors (*Historiae* 1.24)." *Rodulfi Glabri Historiarum libri quinque*, ed. and trans. John France (Oxford: Clarendon Press, 1989), pp. 40-43. I thank Faith Wallis for this reference.

³⁴ Scully, "Location and Occupation," p. 255.

³⁵ "Eius ergo bonitatis misericordia totius creaturae suae dilatandi subdi etiam in extremitate terrae positarum gentium corda frigida sancti Spiritus feruore in sui quoque agnitione mirabiliter est dignata succendere." *Historia ecclesiastica gentis Anglorum* 2.10. paragraph 3, line 28 in LLT-A. The English translation, which I have only slightly modified, is taken from *Internet History Sourcebooks*, <http://www.fordham.edu/halsall/basis/bede-book2.asp>, accessed September 15, 2012 The passage is cited and discussed in Scully, "Location and Occupation," p. 256.

Given the historical weight of this topos, the correlation in Byrhtferth's Diagram of the cardinal north with the element fire, usually assigned to the south, cannot be anything

other than deliberate.³⁶ With air at west, rather than at its usual place at east, the seasonal warming of spring and summer is laterally transposed to privilege the northern region inhabited by the archipelago. As Wallis has observed, Byrhtferth's Diagram and map overlap in some details: the two share the ADAM acronym of the Greek words for the cardinal directions; the Diagram in SJ seconds the cartographic reference to Noah, with the name's appearance among the cryptic symbols in the upper band of the inner diamond.³⁷ Diagram and map, it turns out, further have in common the rhetorically strategic use of inversion.

In mapping the Pauline union of the uncircumcised and circumcised, the cartographic images express a sentiment to which Bede gives voice: "the Lord has not summoned the Jews alone, but us too, who are able to cry out to him from the ends of the earth."³⁸ Christian expansion to the "ends of the earth" is a well-known spatial corollary to the culmination of history.³⁹ Bede's exegesis of Genesis 9:26-27 builds on the Augustinian and Isidorian themes already considered. In addition, he takes up the word "tents," the gear of warfare and wandering, to see in Japheth's blessing the earthly peregrination of the gentile faithful who, "placed on the road of this life, sigh for the heavenly fatherland."⁴⁰ The maps orient their readers, proleptically, to the eternal peace of the New Jerusalem, yet not without recalling the prior ordeal of Judgment to which the earth will be subjected. God once destroyed the world through the waters of the Flood; a second judgment will come through fire (*Hexaemeron* 2.8.22, 2.9.11-15).⁴¹ Just as Noah's ark brings to mind the element of water, so the prominent *mons Ethna* does for that of fire. Although parallel signs with respect to the physical world, the ark and Mount Etna are contrary eschatological symbols. Whereas the ark exemplifies salvation through the church, the restive volcano exemplifies just the opposite—according to Isidore, Gehenna, whose perpetual fires torment the bodies of the damned unto eternity.⁴²

³⁶ Contra John E. Murdoch, *Album of Science: Antiquity and the Middle Ages* (New York: Charles Scribner's Sons, 1984), p. 365 and Edson, *Mapping Time and Space*, p. 92. Wallis, "Ms Oxford St. John's College 17," p. 798 does not explain the displacement of the elements, but shows how, as a result, the corresponding equinoctial and solstitial coordinates point to the following season, the whole creating a clockwise temporal rotation that repeats the dynamic of the central star-like wheel.

³⁷ Wallis, "Ms Oxford St. John's College 17," p. 801 and *eadem*, "2. Computus Related Materials: 16. Mappamundi, 2. A Crusade era map? Or Byrhtferth's map?" She is currently preparing a new study of the Diagram in which she revisits her earlier thoughts on the symbols (private communication).

³⁸ "non solum iudaeos sed et nos qui de finibus terrae ad eum clamare . . . advocavit." Bede, *Homiliarum evangelii libri ii.10*, line 222, in LLT-A. The English is cited after O'Reilly, "Islands and Idols at the Ends of the Earth," p. 126 n32. On the map's relationship to Bede's writing, see Lucy E.G. Donkin, "'Usque ad ultimum terrae': Mapping the Ends of the Earth in Two Medieval Floor Mosaics," in *Cartography in Antiquity and the Middle Ages*, pp. 189- 217, esp. 196-198.

³⁹ Scully, "Location and Occupation," p. 248, with further bibliography.

⁴⁰ Bede, *Hexaemeron* 2, lines 2346-69 in LLT-A: "dixit que, benedictus dominus deus sem; sit chanaan seruus eius. Diximus in sem primogenito filio noe primitiuam ecclesiam, quae ex israhelitico populo collecta est, in iapheth minimo filio electionem gentium quae secuta est esse designatam. Vnde et recte dicitur, benedictus dominus deus sem. Quamquam enim sit deus omnium gentium, quodammodo tamen proprio uocabulo et in ipsis iam gentibus dicitur deus israel; et unde hoc factum est, nisi ex benedictione iapheth? in populo enim gentium orbem terrarum occupauit ecclesia. Hoc prorsus praenuntiabatur cum dicitur subsequenter. Dilatet deus iapheth, et habitet in tabernaculis sem. In tabernaculis quippe sem habitet iapheth quia in fide

patriarcharum et prophetarum - in scripturis prophetis, in sacramentis legalibus spiritaliter intellectis - peregrinatur ecclesia in terris. Tabernaculis namque in bello uel itinere uti solemus, et in tabernaculis israhelitici populi nos, qui de gentibus ad christum uenimus, habitamus, quia nimirum quamdiu in huius uitae uia positi celestem patriam suspiramus, quamdiu contra insidias antiqui hostis, christo duce atque adiutore, certamus, necesse est ut semper antiquorum patrum dicta pariter et facta et opera in exemplum uitae et professionis teneamus.; Quatenus horum auctoritate protecti, certius ac securius ad palmam remunerationis perfecto agone tendamus. Congruit autem profectibus sanctae ecclesiae, quibus orbem impleuit totum, etiam nomen iapheth, quod 'latitudo' dicitur; unde alludens ad nomen ipsum, dicit noe, dilatet deus iapheth, id est latitudinem." *On Genesis*, trans. Kendall, pp. 211-213.

⁴¹ Bede, *Hexaemeron* 2.8 lines 2062-69 and 2.9 lines 2207-50 in LLT-A; *On Genesis*, trans. Kendall, p. 203, 207- 208; Wallis, "Ms Oxford St. John's College 17," p. 791.

⁴² Isidore, *De natura rerum* 47 (De monte Aetna).4: "Constat autem ad exemplum gehennae, cujus ignis perpetua incendia spirabunt ad puniendos peccatores, qui cruciabuntur in saecula saeculorum. Nam sicut isti montes in tanta temporis diuturnitate usque nunc flammis aestuantibus perseverant, ita ut nunquam exstingui possint, sic ignis ille ad crucianda corpora damnatorum finem nunquam est habiturus." Jacques Fontaine, ed. and trans., *Traite de la nature* (Bordeaux: Fequet, 1960), pp. 322-335.

I mentioned above that Japheth's name appears only in SJ's version of the map. Foys may well be right that the prototype lacked the name, and that the Thorney scribe added it in the process of creating an artistically more accomplished version.⁴³ Even so, the scribe's intervention should be considered less a revision that alters the map's original purpose than a clarification of an aspect integral to the cartographic image. Medieval readers of H, and by extension C, would hardly need Japheth's name written out in order to supply the final term of the Noachide triad, an automatic mental act. Diametrically opposed in the two complete maps, the inscriptions *De sem gentes xxvii* and *De cham gentes xxx* relegate the descendants of the first and second sons to comparatively small sectors at top and bottom; by contrast, the "house" of Japheth ever increases to fill the expanse between. In fact, one could argue that the absence of the third name amounts to a refusal to pin down an ongoing movement, a diffusion that exceeds geographical bounds and ends only by overtaking the world. With the words *De iafeth*, the Thorney scribe makes explicit the youngest son's rightful place in the eldest's domain. Still, the formulation does not enumerate peoples, so can be read as a spatial reference to the universalizing mission of the gentile church. Wallis points to elements similarly unique to SJ, notably in its version of Byrhtferth's Diagram (the band of symbols in the inner diamond), which may represent initiatives or "refinements" on the part of Thorney scribes.⁴⁴

Wallis and Foys have eloquently written about the maps' purpose to demonstrate the interconnection between center and periphery, specifically the English periphery, within a unified *orbis christianus*. In crediting the maps with a rhetorical purpose, I have only fleshed out the interpretive consensus. The new finding to emerge from my analysis is the significance of Japheth's blessing, which extends beyond the triplet maps.

The spatialization of Genesis 9.27 takes a pictorial turn in an unfinished map in a *computus* manuscript made for William of Malmesbury c. 1120-before 1125 (Oxford, Bodleian, MS Auct. F. 3. 14, fol. 19v).⁴⁵ Isidore's *De natura rerum* here concludes with a T-O map in which roundels form part of the diagrammatic armature. (Figure 4) The

⁴³ Foys, "An Unfinished Mappa Mundi," p. 282.

⁴⁴ Wallis, "Ms Oxford St. John's College 17," p. 792.

design is a variant of a rare type found, to my knowledge, only in manuscripts that belong to an Anglo-Saxon edition of the text. The earliest analogue (Exeter, Cathedral Library, MS 3507, fol. 97v) dates from c. 960–80 (*Figure 5*); a second appears in a much later Salisbury manuscript (second half of the 11th century) copied from a common exemplar (London, BL, Cotton MS Vitellius A. xii, fols. 63v–64r).⁴⁶ The sister list-maps, the provinces of the tripartite world, follow an interpolated note: *Tres filii noe diviserunt orbem terrarum in tres partes post diluuium. Sem in Asia. Cham in Affrica. Iaphet in Europa.*⁴⁷ This pair of Isidore maps have attracted attention on account of their transposition of Europe and Africa, for which ingenious explanations have been advanced.⁴⁸ A simple rationale, however, should not be overlooked. What appears to us a lateral reversal of the geographic order is merely an effect of our taking the maps out of their material context in the book. In fact, the cartographic content perfectly corresponds to the *writing/reading order* of the introductory inscription naming the sons according to their *birth order*: Asia occupies the maps' top sector as usual (top=first), while Africa and Europe, assigned to the second and third sons, occupy the left and right sectors respectively. As with the triplet maps in SJ, H and C, geography per se is not an absolute value; rather the spatialization of toponymic lists privileges rhetorical values. In the Exeter map, the active distribution of lands (*diviserunt*) aligns with the chronology of filial descent. Parallel temporal modalities—Noachide propagation and textual processing— govern the visual disposition of the image. Because the Malmesbury map, without caption, was abandoned before the scribe tackled the list, the would-be disposition of the two western sectors remains indeterminate.

⁴⁵ Otto Pacht and J. J. G. Alexander, *Illuminated Manuscripts in the Bodleian Library, Oxford*, 3 vols. (Oxford, Clarendon Press, 1966-73), 3:11 no. 89; Rodney M. Thomson, "The 'Scriptorium' of William of Malmesbury" in *Medieval Scribes, Manuscripts & Libraries: Essays Presented to N. R. Ker*, eds. Malcolm B. Parkes and Andrew G. Watson (London: Scolar Press, 1978), pp. 117-142, esp. 126-130, 132; Rodney M. Thomson, *William of Malmesbury*, revised edition (Woodbridge, Suffolk: Boydell Press, 2003), pp. 83-85.

⁴⁶ The Vitellius map is reproduced in Edson, *Mapping Space and Time*, p. 6, fig. 1.3. See N. R. Ker, *Medieval Manuscripts in British Libraries*, vol. 2 (Oxford: Clarendon Press, 1977), pp. 813-814. This particular edition of the DNR is discussed by Wesley M. Stevens, "Sidereal Time in Anglo-Saxon England" in *Voyage to the Other World: the Legacy of Sutton Hoo*, eds. Calvin B. Kendall and Peter S. Wells (Minneapolis: University of Minnesota, 1992), pp. 125-154, esp. 136-137. A third copy of the DNR that belongs to the same textual recension but features a map of the traditional T-O design is found in London, BL, Cotton MS Domitian I (mid-tenth century). Conversely, the Malmesbury text of the DNR has not, so far as I am aware, been identified as a member of the group.

⁴⁷ On the textual source of the inscription, see Van Duzer and Saenz-Lopez Perez, "Tres filii Noe," pp. 28-30.

⁴⁸ Wesley M. Stevens, "The Figure of the Earth in Isidore's *De natura rerum*," *Isis* 71/ 2 (1980), pp. 268-277, esp. 274-277; Mittman, *Maps and Monsters*, pp. 21-23. I will consider these Isidore maps, along with Stevens's and Mittman's ideas about them, in my forthcoming book mentioned in n. 19 above.

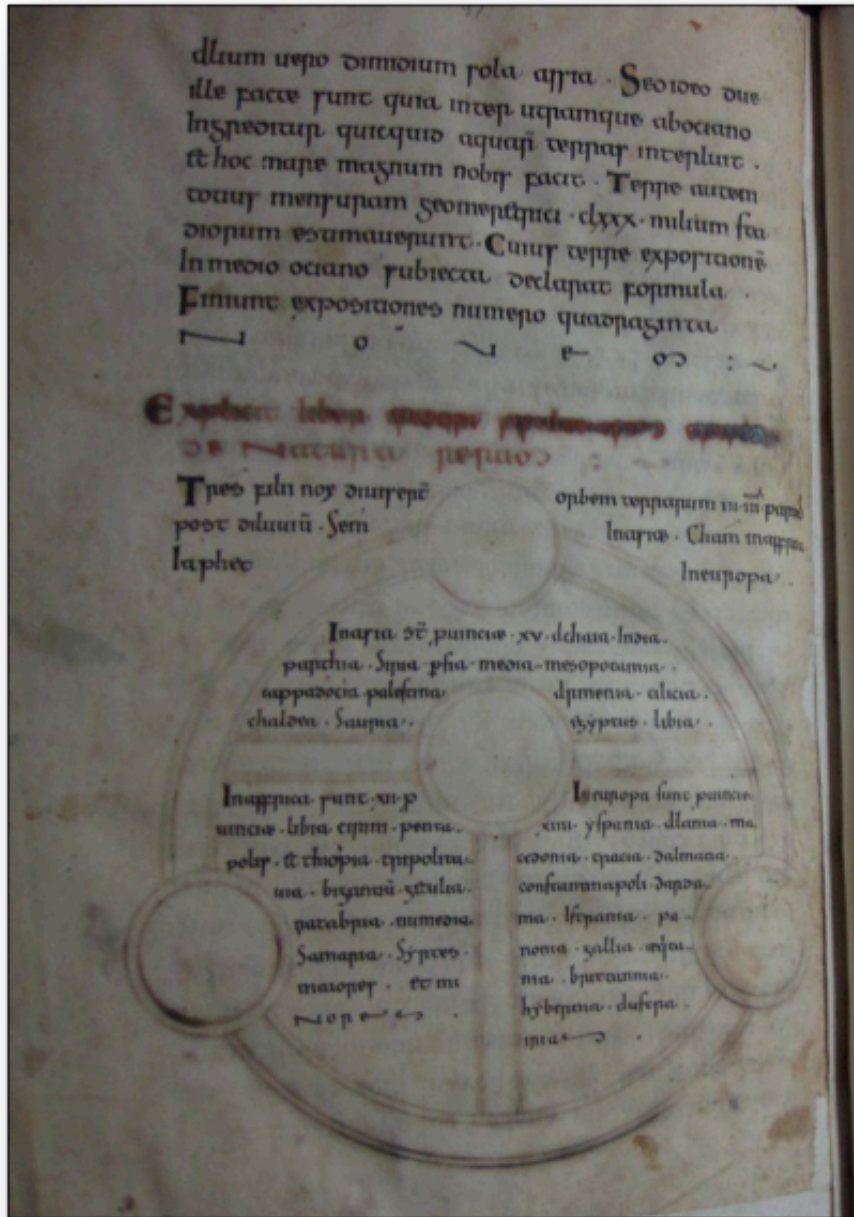


Figure 5. *Mappa mundi* concluding Isidore’s *De natura rerum* in a *Computus* compilation, c. 960–80. Exeter, Cathedral Library, MS 3507, fol. 97v. Photo: author.

Uniquely, the Malmesbury map turns the medallions into *clipei* for half-figures, left in the state of leadpoint underdrawings. The top roundel at the cardinal east clearly portrays the figure of Christ in Majesty. The central medallion at the crux of the “T” contains a female figure; like the Majesty directly above, she is shown frontally, her arms raised in the *orans* pose. The outer medallions, placed at the cardinal north and south, but lower than the central one, enclose identical male figures in lay garb; they are turned toward the central figure, looking up at her with arms raised in acclamation. Wallis has identified these “praying” figures as “standing in for the three continents.”⁴⁹ But why

would only one continent take the form of a female personification even as the draftsman insisted on twinning the lateral pair? How to explain the privileged status accorded the female bust, a compositional strategy reinforced by the deferential attitudes of the facing males? An alternative identification better fits the iconography: the cartographic framework must present Shem and Japheth, types of the two branches, circumcised and uncircumcised, that unite in the one church, *Ecclesia* personified.

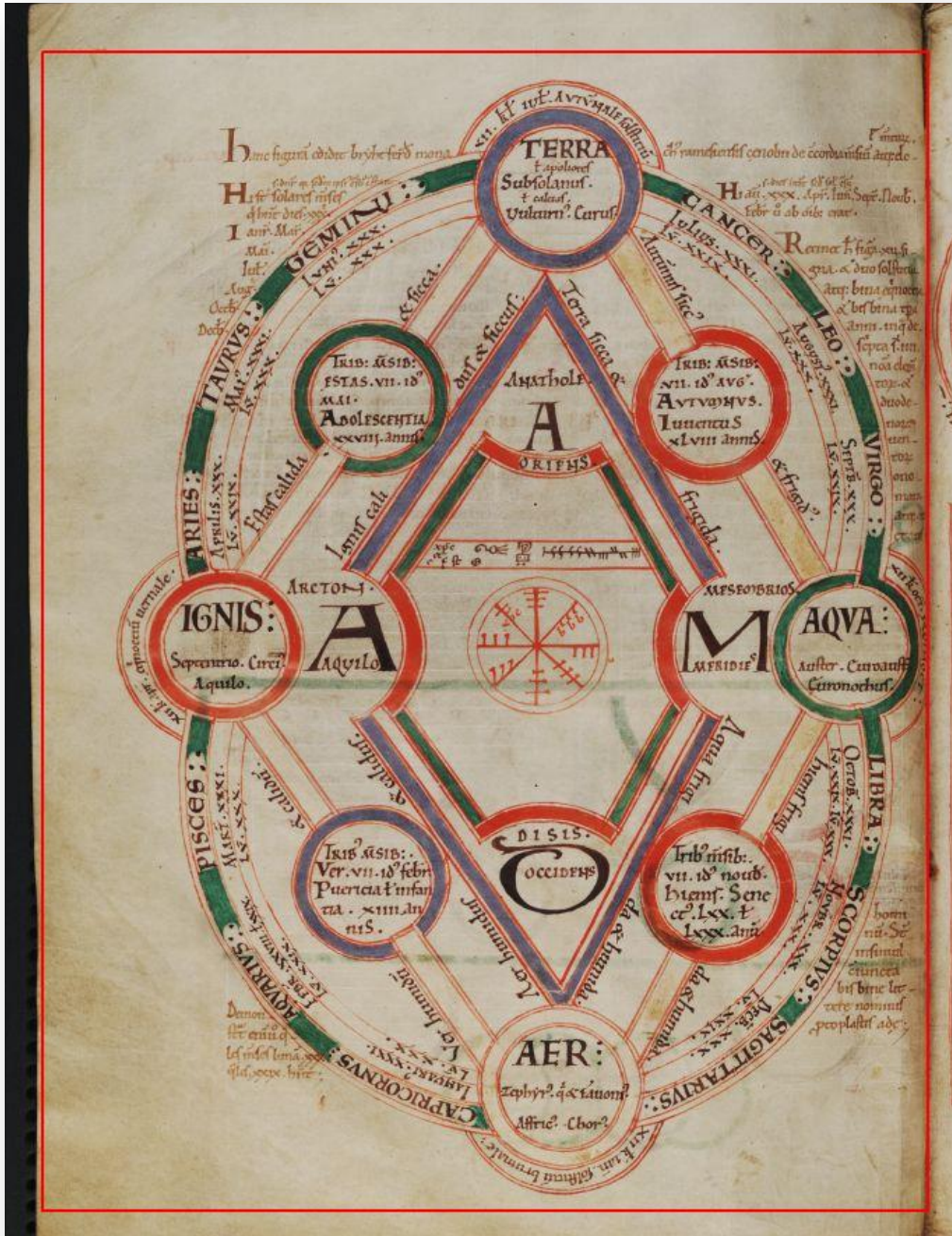
Might the iconographic transformation of this Isidore map be brought to bear on the unfinished version of the map in C? Remarking on two empty drypointed roundels that intersect the top left and right of the main circle, Foys wisely admits that “the intended content . . . remains a mystery.” Nevertheless, he goes on to say, “Possibilities for content range widely, from the sun and the moon in a computistical context to any of a number of Old and New Testament figures in a scriptural mode.”⁵⁰ Shem and Japheth, I venture to speculate, might make good candidates.

Deciphering the triplet *mappae mundi* raises questions about the nature of their form. If we are correct to call these images maps—and we are—how do they work cartographically and, given the subservience of geographical order to hermeneutics, what is it that they map? We can use the maps’ material context in SJ and H to help sort out their distinctive visual status on the one hand and integrated functionality on the other.⁵¹ The immediately proximate materials—astronomical *rotae*, alphabet and calendrical tables, diagrams pertaining to kinship, types of knowledge, and macro-/microcosmic linkage—graphically process intangibles through color-coded geometric (including columnar) grids whose formal relationship to content is purely arbitrary. By contrast, the maps correspond to a physical entity, the *orbis terrarum*, from which they extrapolate their overall representational structure however conventionalized and abstract. But such iconicity only goes so far. The tables and diagrams spatialize concepts and the maps conceptualize space according to common principles. The maps share, with the surrounding tables and diagrams, an approach to the generation of thought: verbal signs create meaning associatively by virtue of juxtaposition, parallelism and opposition. Inscriptions perform the cartographic task of mapping Britain into an exegetical legacy, a spiritual patrimony that establishes the island’s claim to a place in the unfolding telos of election and salvation.

⁴⁹ Wallis, “2. Computus Related Materials: 20. Byrhtferth’s Diagram, 2, Byrhtferth’s Diagram as symbolic diagram” in *The Calendar & the Cloister*, <http://digital.library.mcgill.ca/ms-17>. Van Duzer and Saenz-Lopez Perez, “*Tres filii Noe*,” p. 30 identifies the three praying figures as Noah’s sons, which clearly cannot be the case.

⁵⁰ Foys, “An Unfinished *Mappa Mundi*,” p. 274 n. 12.

⁵¹ For example, in SJ (see <http://digital.library.mcgill.ca/ms-17/index.htm>): alphabet table and astronomical schema (fol. 5v), map and feria table (fol. 6r), degrees of consanguinity (fol. 6v), taxonomy of knowledge (fol. 7r) and Byrhtferth’s Diagram (fol. 7v). In H (see <http://www.bl.uk/catalogues/illuminatedmanuscripts>): taxonomy of knowledge (fol. 6v), diagram of Creation (fol. 7v), Byrhtferth’s Diagram (fol. 8r), map (fol. 8v).



The following is from Faith Wallis, "2. Computus Related Materials: 16. Mappamundi," *The Calendar & the Cloister: Oxford, St. John's College MS 17* (McGill University Library. Digital Collections Program, 2007)

Byrhtferth's Diagram is probably the most famous and most frequently reproduced item in MS 17. It is also a very complex composition, and its interpretation bristles with historical and exegetical problems. To avoid a disproportionately long commentary, we will limit our remarks here to a description of the Diagram, and some observations on its relationship to the copy in the Peterborough *computus* and to diagrams in Byrhtferth's

Enchiridion. A longer interpretive article is in progress. What follows is a transcription and translation of the text surrounding Byrhtferth's Diagram:

Hanc figuram edidit bryhtferð monachus ramesiensis coenobii de concordia mensium atque elementorum.

Hi sunt solares \scilicet dicuntur quia secundum ipsum cursum constant/ menses qui habent dies XXXI. Ianuarius. Martius. Maius. Iulius. Augustus. October. December.

Hi autem XXX \scilicet dies habent secundum solis cursum/ Aprilis. Iunius. September. November. Februarius uero ab omnibus er<r>at.

Retinet hec figura XII signa et duo solstitia. atque bina equinoctia. et bisbina tempora anni. in qua descripta sunt IIII nomina elementorum. et duodenorum uentorum onomata. atque IIII etates hominum. Sunt insimul coniuncta<e> bis bine littere nominis protoplasti ade;

Demonstrat enim uero quales menses lunam XXX quales XXIX habent;

(Byrhtferth, monk of Ramsey Abbey, set forth this diagram of the harmony of the months and the elements.

These are the solar months (so called because they follow the Sun's course) which have 31 days: January, March, May, July, August, October, December. These have 30 (that is, days according to the Sun's course): April, June, September and November. But February deviates from them all.

This diagram contains the twelve signs and also the two equinoxes and the twice-two seasons of the year, within which are inscribed the names of the four elements and the designations of the twelve winds, and also the four ages of man. The twice-two letter of the name of Adam, the first-created man, are also added. It shows which months have a moon of 30 <days> and which a moon of 29.)

Byrhtferth's Diagram as symbolic diagram.

Diagrams, schemata and tables found in *computus* manuscripts are of three basic types. The reference table like those which precede (fols. 8r-15v) and follow (fols. 22r-27r) the calendar in MS 17 are designed for consultation, or to manipulate data to solve a problem. Computists also inherited a tradition of *pedagogical schemata* illustrating scientific principles or providing a graphic summary of information: the taxonomy of knowledge on fol. 7r is such a summary, while the drawings accompanying the cosmographical anthology on fols. 35v-40v are essentially scientific illustrations. Derived from pedagogical schemata, but of a higher order of complexity, and with a different function, are *symbolic diagrams* in which interpenetrating systems of abstract concepts are brought into relation through graphic organization, numerical and geometrical symbolism, color, and other visual strategies. Symbolic diagrams can contain more or less assertive pictorial representations which allegorize their contents; this diagrammatic iconography is one of the typical features of Carolingian and Romanesque art. But the *symbolic diagram* in the strict sense, like the pedagogical schema, presents contents which are primarily textual or conceptual in character. The diagram sidesteps the normally

diachronic presentation of words and concepts by distributing them in a spatial arrangement, a diagram. This arrangement allows the material to be compared, juxtaposed, analyzed, and interpreted on many levels at once, using a process of "visual exegesis." However, unlike the pedagogical schema, *symbolic diagrams* are not illustrations of a parent text; rather, they are either completely independent of, or in a kind of collegial relationship with a text. Essentially, the diagram itself functions as a text.

A scientific or pedagogical schema can become a symbolic diagram by the addition of an iconic reference, or by re-orientation to a more metaphysical purpose. When Gerbert of Aurillac wished to illustrate the different types of geometric angles, he used a pedagogical scheme consisting of circles overlapping in various degrees. But then he added an extra diagram, a *figura* composed of a number of circles, and which contained all the possible types of angles. It had no pedagogical value; it simply satisfied a passion for synthesis. Gerbert made the diagram, in his words, "so that all might be seen together in one." Likewise at the end of the copy of *De natura rerum* in Oxford, Bodleian Library Auct. F.3.14 (fol. 19v), Isidore of Seville's T-O map of the world has been transformed into a *maiestas Domini*, with Christ seated atop the globe and three praying figures standing in for the three continents. In both cases, a scientific image has become a symbolic one.

The Form of Byrhtferth's Diagram.

Byrhtferth's Diagram, like Gerbert's, was designed "so that all might be seen together in one," and like the Auct. F.3.14 map, the organizing symbolism is that of the *maiestas Domini*. The rubric announces that this *figura* is a harmonization of two systems: the twelve months and the four elements. The first is represented by an 8-shaped green band on which is inscribed the twelve signs of the zodiac, and beneath these, the month of the year roughly corresponding to each sign, together with the number of solar days in the month and the length of the lunation that terminates in that solar month. Within this zodiac band is a double diamond. The outer diamond is pinned to the zodiac band by four roundels labeled with the names of the four elements -- earth (blue), air (cream), water (green) and fire (red) -- at the equinoctial and solstitial points. An arc with the date of the solstice or equinox passes over each element-roundel, so preserving the continuous flow of celestial time despite the interception of the static quadrilateral of the sublunary elements.

Within the continuous flow of time is the unmoving world of place, represented by the inner, blue diamond. The Greek and Latin names of the cardinal directions are inscribed in the "bites" in the corners of the diamond. These are linked to the four elements through the twelve winds, whose names lie inside the element roundels. Because they are twelve in number, and pertain to the upper atmosphere, the winds belong to the celestial realm of the outer band; but they also belong to the inner, terrestrial diamond because they are sublunar, meteorological phenomena, and because they are classed according to the cardinal directions. Byrhtferth compromised by grouping them in threes according to the cardinal directions, but locating them in the outer region.

The four elements themselves also bridge the worlds of time and of space. Each has a pair of qualities which link it to its neighboring elements: these are transcribed on the bars of the inner diamond, which is particularly associated with space. But these paired qualities serve to connect time as well as the material creation. The paired

qualities are assigned to the different seasons, and the bars on which they are inscribed form the outer diamond. The arms of this diamond thread through a second series of four roundels containing the name of the season, its length and the date on which it begins. The reminder that each season covers three months carries our eye outwards to the band of three months arching over each season-roundel. But the roundels also relate the four seasons to the four phases of the human life cycle and its duration: *puericia* lasts 14 years, *adolescentia* to age 28, *iuuentus* to age 48, and *senectus* until 70 or 80. Hanging between heaven and earth, these roundels are a graphic statement of man's amphibious nature, linked to the heavens through the stages of life as microcosm of celestial time, and to the earth through the name of Adam, formed from the initial letters of the Greek names of the cardinal directions -- a conceit already encountered in the world-map on fol. 6v. Enclosed within ADAM is an eight-spoked wheel, resembling a sundial or *horologium*, above which is a narrow horizontal strip containing some symbols, a fragment of Ogham or pseudo-Ogham writing, and abbreviated words. These puzzling details (which incidentally are missing from the Peterborough *computus* copy of the Diagram) await further research and study. Here we will concentrate on the overall form and the explicit messages of the Diagram.

None of the separate components of the Diagram is particularly unusual, yet the Diagram as a whole bespeaks a high degree of synthetic creativity in the way in which it superimposes four common medieval schemata: the *syzygia elementorum* (the connection of the elements through their paired qualities, and their analogous relationship to the four seasons, four humors of the body, four ages of man etc. through these pairings), the *rota* of the zodiac, the *rota* of the months, and the windrose with its four cardinal directions. What binds them together is numerical analogies, particularly the number four, a subject on which Byrhtferth himself has much to say in his textbook on *computus*, the *Enchiridion*.

Byrhtferth of Ramsey's significance to the origin and shape of MS 17 goes well beyond the few items formally ascribed to him in this manuscript, namely this Diagram, and the *Proemium* on fols. 12v-13r. The unique manuscript of Byrhtferth's *Enchiridion* is Bodleian Library Ashmole 328, a quarto volume written in English square minuscule of the early 11th century, but of unknown provenance. Illustrating Byrhtferth's text are a number of *computus* reference tables, pedagogical schemata, and symbolic diagrams. One of these is a *rota* of the months and zodiac signs, but without any indication of the number of lunar and solar days in each month. Directly after presenting this *rota* Byrhtferth announces, "Nu her ys gemearcod se cirul þe ys zodiacus gehaten, 7 þæra XII monða naman, nu wille we furðor geican þurh Godes mihta" -- "Now that the circle called the zodiac and the names of the twelve months are here written down, we wish, with the aid of God's power, to continue further"). This "further" addition is a second diagram in the form of a Greek cross bound by concentric circles, which Byrhtferth introduces by explaining the dates of the equinoxes and solstices and connecting them to the twelve months and the four elements. The diagram, however, shows neither the months nor the elements, but rather the solstices and equinoxes in connection with the seasons.

Byrhtferth then turns to a fresh topic ("Exceptis his rebus...") and proceeds to unroll a long chain of analogies between the twelve winds, the four seasons, the four ages of man, the four elements and their qualities, and the four humours of the human body. The diagram, he says, will explain it all. Unfortunately, the diagram has been torn out of the Ashmole manuscript, leaving only a corner.

In 1919, Charles and Dorothea Singer published Byrhtferth's Diagram as a copy of the missing schema in the Ashmole manuscript, claiming that the Diagram fulfilled all the requirements of Byrhtferth's introductory description. But does it? Byrhtferth's introduction does not mention the months, the zodiac, the solstices or the equinoxes; in fact, he had explicitly set these matters aside. Moreover, the Diagram mentions nothing about the humors, a fact that the Singers overlooked to the extent of christening the schema "Byrhtferth's Diagram of the Physical and Physiological Fours," and asserting that it illustrated the medical treatise on fols. 1v-2v of MS 17. They could not avoid noticing, however, that the Ashmole diagram was obviously rectangular, and that the legends still legible in the fragment do not correspond to the text in MS 17, but this cast no doubt on their "restoration." It has raised few questions since, though Lapidge and Baker, in their new edition of the *Enchiridion*, are very much more cautious than previous commentators about equating the MS 17 diagram with the Ashmole schema. Caution is justified: apart from the discrepancies identified above, the Ashmole page would not have been large enough to hold the Diagram, if the scale of the writing on the extant stub is taken as a module. But the major difficulty remains that Byrhtferth's text does not permit us to look for a *concordia mensium et elementorum* at this point. This *concordia* is the central theme of the Diagram.

Many of the analogies expressed through the Diagram are indeed discussed in the *Enchiridion*, but not in the context of the missing schema; rather, they are included in an essay on number symbolism which forms the final part of the treatise, and particularly in the section devoted to the number four. Here Byrhtferth explicitly describes the relationship of the elements to the seasons and the ages of man through their paired qualities, the connection of the winds and the cardinal directions, and how the initials of the Greek names for the cardinal directions spell the name of Adam. But he mentions no diagram in connection with these. In sum, it would appear that Byrhtferth's Diagram, like many other symbolic diagrams, stands on its own, and is not an illustration of a particular text -- not even Byrhtferth's own.

The second distinctive aspect of the Diagram is its unusual and evocative shape. By far the most common shape for a schema of the zodiac, months, or winds is a rota, and almost every *syzygia elementorum* is a circle segmented by a four-lobed knot. Nowhere save in Byrhtferth's Diagram are these contents presented as an elongated diamond within an 8-shaped frame. This is the distinctive graphic framework of a *maiestas Domini*, that is, the representation, generally in an eschatological context, of Christ manifested in glory. In sum, unlike most symbolic diagrams, Byrhtferth's Diagram does not take a pedagogical schema and fill it with religious content, but takes a religious schema and fills it with computistical content.

The Peterborough computus copy of Byrhtferth's Diagram and related schemata.

Byrhtferth's diagram appears in one other place, namely in the Peterborough *computus* Harley 3667 fol. 8r. On the verso of this folio is the Peterborough copy of the *mappamundi* found on fol. 6r of MS 17. The Peterborough copy of the Diagram, like its copy of the taxonomy of knowledge, is hasty and rough. It has also not been well edited: for example, the glosses on the wind names, which Scribe A carefully separates from their lemmata, have intruded in the Peterborough version. The surrounding text is identical to that in MS 17 save that it does not mention Byrhtferth's authorship. If MS 17 and the Peterborough *computus* share a common exemplar, and if there is no plausible reason why the Peterborough copyist would have deliberately omitted Byrhtferth's name, the

possibility must be considered that the exemplar did not contain Byrhtferth's name either, but that it was supplied by MS 17's scribe. But if so, from where did they derive this information?

Only a few pages beyond the Diagram in MS 17 is the *Proemium* of "Brihtferthi Ramesiensis coenobii monachi," a phrase which substantially duplicates the rubric of the Diagram. It is likely that the exemplar of the Diagram and the *Proemium* came to Thorney, undoubtedly from Ramsey, between the same covers. However, the Diagram's present position with respect to the rest of MS 17 may not reflect its position within this exemplar. The (admittedly fragmentary) Peterborough *computus* puts the Diagram directly before Abbo of Fleury's *astronomica* (Harley 3667 fol. 8v-10v; cf. MS 17 fols. 37v-39r), which is one of the works which the *Proemium* claims to introduce. If MS 17's exemplar and Peterborough's exemplar were identical or sister manuscripts, then it is likely that MS 17's exemplar placed the Diagram between the *Proemium* and Abbo's *astronomica*. In that case, MS 17's scribes deliberately moved the Diagram away from the *Proemium*, possibly with a view to juxtaposing the Diagram to the *mappamundi*, but they re-copied its rubric as the rubric for the Diagram. In sum, its ascription to Byrhtferth in MS 17 confirms that the Diagram was a self-contained graphic document, not an illustration of a text. Its interpretation therefore depends on reconstructing its meaning from internal evidence, from Byrhtferth's own writings, and from the other materials connected to the Diagram in MS 17 and in the Peterborough *computus*.

Though the Diagram is probably not an illustration to the *Enchiridion*, its contents are reflected in other schemata found in that work, particularly in the final section devoted to number symbolism. Byrhtferth discusses the symbolism of numbers from one to one thousand, but it is evident that four was, in his view, the controlling number of the cosmos. Its preeminence is bound up with the meaning of the Cross; even the schemata in which he attempts to embody the properties of five or seven are conceived as Greek crosses. Four itself represented the cardinal virtues, the seasons, the evangelists and their symbolic beasts, the letters of the names of Adam and of Deus (Christ), the elements and their relations to the seasons and the ages of man through their shared qualities, and the cardinal directions (whose Greek initials spell ADAM). Graphically, four could be expressed through a rectangle or through a cross. There are three diagrams in the *Enchiridion* in which Byrhtferth uses these patterns of quaternity to order the divisions of time: two are based on the rectangle and one on the cross within a circle.

The first diagram is a rectangle with the four Ember fasts inscribed in the corners (cf. MS 17 fol. 24v). Roundels with the solstices and equinoxes in the middle of each side form a cross within this rectangle. Only the vertical shaft of the cross is drawn, dividing the rectangle into two small rectangles in which are inscribed the twelve months, six and six. The central shaft and the two sides of the rectangle parallel to it are extended downwards to form the three pillars of faith, hope and charity. Byrhtferth has accomplished two things here: the doubled quaternity of Ember fasts and solstices/equinoxes has formed a cross or diamond set inside a rectangle; and this rectangle has been brought into relation with a trinity (the virtues). The trinity multiplied by the quaternity produces twelve (the months). The virtues are by no means irrelevant, for the Ember fasts were a penitential season. Moreover, for Byrhtferth, the very activity of studying *computus* is a remedy against the vice of idleness.³⁴

The second rectangular diagram, is likewise based on the solstices and equinoxes arranged in the form of a cross within a rectangle. At the intersection of the arms of the

cross is, in fact, a cross, explicitly labeled *CRVX*. Far from being a private conceit of Byrhtferth's, this arrangement is also invoked by Honorius Augustodunensis: "Four zodiacal signs, equidistant from one another *in the form of a cross*, make the solstices and equinoxes." In Byrhtferth's schema, the four corners of the rectangle form two pairs, an upper one containing the twelve months, and a lower one containing the four cardinal virtues. The whole structure is again supported on the three pillars of faith, hope and charity; these correspond to three arches at the top of the rectangle containing the four elements, the four seasons, and the four ages of man. Running through the whole diagram are the opening verses of Boethius' *De consolatione philosophiae* 3, met. 9: <O> Cui [recte Qui] perpetua mundi ratione gubernas/Terrarum celi<que> [a]sator qui tempus an euo" (O thou who ruleth the universe in order everlasting/Maker of heaven and earth, who biddeth time...). In this figure, "multis formis donisque Dei sustentata (sustained by the many beauties and gifts of God)," are found all the elements of the first schema, plus a new one: God's dominion over the world and time, a lordship that is both cosmic and moral, and whose focus in the cross of Christ.

Finally in the cross-and-circle diagram, the crossing point of the solstitial and equinoctial arms contains the names of ADAM and DEVS, likewise arranged as a cross. As in both Byrhtferth's Diagram and the *mappamundi* on fol. 6r of MS 17, the Greek names of the cardinal directions whose initials spell out ADAM are inscribed, though in rather badly garbled form, in the angles formed by the arms of the cross. These angles also contain the four seasons, four elements, and four ages of man. Surrounding the cross in the form of a double ring are the twelve months and the twelve signs of the zodiac. DEVS, as Byrhtferth explains, is the name of Christ corresponding to ADAM, the *protoplastus* -- a term also encountered in the inscription around Byrhtferth's Diagram. But from the perspective of eschatological time, ADAM as the generic name of mankind is also the name of Christ: "alpha Deus ante secula, Deus et Homo in fine seculorum <omega>." For Byrhtferth, Christ the God-Man as lord of time permeates the *computus*, and the circle of the year becomes a figure for the totality of time. In the midst of his AEIOV lunar letter table (cf. MS 17 fol. 24v), he intrudes the name of ADAM in the form of a cross; his text says that he has also superimposed DEVS on ADAM, but this was omitted by the scribe of the Asmole manuscript.

These three schemata, and particularly the final one, are evidently closely related in content to Byrhtferth's Diagram, and some of their features, notably the parallelism of ADAM and DEVS and the apocalyptic references, must be considered as possible clues to the meaning of the Diagram. But these schemata by no means exhaust the range of Byrhtferth's diagramming imagination. It was Heinrich Henel who first noticed the connection between some interesting diagrams in the Peterborough *computus* manuscript and Byrhtferth's *Enchiridion*. His attention was captured by a text on fol. 5v of Cotton Tiberius C. I which describes the properties of the number twelve. In the Ashmole manuscript of the *Enchiridion*, a page has been removed precisely at the point where Byrhtferth beginning to discuss twelve. What remains indicates that Byrhtferth related this number to the twelve patriarchs, and that he was particularly interested in twelve as the product of three and four -- numbers whose sum, seven, was also symbolic of cosmic time. Henel argued that the text in the Peterborough *computus* was by Byrhtferth, and that the diagrams on fols. 5r-v of Tiberius C.I were illustrations to the missing section of the *Enchiridion*. Certainly the Peterborough text is very similar to other passages in Byrhtferth's treatise.

In an article in *Peregrinations: Journal of Medieval Art & Architecture* (Volume IV, Number 1, Spring 2013) entitled “Transfer of Knowledge: Mappae Mundi Between Texts and Images” Bettina Schöller from the Universität Zürich discusses the significance of the medieval geographical text and the related period *mappamundi*. The following are excerpts from that article.

During the Middle Ages, the geography of the world could be described either as a text or as a map. These two possibilities of representing terrestrial space have different medial qualities and make use of different strategies to convey geographical knowledge: While the text presents information in a linear order, the map is a two-dimensional hybrid of textual and graphical signs. Consequently, reading a text or comprehending a map requires different methods. Nevertheless, geographical texts and maps were closely connected: most medieval maps are parts of manuscripts and therefore in a close relationship with texts. According to David Woodward and Evelyn Edson, 900 of the then known 1100 maps were part of a manuscript, (“Medieval Mappaemundi,” *The History of Cartography*, volume 1 and *Mapping Time and Space: How Medieval Mapmakers viewed their World*).

This relationship has already been widely discussed. In this context, the so-called cartographic textbooks turned out to be of great interest. These autonomous geographical treatises had been produced during the whole Middle Ages, but in the 12th century, they had been modified: As Patrick Gautier Dalche showed in his comprehensive editions and commentaries, these treatises were mainly based upon existing world maps. The *Expositio Mappae Mundi*, for example, shows some literal analogies with the famous *Hereford* map (#226), which originated around 1300, a fact also pointed out by Scott Westrem (“Making a Mappamundi: The Hereford Map,”). These parallels were explained by suggesting that the *Expositio* and the *Hereford* map were based on a similar cartographic model.

Westrem first carefully broached the possibility that these textbooks could have been used again as sources of maps: “If it is not the recipe for making a *mappamundi*, EMM [*Expositio Mappae Mundi*] is certainly a careful record of the content of an existing one (so careful, in fact, that even if it was originally composed only as a *descriptio*, it could have been used to produce another)”. Others then criticized the current view, which holds that maps were always copied from other maps, for example Hartmut Kugler. His most substantial argument is that this view requires an implausible quantity of lost world maps. Therefore, he concluded that copying from maps was not the only method of producing new maps, and he proposed textbooks as additional sources. Many recent studies confirm this argument, showing the transfer of textual knowledge on maps, for example those of Ingrid Baumgärtner, Martin Foys, Margriet Hoogvliet, Marcia Kupfer, Felicitas Schmieder and Antje Willing. Bruno Reudenbach pointed out that not only geographical, but also biblical knowledge could be transferred into maps.

In this study, Bettina Schöller presents another remarkable example of a transfer of knowledge from text to map. It is noteworthy because the map concentrates the information of three different texts standing in the same manuscript. A register of marginalia that turns out to be a link between map and texts completes this particular arrangement.



Lambeth Map, 13th century, London, Lambeth Palace, MS 371, folio 9v., 6.5 cm square #205ZZ37

The so-called *Lambeth* map is a very small illustration from a 13th century manuscript in the collection of Lambeth Palace, London. The texts that frame the map are the following: an excerpt of the *Elucidarium* written by Honorius Augustodunensis, a geographical chapter of the *Historia Brittonum*, formerly attributed to Nennius, and the first part of the *Imago Mundi*, also by Honorius, which includes a detailed description of the world.

After providing a short description of the manuscript, a comparison of the geographical content of the *Imago Mundi* to the *Lambeth* map is made. Then Schöller examines its analogies with the *Historia Brittonum* and the *Elucidarium* and conclude that

the map is a specific organization of knowledge: between three different texts, the map arranges the textual information in a new way and connects these texts in one diagram.

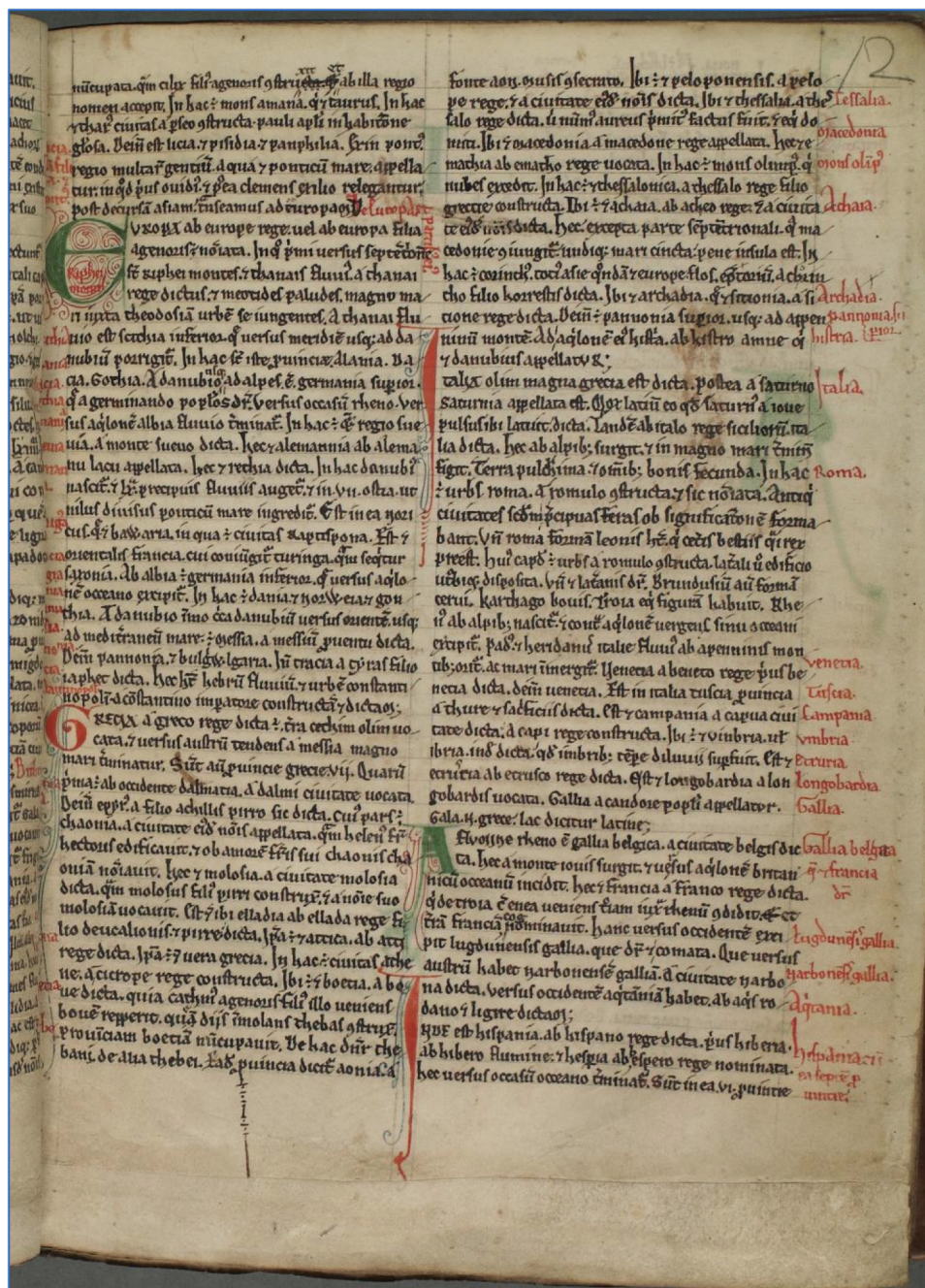
MS 371 is a manuscript of the 13th century, produced in the Benedictine Abbey of Reading near London. Since the 17th century, the manuscript has been in the collection of Lambeth Palace. Therefore, in the 13th century, the three texts and the map were conceived of as an entity. Furthermore, two of the texts are probably written in the same hand that drew the map, and map and texts belong to the same quire.

The circular map is framed by a square, and leaf ornaments fill the spaces. Christ's head, hands and feet are depicted at the positions of the four cardinal directions. The map is illuminated in black, red and blue ink. The map is a T-O diagram: the circular earth is surrounded by the ocean and divided by a structure in the form of the letter T, symbolizing the Mediterranean Sea and the rivers Don and Nile which separate the three known landmasses of Asia, Africa and Europe. The continents are filled with labeled circular vignettes, symbolizing provinces or towns. The larger circles in Asia represent superior provinces, including smaller regions or towns. No other medieval map uses similar circular vignettes. Therefore, we can distinguish three different map layers: first, the T-O diagram, based on a transfer of pictorial cartographical knowledge; second, the apparently original layer of the continents filled with circles; and third, the figure of Christ, who appears in variations of this pose on the two *Psalter* maps (#223), the *Ebstorf* map (#224), and other maps of the 13th century.

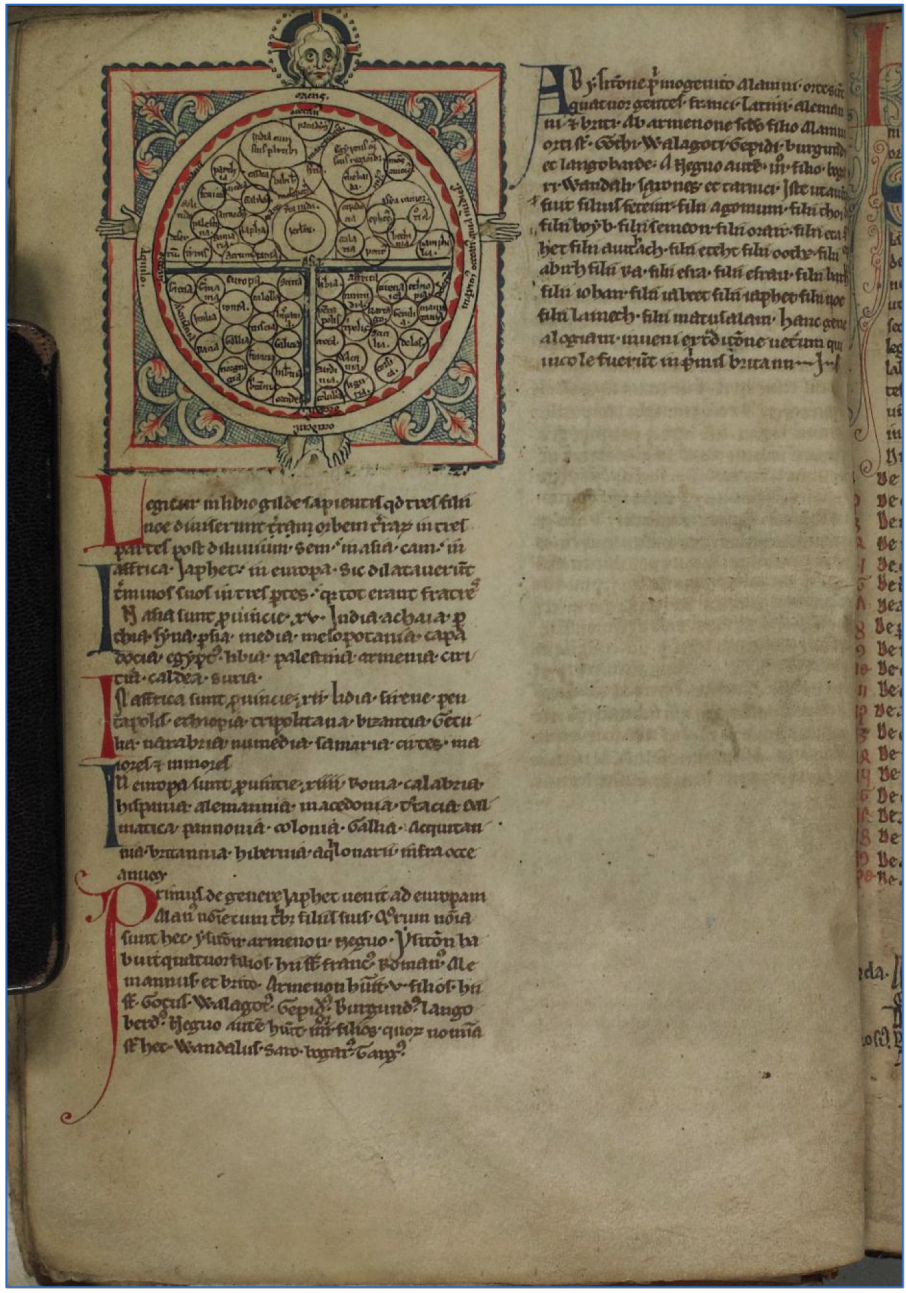
On the same double page as the *Lambeth* map are the prologue and the table of contents of the *Imago Mundi*. This text was written by Honorius Augustodunensis, one of the most important writers of his age, in the first third of the 12th century. It was extensively copied, and also translated into several vernacular languages. The first book of the *Imago Mundi* includes a detailed description of a world map, beginning at paradise in the east, then describing Asia, Europe, Africa and finally the islands of the Mediterranean Sea. It very systematically lists provinces: first the natural borders are named, followed by towns, rivers, mountains and people.

MS 371 organizes the *Imago Mundi* in two columns. The five pages containing the geographical description show a greater number of rubricated marginalia than the majority of the manuscript. These marginalia were most likely written before the manuscript was bound in the 13th century, since they are partly hidden in the binding. It would appear that the scribe selected several regions and towns that seemed to be of importance to him, and that he repeated and highlighted them in the geographical register in the margin. There is a remarkable correlation between the *Imago Mundi*, the marginal register and the *Lambeth* map: 63 of the map's 68 toponyms are mentioned in the text, and 53 are repeated in the margin. Not mentioned in the *Imago Mundi* are the following toponyms on the *Lambeth* map: *iapha*, *acrum*, *solitudo desertorum* and *calabria*. In addition, there is a hardly legible toponym in the southwest portion of the map. Assuming that text, marginalia and map were produced at the same time, and before the manuscript was bound, the following procedure is the most probable: after the transcription of the *Imago Mundi*, the scribe made a selection of geographical names to be transferred to the map. There is some evidence that the texts (including the major part of the *Imago Mundi*), the map and the marginalia were written by the same scribe. This was the usual procedure, as there were no specialized mapmakers during the Middle Ages and scribes were often responsible for the production of maps. Then the map was sketched in the space that had been left free, based on the current T-O diagram. In a third step, the circles were inserted, probably inspired by the explicit demarcation of

provinces in the *Imago Mundi*. Finally, the toponyms were added with the help of the marginal register. Due to the small size of the map, another shortening of the register was necessary.



Imago Mundi, 13th century, London, Lambeth Palace, MS 371, fol. 12r.



Lambeth Map and Historia Brittonum, 13th century, London, Lambeth Palace, MS 371, folio 9v.

Some details support this thesis. For one thing, the positioning of the toponyms within the T-O map does not primarily depend on geographical factors. In what follows, the focus is on Asia, by way of example. Some cartographic conventions of the 13th century can be observed, like the position of the earthly paradise at the top or the centering on Jerusalem. In addition, a roughly vertical line running from Syria to the Mediterranean divides the continent. This line could be interpreted as a Syrian border. All circles to the left are Syrian towns or regions, according to the *Imago Mundi*. From a geographical point of view, *Tyre* and *Acre* – just above the bar of the T-O’s ‘T,’ toward the east – are correctly depicted as seaports. In contrast, the large circle denoting Asia

Minor is on the right side of the map, a very unusual position for this region; on medieval maps, it is commonly sketched on the other side. This could be because the map is a direct transcription of the marginal register and reflects the linear textual order. Like the text, the map is divided into two columns, marked by the vertical line. The mapmaker first filled in the toponyms on the left side from top to bottom, then on the right side, following the description of Honorius. This procedure generated the following order: *Paradise, India, Parthia, Syria* and his regions, then *Egypt, the Orient* and *Asia Minor*. Even the microstructure of *Asia Minor* reflects this method of transcription: *Ephesus, Bithynia* and *Troy* are written in the linear reading order from left to right.

In addition to the information he took from Honorius, the mapmaker probably added information from his own stock of knowledge. This would explain the positions of *Tyre* and *Acre* at the Mediterranean. Beyond that, *Acre* and *Jaffa*, written in the circle above, do not even appear in the *Imago Mundi*. The mapmaker had probably heard of these towns because of their importance during the crusades.

That the textual order has an influence on the map's positioning of toponyms is supported by another fact. The mapmaker places the Mediterranean islands onto Africa. The *Imago Mundi* describes these isles right after the African continent. Because the mapmaker adopted this textual order, he situated the islands after the African provinces and, consequently, they are located in Africa. In summary, the *Lambeth* map is a concentrated *Imago Mundi*, with the locales of the world arranged graphically, but according to their original textual order rather than their traditional geographical distribution.

Despite the close correlation between map and *Imago Mundi*, the map stands at the top of a page containing the 17th chapter of the *Historia Brittonum*. This text, previously ascribed to Nennius, is today ascribed to an unknown British compiler of the ninth century. The *Historia* is a compilation of several older texts, including the writings of Gildas, whose name is mentioned at the beginning of the chapter. The account of the division of the earth among the three sons of Noah, a well-established topos in medieval cartography, follows this. Then, preceding a detailed genealogy of the British people, is a list of the provinces of the earth: 15 in Asia, 12 in Africa and 14 in Europe. This geographical list does not correspond to the map or the *Imago Mundi*. It is another textual recording system, probably easier to read than the map, but not visualized graphically.

The reason for inserting a third geographical recording system next to the *Lambeth* map and *Imago Mundi* is difficult to determine. Bettina Schöller proposes, first, that it was meant to complement the *Imago Mundi*, which mentions the division of the earth, but does not provide a *Noachide* explanation for it; and, second, that the text of the *Historia* connects the world map to British history. The *Historia* quotes a genealogy beginning with Japhet, son of Noah and ancestor of the European people. Therefore, map and text together allowed British readers to locate themselves within geography, history, and the divine order of the world.

The aspect of salvation is further emphasized by the image of Christ surrounding the world. Originally, the figure of God or Christ was a motif found in mostly cosmological schemes, adopted by some maps of the 13th century. The figure around the *Lambeth* map recalls the *Ebstorf* map, which includes Christ in the world's circle, as well as the verso side of the *Psalter* map, where Christ embraces the world, expressing his power and his mercy. Therefore, Christ or God surrounding the map is a motif of some standing in the pictorial tradition. Yet, analogies can also be found to the *Elucidarium*,

the third text accompanying the *Lambeth* map. This text was written by Honorius Augustodunensis around 1100, and is a dialogue between a master and his pupil on aspects of Christian faith.

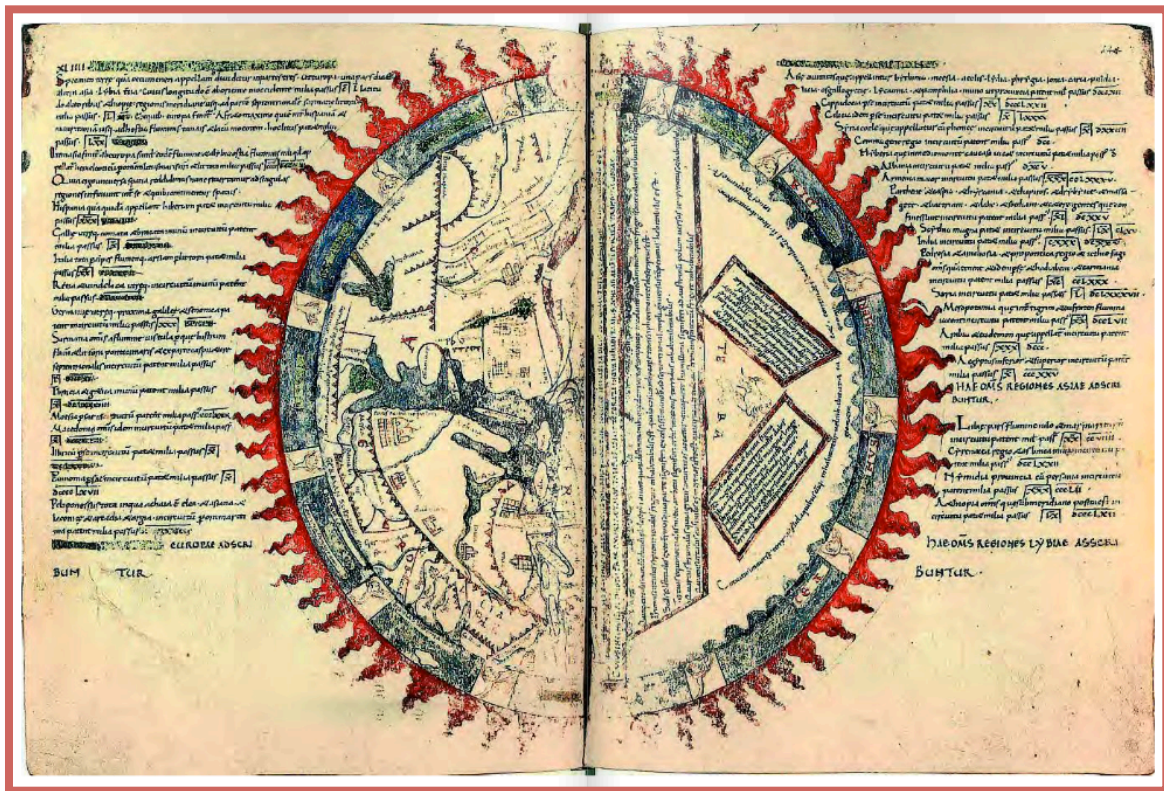
MS 371 includes an excerpt of the first book, extending over the three pages preceding the map. One article is of particular importance for the *Lambeth* map. The pupil desires clarification of the following paradox: God's presence is everywhere at any time, but at the same time, God cannot be located. The master's answer: God is said to be everywhere, because his power has the same strength in all parts of the world. He continues to explain that God cannot be located in any given place, because "place" is physical and God is not physical. The passage closes as follows: "In nullo loco continetur deus cum ipse contineat omnia, in quo 'vivimus, movemur et sumus.'" The last words are cited from the Acts.

By mentioning east and west, Honorius refers to a spatial cartographic visualization. The words "vivimus," "movemur," and "sumus" define this space as the area where human beings live and act. The mapmaker depicts God's omnipresence by surrounding this space with the figure of Christ. Therefore, the world here is not to be understood as the body of Christ, because Christ is not physical, as Honorius wrote. Rather, the figure symbolizes the omnipresence of God, unifying the world in divine order.

To sum up, the connections between the *Lambeth* map and its textual environment lead to the conclusion that medieval world maps did not develop solely in a pictorial tradition and they were not independent from texts. *Lambeth* map is not only an example of a medieval world map that mediates between verbal and pictorial sign systems, but also, one that proves the use of information from a text in the spatial layout of a map. Therefore, texts have to be considered as playing an active role in the transmission of cartographical knowledge.

On the *Lambeth* map, the T-O format is a traditional element of medieval cartography. By contrast, the arrangement of circular provinces within it is probably an original invention influenced by the *Imago Mundi*. Christ surrounding the world pictorializes his divine omnipresence and the order expressed by the *Elucidarium* and reveals a synoptical view of the world and of God's almightiness. Finally, the *Historia Brittonum* allows the reader to determine his position in time and space. Therefore, the map and its textual environment reflect three fundamental themes of the Middle Ages: the description of the physical world, the interpretation of the transcendental world and the historical passage of time.

The *Lambeth* map is related to synoptical diagrams of the 12th and 13th centuries. On the one hand, it collects and concentrates the extensive information of three different texts in one clearly arranged scheme. The map, as a newly arranged composition, combines textual and pictorial elements. On the other hand, the map expresses a particular interpretation of the texts, and was probably meant to guide the reader to this particular understanding of the world and its transcendental order. As a result, the map and the three texts as different medial forms stand in a discursive relation to each other, with the map functioning as an overall summary.



Ripoll Map from an anonymous Manuscript dated 1055-56
Biblioteca Apostolica Vaticana, Vatican. REG. Lat 123, ff. 143v-144, 30 cm diameter

During 1055-6 a large computus manuscript was put together in the Spanish monastery of Ripoli. The volume contained four books and a long table specifying the Easter days for a period of over one thousand years. The four books contained in the manuscript were entitled *De Sole*, *De Luna*, *De natura rerum* and *De Astronomia* [The Sun, The Moon, The Nature of Things, Astronomy]. Various chapters of the book were compilations of the works of Pliny, Macrobius, Isidore, Bede and others. The manuscript contained an array of diagrams and illustrations used for describing the texts, including two maps. One map inserted in Book IV (Astronomy) is that of the heavens and the planets, showing their eccentric orbits.

Book III, *De natura rerum* begins with the creation of the universe. From the four basic elements of the creation, three (Water Air and Earth) are discussed in this chapter. The fourth element, Fire, is discussed in Book IV, which includes selections from Pliny and Bede, concluding in a double page world map entitled *Mappamundi iuxta quorundem descriptione*, [Map of the world according to various authors]. This work is known as the *Ripoll* map.

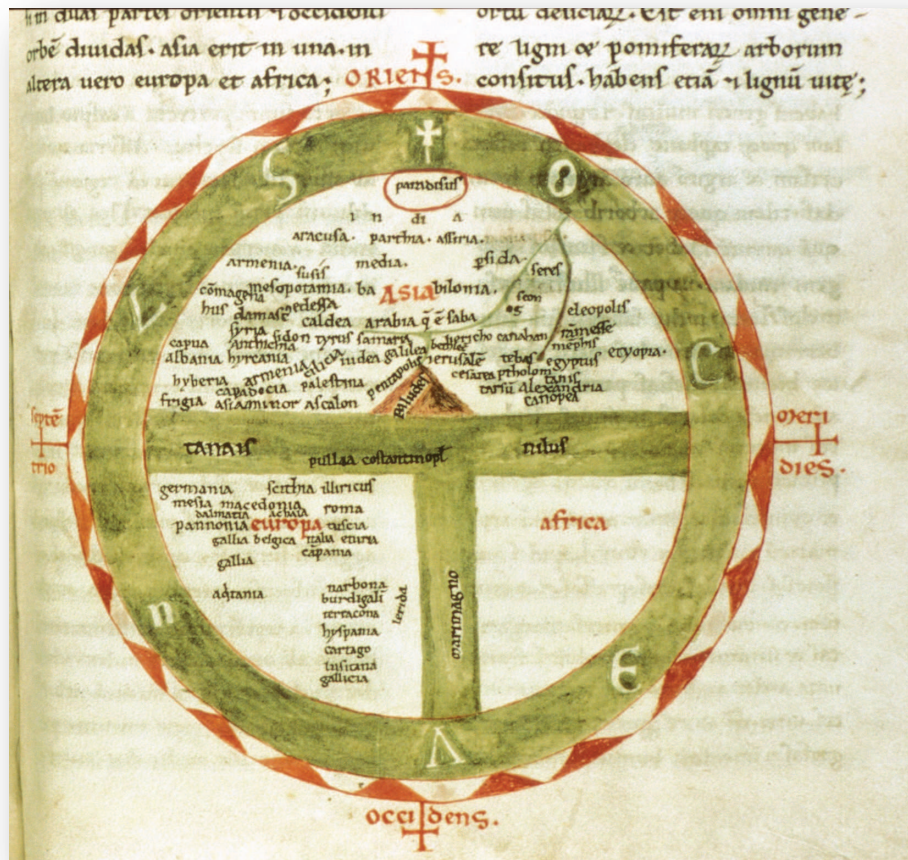
The *Ripoll* map is oriented with East at the top and in its presentation adheres partially to the zonal model, having two main zones. The left half of the globe is occupied by the Northern Temperate Zone, the *oikumene* (the inhabited part of the world), while the other half is the unknown portion of the world, separated by the Equator. This bears the legend of being burnt by the hot sun and preventing anyone from crossing it into the other, southern zones. This is in line with the writings of Virgil and the maps of Macrobius (#201).

The map shows all four elements of Earth, Water, Air and Fire, which the ancients believed are the building blocks of everything in the universe. Earth is the central core of the world, sprouted by Water (the oceans). Air is represented by the twelve winds, shown

as winged figurines blowing through a pipe, located inside the surrounding ocean. The dramatic flames represent Fire emanating in all directions from the oceans surrounding the world.

The text around the circular shape of the map describes the three habitable pans of the world, Asia, Africa and Libya, each followed up by the names and circumference of their respective provinces and towns. The description on the right begins with the name of Asia, and from the third line down the regional names listed are *Capadocia*, *Cilicia*, *Syria*, *Commagenie*, *Hybernia*, *Albania*, *Armenia maior*, *Parthene*, *India* and so on. It seems that the text has been copied from an earlier manuscript, possibly the 11th century manuscript entitled *Divisio Orbis Terrarum Theodosiana* [Division of the globe of the earth according to Theodosius], written during the reign of Theodosius the ruler of Constantinople (408-450 CE).

In the enlarged map below details of the region of Armenia and the surrounding areas can be seen. The numbers in brackets refer to the numbers super-imposed on the detailed map, which has been enhanced for clarity. Here the main seas of the Mediterranean (1), the Black (2) and the Caspian (3) are shown, the latter as a gulf in the shape of an arrowhead connected to the surrounding ocean with an inlet. Mountains are shown as triangles, the mountain ranges being depicted as extended chains of red triangles. *Mons Caucasus* (4) - the Caucasus Mountains, are named but the Taurus Mountains (5), which are the source of the rivers *Euphrates* (9) and *Tigris* (10) are not. These two rivers are colored green and appear to have a common source, while flowing into the Persian Gulf/Red Sea as two separate rivers. In the Holy Land *Mountains of Lebanon* (6) and *Mount Sinai* (7) are shown, as are five cities, starting with *Jerusalem* (8), followed by *Bethlehem*, *Hebron* and others. In the territory of Asia only some of the provinces we named such as *Asia Minor*, (12), *Hyrcania* (15), *Lydia*, *India magna* (11), *Babilon*, *Caldea*, *Persida* and *Arabia*. In *Libie* [Africa] only two cities of *Alexandria* and *Carthage* are shown, as well as the river *Nile* (14) with its meandering course. In Europe the largest city is *Constantinople*, shown with a vignette of a three-domed church, below the Mediterranean Sea. As further religious content, the Red Sea (13) is shown in red and disproportionately long, extending almost half the length of the world, complete with a parting to allow the passage of Moses and the Israelites.



Isidore mappamundi from a 12th century copy of the *Etymologies* manuscript, *Bibliothèque Municipals, Aix-en-Provence, MS 25, (914) f. 293r, 16.3 cm diameter*
 This map is more detailed than the average T-O map, and helpfully labels the parts of the "T" as the Tanais, Nilus, and Mare magno (Mediterranean).

This T-O map is from a copy of Isidore's seventh century manuscript of *Etymologies* kept in the library of Mejanès in Aix-en-Provence. The map is more elaborate than the others found in most manuscript and printed versions of the same book.

The circular T-O map is shown surrounded by *Oceanus*, which is the ocean that surrounds the inhabited earth. The earth has been divided into the three main continents of Asia, Africa and Europe by the "T" shaped waterways, the vertical stem of which bears the legend *Mari Magno* [the Great Sea - the Mediterranean], while its horizontal arms are named *Tanais* and *Nilus*. A red arrow-shaped triangular extension of the Mediterranean pushes into the Levant, bearing the legend *Paludes* [marshes]. In other simple T-O maps of *Etymologiae*, this name is given to the Azov Sea or Azov Marshes, located at the northern end of the Black Sea, at the delta of the river *Tanais* [Don]. Alternatively this could be the Nile Delta, which the mapmaker has erroneously located near the Holy Land. The sea near *Tanais* includes the legends of *Pullia* and *Constantinople*. *Pullia* (or *Puglla*) is shown here, since it was the starting point for the pilgrims who wished to travel to the Holy Land and Constantinople.

Europe bears the legends of 25 toponyms, including *Germania*, *Scithia*, *Mesia*, *Macedonia*, *Dalmatia*, *Pannonia*, *Roma*, *Tusca* [Tuscany], *Galia* (twice), *Belgica*, *Italia*, *Hyspania*, *Cartago*, *Galicia* and ten others.

Africa has been left devoid of any symbols or legends, whilst Asia includes some of the African provinces and towns as we know them today, such as *Etyopia* [Ethiopia], *Egyptus*, *Alexandria*, *Me[m]phis*, *[H]eleopolis* and *Tebes* [Thebes]. The last three are situated on the banks of an unnamed river, which should be the true Nile. The city of Carthage, which is shown inside the territory of Europe should be *Cartago Nova*, which was the seat of the Carthaginian power in Spain.

In Asia the only religious connections of the map are the *Paradisus* [Earthly Paradise], shown at the eastern edge of the world (top) under the cross appearing inside the outer sea, *Oceanus* and cities of *Jerusalem*, *Bethleem* and *Jericho*. The four cardinal points of the map are marked with red crosses.

The area of Asia is filled with many toponyms, mostly being names of provinces and towns, including *Hyberia* [Iberia], *Albania* and two *Armenias*, one being Greater Armenia and the other, located at the southwest of the first one, near the area marked as *Cilicia*, is the Cilician Kingdom of Armenia, which flourished at the time of the making of the map and had close ties with Europe. These are located in relatively correct positions.

At the eastern end of Asia the legends include *India*, *Parthia*, *Assyria*, *Media* and *Persida*. In the area northeast of the map the legend of *Armenia* can be seen, below which the provinces/towns of *Mesopotamia*, *Edessa* [city of Urfa], *Damasc*, *Syria*, *Anthiopia*, *Hyrkania* and others are listed. Further south the second *Armenia* appears next to the legend of *Cilicia*. To the west of this region is *Capadocia*, *Frigia* [Phrygia] and *Asia Minor*, while the provinces of *Albania* and *Hyberia* [Iberia] are located further north of it.



An oblique view of the world rendered as an artistically elaborate Y-O mappamundi in Mâcon, Bibliothèque Municipale, MS 2, fol. 19r, ca. 1480.

Medieval Borders: The author concludes that in medieval times, due to lack of border demarcations and the rule of force, few borders were fixed for long, or could be even approximately determined. Consequently, most medieval maps lack bordering lines between countries which are shown just by mentioning their names somewhere in the area they occupied. Armenia appears in almost every map showing some sort of detail, and in many cases both Greater and Lesser-Armenia (*Armenia Major* and *Minor*) are depicted. Perhaps a more prominent position given to Armenia is due to the fact that it was the oldest and easternmost Christian nation, which proclaimed Christianity as the state religion in 301 A.D., and due to the Biblical account of the Flood and Mount Ararat, where Noah's Ark came to rest.

