

Two Cartographic Elements in Galvaneus Flamma's *Cronica universalis*

In his *Cronica universalis* Galvaneus Flamma refers to two cartographic artifacts. The first is a diagram of the winds placed within a cosmological frame, which lists the names of the winds in accordance with both “scientific” tradition and seafaring experience. The other is a *mappa Ianuensis*, i.e., a map drawn in Genoa or kept in Genoa at the time, which Galvaneus mentions three times in his work. Both elements bring new light about the author’s geographical interests and sources, and add some small tiles to the mosaic of fourteenth-century cartography.

A) DIAGRAM OF THE WINDS

The diagram of the winds (Fig. 1)¹ is inserted in the wrong place in the manuscript: it concludes a chapter (III 287, f. 262r) dedicated to sea abysses (*de voraginibus marinis*), in which Galvaneus lists a number of mythical sea whirlpools that swallow and spit out water: some located in the North Sea, some in the Atlantic Ocean, and some in the Mediterranean Sea, as well as the most famous of them all, the Virgilian Charybdis (*Aeneis* III 420–423). *Hec omnia in subiecta apparent figura*, “all this is represented in the following figure,” appears at the end of the listing. The image on the next half page, however, does not depict any whirlpool.

¹ The diagram is mentioned in passing in the catalog of the auction where the manuscript was sold in 1998: *Western Manuscripts and Miniatures (London, 1 December 1998)* (London: Sotheby’s, 1998), pp. 73–5.

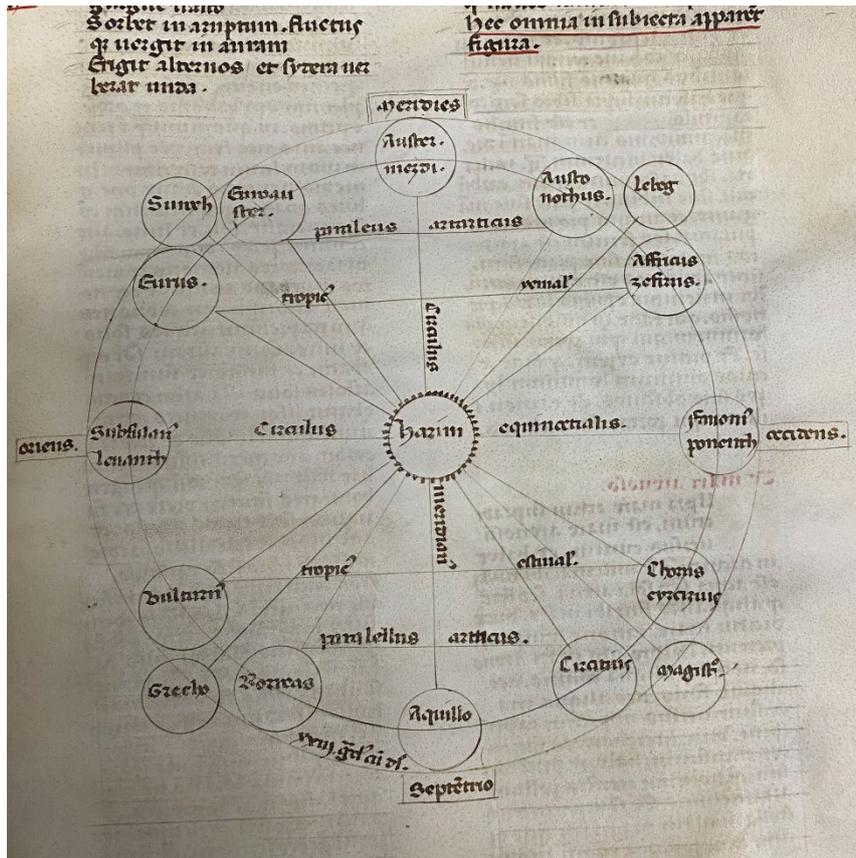


Fig. 1 – The diagram of the winds in the *Cronica universalis* by Galvaneus (ms. private collection, f. 262r; courtesy of owner)

The diagram, hitherto unpublished, is oriented with south at the top and indicates the names of the winds on two concentric external rings, with each wind enclosed in a circle; four of them are slightly farther from the center than the rest. The depiction interweaves the “scientific” system used by the *naturales* (i.e., the scholars who practiced *philosophia naturalis*), derived from the classic tradition, with the system used by the *nautae*, derived from seafaring practice. The scientific-classical system is represented by the names of twelve winds, which are arranged on the inner ring of the two: from the south wind to the right, *auster*; *aust<r>onothus*; *affricus* doubled with *zefirus* in the same circle; *favonius*; *chorus* doubled with *cyrcizius* in the same circle; *circitius* again; *aquillo*; *borreas*; *vulturinus*; *subsulanus*; *eurus*; and *euroauster*.² The seafaring practice is represented by the vernacular

² The naming of the winds was not unambiguous in the scientific tradition; this may explain certain anomalies in the diagram. For the WSW wind, for example, Galvaneus’s diagram depicts both *affricus* and *zefirus*; according to Isidore (*Etym.* III 11, 23), the former represented the wind from this direction, whereas Albertus Magnus (*Liber meteorum* III 1, 20: Alberti Magni Ratisponensis episcopi, ordinis Praedicatorum *Opera omnia*, ed. August Borgnet, IV, Paris: Ludovicus Vivès, 1890, p. 605) used the latter. The same is true for the WNW wind, which is called by the Isidorian and Albertine names *chorus* and *cyrci[zi]us*, respectively. The name of the SSW wind (*austronothus*) may be a

(mainly Italian) names of seven winds:³ the three cardinal winds, which blow from the south, east, and west, are placed in the same circle as the corresponding classic winds (*mezdi*, the wind of the south, with *auster*; *ponenth*, the wind of the west, with *favonius*; *levanth*, the wind of the east, with *subsulanus*). The four intermediate winds, which blow from the south-west, north-west, north-east, and south-east, are each placed in a separate circle on the outer ring: *lebeg* (It. *libeccio*), *magistro* (It. *maestro*), *grecho* (It. *greco*), and *suroch* (It. *scirocco*). The diagram is not complete due to the absence of *tramontana*, the seafarer’s wind of the north, which one would expect to be placed in the same circle as *aquilo*. It is potentially a mistake of the copyist Ghioldi, as there are other minor mistakes in the transcription of the names. The general schema is as follows:

	“Scientific” name	Seafaring name
S	auster	mezdi
SSW	aust<r>onothus	
SW		lebeg
WSW	affricus / zefirus	
W	favonius	ponenth
WNW	chorus / cyrcizius	
NW		magistro
NNW	circitius	
N	aquillo	<tramontana>
NNE	borreas	
NE		grecho
ENE	vulturnus	
E	subsulanus	levanth
ESE	eurus	
SE		suroch
SSE	euroauster	

The author of the diagram is aware that the “scientific” and seafaring systems are not contradictory, but rather complementary, and that they are based on different assumptions; hence, a single image can sum up both, without conflict. The seafaring system placed eight main winds in

conflation of the Isidorian (*austroafricanus*) and Albertine (*notus*) names. In fact, Isidore and Albertus Magnus are two of the sources that are most cited by Galvaneus in his *Cronica universalis*.

³ On the vernacular names of the winds and their spelling, cf. Michael Metzeltin, *Die Terminologie des Seekompasses in Italien und auf der Iberischen Halbinsel bis 1600* (Basel: Apollonia-Verlag, 1970), pp. 261–330.

equidistant positions, four in correspondence to the cardinal points and four in the intercardinal points (midway between the cardinal points); each wind was therefore 45 degrees away from the next.⁴ The “scientific” system, ultimately dating back to Aristotle,⁵ identified twelve winds: those originating from the four cardinal points overlapped the seafaring winds, while the remaining eight were placed in the intermediate spaces. In this case, however, the distance between the intercardinal winds was not equal: the twelve individual winds were not separated from each other by 30 degrees, but their distance varied based on their astronomical point of origin. In fact, each wind was supposed to blow from a well-defined astronomical point, as indicated by the celestial circles. The SSE and SSW winds, for example, originated from the point where the Tropic of Capricorn intersected the line of the horizon. Since the distance between the celestial parallels (the Arctic and Antarctic Circles, the two Tropics, and the Equator) does not correspond to the same number of degrees, the position of the winds was also not equidistant. For example, the distance between the Equator and each Tropic was approximately 23 and one-quarter degrees, while the distance between one Tropic and the corresponding Polar Circle was about 43 degrees.

Therefore, Galvaneus’s diagram appears substantially more complex than the only known previous attempt, namely Brunetto Latini’s in his *Trésor*, to incorporate the Mediterranean seafaring names of the winds into the system handed down by scientific tradition.⁶ Brunetto lists the seafaring winds using vernacular (French) denominations akin to those used by Galvaneus: *vent de midi*, *libex*, *vent de couchant*, *mestre*, *vent de tramontaine*, *grec*, *vent de levant*, and *siloc*. Brunetto, however, overlaps these winds with those of the scientific tradition with a gross equivalence: *libex* corresponds to *affriquan*, *mestre* corresponds to *chorus*, *grec* corresponds to *vulturnus*, *siloc* corresponds to *eore*, etc. The result is that the twelve winds of the scientific tradition are reduced to eight, confined to the directions of the four cardinal points and the four equidistant intercardinal points. Galvaneus’s diagram, on the other hand, does not combine the two traditions but respects the specificity of both, visually differentiating them by placing the names on the inner or outer of the two external circles. The maritime winds are placed in equidistant position on the outermost ring, and where they coincide

⁴ On the medieval representation of the winds and the theories related to them, cf. E. G. R. Taylor. “The ‘De Ventis’ of Matthew Paris,” *Imago Mundi* 2 (1937), pp. 23–6; Barbara Obrist, “Wind Diagrams and Medieval Cosmology,” *Speculum* 72 (1997): 33–84; Joëlle Ducos, *La météorologie en français au Moyen Âge (XIII^e-XIV^e siècles)* (Paris: Honoré Champion, 1998), pp. 165–77, 433–41.

⁵ Aristoteles, *Meteorologica* II 6. At the time of Galvaneus, this classification was mainly known due to the detailed discussion by Albertus Magnus, *Liber meteororum* III 1, 20–3 (ed. Borgnet pp. 605–11).

⁶ Brunetto Latini, *Tresor*, I 106, eds. Pietro G. Beltrami *et alii* (Torino: Einaudi, 2007): 148–150. Cf. Ducos, *La météorologie en français*, pp. 263–4; Patrick Gauthier Dalché, “Pere Marsili, une carte majorquine (1313) et l’‘ardua controversia’ des vents,” *Itineraria* 5 (2006), pp. 153–70: 155.

with the “scientific” winds (as is the case of the four cardinal points), their names appear in the same circle. The other “scientific” names are written in individual circles at the intersection between the corresponding celestial parallel and the horizon circle. In the schematic representation, the “scientific” winds also appear equidistant, but their concurrence with the astronomical points clarifies the difference.

The diagram was created with the objective of portraying the winds (a total of 16, which correspond to the total number of directions represented by the lines of the portolan charts) and also provides a schematic depiction of the world. The horizontal astronomical circles are named (from south to north) *paralelus artarticus*, *tropicus yemalis*, *circulus equinoctialis*, *tropicus estivalis*, and *paralellus artticus*; namely, the Antarctic Circle, the Tropic of Capricorn, the Equator, the Tropic of Cancer, and the Arctic Circle.⁷ The only vertical circle is the *circulus meridianus*, i.e., the purported Central Meridian of the hemisphere, which is equidistant from the Far East and the Far West, defined as the extreme points of European and Asian landmasses before the limit of the outer ocean. At the intersection of the Equator with the Central Meridian, there is *Harim* (usually *Arin*), the town or isle which, according to Arab geography (based in turn on Indian geography), was located at the center of the world.⁸ This theory was introduced into Latin culture in the twelfth century through ties with Arabic science in Spain. It is adopted, for example, in the *Dialogus* by Peter Alphonsi (written in 1109-1110), the first known Latin author to mention this mythical and unknown place.⁹ *Arin* is considered to be the center of the world by a number of Latin scientists and geographers, such as (among the most famous) Roger Bacon and, later, Pierre d’Ailly. The inscription on the lower left arc of the outermost circle also reveals the diagram’s astronomical and scientific origins: *XXIII g(ra)d(us) cu(m) di(midi)o* (“23 and a half degrees”). This is the approximate unit of solar declination, or, more simply, the latitude of the two tropic lines.

⁷ Similar representations, which connect the winds with the celestial circles, are found in Albertus Magnus’s *Liber meteororum* (ed. Borgnet, p. 609) and in Petrus of Abano’s *Conciliator differentiarum*, cap. 67 (see for example ms. Vaticanus lat. 2447, f. 102r: https://digi.vatlib.it/view/MSS_Vat.lat.2447). Neither Albertus nor Petrus, however, include any seafaring wind.

⁸ On *Arim* or *Arin* see (among others). Emmanuelle Vagnon, *Cartographies et représentations de l’Orient méditerranéen en Occident (du milieu du XIII^e à la fin du XV^e siècle)*, (Turnhout: Brepols, 2011), pp. 47–9; Patrick Gautier Dalché, “Un débat scientifique au moyen âge: l’habitation de la zone torride (jusq’au XIII^e siècle),” in *Méditerranée et Océan Indien. Deux mondes en miroir* [= «Topoi» Suppl. 15 (2017)], pp. 145–81: 152–3; Alfred Hiatt, “The Transmission of Theoretical Geography: Maps of the Climata and the Reception of *De causis Proprietatum Elementorum*,” in *Cartography between Christian Europe and the Arabic-Islamic World, 1100-1500. Divergent Traditions*, ed. Alfred Hiatt (Leiden-Boston: Brill, 2021), pp. 40–73: 48–59.

⁹ Petri Alphonsi *Dialogus*, I 36; ed. Carmen Cardelle de Hartmann, Darko Senekovic and Thomas Ziegler, transl. Peter Stotz, vol. I (Florence: SISMEL–Edizioni del Galluzzo, 2018), p. 30.

Therefore, this diagram is a combination of scientific and experiential knowledge, as would be expected in a scholarly milieu receptive to the suggestion of geographical practice.¹⁰ We defer to specialists in this field to trace the diagram's possible origins. Galvaneus, who was a good compiler, and not a scientist, cannot be assumed to have created it. We know that the two systems were occasionally viewed as alternatives, as evidenced by the 1313 debate presented by Pere Marsili.¹¹ Driven by a need to communicate, Marsili merged the scientific and seafaring winds, reducing them to a simple synonymy, despite being aware that their distinct theoretical bases could not be reduced to a single unit. The intention of the author of Galvaneus's diagram, however, appears to be very different: equally conciliatory, but with a focus on preserving differences.

We highlight that the diagram of the winds in the *Cronica universalis* bears striking structural similarities to a map drawn in another work by Galvaneus (ms. Milan, Biblioteca Ambrosiana, A 275 inf, f. 46v).¹² It is a schematic picture of Milan contained in the *Cronica extravagans*, a work devoted to defending his city's antiquity and brilliance against (fictitious?) detractors who had not shared his earlier opinions on the topic.¹³ The map of Milan is also oriented to the south and features a perfectly circular structure based on concentric frames. In the center the *Broletto*, the ancient public court of Milan (indicated with the popular name *Xperticas*), is surrounded by a simple geometric decoration, very similar to the decoration that surrounds *Harim* in the diagram of the winds. While this last, based on its nature and scientific content, is not supposed to be Galvaneus's product but an import from a prior source, the map of Milan, on the other hand, is in perfect unison with the writer's mentality and goals. The concentric circles that symbolize the city illustrate the continuity between ancient and modern history through a process of expansion that does not obliterate what has come before (a central

¹⁰ Gauthier Dalché, "Pere Marsili", warns against accentuating the opposition between scientific speculation and practical knowledge, which the medievals did not perceive as a contrast. Cf. also Francesc Relajo, "Mapamundis catalans: una tradició cartogràfica desaparebuda," *Treballs de la Societat Catalana de Geografia* 52 (2001): 393–409, 396–397.

¹¹ Gautier Dalché, "Pere Marsili". The passage of Pere Marsili is also commented on by Ramon J. Pujades i Bataller, *Les cartes portolanes. La representació medieval d'una mar solcada* (Barcelona: Lunwerg, 2007), pp. 198–9, 475–6, 480; contrary to Gautier Dalché's opinion, Pujades i Bataller does not rule out that the nautical chart used by Pere Marsili was a Genoese map.

¹² The map is freely accessible on the Biblioteca Ambrosiana website (<http://213.21.172.25/0b02da828007c5c1>). On this map cf. Patrick Boucheron, "La carta di Milano di Galvano Fiamma-Piero Ghioldi (fine XIV secolo)," in *Rappresentare la città: Topografie urbane nell'Italia di antico regime* (Reggio Emilia: Diabasis, 2010), pp. 77–97.

¹³ *La Cronaca estravagante di Galvano Fiamma*, eds. Sante Ambrogio Céngarle Parisi and Massimiliano David (Milano: Casa del Manzoni, 2013), with a reproduction of the map (716–21).

concept in Galvaneus's civic thought).¹⁴ Therefore, we are inclined to believe that the diagram of the winds was obtained from an external source and provided Galvaneus with a graphic pattern that he later developed to describe his city. If this assumption is correct, the diagram of the winds must have been created prior to 1337, the year in which Galvaneus presumably authored the *Cronica extravagans*.¹⁵

B) A LOST "GENOESE MAP"

In his *Cronica universalis*, Galvaneus mentions an artifact, which he calls *mappa Ianuensis* (Genoese map). This name occurs in three passages:

1) *Cronica universalis*, I (f. 142r). Galvaneus is listing the rivers, which, in *Genesis* (2, 10-14), are stated to flow from the Earthly Paradise. Concerning the Nile, he writes:

Fluvius Nillus... in duo capita dividitur: unus ramus descendit versus Babiloniam del Car Egipti, et insulam in modum trianguli facit, et divisus in VII ostia mare Mediterraneum ingreditur. Alter ramus per cuniculos subterraneos transit, et iuxta civitatem Arim capud extollit, in loco qui dicitur Terra Delitiarum: propterea a compositore mappe Ianuensis creditus fuit quod esset ibi paradixus terrestris, tum ratione copie delitiarum, tum ratione fluminis paradixi ibidem discurrentis.

The River Nile... divides into two branches. The first branch goes down toward Babilonia, i.e., Cairo, in Egypt, forms a triangular-shaped island, and flows into the Mediterranean Sea with a seven-mouth delta. The second branch flows through underground passages and resurfaces near the city of Arim in a place called "Land of Delights". For this reason, *the maker of the Genoese map* believed that site

¹⁴ Paolo Chiesa, "Così era Milano nel Trecento. Un percorso didattico sul manoscritto Ambrosiano A 275 inf," in *Miscellanea graecolatina II* (Milano-Roma: Biblioteca Ambrosiana - Bulzoni 2014), pp. 391–414.

¹⁵ Another concentric map of Milan, also oriented to the south, is found in another work of Galvaneus, the so-called *Cronicon maius* (ms. Ambrosiano A 275 inf, f. 93v); the setting is the same as in the *Cronica extravagans*, although the representation is very simplified, limited to reproducing the (presumed) gates of the ancient Roman city. Among the cartographic representations associated with Galvaneus, it is worth recalling a map of Italy, once again oriented to the south, with simple lines or inscriptions indicating the main cities, ports, mountain ranges, rivers, and roads (*Cronica extravagans*, ms. Ambrosiano A 275 inf, f. 51v). These maps are also freely accessible on the Biblioteca Ambrosiana website. For more details, see the papers cited in notes 12–14 above.

to be the Earthly Paradise because of the abundance of delights and the River of Paradise that flowed nearby.

We have not covered the first part of the discussion, in which Galvaneus outlines the numerous and contradictory reports circulating in late antique and medieval geography regarding the Nile's course. Since it was commonly accepted that the Nile was one of the four rivers that sprang from the Earthly Paradise, Christian geographers had to reconcile the fact that the Nile flowed very far from the other three identified as the Tigris, the Euphrates, and another Asian river (either the Ganges, the Indus, or the Amu Darya). In order to overcome the dilemma, they imagined that the Nile (and sometimes the other paradisiacal rivers) followed complicated subterranean courses, disappearing into the earth in certain places and re-emerging unexpectedly in other, very distant lands. The quoted passage concludes the description. After a long and complex course, the Nile finally divides into two branches: while the first one corresponds to the real delta mouth, the second one resurfaces near the city of *Arim*, in a place where, as we understand it, whoever drew the Genoese map also placed the Earthly Paradise.¹⁶

2) *Cronica Universalis*, III 277 (ff. 259v-260r). Galvaneus is describing the Indian region, from east to west, citing Marco Polo and Odoric of Pordenone as his sources. He lists Java, the Andaman islands, Ceylon, the Malabar coast (*ubi est corpus Thome apostoli*), and the provinces of *Murfuli*, *Lar*, *Colium*, *Camari*, and *Cosurach*, all of which are recognizable as regions mentioned by Marco Polo with similar names.¹⁷ He seems particularly interested in the latitudes of those places, which can

¹⁶ Francesco Surdich, "Il problema delle sorgenti del Nilo dai testi biblici alla cultura umanistica," in *Chiare, fresche e dolci acque. Le sorgenti nell'esperienza odepórica e nella storia del territorio* (Roma: Cisge 2001), pp. 159–236; Emmanuelle Vagnon, *Cartographies et représentations*: 80–3; Robin Seignobos, "L'origine occidentale du Nil dans la géographie latine et arabe avant le XIV^e siècle," in *Orbis disciplinae. Hommages en l'honneur de Patrick Gautier Dalché*, (Turnhout: Brepols, 2017): 371–94. On the location of the Earthly Paradise in Africa see Patrick Gautier Dalché, "Le Paradis aux antipodes? Une 'Distinctio divisionis terre et paradisi delitiarum' (XIV^e siècle)," in *Liber largitorius. Études d'histoire médiévale offertes à Pierre Toubert par ses élèves* (Genève: Droz 1994), pp. 101–13: 110–2 [repr: P. G. D., *L'espace géographique au Moyen Age*, pp. 395–417: 414–6]; Francesc Relano, "Paradise in Africa: The History of a Geographical Myth from its Origins in Medieval Thought to its Gradual Demise in Early Modern Europe," *Terrae Incognitae* 36 (2004): 1–11; Alessandro Scafi, *Mapping Paradise: A History of Heaven on Earth* (London–Chicago: British Library–University of Chicago Press, 2006), pp. 173–6; 183–95.

¹⁷ «Hinc navigando per tramontana per M miliaria invenitur provintia de Murfuli. Inde sequitur provintia de Maaban, ubi est corpus beati Thome apostoli. Hinc eundo per ponent invenitur provintia dicta Lar, ubi sunt Bragmanes phylosophy. Inde versus garbin per V^e miliaria invenitur terra dicta Colium. Inde venitur ad provintiam dictam Camari, ubi videtur tramontana alta super terra<m> per unum brachium. In provintia de Melibar apparet tramontana alta super

be inferred from the height of the North Star with respect to the horizon. At the end, he mentions an island named *Ayzafur*, placed at 172° in longitude and 6° in latitude, also mentioned—so Galvaneus says—by Marco Polo.¹⁸ Finally, a blank line is left in the manuscript.¹⁹ The following text says:

In mappa Ianuensi ponitur India; superius ponitur sepulcrum beati Thome apostoli, de quo supra dictum est quod est ultra equinoctialem; iterum superius ponitur terra ubi fit zinziber; superius ponuntur multe insule; superius ponitur insula Taprobane.

India is placed *on the Genoese map*; St. Thomas's burial is placed above (we already said that it is beyond the Equator). Furthermore, the land where ginger grows is placed above, many islands are placed above, and the island of Taprobane is placed above.

terram duobus brachiis. In provincia de Cosurach apparet tramontana alta super terram brachiis VI. In *Libro de longitudine et latitudine civitatum* habetur quod insula dicta Ayzafur habet longitudinis graduum CLXXII et latitudinis graduum VI. Et de hac insula dicit Marchus Paulus» (“From here, sailing towards north for a thousand miles, one finds the province of Murfuli. Then the Maabar province follows, where the body of the Blessed Thomas the Apostle is located. Hence, going towards west there is the province named Lar, where Brahman philosophers live. Then, towards southwest for 500 miles there is a land named Colium. Then one reaches the province of Cumari, where the North Star appears one arm high above the Earth. In the Melibar province, the North Star is two arms high above the Earth. In the Cosurach province, the North Star appears six arms high above the Earth. In the *Book of the Longitude and Latitude of Cities*, it is said that the island called Ayzafur has a longitude of 172 degrees and a latitude of 6 degrees. And Marco Polo talks about this island too”). The regions mentioned by Galvaneus are those called *Murfili*, *Lac*, *Coylum*, *Comari*, and *Goçurath* in the Latin version of Polo's book (III 29–35) by the domenican Franciscus Pipinus (Francesco Pipino da Bologna; d. 1327–28), the text probably used by Galvaneus (freely available from the electronic edition of Samuela Simion, based on Florence, Biblioteca Riccardiana, MS 983: http://virgo.unive.it/ecf-workflow/books/Ramusio/testi_completi/P_marcato-main.html).

¹⁸ I have not been able to identify this island, which is not actually mentioned by Polo. The coordinates are stated to be taken from a *Liber de longitudine et latitudine civitatum*, and indicate a point in the very far east (calculated from the extreme west, probably the *Insulae fortunatae*). For these types of tables, derived from Ptolemy through Arabic intermediaries, cf. John K. Wright, “Notes on the Knowledge of Latitude and Longitude in the Middle Ages,” *Isis* 5 (1923): 75–98; Patrick Gautier Dalché, “Connaissance et usages géographiques des coordonnées dans le moyen âge latin (du vénérable Bède à Roger Bacon),” in *Science antique, science médiévale (autour d'Avranches 235). Actes du Colloque International (Mont-Saint-Michel, 4-7 septembre 1998)* (Paderborn, etc.: Olms-Weidmann, 2000): 401–36 [repr: P. G. D., *L'espace géographique au Moyen Age* (Florence: SISMEL - Edizioni del Galluzzo, 2013): 59–75].

¹⁹ According to Ghioldi's style of copying, the blank line is an indication that the next text in the model was located in an anomalous position, for example as a marginal addition.

Galvaneus's wording demonstrates that he was examining the chart with his own eyes. Apparently, the chart was oriented to the south, since the places progressively located to the south are indicated with the term *superius* («above»).

3) *Cronica universalis*, III 373 (ms. f. 277v). The “Ethiopic section” of the work (*Historia Ethyopie*, the title Galvaneus gives to it)²⁰ is said to be derived from a *Tractatus de mappa Ianuensi*:

Hec scripta sunt *in tractatu de mappa Ianuensi* quam composuit sacerdos Sancti Marchi de Ianua.

All this is written *in the treatise on the Genoese map*, composed by a priest of St. Mark in Genoa.

The pronoun *hec* refers to the above pieces of information provided by Galvaneus regarding the political organization of *Ethyopia*; the *Tractatus de mappa*, however, is quoted again a few lines later when discussing the ecclesiastical administration of the country. In general, we assume that the whole “Ethiopic section” of the *Cronica universalis* is taken from the *Tractatus*. This work, now lost except for the excerpts by Galvaneus,²¹ is said to have been a booklet associated with a *mappa Ianuensis*, most likely to increase or better specify information on some regions of the world. If the text of the

²⁰ See Paolo Chiesa, “Galvano Fiamma e Giovanni da Carignano. Una nuova fonte sull’ambasceria etiopica a Clemente V e sulla spedizione oceanica dei fratelli Vivaldi,” *Itineraria* 17 (2018), pp. 63–107; Alessandro Bausi and Paolo Chiesa, “The *Hystoria Ethyopie* in the *Cronica universalis* of Galvaneus de la Flamma (d. c. 1345),” *Aethiopica* 22 (2019), pp. 7–57.

²¹ Actually, the *Tractatus* is also quoted in the *Supplementum cronicarum*, a historical encyclopedia written by the Italian friar Giacomo Filippo Foresti at the end of the fifteenth century (first edition at Venice, *apud Bernardinum Benalium*, 1483 [GW M10969; ISTC ij00208000], book VIII, ff. 17v-18r). Foresti offers a reduced synthesis of the same Ethiopian news provided by Galvaneus. He claims that his source was “a distinguished priest of St. Mark in Genoa” (*sacerdos quidam Genuensis sancti Martii prepositus, vir quidem egregius*), who “wrote a treatise which he also named *mappa*” (*tractatum edidit quem et mappam nominavit*). The formulation of Foresti, one and a half centuries later than Galvaneus's, is contradictory and ambiguous, probably because the friar only had second-hand information about the object he was talking about. Before the discovery of the citations by Galvaneus, some scholars thought that Giovanni da Carignano's chart, made in the early fourteenth century, could also be defined as a *Tractatus* due to the number of captions written on it. Galvaneus's hints, however, demonstrate that we are actually dealing with two different artifacts, because the news reported in the *Tractatus* is not found in the celebrated chart of Giovanni da Carignano. The chronology of the two authors and the fact that all the news reported by Foresti is already reported by Galvaneus, in a more extended form, leaves open the possibility that Galvaneus is Foresti's source; in this case, the formulation *tractatum... quem et mappam nominavit* were a misinterpretation by Foresti.

Cronica universalis is as trustworthy as it appears to be,²² the author of the map was supposed to be a priest of San Marco al Molo in Genoa, the church of the harbor: without doubt Giovanni da Carignano, in office from 1290 to 1329–1330), who drew a famous chart of Europe and the Mediterranean regions. It was destroyed during the Second World War but is still consultable today in previously made photographic reproductions.²³

Together, the three quotations provide some information about the artifact Galvaneus calls the *mappa Ianuensis*. On the chart was indicated (*ponitur*) the characteristic feature of some places, probably with inscriptions, possibly with pictures. It not only included Europe and the Mediterranean area, but also the Indian regions, the land of *Arin* (or *Arim*) and the Earthly Paradise, and was most likely oriented to the south. Therefore, it cannot be associated with the only known chart to have been drawn by Giovanni da Carignano, which does not include either India or *Arin*. Furthermore, the ‘Ethiopian’ contents of the *Tractatus de mappa*, a booklet that is declared to have been written in connection with this chart, fit with a map that depicted a larger portion of the world than the famous map of Giovanni of Carignano did.

No surviving chart from Genoa, contemporary or preceding Galvaneus, matches these features. The only previous chart depicting the entire globe attributed to a Genoese cartographer is

²² And there is no reason to think otherwise. If the pronoun *quam* (feminine, referring to the *mappa*) were a misspelling for *quem* (masculine, referring to the *tractatus*), the *sacerdos* would be identified with the author of the treatise and not necessarily with the author of the map. Such an assumption, however, is very improbable. Galvaneus uses the verb *componere*, as in the first passage above, a verb well suited to a diagram or a picture, but less appropriate for a text. In the case of text, he uses *scribere* everywhere in the *Cronica universalis*. In contrast, the verb *componere* is usual for tables and images, i.e., it is used twice to refer to a longitudinal *tabula* centered on *Harim/Arin* («auctores qui tabulas composuerunt», III 275; III 261); and in the previous reference to the *mappa*, Galvaneus uses the word *compositor* (“maker”) without identifying the individual.

²³ On Giovanni da Carignano and his chart: Theobald Fischer, *Sammlung mittelalterlicher Welt- und Seekarten italienischen Ursprungs und aus italienischen Bibliotheken und Archiven* (Venezia: Ongania, 1886), pp. 117–26; T. Campbell, “Portolan Charts from the Late Thirteenth Century to 1500,” in *The History of Cartography, I: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, eds. J. B. Harley and David Woodward (Chicago: University of Chicago Press, 1987), pp. 371–463: 404–6; G. Ferro, *La tradizione cartografica genovese e Cristoforo Colombo* (Roma: Istituto Poligrafico e Zecca dello Stato, 1992), pp. 30–4; Ramon J. Pujades i Bataller, *Les cartes portolanes*, pp. 254, 328–32, 489–90, 517; Graziella Galliano, “Mauro, Giovanni (Giovanni da Carignano),” in *Dizionario biografico degli Italiani*, vol. 72 (Roma: Istituto della Enciclopedia Italiana, 2009), pp. 399–401. The best reproduction of Giovanni da Carignano’s lost chart is published by Yusuf Kamal, *Monumenta cartographica Africae et Aegypti*, vol. IV, fasc. 2 (Cairo: Wieder, 1939), pp. 1137–8. An easily accessible reproduction is available on the State Archive website, Florence (<https://www.archiviodistato.firenze.it/archiviodigitali/unita-archivistica/?id=35>); an enhanced image, obtained by melding the various copies of the old photograph into a single, at <https://medea.fc.ul.pt/view/chart/153> (by Alberto Quartapelle, whom I thank for the advice).

the one drawn by Pietro Vesconte's atelier for the *Liber secretorum* by Marino Sanudo,²⁴ which does not mention either *Arim* or the Earthly Paradise and contains less information on India. These names, however, appear in later charts, which report traces of an earlier tradition. Galvaneus's *mappa Ianuensis* appears to have some affinities with a now-lost *mappa mundi*, known thanks to the so-called *Itinerario di Antonio* (or *Antoniotto*) *Usodimare*, preserved in the manuscript Genoa, Biblioteca Universitaria, B.I.36,²⁵ which is a transcription of the legends written in a lost Italian chart, sometimes reporting datable records.²⁶ The most recent record refers to the conquest of Persia by Tamerlane (1387), but the majority of them date from the years 1310-1340,²⁷ a time frame that could be reduced even further to the years 1317-1321.²⁸ It can, therefore, be assumed that the "Usodimare *mappa mundi*", an artifact drawn not before 1387, recovered traditions already present in the first half of the fourteenth century.

The main point of proximity of the *mappa Ianuensis* quoted by Galvaneus with the "Usodimare *mappa mundi*" is the mention of *Arim* (in the same spelling as Galvaneus), immediately followed by the mention of the Earthly Paradise: an indication of the proximity between the two places, which even Galvaneus assumes.²⁹ In addition, some minor elements of the description of India in Galvaneus's *mappa Ianuensis* correspond with the "Usodimare *mappa*

²⁴ Several copies exist of Vesconte's *mappa mundi*. For a comprehensive study see Evelyn Edson, "Reviving the Crusade: Sanudo's Schemes and Vesconte's Maps," in *Eastward Bounds. Travels and Travelers, 1050-1550*, ed. Rosamund Allen (Manchester: Manchester University Press, 2004), pp. 131–55.

²⁵ On Antoniotto Usodimare Francesco Surdich, "Usodimare, Antoniotto," in *Dizionario biografico degli Italiani*, vol. 97 (Roma: Istituto della Enciclopedia Italiana, 2020), pp. 628–9. The classical studies are: Jakob Gråberg [från Hemsö], "Notizia dell'Itinerario di Antoniotto Usodimare," in *Annali di Geografia e di Statistica*, vol. II (Genova: In Scurreria la Vecchia, 1802), pp. 280–92; Rinaldo Caddeo, *Le navigazioni atlantiche di Alvise da Ca' da Mosto, Antoniotto Usodimare e Niccoloso da Recco*, (Milano: Alpes, 1929); Paolo Revelli, *Cristoforo Colombo e la scuola cartografica genovese* (Genova: Stabilimenti Italiani Arti Grafiche, 1937), pp. 291–304.

²⁶ Jacques Paviot, "Un mappemonde génoise desperu de la fin du XIV^e siècle," in *L'iconographie. Études sur les rapports entre textes et images dans l'Occident médiéval – Cahiers du Léopard d'Or* 10 (2001), pp. 69–97. We will quote the text according to Paviot's transcript and the paragraphing he himself provided.

²⁷ *Ibidem*, p. 71. We can add a reference to the list of kings: the one concerning the Mamluk sultan al-Malik al-Nāṣir al-Dīn Muḥammad ibn Qalāwūn (1302-1340), named *Melchanazar* at par. 77 (not identified by Paviot, p. 71).

²⁸ Paviot identifies *Calech* mentioned in the *Itinerarium* (par. 45) with Kebek, Khan of the Chagatai in 1309 and again in 1318-1321, and *Bonsaiti* (par. 34) with Abu Saïd, Khan of Persia since 1317.

²⁹ «Ista ydola est in civitate de Arim, que semper cum digito suo signat solem de die. In ista parte orientis est Paradisus terrenallis, locus valde delectabilis, qui cincto est muro ignis usque ad celum...» (par. 93-94). Paviot (p. 72) believes that Paradise in the "Usodimare *mappa mundi*", is located in Asia, evidently on the basis of the wording *in ista parte Orientis*; the succession of places, however, suggests that the chart positioned it in the eastern part of Africa, as does the "Catalan Estense *mappa mundi*", as we will see.

mundi”: the burial of St. Thomas,³⁰ the multitude of islands,³¹ and Taprobane;³² ginger, however, is not mentioned by “Usodimare”.³³ Furthermore, the legends of the “Usodimare *mappa mundi*” share some elements with the *Tractatus de mappa* quoted by Galvaneus, namely the awareness of a Christian Ethiopia³⁴ and the fate of the Vivaldi brothers’ Atlantic expedition. In this last instance, the claim that the sailors arrived in Ethiopia and never returned to Europe and the date of departure of 1290 are subjective elements: Iacopo Doria’s most credible version dates the departure to 1291 and claims that there was no further news of the expedition after it passed through *Gozora*, the last known location on the Atlantic coast of Africa.³⁵

The “Usodimare *mappa mundi*” has strong affinities with the “Catalan Atlas” of 1375, attributed to Abraham Cresque’s Majorcan atelier,³⁶ and the portolan chart of Bartolomeo Pareto, drawn in Genoa in 1455.³⁷ The inscriptions of the three maps are largely identical, although they are

³⁰ par. 44: «In civitate Botifolii dominatur rex Stephanus, cristianus, ubi est corpus beati Thome apostoli».

³¹ par. 66: «in isto mari Indiarum sunt insule MDCCXXXVIII, in quibus sunt multa mirabilia».

³² par. 68: «ista insulla vocatur Custamis Trapolana». The identification with Taprobane is suggested by Paviot, p. 74, and is confirmed by the circumstance that the legend of *Trapobana* in the “Catalan Atlas” of 1375 has a very similar text.

³³ We highlight that a mention of the *zinziber* is made in Pietro Vesconte’s *mappa mundi*, but on the African coast of the Red Sea.

³⁴ The “Usodimare *mappa mundi*” identifies the emperor of Ethiopia as the Prester John, accepting the explanation of his transfer to Africa after the defeat suffered by Genghis Khān, which was also narrated by Marco Polo (I 51-53 in the version of Pipinus; see note 17). This identification does not appear in the *Tractatus de mappa*, where the religious leader of Ethiopia is called *Preytzan* and is quite distinct from the emperor. In the “Usodimare *mappa mundi*” (par. 91), the name of the emperor of Ethiopia is *Abet Selip*, «quod vult dicere ‘centum cives’» («a name that means hundred citizens»): *centum cives* seems to be a textual corruption of *servus crucis*, the regal name referred to by the *Tractatus*. Cf. E. Denison Ross, “Prester John and the Empire of Ethiopia,” in *Travels and Travelers of the Middle Ages* (New York: Barnes & Noble, 1926), pp. 174–194: 185. Another piece of information shared by the “Usodimare *mappa mundi*” and the *Tractatus de mappa* is the fact that the Ethiopian churches are covered in gold («multe ecclesie aper[a]te sunt lamaris auri», Paviot par. 91; «ecclesie Ethiopie in multis locis sunt cohoperte ex auro», *Cron. univ.* III 375).

³⁵ On the other hand, the “Usodimare *mappa mundi*” agrees with Iacopo in indicating the names of the navigators as the Vivaldi brothers, while the *Tractatus de mappa* reported by Galvaneus indicates the name of Uberto di Savignone; cf. Chiesa, *Galvano Fiamma e Giovanni da Carignano*: 102–3.

³⁶ Paris, Bibliothèque nationale de France, Ms. esp. 30. The legends were edited by Georges Grosjean, *Der katalanische Weltatlas vom Jahre 1375* (Dietikon-Zürich: Urs Graf Verlag, 1977); cf. also *L’Atles català (edició facsímil)* (Barcelona: Edicions 62, 2005), with an introductory essay by Ramon Pujades i Bataller, “Un mapamundi de transició e la segona meitat del segle XIV,” pp. 15–25. A recent essay on this chart is by Emmanuel Vagnon, “Pluricultural Sources of the Catalan Atlas,” in *Cartography between Christian Europe and the Arabic-Islamic World*, pp. 160–88.

³⁷ Roma, Biblioteca Nazionale Centrale, Carte nautiche 1. About the author, see Ramon Pujades i Bataller, “Pareto, Bartolomeo,” in *Dizionario Biografico degli Italiani*, vol. 81 (Roma: Istituto della Enciclopedia Italiana, 2014), pp.

written in Catalan in the Atlas of 1375 and in Latin in the other two. Jacques Paviot baptized the “Usodimare *mappa mundi*” as the “Genoese Atlas” (*Atlas génois*) and dated it to after 1387, based on the reference to Tamerlane. He concluded that it must have been broader, by geographic extent, than the “Catalan Atlas” and Pareto’s portolan chart, and must have been based on a model from a few decades earlier. The “Catalan Atlas” also depicts the Indian regions, with Taprobane and the multitude of islands, but without reference to ginger or St. Thomas. Pareto’s portolan chart is limited to the European area and an immediate Mediterranean background in North Africa and Levant, as it is usual in this type of charts. Neither the “Catalan atlas” (at least as it is preserved today) nor Pareto’s portolan chart includes *Arin* or the Earthly Paradise, since they depict only the northern portion of Africa.

The “Usodimare *mappa mundi*” and Galvaneus’s *mappa Ianuensis* can also be compared to the so-called “Catalan Estense *mappa mundi*,”³⁸ which was composed shortly after the middle of the fifteenth century. Its origin is Catalan, as demonstrated by the language of the inscriptions, and was later in the possession of the Este family, dukes of Ferrara and Modena. Similar to Galvaneus’s *mappa Ianuensis*, the “Catalan-Estense *mappa mundi*” mentions the name of the city of *Arim* (once again in the same spelling as Galvaneus)³⁹ placed near the intersection of the Central Meridian and the Equator; the Earthly Paradise is placed immediately to the east of *Arim*, in a similar position to that indicated by Galvaneus for the *mappa Ianuensis* and inferred by the description of the “Usodimare *mappa mundi*.”⁴⁰ In the “Catalan Estense *mappa mundi*,” *Arim* and the Earthly

335–7, who also attributes to Pareto’s atelier the fragmentary “portolan *mappa mundi*” Istanbul, Topkapi Sarayi Müzesi, H 1827. The affinities of Pareto’s portolan chart with the “Usodimare *mappa mundi*” are highlighted by Paviot, “Un mappemonde génoise disperu,” pp. 77–8.

³⁸ Modena, Biblioteca Estense Universitaria, C.G.A. 1 (freely available at <https://edl.beniculturali.it/beu/850013654>); cf. *Il Mappamondo Catalano Estense*, eds. Ernesto Milano and Annalisa Battini (Dietikon-Zürich: Urs Graf Verlag, 1995). Cf. also Francesc Relaño, *The Shaping of Africa. Cosmographic Discourse and Cartographic Science in Late Medieval and Early Modern Europe* (Aldershot: Ashgate, 2002), pp. 103–9.

³⁹ Instead of the more commonly used *Arin* or *Aren*.

⁴⁰ For mentions of an Earthly Paradise located in Africa see note 16. A trace remains, *inter alia*, in the 1457 (probably Genoese) lenticular *mappa mundi* (known in the literature as the “Genoese mappamundi”: Firenze, Biblioteca Nazionale Centrale, Portolano 1). The legend for this land is: «In hac regione depinxerunt quidam paradisum deliciarum, alii vero ultra Indias ad orientem eum esse dixerunt. Sed quoniam hec est cosmographorum descriptio, qui nullam de eo fecerunt mentionem, ideo omittitur hic de eo narratio» («some drew the Paradise of Delights in this region; others said it is in the east, beyond India. But since our drawing depends on cosmographers, who said nothing about it, we make no mention as well»). Cf. *Mappa mundi 1457. Carta conservata presso la Biblioteca Nazionale Centrale di Firenze con la segnatura Portolano 1*, eds. Angelo Cattaneo (Roma: Istituto della Enciclopedia Italiana,

Paradise are located immediately eastward of the Prester John;⁴¹ the sequence in which these subjects are listed in the description of “Usodimare” is the same, and both documents report very similar legends describing the Earthly Paradise, albeit in different languages.

Another chart, to some extent connected to the group, seems to be the one used by the Florentine geographer Paolo Dagomari (1282–1374) shortly after the middle of the fourteenth century to determine the longitudes. Moreover, this chart, studied by Patrick Gautier Dalché in a fundamental essay,⁴² had *Arim* (so written) at its center, whose position served as a reference point for measurements. The similarities between this (lost) *mappa mundi*, the “Catalan Estense *mappa mundi*,” and the “Usodimare *mappa mundi*” are remarkable, as shown by the similarities between the distances on the preserved maps and the tables presented by Dagomari.

Therefore, the few elements Galvaneus reveals about the *mappa Ianuensis* reappear in a series of maps from the mid-fourteenth century and later in Majorca and Genoa, which belong to a typology defined by Ramon Pujades i Bataller as “portolan *mappamundi*” (it. *mappamondo portolano*).⁴³ The most interesting points seem to be the earliness of the quote (Galvaneus died around 1345),⁴⁴ which is more ancient in respect to others, bringing us back to the time of the main historical references recovered in the “Usodimare *mappa mundi*” (1310–1340),⁴⁵ Galvaneus’s attribution of the map to the priest of San Marco al Molo, i.e., Giovanni da Carignano; and the connection of the document with Genoa, implied by the geographical adjective Galvaneus uses to designate it. Although scant and limited, these mentions are significant in bearing evidence of the

2008). This *mappa mundi* depicts, *inter alia*, the burial of St. Thomas and Taprobane, directly south of India, and mentions the *zinziber* as an Indian product («hic colligitur zenzero copiose»).

⁴¹ According to Relaño, *The Shaping of Africa*, p. 105, the location of the Earthly Paradise in Africa is a feature of the Catalan tradition of the *mappae mundi*, dating back to a previous period in respect to the preserved charts. Genoese and Catalan traditions, however, are closely associated; cf. Pujades i Bataller, *Les cartes portolanes*. pp. 248–63.

⁴² Patrick Gautier Dalché, “«Quando vuoi travare la longitudine d’alchuna citta da Occidente, guarda nel mappamondo da maiolica...». La mesure des coordonnées géographiques selon Paolo dell’Abbaco,” *Micrologus* 19 (2011), pp. 151–200: 181–3.

⁴³ Ramon J. Pujades i Bataller, “Mappaemundi veneziane e catalane del basso medioevo: due rami nati dallo stesso tronco,” in *Venezia e la nuova oikoumene. Cartografia del Quattrocento – Venedig und die neue Oikoumene. Kartographie im 15. Jahrhundert* (Roma: Viella, 2016), pp. 73–96. Cf. also Relaño, *Mapamundis catalans*.

⁴⁴ As we said (note 19), the description of the Indian lands and islands that Galvaneus derives from the *mappa Ianuensis* (book III) appears to be an additional passage with respect to an earlier draft of the work. In any case, the addition will be attributed to Galvaneus himself, as with other similar passages within the work. To the contrary, the mention of the *mappa* in book I of the *Cronica universalis* with regard to *Arim* and the Earthly Paradise appears to be perfectly embedded in the text.

⁴⁵ See above, notes 25–26.

existence of an early *mappa mundi*, in a historical context of the great renewal of Mediterranean cartographic practice, as the first half of the fourteenth century was.⁴⁶

⁴⁶ I am grateful to Angelo Cattaneo, Patrick Gautier Dalché and Riccardo Macchioro for their advice and suggestions. Special thanks to Ramon Pujades i Bataller, who provided the drafts of his forthcoming book in which he makes a comprehensive review of “portolan *mappamundi*” (and deals, among others, with the “Catalan Estense *mappa mundi*” and the “Usodimare *mappa mundi*”) and their history. Obviously, I am responsible for any errors made.