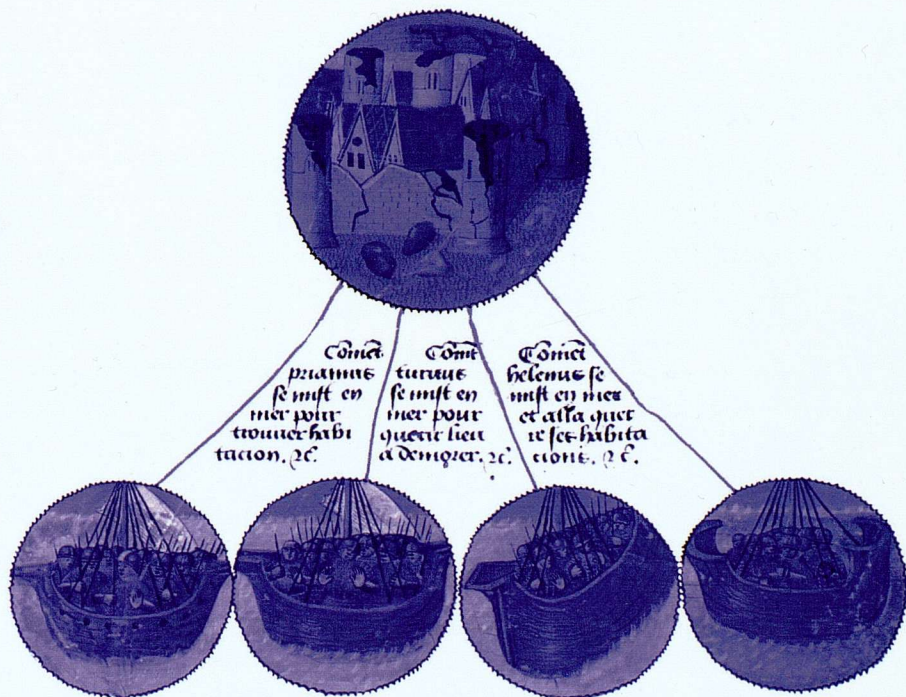


Postcards from the Edge European Peripheries in the Middle Ages

Proceedings of the Institute for Medieval Studies (Leeds)
Postgraduate Symposium 2009

edited by Liz Mylod and Zsuzsanna Reed Papp



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Bulletin Editor Alan V. Murray

Editorial Address The Editor, International Medieval Bibliography, Parkinson 1.03, University of Leeds, LEEDS LS2 9JT U.K.

e-mail: [A.V. Murray@leeds.ac.uk](mailto:A.V.Murray@leeds.ac.uk)

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A Peripheral Matter?

Oceans in the East in Late Medieval Thought, Report and Cartography

Marianne O'Doherty

It is something of a truism that the Ocean Sea (*mare oceanum* in medieval texts and cartography) marked out a real and conceptual periphery for medieval Western Europeans. Indeed, when I delivered a version of this paper at my home university, a questioner asked how it was possible that Christopher Columbus, towards the end of the fifteenth century, should suddenly decide to sail westwards from Spain, into the unknown; surely to do so was to break through a conceptual barrier?¹ Scholarly perceptions of the ocean (and in particular the Atlantic) as a geographical and conceptual boundary in the Middle Ages are built on solid medieval foundations; voyage legends like the eighth- or ninth-century account of the Irish saint Brendan, reworked and translated repeatedly through to the fifteenth century and beyond, both reinforced and capitalised on this notion.² In the *Navigatio sancti Brandani*, the ocean voyage is imagined as a liminal phenomenon, suspended between earthly life in the terrestrial world and paradise, envisaged as an oceanic island, beyond it. Many famous medieval maps, such as the late thirteenth-century Hereford Map and its near-contemporary, the no longer extant Ebstorf world map, can be adduced to support the ocean's conceptually peripheral status in this period. Nevertheless, the genesis of the paper on which this article is based lay in a simple observation: that in a corpus of detailed world maps drawn in the fourteenth and fifteenth centuries – the same period in which the *Voyage of St Brendan* and texts like it were circulating across Europe – the notion of the ocean sea as a

¹ Question in response to paper of the same title delivered on 15 March 2010, Centre for Medieval and Renaissance Culture, University of Southampton. The question of the viability of Columbus's plan in the eyes of his contemporaries is discussed in G. W. R. Randles, 'The Evaluation of Columbus' "India" Project by Portuguese and Spanish Cosmographers in the Light of the Geographical Science of the Period', *Imago Mundi* 42 (1990), 1-23.

² Versions dating from the tenth to the fifteenth centuries are collected in *The Voyage of Saint Brendan: Representative Versions of the Legend in English Translation*, ed. W. R. J. Barron and Glyn S. Burgess (Exeter, 2005).

peripheral phenomenon is repeatedly and graphically counteracted. A range of maps from Pietro Vesconte's world map in Marino Sanudo's *Liber secretorum fidelium crucis* (c. 1321, Fig. 4) to Henricus Martellus's reworking of the Ptolemaic world map (c. 1490; not shown here) show land and sea interacting with one another in intricate and complex ways.³ Whilst scholars have considered the technical innovations that influenced the delineation of seas and coastal regions in this period (such as the influence of portolan chart-making techniques after c. 1300 and the mathematical, co-ordinate-based method of Claudius Ptolemy, after the appearance of his *Geography*'s Latin translation in 1406), they have not systematically considered the conceptual shift that this representational change entails.⁴ This change involves a conceptual shift through which the sea comes to be considered not a distinct, other, and peripheral element, but an intrinsic part of the world. Focusing in particular on the southern and eastern parts of the Ocean Sea, this article traces the broad contours of a representational and conceptual shift brought about, I argue, by the interplay between geographical thought and social (navigational, mercantile) practice.

The article falls into four parts. In Part I, I outline European conceptions of the encircling Ocean Sea around 1300, focusing specifically on the construction of the south-eastern rim of the world found in descriptions and maps of the *orbis terrarum* (circle of lands) that formed the medieval known and inhabitable world (or *oikoumene* in the Greek cosmography on which this vision ultimately draws). In the second section, I discuss the extent of Europeans' practical experience of travelling at the eastern edge of the world. Part III outlines how the subject position of medieval travellers in the Indian Ocean world fundamentally affected their perception and representation of oceanic space. In Part IV, I suggest that the ocean-going traveller's perspective on the Indian Ocean world, conditioned by experience of it as a social space, underlies the change in the conceptualisation and representation

³ Copies in MSS London, British Library, Additional 15760, fols 68^v-69^r and Yale University, Beinecke Rare Book and Manuscript Library, captioned 'Map of the World of Christopher Columbus' in *Beinecke Digital Images Online*, <http://beinecke.library.yale.edu/dl_crosscollex/brbldl_getrec.asp?fld=img&id=1040214> [accessed 7 June 2010].

⁴ See the detailed recent synthesis in Evelyn Edson, *The World Map 1300-1492: The Persistence of Tradition and Transformation* (Baltimore, 2007).

both of the south-eastern edge of the *orbis terrarum* and the relationship between land and sea in a number of fourteenth- and fifteenth-century maps of the known world (that is, ecumenical maps).⁵ The conceptual shift that these maps evidence, to a navigable Indian Ocean integrated with the *orbis terrarum*, is no esoteric matter from the backwaters of intellectual history. Indeed, it forms a conceptual and spatial precondition for Portuguese ventures into the Indian Ocean at the end of the fifteenth century and the global changes that these brought in their wake.

I. Europe and the Oceanic Periphery

Brunetto Latini's mid-thirteenth-century *Livre dou tresor* opens, as do many encyclopaedias and compendia of its era, with a textual *mappamundi*: a written description of the world. First produced for Latini's patron whilst in exile, Count Charles of Anjou and Provence, the *Tresor's mappamundi* presents a succinct summary of the basics of thirteenth-century oceanography:⁶

The land is encircled and surrounded by sea, just as has been said in the chapters above concerning the elements. And you must know that this is the great sea, which is called Ocean, from which derive all other seas that there are around the world. And these are, as it were, branches of it. Of these, that which passes by Spain, Italy and Greece is bigger than the others. For this reason it is called the Great Mediterranean Sea, because it flows through the middle of the earth towards the East, and divides and separates the three continents of the earth.⁷

⁵ Following common usage in cartographic scholarship, I use the term 'ecumenical map' to refer to any world map whose function is the representation of the circle of lands (*orbis terrarum*) that forms the known or habitable world: in other words, the continental landmass of Asia, Europe and Africa and its associated islands as known to medieval Europeans. The term therefore excludes maps that aim to represent the whole globe.

⁶ Julia Bolton Holloway, 'Brown Ink, Red Blood: Brunetto Latino and the Sicilian Vespers', in *Brunetto Latino, Dante Alighieri* <<http://www.florin.ms/Brown.html>> [accessed 7 June 2010] (para. 10 of 24).

⁷ 'Terre est chainte et avironnee de mer, selonc ce que li contes a devisé ça arieres, la ou il parole des elimens. Et sachiés que çou est la grant mer, ki est apelee Ocheaine, de quoi sont estraites totes les autres ki sont parmi la terre en diverses parties et sont ausi come bras de celui. Dont cil ki vient par Espagne en Ytaile et en Grece est graires que les autres, et por ce est ele apelee la mer grant Miteterraine, por ce k'ele fent par milieu de la terre jusques vers orient, et devise et depart les .iii.

The Ocean Sea encircles the inhabited earth, thought of as comprising the connected continents of Europe, Africa and Asia and their outlying islands. According to Latini, the Ocean Sea is separate from, and yet connected to, all other seas in the world, the largest and most important of which is the central Mediterranean. Latini is far from alone amongst medieval encyclopaedists, geographers and cartographers in fixing his eyes inwards, on the sea in the middle of the lands: the *mare nostrum* at the centre of Rome's conceptual and economic world. Indeed, as Patrick Gautier Dalché has shown, medieval ways of thinking of the other ocean – that which encircles the lands – as the dangerous edge of the known world trace back to classical literature.⁸

The ocean that washed the shores of the *orbis terrarum* or known world was constructed as peripheral in different ways. For some, like Latini, following Aristotelian elemental theory, it was the edges of the sphere of water that covered most of the globe and out of which, by the grace of God and some doubtful physics, dry land had emerged in one location.⁹ Others, drawing on a theory that traces back to Crates of Mallos (second century BCE), posited the existence, beyond the ocean stream to the west, east, north and south of our *orbis*, of other *orbes terrarum*. The inaccessibility of these was almost universally assumed, but their habitability was a matter for protracted debate.¹⁰ The ocean, running through the theoretically uninhabitable 'torrid zone' around the equator at the far south of the known world and the frigid zone to its far north, was not generally considered to be navigable. Indeed, as late as 1448, Andreas Walsperger's World Map marks the ocean as

parties de la terre'. Brunetto Latini, *Li Livres dou tresor*, ed. Francis J. Carmody (Berkeley, 1948), I.121, p. 109. Translations are my own unless otherwise indicated.

⁸ Patrick Gautier Dalché, 'Comment penser l'Océan? Modes de connaissance des *finis orbis terrarum* du Nord-Ouest (de l'Antiquité au XIII^e siècle)', in *L'Europe et l'océan au Moyen Age: Contribution à l'histoire de la navigation* (Nantes, 1988), pp. 217-33.

⁹ These theories are outlined fully in W. G. L. Randles, 'Classical Models of World Geography and their Transformation following the Discovery of America', in *The Classical Tradition and the Americas, I: European Images of the Americas and the Classical Tradition*, ed. W. Haase and M. Reinhold (Berlin, 1994), pp. 5-76 and W. G. L. Randles, 'La navigabilité de l'Atlantique au Moyen Age selon les universitaires et selon les marins', in *L'Europe et l'océan*, pp. 211-15.

¹⁰ On debates over the existence, accessibility, and habitability of the antipodes, see Alfred Hiatt, *Terra Incognita: Mapping the Antipodes before 1600* (Chicago, 2008).

'inhabitable' to the north and south, and 'innavigabile' to the north and west (Fig. 1).¹¹ The ocean is one of two natural forces (the other being heat) that keep the Antipodes and other hypothetical land masses elsewhere on the globe in the realm of speculation.¹²

Before 1300, maps of the known world, like the twelfth-thirteenth century Sawley Map (Fig. 2), almost always represented the ocean as a narrow rim, separate and distinct from the *orbis terrarum* it surrounded.¹³ The physical marking off of the sea on *mappaemundi* mirrored its conceptually peripheral nature for the cartographers producing these representations. As Gautier Dalché has remarked, geographers considered the ocean as other to the known world, and as such an inappropriate object of study in human geography:

They seem to have seen the oceanic world as an *alter orbis* opposed to the *orbis terrarum*, and therefore perfectly autonomous. As their geography is above all a human geography, what matters to them is to describe the *orbis terrarum*, the place where men live, and not to venture into the unknown [...].¹⁴

This attitude is neatly illustrated by the work of Paulus Orosius, whose fifth-century *Historiarum libri septem* became a key source for medieval geographers and cartographers. Orosius writes that '[o]ur ancestors established that the whole world is tripartite, enclosed all around by a rim of ocean, and they called its three parts Asia, Europe and Africa'.¹⁵

¹¹ See the discussion and facsimile in Konrad Kretschmer, 'Eine neue mittelalterliche Weltkarte der vatikanischen Bibliothek', *Zeitschrift der Gesellschaft für Erdkunde zu Berlin* 26 (1891), 371-406.

¹² Hiatt, *Terra Incognita*, p. 4.

¹³ In a manuscript containing Honorius Augustodunensis' *Imago mundi*, the map was in the possession of Sawley Abbey (Yorkshire) by the early thirteenth century, but may have been drawn at Durham: P. D. A. Harvey, 'The Sawley Map and Other World Maps in Twelfth-Century England', *Imago Mundi* 49 (1997), 33-42 (p. 33).

¹⁴ 'Ils semblent avoir vu le monde océanique comme un *alter orbis* opposé à l'*orbis terrarum*, et donc parfaitement autonome. Comme leur géographie est avant tout une géographie humaine, ce qui leur importe, c'est de décrire l'*orbis terrarum*, lieu où vivent les hommes, et non pas de s'aventurer dans l'inconnu [...]?' Gautier Dalché, 'Comment penser l'Océan?', p. 219.

¹⁵ 'Majores nostri orbem totius terræ, Oceani limbo circumseptum, triquadrum statuere: ejusque tres partes, Asiam, Europam, et Africam vocaverunt.' Paulus Orosius, *Historiarum libri septem*, ed. J-P. Migne, *Patrologia Latina* 31 (Paris, 1846), cols 663-1174 (cols 672-673).

Orosius, an Iberian ecclesiastic whose priority was the defence of Christianity, is concerned with geography as an aide to the history of the known world. What is beyond the borders of that world is of little interest to him.

The narrow ring of ocean depicted on maps marked out what was known and knowable: a stretch of ocean bordering on the land and, on some maps, containing islands within the conceptual and perhaps physical reach of travellers (see Sawley Map at Fig. 2 and map from a copy of Ranulph Higden's *Polychronicon* at Fig. 3). In the north and west, Britain and the Orcades (Orkneys) kept company with the legendary *Ultima Thule*. To the west, the *Insulae fortunatae* and the islands of Brasil/Berzil and St Brendan entered cartography from classical and Celtic legendary traditions.¹⁶ To the east lay Taprobane, now thought to refer to Sri Lanka, and Crise, and Argyre, islands rich in gold and silver, according to Pliny, Solinus and Isidore.¹⁷ Somewhere to the west of the European and African continental landmasses stood the Pillars of Hercules. Erected to mark the limit of navigable ocean and beyond which man could not venture without fear of being lost forever, these are marked on many ecumenical maps just to the west of the mouth of the Mediterranean (e.g. Figs 1 and 3). Beyond these real and mythological landmarks on the outer periphery of the known world lay lands or seas open to speculation and imagination.

¹⁶ On Atlantic islands in legend, see William H. Babcock, *Legendary Islands of the Atlantic: A Study in Medieval Geography* (New York, 1922). On legendary and real western islands in mapping, see David B. Quinn, 'Atlantic Islands', in *Atlantic Visions*, ed. John de Courcy Ireland and David Sheehy (Dun Laoghaire, 1989), pp. 77-93. Most recently, see also Felicitas Schmieder, 'Paradise Islands in East and West: Tradition and Meaning in Some Cartographical Places on the Medieval Rim of the World', in *Isolated Islands in Medieval Mind, Culture and Nature*, ed. Gerhard Jaritz and Torstein Jørgensen (Budapest, forthcoming).

¹⁷ On Taprobane, see Marie-Thérèse Gambin, 'L'Ile de Taprobane: problèmes de cartographie dans l'océan Indien', in *Géographie du Monde au Moyen Age et à la Renaissance*, ed. Monique Pelletier (Paris, 1989), pp. 191-200. On Chryse, Argyre and Taprobane, see Pliny the Elder, *Natural History*, ed. and trans. H. Rackham and others, 10 vols (London, 1938-63), 1: 398 (II.6, pp. 80-81); C. Iulius Solinus, *Collectanea rerum memorabilium*, ed. Theodor Mommsen (Berlin, 1895), ch. LII, p. 186; ch. LII-LIII, pp. 195-6; Isidore of Seville, *Etymologiarum*, ed. W. M. Lindsay, 2 vols (Oxford, 1911), 2: 14. 3. 5.

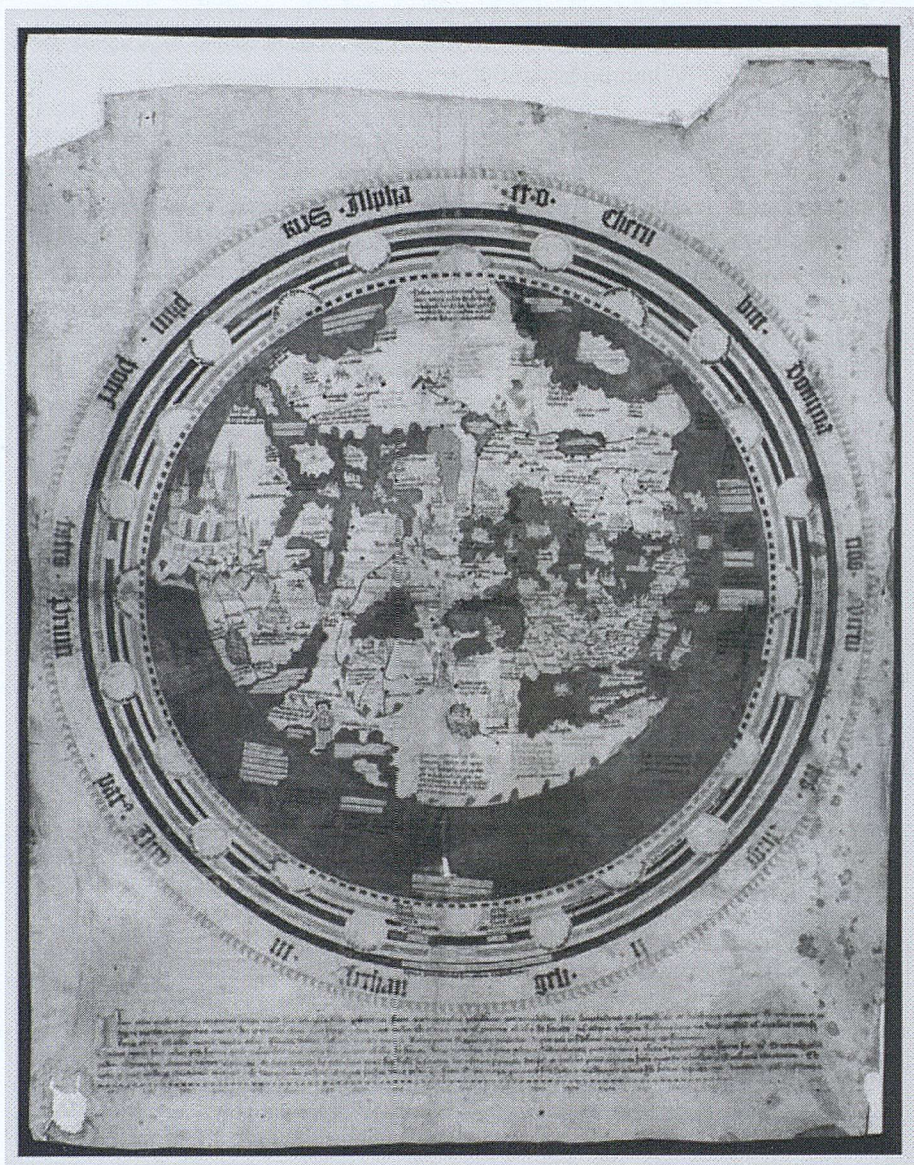


Figure 1: World Map of Andreas Walsperger (Konstanz, 1448). MS. Città del Vaticano, Biblioteca Apostolica Vaticana, MS. Pal. Lat. 1362.
© Biblioteca Apostolica Vaticana.

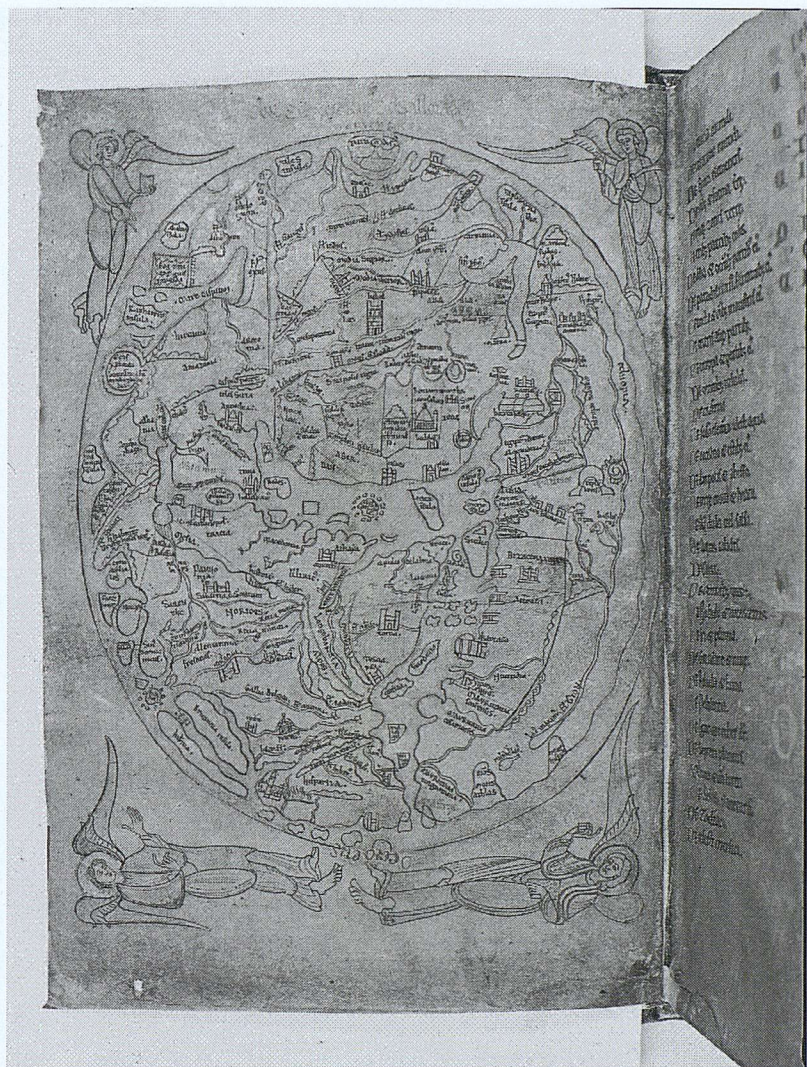


Figure 2: The so-called Sawley World Map (late twelfth century), MS. Cambridge, Corpus Christi College, 66.
Reproduced by kind permission of the Master and Fellows of Corpus Christi College, Cambridge.

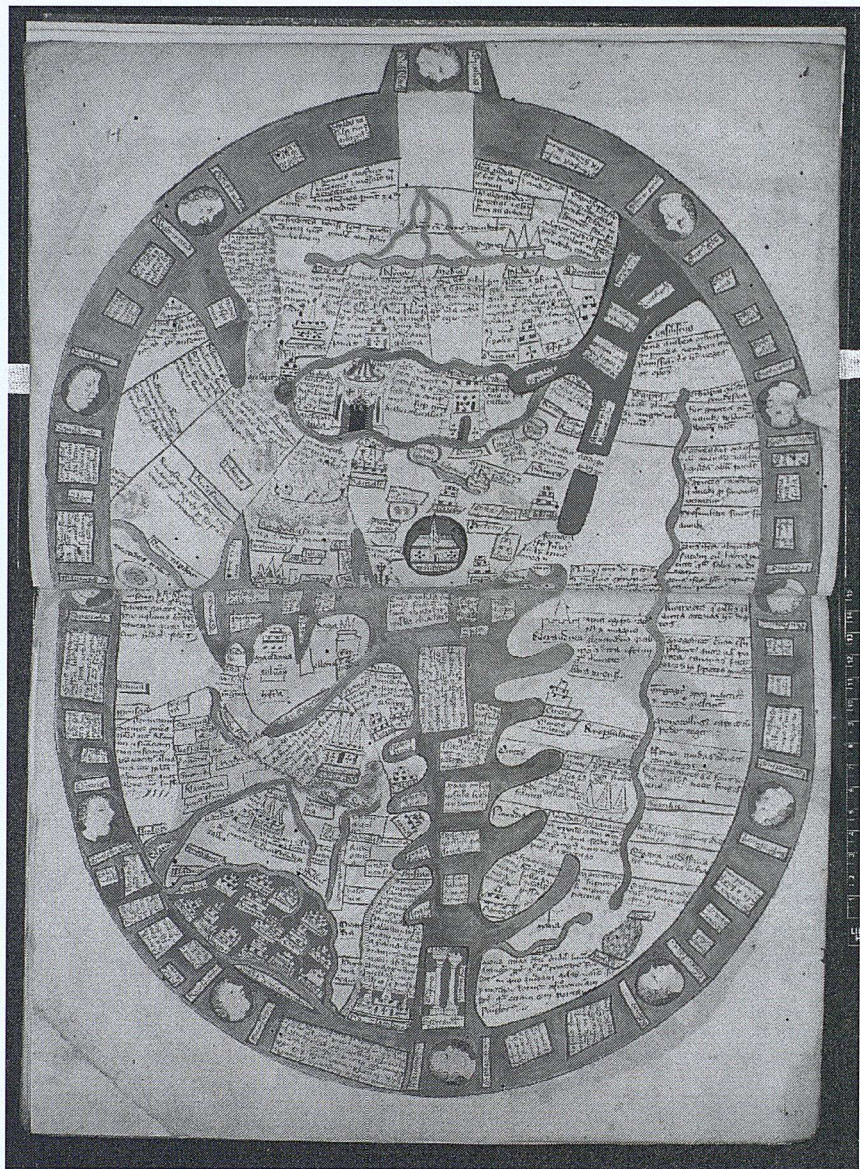


Figure 3: World map accompanying a copy of Ranulph Higden's *Polychronicon* (Ramsey Abbey, c. 1400). MS. London, British Library, Royal 14. C. IX, fols 1^v-2^r.

© The British Library Board.



Figure 4: Pietro Vesconte, world map accompanying a copy of Marino Sanudo, *Liber secretorum fidelium crucis*. MS. London, British Library, Add. 27376, fols 187^v-88^r. © The British Library Board.

This state of affairs did not exist unchallenged and unmodified throughout the medieval period. Aside from the most direct challenge – Columbus's project to sail west in order to reach the east – scholars have noted that the legendary limits of the world in the north-west and west, the Pillars of Hercules and *Ultima Thule*, developed a curious habit of receding in the face of increased navigation in and knowledge of the Atlantic.¹⁸ However, scholarly discussions of the process of change in the ocean's status as non-navigable and peripheral have generally focused on these western reaches of the known world: the eastern Atlantic so assiduously explored from the later fourteenth century onwards.¹⁹ Few eyes have taken in what happened to the representations of the eastern oceans in the same period.²⁰

If medieval geographical thought placed the ocean at the periphery of the known world, then the eastern edge of the ocean was at the furthest imaginable reaches of that periphery. Far away from the large and important Mediterranean, the *mare maior* and *mare nostrum* at the centre of the known world, the Indian Sea or Ocean (*mare indicum*) figures only inconsistently in medieval ecumenical *mappaemundi* and textual descriptions of the world before the fifteenth century. When writers of medieval descriptions of the world turn their attention eastwards, that attention is focused on land, not on the sea. For the thirteenth-century encyclopaedist Vincent of Beauvais, the southern sea is one of the boundaries that marks out India, at south-eastern extremes of the world:

This country [India], extending from the southern sea, reaches as far as the rising of the sun and, in the north, as far as Mount Caucasus, having many

¹⁸ On the receding pillars of Hercules, see Randles, 'La navigabilité', p. 213; on the moving ends of the earth and the changing identifications of Thule, see Gautier Dalché, 'Comment penser l'Océan?', pp. 227-28.

¹⁹ See also, for example, Luís Adão da Fonseca, 'The Discovery of Atlantic Space', in *Portugal, the Pathfinder: Journeys from the Medieval Toward the Modern World 1300 - ca. 1600*, ed. George D. Winius (Madison, 1995), pp. 5-17, and several essays in the Variorum collection *Geography, Cartography and Nautical Science in the Renaissance: The Impact of the Great Discoveries*, ed. W. G. L. Randles (Aldershot, 2000).

²⁰ An exception here is Angelo Cattaneo's excellent article on Fra Mauro's world map, 'L'Idea di oceano e le direzioni di navigazione all'alba dell'espansione Europea', in *Mundus novus: Amerigo Vespucci e i metodi della ricerca storico-geografica: Atti del convegno internazionale di studi Roma-Firenze, 27-30 novembre 2002*, ed. Annalisa D'Ascenzo (Genova, 2004), pp. 109-21.

peoples and towns. Moreover [it has] the island of Taprobane, stuffed with gems and elephants, Chryse and Argyre rich in gold and silver [...].²¹

Vincent's attention is focused on the land; the 'southern sea' here serves no function other than to border it. The land is seen as having three legendary insular appendages: Chryse, Argyre and Taprobane. These islands also figure on many medieval *mappaemundi*, such as Hereford, where Chryse and Argyre appear with Ophir, source of King Solomon's gold, in the mouth of the Red Sea.²² The *mare indicum* does not, as we have seen, merit a mention in the survey oceanographic outline by Brunetto Latini in the *Tresor*'s chapters on elements. However, Latini returns to oceanography both in his description of Asia, and again at the very end of his descriptive *mappamundi*. The Red Sea, he explains in his chapter on Asia, 'is a gulf of the Ocean Sea that is divided into two arms, one of which comes from Persia and the other from Arabia'.²³ When, at the end of his descriptive *mappamundi*, Latini returns to oceanography, it is in a slightly awkward, unsignalled afterthought.²⁴ In a section that makes the link between the *mare oceanum* of the geographers and cartographers and the seas that people know and recognise, Latini stresses that the encircling ocean changes its name according to the lands it adjoins:

I know that the names [of the Ocean Sea] change in many places according to the names of the land that it washes [...]. And you should know that in the regions of India this sea rises and drops in level in a marvellous way, and has a very high tide, because the strength of the heat raises it up almost as though it were hanging [...].²⁵

²¹ '[...] haec [India] a meridiano mari porrecta, vsque ad ortum solis et a septentrione, vsque ad montem Caucasum pervenit, habens gentes multas et oppida. Insulam quoque Taprobanam gemmis et elephantibus refertam, Chrysen et Argyren auro et argento foecundas [...]'. Vincent of Beauvais, *Speculum quadruplex sive Speculum maius*, I: *Speculum historiale* (Douai, 1624; repr. Graz, 1964-65), I. 64.

²² The legends are transcribed in *The Hereford World Map*, ed. Scott Westrem (Turnhout, 2001), pp. 65-67.

²³ 'I. goufre de la mer occheaine ki est devisee en .ii. bras, un ki est de Perse et l'autre ki est d'Arrabe'. Latini, *Li Livres dou tresor*, I.122, p. 111.

²⁴ The section is tacked awkwardly and without any signal in the rubric on to the chapter on Africa in Latini, *Li Livres dou tresor*, I.124, p. 121 ('D'Aufrike').

²⁵ '[...] ja soit ce que ses nons [de la grant mer] change et mue en plusor leus selonc les nons du païs ou el bat [...] Et sachiés que es parties d'Inde cest mers croist et descroit merueilleusement, et fait grandisme flos, ou por ce que la force du chaut le

For Latini, the Indian Sea is simply a name that designates a small part of the oceanic rim. Yet it is a part that is distinguished by its marvellous and dangerous extremes of tide and heat. The characterisation of the eastern edge of the oceanic rim as extreme is far from unique to the *Tresor*. In the Flemish canon Lambert of Saint-Omer's twelfth-century *Liber floridus* and the traditions on which it draws, the eastern ocean (*Eos*) is, according to Suzanne Conklin Akbari, situated in the 'mysterious eastern extremes' reached by Alexander the Great. This oceanic region, characterised by heat, includes an 'insula solis' that appears just to the south west of Eden on the text's accompanying map.²⁶ In Lambert's text and map, the eastern ocean and its islands are emblematic of the furthest reaches of the world, attainable only to its greatest conqueror.

The notion of an encircling ocean sea with little sense of a definable or navigable Indian Ocean is mirrored graphically on many of the more detailed ecumenical maps produced not only before 1300, but also after. Both the twelfth-century Sawley Map and the fourteenth- and fifteenth-century maps that illustrate multiple copies of Ranulph Higden's *Polychronicon* (Figs 2-3) maps show a Red Sea merged conceptually with the Persian Gulf, feeding into a peripheral encircling ocean. A *mappamundi* from around 1370 in the *Grandes Chroniques de St Denis du temps de Charles V* shows a thin Red Sea feeding directly into a narrow encircling ocean, defined only by being coloured red around its mouth.²⁷ The Sawley Map shows Taprobane in the gulf opened up by the mouths of the Red Sea and Persian Gulf. On the late thirteenth-century Hereford Map, it is in the same location, but surrounded by Crise, Argyre, Ophir and Frondisia (an island mentioned by Solinus).²⁸ On the Hereford and Sawley Maps, the true oceanic periphery in the East appears to be reserved for paradise and paradisiacal places; along with Eden itself, separated from the land mass by a stretch of ocean is *Tile*

sostient en haut autresi come pendans [...]. Latini, *Li Livres dou tresor*, I.124, p. 121.

²⁶ Suzanne Conklin Akbari, *Idols in the East: European Representations of Islam and the Orient, 1100-1450* (Ithaca, 2009), p. 86. See pp. 82-86 on Lambert's sources for *Eos* and the region of the sun.

²⁷ Description from the facsimile reproduction in Manuel Francisco de Barros y Sousa (Viscount of Santarem), *Atlas composé de mappemondes et de cartes hydrographiques et historiques de XI jusqu'au XVII siècle* (Paris, 1849), plate 21.

²⁸ *Hereford World Map*, pp. 66-67.

Insula, 'an Indian island rich in date palms, olives, and vineyards, a wondrous place where trees never lose their leaves'.²⁹

On many pre-1300 ecumenical *mappaemundi*, the *mare indicum* is marked out with neither graphic indentation nor toponym. Indeed, Patrick Gautier Dalché's survey of 101 pre-1300 *mappaemundi* in the Bibliothèque nationale de France yields only eight examples on which *mare indicum* appears as a toponym.³⁰ In representations of the known world of this period (and often later), we usually see a central and large Mediterranean, an oversized Red Sea that often commonly incorporates the Persian Gulf, but a small or non-existent Indian Sea, occasionally marked out with a toponym and/or indentation in the land mass (as in Figs 2-3). Around 1300 – and often later – the eastern edge of the encircling ocean figures at the furthest edge of Latin Europe's conceptual periphery. Close to paradise and the rising sun, it is a place of extreme heat, of extreme tides, reachable only by extreme endeavour. It is a place of paradisiacal and marvellous islands and of geographical and conceptual extremes.

II. Europeans on the Indian Ocean

Irrespective of its reputation for inaccessibility, danger, and extremity, Western Europeans did travel at the eastern edge of the *orbis terrarum* during the period when many maps such as those discussed above were being produced, copied and used. It is widely recognised that between the late thirteenth and the late fifteenth centuries, European accounts of travel in what I term here the Indian Ocean world began not only to reach the Latin West, but also to be widely copied throughout Europe.³¹

²⁹ *Hereford World Map*, pp. 30-31 (Number 56), quoting Solinus, *Collectanea*, LII. 49.

³⁰ Patrick Gautier Dalché, 'Mappaemundi antérieures au XIII^e siècle dans les manuscrits latins de la Bibliothèque nationale de France', *Scriptorium* 52 (1998), 102-62. Many of the smaller and more schematic maps bear few toponyms, but it is noteworthy that the toponym does not feature on certain detailed, toponymically rich *mappaemundi* listed, such as the example from Saint-Sever in MS. Latin 8878, which features the toponyms 'mare Rubrum', 'sinus Arabicus', and 'sinus Persicus', but not *mare Indicum*: Gautier Dalché, 'Mappaemundi antérieures au XIII^e siècle', p. 136.

³¹ 'Indian Ocean World' is the phrase used by Wink to denote not just the Indian Ocean (broadly defined), but its ports, hinterlands and sphere of influence. In this sense, it is analogous to the 'Mediterranean world': André Wink, 'From the

Some Indian Ocean travellers of the later Middle Ages are well-known, and more or less detailed accounts of their journeys circulated among their contemporaries. Marco Polo, according to his amanuensis Rustichello da Pisa's account of his travels, the *Divisament dou Monde*, set out with his father and uncle for Mongol China, reaching the summer palace of the Great Khan at Shangdu in 1275. The *Divisament* claims that Marco made many journeys through Asia in the khan's service before the family returned to Europe, via Indonesia, the Indian Ocean and Persia, in 1295.³² Less well-known than the *Divisament*, but nevertheless widely diffused in the medieval period was the *Relatio* of the Franciscan missionary Odorico da Pordenone. Following in the footsteps of the first Franciscan missionary to Cathay and eventual archbishop of Khanbalik, Giovanni da Montecorvino, Odorico da Pordenone travelled to China via the Persian Gulf and Indian Ocean, returning around 1330 to dictate an account of his doings to fellow-Franciscan Guglielmo da Solagna.³³ Surviving in over one hundred medieval manuscripts, Odorico da Pordenone's *Relatio* appears to have fared rather better in reputation than the *itineraria* of his Dominican contemporary Jordan Catala de Sévérac and the Franciscan legate Giovanni da Marignolli. Jordan's account shows its author's preoccupation with the evangelisation of mainland India, and appears to have been little-read outside beyond its immediate circle of diffusion,

Mediterranean to the Indian Ocean: Medieval History in Geographic Perspective', *Comparative Studies in Society and History* 44 (2002), 416-45.

³² It is well known that Marco's claims that he and his family travelled in the service of the Great Khan cannot be substantiated. However, it does necessarily follow that, as Frances Wood suggests, Marco Polo did not travel to China at all: Frances Wood, *Did Marco Polo Go to China?* (Boulder, Col., 1996). Refutations to Wood's key arguments are summarised in John Larner, *Marco Polo and the Discovery of the World* (New York, 1999), pp. 59-67. The *Divisament* supplies very few dates. It is generally estimated, with reference to contemporaneous events, that the brothers left Acre in 1271 and arrived at Shangdu in 1275: Larner, *Marco Polo*, pp. 40-41. The dates of return to Venice (1295) and composition of the *Book* (1298) are given in the *Book*: Marco Polo, *Milione: Le Divisament dou Monde*, ed. Gabriella Ronchi (Milan, 1982), XIX, p. 324; I, p. 306.

³³ Odorico da Pordenone, 'Relatio', in *Sinica Franciscana: Itinera et relationes fratrum minorum saeculi XIII et XIV*, ed. Athanasius van den Wyngaert, 6 vols (Quaracci, 1929-61), 1: 413-95. On Giovanni da Montecorvino's mission, see Jean Richard, *La Papauté et les missions d'orient au Moyen Age (XIII-XV siècles)* (Rome, 1977), pp. 145-52. Three surviving letters of Giovanni that describe his journey and mission are edited by Wyngaert, *Sinica Franciscana* I, 340-75.

probably at the papal court in Avignon, in the late 1320s.³⁴ Giovanni da Marignolli's digressive reminiscences of his Indian Ocean journey as a papal legate to the Great Khan do not seem to have circulated beyond the Bohemian chronicle into which their author wove them.³⁵ Nearly one hundred years later another Venetian merchant, Niccolò Conti, travelled in the Middle East, India, Indonesia and Indochina. Returning to Italy between 1439 and 1442, Niccolò described his experiences to the humanist scholar and secretary to Pope Eugenius IV, Poggio Bracciolini.³⁶ Poggio's redaction of this text led to its wide diffusion in humanist circles and to its availability for use by cartographers and geographers alike.³⁷

Quite apart from these famous names in the history of missionary and mercantile travel in the Indian Ocean world, there are fleeting indications, as Jean Richard has outlined, of a greater European presence on that sea before the Portuguese rounded the Cape of Good Hope in 1489.³⁸ Moreover, occasional short letters sent by travellers and brief references in legal and ecclesiastical records suggest a more established network of travel and communication.³⁹

³⁴ The account is edited and translated into modern French, along with copies of Jordan's letters from India to confrères at Tabriz, in Christine Gadrat, *Une image de L'Orient au XIVe siècle: Les Mirabilia descripta de Jordan Catala de Sévérac* (Paris, 2005). On its probable Avignonese origins, see Gadrat, *Image de L'Orient*, pp. 62-65, 88-89, 316 note.

³⁵ The chronicle has survived in full in only one copy. Wyngaert extracted and edited Giovanni's reminiscences in *Sinica Franciscana*, I, 524-59.

³⁶ Poggio Bracciolini, *De l'Inde: Les Voyages en Asie de Niccolò de' Conti*, ed. Michèle Guéret-Laferté (Turnhout, 2004).

³⁷ It is used, for example, by the anonymous cartographer of the so-called 'Genoese' world map of 1457 (MS. Firenze, Biblioteca Nazionale Centrale, Portolano 1) and by Aeneas Silvius Piccolomini (Pius II) in his *Asia: Cosmographia Pii papae* (Paris, 1509).

³⁸ Jean Richard, 'Les Navigations des occidentaux sur l'Océan indien et la mer caspienne (XIIe-XVe siècles)', in *Sociétés et compagnies de commerce en Orient*, ed. Michel Mollat (Paris, 1970), pp. 353-63; Repr. with original pagination in Richard, *Orient et Occident au Moyen Age: Contacts et relations (XIIe-XVe siècles)* (London, 1976).

³⁹ See the Genoese Hieronimo da Santo Stefano's letter of 1499, reporting that a *cadi* (qadi or Islamic judge) in Sumatra speaks Italian, another hint that in the fifteenth century Italians were better known in these regions than records show. Translated in R. H. Major, *India in the Fifteenth Century* (London, 1857), pp. 3-10 (Item 4). On other documentary records, see R. S. Lopez, 'European Merchants in the Medieval Indies: The Evidence of Commercial Documents', *Journal of*

It was far from unknown, then, for Europeans to be travelling in and around the Indian Ocean between 1300 and 1500. Although it was rare for travellers to leave full written accounts of their journeys (as the cases of Marco Polo's *Book* and Niccolò Conti's account of his travels, both recorded by amanuenses almost by chance, reveal), such travel accounts often circulated widely. Finally, it is clear from documentary traces and fleeting references that reports of these regions from, in the words often repeated by Fra Mauro, 'those who sail in these seas' and 'those who have seen with their own eyes' could and did reach their contemporaries through channels not fully known to modern scholars.⁴⁰

III. Medieval Travellers and Oceanic Space

At one point in the *Divisament dou Monde*'s itinerary through the oceans at the eastern and southern edges of the known world, Marco Polo – or the amanuensis Rustichello da Pisa to whom he related his account – makes an explicit connection between the navigable ocean on which he travels and the Ocean Sea of the geographers, outlined in the last section. In a passage that may well draw on the oceanography of Brunetto Latini, the *Divisament* notes that the South China Sea, the English Sea and the Sea of Rochelle are all part of the great Ocean Sea, which is known by different names in different regions.⁴¹ In a similar vein, Odorico da Pordenone's *Relatio* shows an acquaintance with oceanographic terminology when he refers to the sea between the Persian Gulf and India as the 'mare oceanum'.⁴² It is clear, then, that traces of the kind of oceanic theory discussed in section I above filtered through into the accounts of travellers and their amanuenses. Nonetheless, travellers' representations of oceanic space were also demonstrably conditioned by their situated, practical experiences of that space, experiences that can be

Economic History 3 (1942), 164-84; 'L'Extrême frontière du commerce de l'Europe médiévale', *Le Moyen Age* 69 (1888-1963), 479-90; 'Venezia e le grandi linee dell'espansione commerciale nel secolo XIII', in *La Civiltà veneziana del secolo di Marco Polo* (Milan, 1955), pp. 39-82; 'Nuove luci sugli italiani in Estremo Oriente prima di Colombo', in *Studi Colombiani*, 3 vols (Genova, 1952), 2: 337-98.

⁴⁰ For example: 'questi i qual hano visto ad ochio' and 'tuti quelli che navegano quel mar e che habitano quele insule' in *Fra Mauro's World Map with a Commentary and Translations of the Inscriptions*, ed. Piero Falchetta (Turnhout, 2006), pp. 210-13 (Number 149).

⁴¹ Milione, ed. Ronchi, ch. CLXI, p. 537.

⁴² Odorico da Pordenone, 'Relatio', ch. VII, p. 422.

fruitfully considered in the light of recent theoretical approaches to social space developed principally in the field of human geography.

The notion that space is a social product or process, produced through human, social practice, has come to be something of a truth universally acknowledged in human geography over the last thirty-seven years. Back in 1973, David Harvey wrote that, in his own work, the question 'what is space?' had already been replaced with one he considered more valid: 'how is it that different human practices create and make use of distinctive conceptualizations of space?'⁴³ Due in part to Harvey's influence, human geographers now agree, by and large, that varieties of space are socially produced through human practice, disagreeing volubly instead about what varieties of space are produced, how and with what effects.⁴⁴

Much recent thought on questions of how space is socially produced, and with what effect, draws upon the full exploration of the subject in Henri Lefebvre's very influential 1974 work *The Production of Space*.⁴⁵ Although some of the larger arguments in this dense and wide-ranging attempt to set out a unitary theory of space are problematic, Lefebvre's foundational work makes some particularly pertinent insights into the interaction between varieties of spatial practices and processes whose applicability to medieval contexts has not before now been considered. These can help us to think in productive and, above all, joined-up ways about the relationship between travellers' experience, text and cartography in the late medieval world. *The Production of Space* identifies three varieties of space: the space of nature (physical space); mental space (formal and mathematical abstractions about space); 'real space' ('the space of social practice').⁴⁶ For Lefebvre, 'mental space' is any formal or mathematical abstraction about space, normally dealt with by mathematicians, logicians or philosophers. To this category medievalists might wish to add other varieties of abstract, 'mental' space: theological, for example. By contrast, 'real space' (for Lefebvre, real space is social space) is the concern of human geographers, and 'the

⁴³ David Harvey, *Social Justice and the City* (London, 1973), p. 14.

⁴⁴ The literature exploring this field is vast. Good overviews of recent thinkers and approaches are available in *Key Thinkers on Space and Place*, ed. Phil Hubbard, Rob Kitchin and Gill Valentine (London, 2004) and Jonathan Murdoch, *Post-Structuralist Geography: A Guide to Relational Space* (London, 2006), p. 4.

⁴⁵ Henri Lefebvre, *The Production of Space*, trans. Donald Nicholson-Smith (Oxford, 1991).

⁴⁶ Lefebvre, *Production of Space*, p. 14.

space of nature' that of physical scientists. Having outlined this division, however, Lefebvre inveighs at length against its artificiality, which, he says 'avoids confrontation between practice and theory, between lived experience and concepts'.⁴⁷ For Lefebvre, the space made and experienced by humans is produced through interaction between these supposedly distinct varieties. 'Every social space', he says, 'is a process with many aspects and contributing currents, perceived and directly experienced, practical and theoretical'.⁴⁸

Lefebvre's *Production of Space*, a work engaged in reading the history of capitalism as a history of space, focuses heavily on urban environments and their development. It hardly concerns itself with oceans at all.⁴⁹ Nonetheless, oceans are socially-produced spaces like any others, a fact that the historian Fernand Braudel recognised in his ground-breaking study of the Mediterranean in 1949. Humans, through their social activities 'buil[t] by degrees the coherent entity that was to be the Mediterranean of man and history, for built it was by the hand of man', its 'unity [...] created by the movements of men, the relationships they imply, and the routes they follow'.⁵⁰

That the Indian Ocean region in the late medieval period was a space produced and indeed unified by practice is not a point of contention, and yet the region is not usually, to my knowledge, explicitly analysed in terms of 'social space'. However, in a work indebted to Fernand Braudel's account of the Mediterranean as a unit built by humans, K. N. Chaudhuri wrote of the pre-modern Indian Ocean in 1985:

There was a firm impression in the minds of contemporaries, sensed also by historians later, that the ocean had its own unity, a distinct sphere of influence. Means of travel, movements of people, economic exchange, climate, and historical forces created elements of cohesion.⁵¹

At the heart of the Indian Ocean's sense of unity, according to Chaudhuri, is the set of interlocking systems of trade and navigation

⁴⁷ Lefebvre, *Production of Space*, pp. 94-95.

⁴⁸ Lefebvre, *Production of Space*, p. 110.

⁴⁹ Apart from a brief discussion of the production of the Mediterranean as a 'leisure-oriented space for industrialised Europe' in Lefebvre, *Production of Space*, p. 58.

⁵⁰ Fernand Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, 2nd edn (1966), trans. Susan Reynolds, 2 vols (London, 1972), 1: 276.

⁵¹ K. N. Chaudhuri, *Trade and Civilisation in the Indian Ocean: An Economic History from the Rise of Islam to 1750* (Cambridge, 1985), p. 3.

encouraged by the ocean's physical geography (separation into three broad gulfs) and its linked monsoon system. Chaudhuri summarises:

The seaborne commerce of the Indian Ocean functioned at this time in three natural segments. First of all, there was the stretch from the Red Sea and the Persian Gulf to Gujarat and Malabar. The second segment included the annual voyages from the coastal provinces of India to the Indonesian archipelago. In the final segment lay the economic exchanges between South East Asia and the Far East. [...] From the tenth century onwards, Aden, Hormuz, Cambay and Calicut formed one quadrilateral [of emporia] in the Western zone. Kilwa, Mogadishu, Aden and Jedda constituted another. In the East, Samudra-Pasè, later Malacca, Canton, and Ch'üan-chou (Zaiton) attracted the largest volume of shipping and wholesale trade.⁵²

Around this network of key ports (see Map 1) lay hinterlands (on the mainland) and smaller islands in the ocean, all of which fed a system of movement, trade, communication and cultural contact organised around the region's physical geography, climate, and weather systems.⁵³

This is the social space, produced through the human activities of navigation, trade, social and cultural contact, that travellers in the medieval Indian Ocean world experienced. The following section outlines the ways in which 'perceived and direct, practical and theoretical' knowledge of this oceanic space combined in the texts of travellers and their amanuenses to produce distinctive new representations of the eastern oceanic periphery. The main focus of my discussion will be the most important and influential western European representation of the Indian Ocean region: Marco Polo's *Divisament dou Monde* (c. 1298),⁵⁴ the final section of which (subtitled the 'Livre de

⁵² Chaudhuri, *Trade and Civilization*, p. 102.

⁵³ For a discussion of cultural elements linking different parts of the Indian Ocean world, including Islamisation, units of exchange and Indianisation in South-East Asia, see Michael Pearson, *The Indian Ocean* (London, 2003).

⁵⁴ No two versions of Marco's *Book* are alike. However, most MSS are of a textual family known as 'A' by scholars of the textual tradition. Family 'B' is very small, and is best represented by what is now known as 'MS. Z', a text that, although abbreviated in places, also contains 200 passages missing in MSS. of the 'A' family. However, the extreme rarity of manuscripts and other traces of the 'B' family indicates that it was not widely-diffused in the Middle Ages. I have therefore decided to use as my base text Ronchi's edition of the *Book*'s earliest surviving copy, an 'A' text in Franco-Italian: Marco Polo, *Milione: Le Divisament dou Monde*, ed. Gabriella Ronchi (Milano, 1982). When a passage occurs in 'B' only, I

Indie' or similar in most versions), is based on the route of a journey supposedly undertaken by Marco, his father and uncle to accompany the king of Mangi's daughter to the court of her betrothed husband, Arghun, lord of the Il-Khans of Persia.⁵⁵ This journey takes the travellers from southern China by sea to the Persian Gulf, yet the book, as Leonardo Olschki pointed out in 1957, draws on unacknowledged information from other itineraries about places Marco did not visit.⁵⁶ I will also touch upon the less detailed and influential accounts of the same oceanic region by the Franciscan missionary Odorico da Pordenone (c. 1330) and the Venetian merchant Niccolò Conti, put into writing – and potentially rather heavily edited – by the papal secretary and humanist Poggio Bracciolini around 1440.⁵⁷

That the representation of a region is conditioned by the situated perspective of the oceanic traveller is something that comes through in all travellers' accounts discussed here. The narrator of the Latin MS. 'Z' of the *Divisament* goes to some lengths to stress this:

Tana [in north-west India] is a certain great and good kingdom towards the west. And let 'towards the west' be understood because at that time Mr Marco Polo was coming from the direction of the east, and this book is being composed according to his journey and crossing.⁵⁸

For a study-bound geographer based in Europe, Tana would, of course, be situated in the east. Only from the perspective of a traveller from the east is it situated towards the west. Indeed, the influence of subject-position on perception and representation is seen time and time again in the *Divisament*'s descriptions. Instead of giving pure directions between places, Marco gives sailing directions; between Zaiton (Ch'üan-chou, in

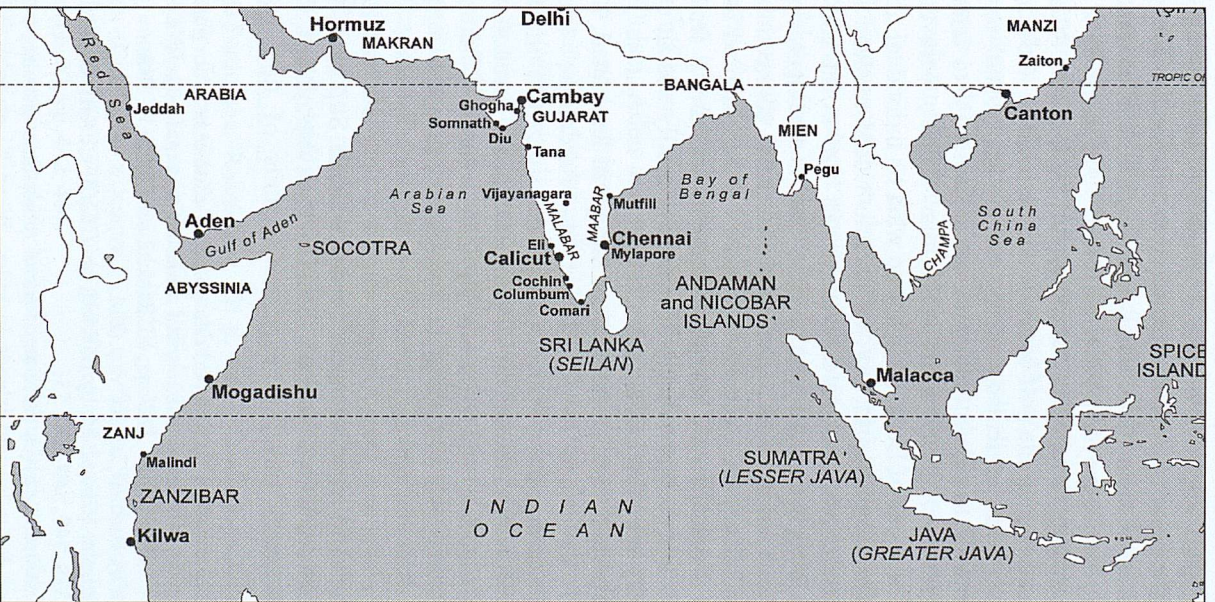
refer to the 'B' text in *Milione: Redazione Latina del Manoscritto Z*, ed. Alvaro Barbieri (Parma, 1998). The various versions of the 'B' family are discussed in Luigi Foscolo Benedetto, *Il Milione: Prima edizione integrale* (Firenze, 1928), pp. clviii-cc.

⁵⁵ *Milione*, ed. Ronchi, ch. XVIII, p. 320; for the 'Livre de Indie' see p. 529.

⁵⁶ Leonardo Olschki, *Marco Polo's Asia*, trans. John A. Scott (Berkeley, 1960), pp. 12-14; 28-32.

⁵⁷ Poggio openly admits to taking an active editorial stance towards the work when he censors one of Niccolò's *fabulae*, 'De l'Inde' in Poggio Bracciolini, *De l'Inde*, pp. 162-64.

⁵⁸ 'Tana est quoddam magnum regnum et bonum versus ponentem. Et intelligatur "versus ponentem" quia tunc dominus Marcus Paulo de versus levantem veniebat, et secundum eius gresus et transitus pertractatur'. This passage appears only in the 'B' family of texts: *Milione*, ed. Barbieri, p. 396.



Map 1: The Indian Ocean World, showing pre-modern ports and trading-centres.
© Cartographic Unit, University of Southampton, 2010.

southern China) and Cianba (an ancient kingdom in what is now Vietnam), for example, one must sail first west, then south-west.⁵⁹ Ideas of distance are – as in many other personal accounts of travel by land and sea – often conveyed by the period of time taken by a particular journey or trading circuit. The trading circuit from Zaiton to Japan takes a year; to navigate up the gulf between southern China and Cianba takes two months.⁶⁰ But particularly telling are the impersonal formulas the *Divisament* uses to relate one point on its itinerary to another: 'one leaves'; 'one travels'; 'one sails', rather than 'I left', 'I travelled', or 'I sailed'.⁶¹ The focus of Book III is not on what its individual traveller did in the Indian Ocean world, nor, as its title would mislead us, on the objective 'description' or 'measurement' of the world and its parts. Instead, its focus is on what 'one' does if 'one' is a navigator or traveller in this region, making and remaking socio-spatial connections through navigation. Indeed, the experience of travel is represented in this way throughout Book III: not as an individual traveller's freely-chosen movements, but the movements of a fundamentally social, communal, but regionally-specific 'one'.

Similar perspectives are presented, though in less detail, both in the *Relatio* of the missionary Odorico da Pordenone and Poggio Bracciolini's account of Niccolò Conti's port-to-port itinerary of a trading circuit around the Indian Ocean. In Poggio's, duration of travel is given more regularly and more reliably than distance.⁶² Odorico's port-to-port itinerary between Hormuz and Zaiton is often unspecific in matters of direction and distance. When the text discusses Polumbum (Quilon), it states only that Odorico reaches it 'per mare' and leaves it on a *çocum* (junk) to travel towards Zaiton in 'India Superior'.⁶³ The text here lacks reference to directions, distance or days travelled. Elsewhere, Odorico measures travel in experiential units of time rather than

⁵⁹ 'Or sachiés que quant l'en s'en part dou port de Çaiton et naje por ponent, aucune couse ver garbin, MD miles, adonc vient a une contree que est apellé Cianba, que mout est riche terre e grant'. *Milione*, ed. Ronchi, ch. CLXII, p. 538.

⁶⁰ *Milione*, ed. by Barbieri, ch. XCV, p. 274.

⁶¹ See, for example, *Milione*, ed. by Barbieri, ch. CLXII, CLXIII, CLXXI, CLXXIII, CLXIV, pp. 538, 540, 549, 550, 551.

⁶² Poggio's text usually gives duration of travel rather than distance, but does give circumferences for cities and islands in miles. When he gives the distance and journey duration between western India and Socotra the distance given (100 miles) is very wrong: Poggio Bracciolini, *De l'Inde*, p. 130.

⁶³ Odorico da Pordenone, 'Relatio', ch. VIII, pp. 437, 438.

distance; Sumatra is given as 50 days south of Mobar (on the Coromandel Coast).⁶⁴ Arriving at and departing from ports by sea, Odorico seems hard pressed to tell mainland locations from island locations, tending often to use the ambiguous *contrata* in place of something more specific.⁶⁵ A reader without prior acquaintance with the geography of the regions traversed would not, therefore, be necessarily able to tell from Odorico's descriptions which stopping-points on his journey were islands and which mainland ports. Indeed, in two instances, mainland regions of India are referred to as *insulae* in the text.⁶⁶

Travelling as a trader, in the company of traders, or on trading vessels affects voyagers' subject positions and ways of representing oceanic space too. Marco Polo in particular identifies particular ports as emporia, carefully delineating the network of trading connections that join up the diverse parts of this oceanic region. All sorts of goods, including spices never seen in Italy, are shipped from Lesser Java (Sumatra) to southern and northern China;⁶⁷ Cal (Kayal) is the Indian port at which ships from Hormuz, Quisci, Aden and Arabia put in with horses for sale;⁶⁸ Coilun (Quilon) is a port of exchange frequented by merchants from Mançi (southern China) and Arabia.⁶⁹ Niccolò Conti too delineates mercantile connections between places; spices including cloves come from the Moluccas, but are transported to Java for onward trade.⁷⁰ Among the travellers, merchants in particular give the impression of an Indian Ocean traversed by regular trade routes and bristling with ships.

It is clear that the accounts of European travellers on the Indian Ocean represent the Indian Ocean world region as a particular sort of social space, one produced principally through the practices of navigation, travel, and trade. This in itself is not surprising, however.

⁶⁴ Odorico da Pordenone, 'Relatio', ch. XII, p. 445.

⁶⁵ For example, Hormuz is a 'terra' and a 'contrata' (Odorico da Pordenone, 'Relatio', ch. VII, p. 422) as is Tana (ch. VII, p. 423). Lamori, a region of Sumatra is equally a 'contrata' then an 'insula' (ch. XII, pp. 445, 446).

⁶⁶ Polumbum (Quilon) is a 'contrata' then an 'insula' (Odorico da Pordenone, 'Relatio', ch. X, pp. 440, 441); Mobar (the Coromandel coast) is a 'regnum', then an 'insula' at ch. XI, pp. 442, 444.

⁶⁷ The full passage is given only in manuscripts of the 'B' family. See Marco Polo, *Milione*, ed. Barbieri, p. 286.

⁶⁸ *Milione*, ed. Ronchi, ch. CLXXIX, p. 577.

⁶⁹ *Milione*, ed. Ronchi, ch. CLXXX, p. 579.

⁷⁰ Poggio Bracciolini, *De l'Inde*, p. 117 and note.

More so is the relationship, particularly clear in Marco Polo's *Divisament*, between practiced oceanic space and geographical theory, between, in Lefebvre's terms, the 'perceived' and the 'directly experienced', and between the 'practical' and the 'theoretical'. A sense of this interaction emerges powerfully from the *Divisament*'s 'Livre de Indie'. This section, which contains Marco's descriptions of Japan, Indochina, Indonesia, Malaysia, India, Sri Lanka, Mogadishu in Somaliland (possibly confused with Madagascar), Zanzibar, Abyssinia, Aden, Dufar and Hormuz, is emphatically not, as its rubric advertises, a 'Book of India', or indeed of any individual country. In fact, no land is central to the 'Livre de Indie', which, as a glance at a map of the countries described in it indicates, would be more accurately described as an account of the maritime and littoral space of the Indian Ocean and its adjoining land and sea regions. Almost all the locations discussed in the 'Livre de Indie' that can be securely identified are coastal, and most of them are ports.⁷¹ Indeed, the *Divisament* itself points out at one point that 'we have not told you about those [provinces and cities of Greater India] inland, because this would be too long a subject to cover'.⁷² Marco's representation of 'Indie' is a representation of dry land as viewed from the sea.

Marco's fundamentally maritime perspective is reflected in the *Divisament*'s metageography (to borrow a term from Martin Lewis), the conceptual categories into which the book divides the world.⁷³ The region covered by the 'Livre de Indie' is in fact a vast tract of the East that stretches from the South China Sea to East Africa and Abyssinia, and, to the north, to areas west of the Indus now part of Iran.⁷⁴ The *Divisament* follows the geographical and cartographic conventions of its time in dividing this great region into three parts: 'l'Endie greignor'

⁷¹ This is very well illustrated by Henry Yule's map of places in mainland India mentioned by Marco: *The Book of Marco Polo*, ed. Henry Yule, rev. Henri Cordier (London, 1903) together with Henri Cordier, *Ser Marco Polo: Notes and Addenda* (London, 1920); Repr. *The Travels of Marco Polo: The Complete Yule-Cordier Edition*, 3 vols (New York, 1993), 2: 313.

⁷² 'Car de celz que sunt en fraterres ne vos avonz pas contés, por ce <que> trop seroit longaine matiere a mentovoir.' *Milione*, ed. Ronchi, ch. CLXXXVIII, p. 589.

⁷³ Martin W. Lewis and Kären E. Wigen, *The Myth of Continents: A Critique of Metageography* (Berkeley, [1997]).

⁷⁴ Uses of the term in the period could be unspecific; Gossouin de Metz uses the term 'India' to designate almost all of Asia: *L'Image du monde de Maître Gossouin: Redaction en prose*, ed. O. H. Prior (Lausanne, 1913), pp. 110-11.

(Greater India), 'la menor Indie' (Lesser India) and 'la meçaine Yndie' (Middle India, identified with Abyssinia).⁷⁵ What makes Marco's metageographical categories particularly interesting, however, is that they reflect a system of categorisation based on the sea, rather than the land. These regional divisions are elucidated in short metageographical asides that punctuate the book's itinerary. After the text's description of Kescmacora (a coastal region west of the Indus), for example, the narrator announces that he will 'now' deal with 'certain islands, which also belong to India', before discussing Socotra, Mogadishu (identified as an island; probably conflated with Madagascar) and Zanzibar (probably conflated with the mainland).⁷⁶ Then, after his discussion of these regions, at the end of his description of Zanzibar, the narrator explicitly draws his description of two of his three Indies to a close:

We now leave aside for the present Greater India, which stretches from Maabar [Coromandel] to Kescmacora, which has 13 great kingdoms, 10 of which I have described. Lesser India stretches from Cianba [Vietnam] to Mutfili [Motupalle, north of Chennai] and has 8 great kingdoms, and yet you must always understand that I am only speaking of mainland kingdoms,

⁷⁵ India was routinely divided into three parts in this period, but there was almost no consensus on what those parts were called, or the geographical areas with which they corresponded. The subject is too large to treat in detail here, so I give only three examples. The early fourteenth-century Dominican missionary Jordanus Catalani de Sévérac seems to divide mainland India into a Muslim-controlled north ('India Minor') and a largely Hindu south ('India Maior'), before discussing an unlocalised and largely legendary 'India Tertia': Gadrat, *Une image de l'Orient*, pp. 280, 287. Odorico's *Relatio* identifies an 'India, quae est infra terram' in the region of Persia, an otherwise unspecified 'hec India', which appears to incorporate the subcontinent, Indonesia and Indochina, and 'India Superior', identified as southern China: Odorico da Pordenone, 'Relatio', ch. VII, p. 422 and ch. XVIII, p. 457. Probably under the influence of Ptolemy, Poggio Bracciolini's account of Niccolò Conti's travels gives us an India that stretches from Persia to the Indus, an India between Indus and Ganges, and a third beyond the Ganges: Poggio Bracciolini, *De l'Inde*, p. 134 and note. Richard attributes a consistent tripartite division to both missionary orders working in the East but, as this discussion has shown, analysis does not bear this out: Jean Richard, 'Les Missionnaires latins dans l'Inde au XIV^e siècle', *Studi veneziani* 12 (1970), 231-42 (p. 231). André Wink suggests that Europe's persistent identification of Ethiopia with India derives from the establishment of the former as the Indian Ocean trading partner of Constantinople: Wink, 'From the Mediterranean to the Indian Ocean', p. 422.

⁷⁶ 'Vos conteron de auquans ysles, que encore sunt de Indie.' Milione, ed. Ronchi, ch. CLXXXVIII, p. 589.

not counting those of the islands, where there are great numbers of kingdoms.⁷⁷

From our common modern European geographical perspective, conditioned by familiarity with world maps based on the Mercator projection that feature more or less clearly delineated borders or lines of control between modern nation states, the metageographical categories that are reflected in these asides appear illogical. However, when they are considered alongside Chaudhuri's outline of the Indian Ocean region's premodern trading patterns, synchronised with the quarterly shift of the monsoon across the region's gulfs (see section III above), the degree of co-incidence between Marco's 'Greater' and 'Lesser' Indies and Chaudhuri's first and second 'segments' of Indian Ocean trade (corresponding with the Western and Eastern Indian Oceans respectively) is remarkable.⁷⁸ In the pre-modern period the Indian Ocean world was, as Chaudhuri has shown, partitioned as well as connected by monsoon. African, Arabian and Indian ports in the Western Indian Ocean formed one regular trade circuit; indeed, Marco reports that the monsoon can take a traveller from Coromandel to Mogadishu in as few as 20 days.⁷⁹ The Eastern Indian Ocean and Indonesia formed another such monsoon-based trading circuit. A traveller wanting to cross from the Western Indian Ocean through the Eastern Indian Ocean would have to change ships at a major changeover port in south India, often Calicut (but, in the case of Odorico da Pordenone, Quilon), and wait for a ship and wind for the onward journey.⁸⁰ A similar stopover was also necessary in Indonesia for those moving between the Indian Ocean and South China Sea; hence both Marco Polo and Niccolò Conti report long

⁷⁷ 'Or noç lairon atant de l'Endie greignor, que est da Maabar jusque a Kesmacora, que hi a XIII roiaimes grandismes des quelz voç en avon conte des X. La menor Yndie est da Cianba jusque a Mutfili que hi a VIII grant roiaimes, e toutes foies entendés que je ne voç parle que des roiaimes qui sunt de la terre ferme sanz celz de l'isle que sunt grandismes quantités de roiaimes'. *Milione*, ed. Ronchi, ch. CXCII, pp. 598-99.

⁷⁸ See map in Chaudhuri, *Trade and Civilisation*, p. 104.

⁷⁹ 'Et si voç di que les nes, qui viennent de Maabar a ceste isle, viennent en XX jors; et quant elle hi tornent a Maabar pointent a aler trois mois: et ce avent por ce que la corent vait toç jorç ver midi [...]'. *Milione*, ed. Ronchi, ch. CXCI, p. 594.

⁸⁰ Changing to a Chinese ship at Quilon is reported in Odorico's 'Relatio', ch. VIII, p. 438.

stays on Sumatra.⁸¹ The points of transition from one region to another as experienced by ocean-going travellers are, as a result, wholly different from those experienced by travellers by land. It is not surprising, of course, that travellers should represent an ocean on which they have travelled from the perspective of the boat-based traveller. But what has not been acknowledged before now is that, in Marco's *Divisament* in particular, this space of navigational practice can and does affect metageographical categories. The conceptual and the social merge.

Travellers who experience the ocean as a practiced, social space cannot do other than represent it in this way. They delineate a vital, populous Indian Ocean, constituted by the navigational and mercantile practices of those who live on and around it. The texts that grow out of their lived experience present places not as points in abstract, Euclidian space, but rather as participants in a dynamic set of connections.⁸² The navigable, inhabited, interconnected and fundamentally known oceanic region that they delineate is at the centre of its own world, not the periphery of a Eurocentric *orbis terrarum*.

IV. Maritime Space and Cartographic Practice

I return now to the question with which I began: the changing image of the Indian Ocean world on late medieval maps. This section examines changes in the representation of the ocean-land relationships and the Indian Ocean world on selected maps produced between c. 1320 and 1460. The section claims exhaustiveness neither in its identification of all relevant maps, nor in its discussion of each. Indeed, I do not suggest that the trends that I identify are universal, merely that they are present. Following a brief survey of representational changes on selected maps produced in this period, I focus on two of these, both from the Veneto, in particular detail: the world map of Giovanni Leardo produced in 1452,

⁸¹ Marco Polo has to wait for 5 months in Sumatra for favourable weather: *Milione*, ed. Ronchi, ch. CLXVII, p. 544. Poggio reports that Niccolò Conti stays in Indonesia for nine months, but does not give a reason: Poggio Bracciolini, *De l'Inde*, p. 115.

⁸² All the trading circuits and relationships discussed here closely reflect contemporary Indian Ocean trade. Samudra-Pasé on Sumatra was a key emporium for trade between the Eastern Indian Ocean and southern China before the rise of Malacca. Equally, goods moved between the Eastern Ocean and Western Ocean via port cities, on the west coast of India. Chaudhuri, *Trade and Civilization*, pp. 98-102.

and its near-contemporary, the great and detailed *mappamundi* of the Camaldolese Fra Mauro, whose production has recently been re-dated to between 1448 and the early 1450s.⁸³ Firstly, though, it is necessary to say a few words about the wider cartographic context to which they belong and why, given that they have all been the object of many scholarly discussions before now, this question of the changing representation of the ocean has not been fully considered.

In his influential article on 'Medieval Mappaemundi' for the *History of Cartography* series, David Woodward coined the term 'transitional', which he applied to a group of world maps dating from the fourteenth and fifteenth centuries that, in his view, 'differ fundamentally' from the late Roman models influential earlier in the medieval period and 'anticipate in many ways the Renaissance'.⁸⁴ These maps 'show the influence of the portolan [navigational] charts [...] and later, the world views of Ptolemy as the *Geography* [whose instructions for drawing of a map on a plane surface utilizing mathematical formulae and projection were translated into Latin in 1406] was integrated into Western cartographic thought'.⁸⁵ This observation has had considerable impact on the ways and contexts in which 'transitional' and other (by default 'traditional') *mappaemundi* are studied. Following Woodward and others' admirable insistence that maps such as the Sawley Map (Fig. 2), rather than being inaccurate or primitive representations of the physical world, were in fact detailed maps of their historical, theological and conceptual worlds, it became common to analyse earlier *mappaemundi* as 'maps of medieval thought', as the title of Naomi Reed Kline's monograph on the Hereford Map puts it.⁸⁶ So-called transitional maps, by contrast, often discussed in different books, are treated – however unconsciously – as milestones in a history of cartographic progress that

⁸³ *The Leardo Map of the World: 1452 or 1453*, ed. John Kirtland Wright (New York, 1928), p. 1. On the date of Fra Mauro's world map see Angelo Cattaneo, 'Fra Mauro Cosmographus Incomparabilis', in *La Cartografia europea tra primo Rinascimento e fine dell'illuminismo*, ed. Diogo Ramada Curto, Angelo Cattaneo and André Ferrand Almeida (Firenze, 2003), pp. 19–48.

⁸⁴ David Woodward, 'Medieval Mappaemundi', in *The History of Cartography*, vol. 1: *Cartography in Prehistoric, Ancient and Medieval Europe and the Mediterranean*, ed. J. B. Harley and David Woodward (Chicago, 1987), pp. 286–337 (pp. 298–99).

⁸⁵ Woodward, 'Medieval Mappaemundi', p. 297.

⁸⁶ See Naomi Reed Kline, *Maps of Medieval Thought: The Hereford Paradigm* (Woodbridge, 2003).

leads inexorably to the mathematically-based mapping of the Renaissance.⁸⁷ In this schema, the history of so-called transitional maps is considered as a history of improving accuracy in coastline delineation, as a result of the importation of techniques from portolan (nautical) chart-making, improved data from a wider range of contemporary and near-contemporary eyewitness sources, and experimentation with newly available models. Chief among these new models was the coordinate-based cartographic model of the second-century Greek geographer Claudius Ptolemy, pervasively influential following its translation into Latin in 1406.⁸⁸ Evelyn Edson's two recent overviews of medieval cartography exemplify both tendencies. In *Mapping Time and Space* (1997), Edson outlines the spatialisation of time on maps before 1300, whilst her monograph on post-1300 maps (2007) focuses on the 'transformation' of spatial representation in this so-called 'transitional' corpus.⁸⁹ The division between 'traditional' and 'transitional' maps has, as a result, engendered an unacknowledged distinction between scholarly attitudes to the two types of artefact. Whilst maps such as the twelfth-century Sawley Map are no longer judged according to an unspecified standard of accuracy, even the editor of Fra Mauro's mid-fifteenth-century 'transitional' world map – a scholar normally highly critical of the 'ideology of scientific progress' in cartographic history – recently slipped into its language in describing the map's South Asian geography as 'one huge error'.⁹⁰ The difference in the type of judgement made each time is based on the unacknowledged assumption that one map is conceptual, whereas the other attempts (but fails) to present an accurate spatial representation. The cartographic discussion below proceeds from the premise that the implicit binary distinction between

⁸⁷ For Gautier Dalché's critique of the progress paradigm, Patrick Gautier Dalché, 'The Reception of Ptolemy's "Geography": End of the Fourteenth to Beginning of the Sixteenth Century', in *The History of Cartography, II: Cartography in the European Renaissance*, ed. J. B. Harley and David Woodward (Chicago, 2007), pp. 285-358 (p. 286).

⁸⁸ On the translation of Ptolemy's *Geography* and its reception, see Gautier Dalché, 'The Reception of Ptolemy's "Geography"'; and Gautier Dalché, *La Géographie de Ptolémée en Occident (IVe-XVIe siècle)* (Turnhout, 2009).

⁸⁹ Evelyn Edson, *Mapping Time and Space: How Medieval Mapmakers Viewed their World* (London, 1997); Edson, *The World Map 1300-1492*.

⁹⁰ 'Introduction', in Falchetta, *Fra Mauro's World Map*, p. 84; for Falchetta's critique of the ideology of scientific progress in cartographic history, see 'Introduction', pp. 1-23.

conceptual and spatial maps is as unhelpful and invalid as the partitioning of mental from physical and social varieties of space. All maps discussed here are conceptual representations, just as they are spatial representations, and so all are treated as fundamentally the same, not fundamentally different. Whilst it is of course the case that technical innovations influence modes of representation, the changed configuration of the ocean on these maps must also be considered as evidence of all the social, conceptual and representational space-making practices of the cultures that produced and used them.

Changes in the configuration of the relationship between ocean and land are noticeable in a number of detailed maps of the known world produced after 1300. Copies of Pietro Vesconte's world map, designed to accompany Marino Sanudo's *Liber secretorum fidelium crucis* (1321, see Fig. 4), a text whose task was to present to Pope John XII with a plan for the recovery of the Holy Land for Christians by military and commercial means, are early noteworthy examples.⁹¹ In the maps – oriented to the east – the sea encroaches on the circle of lands in several locations: around Scandinavia (bottom left), in Africa (bottom right), in the Mediterranean (bottom centre, in the east and south-east (top and top right). In the south-east, the Red Sea and Persian Gulf flow into a broad, unnamed gulf. The Indian Ocean, though not identified with a toponym, contains islands named and unnamed (much as it does in the accounts of the period's travellers), and is close in size to the Mediterranean in the western quarter of the same map.

The Majorcan Catalan Atlas of c. 1375 (not pictured here), generally attributed to the Jewish cartographer Cresques Abraham, but in the French Royal Library from 1378, does not present a full South Asian coastline.⁹² Nevertheless, it shows a remarkable configuration that draws

⁹¹ For more detail on the text, of which no modern scholarly edition exists, see Evelyn Edson, 'Reviving the Crusade: Sanudo's Schemes and Vesconte's Maps', in *Eastward Bound: Travel and Travellers 1050-1550*, ed. Rosamond Allen (Manchester, 2004), pp. 131-55.

⁹² See the introduction in Edson, *The World Map*, pp. 74-75. The map is reproduced and its legends transcribed in Abraham Cresques, *Der katalanische Weltatlas vom Jahre 1375*, ed. and trans. Hans-Christian Freisleben (Stuttgart, 1977). See also the CD-Rom, *Mapamondi: Une carte du monde au XIVe siècle*, ed. Monique Pelletier, Danielle Le Coq and Jean-Paul Saint Aubin (Paris, 1998). Images can be viewed on the Bibliothèque nationale de France's website at <http://www.bnf.fr/enluminures/texte/atx2_07.htm>. The Atlas's reliance on Marco Polo's *Book* has been demonstrated by Pullè, who also suggests that Odorico da Pordenone's *Relatio* influenced the Atlas's

on the reports of travellers for its detail. The map, though it draws upon neither portolan charts nor the as yet untranslated *Geography* of Ptolemy for its delineation of the eastern edge of the world, nevertheless clearly delineates both a Western and an Eastern Indian Ocean, demarcated by a peninsular India.⁹³ The Western Indian Ocean, stretching from the Red Sea and the Persian Gulf to Elly, the point in south-west India where the southernmost point of the peninsula meets the edge of the map, features coastal regions lined with ports, the names of many of which are taken from Marco's *Divisament*.⁹⁴ By contrast, the coastal regions of the Eastern Indian Ocean, which begins where the east coast of peninsular India emerges from the southern edge of the map, are drawn with much less detail.⁹⁵ This part of the sea is packed with islands, only a few of which, including 'Jana' and 'Taprobana', are named, and contains a legend that, drawing on Marco Polo, numbers these at 7458.⁹⁶

An equally interesting configuration is shown on the *mappamundi* of the marine chartmaker and mariner, Andrea Bianco, one of two world maps in an *atlante* of marine charts drawn in 1436 (Fig. 5). It has been noted before now that this map shrinks the landmass of the earth 'in order to increase the size of the ocean and to include the polar regions', and that this is part of a larger trend to 'stretch cartographic space to the west' to allow maps to incorporate the Canaries, Madeira and the Azores.⁹⁷ Navigational possibilities in this open oceanic space are hinted at by the presence of a ship, in full sail, heading southwards down the African coast. But the east of this map is equally remarkable. Bianco represents both an Eastern and Western Indian Ocean, the latter filled with named and unnamed islands, including (possibly from Odorico da Pordenone) an 'ixola di Colonbi', drawn with a Christian church, and, at the southern edge of the map, an 'Ixola Persina'. Both oceans, but the

presentation of Delhi and Tana: Federico Pullè, *La cartografia antica dell'India*, 2 vols (Firenze, 1932), 2: 93, 111-14.

⁹³ Pullè notes that peninsular India is drawn in 'una forma approssimante al vero' in *La cartografia antica*, 2: 112.

⁹⁴ John Larner suggests that the toponyms derive from an Aragonese version of the book produced in 1377: John Larner, *Marco Polo and the Discovery of the World* (London, 1999), p. 135.

⁹⁵ For example, the 'Civitat de columbo', potentially identifiable either with Quilon or Sri Lanka, is placed on the East coast of peninsular India.

⁹⁶ See *Milione*, ed. by Ronchi, ch. CLXI, p. 537, where 7448 is the number given.

⁹⁷ Edson, *The World Map*, pp. 199, 201.

Western Indian Ocean in particular, penetrate far into the land mass of Asia and mirror, in size if not in shape, the Mediterranean to the west.

Dating from 1448, the world map of the thoroughly landlocked Salzburg Benedictine Andreas Walsperger (Fig. 1), and bound, like Bianco's map, into a larger atlas, shows oceanic incursions into the *orbis terrarum* so great that the so-called circle of lands in places more resembles an archipelago than a land mass, its continents and subcontinents connected only by narrow tracts of land.⁹⁸

Oceanic space not only in the Atlantic and Baltic regions, but also in the East is enlarged in this Central European production. In the East, Walsperger shows a serpent-filled 'mare occidentale indorum' and a 'mare magnum indorum', containing islands where pepper is grown (Taprobana, towards the south and east), and where pepper is sold (within the Persian Gulf).

By the time in which the world maps of Fra Mauro and Giovanni Leardo were produced, then, a trend was emerging, identifiable among ecumenical maps produced or circulating in Italy, France, Majorca and even landlocked Central Europe, to graphically depict ocean and land as closely interrelated phenomena, to decentre the Mediterranean from its previously dominant position, and to present an Indian Ocean – sometimes named, sometimes unnamed – as its eastern rival in size and importance. The 1452 world map produced by the Venetian cartographer Giovanni Leardo participates in these trends (Fig. 7).⁹⁹

The map shows the oceanic periphery and *orbis terrarum* intersecting in many locations. An inhabited Scandinavia pushes into the ocean to the north and west, and the ocean makes incursions into the land in the Mediterranean, at an unnamed African gulf that perhaps represents the Gulf of Guinea, and through the broad, island-dotted Indian Ocean.

⁹⁸ See Kretschmer, 'Eine neue mittelalterliche Weltkarte'. For a large-scale monochrome reproduction and discussion, including some corrections to Kretschmer's readings, see Dana Bennett Durand, *The Vienna-Klosterneuburg Map Corpus of the Fifteenth Century: A Study in the Transition from Mediaeval to Modern Science* (Leiden, 1952), Plate XV and pp. 209-13.

⁹⁹ Three of Leardo's maps survive. That of 1442 is now in the Biblioteca Comunale, Verona; that of 1448 is in Vicenza, Biblioteca Civica Bertoliana. I have used the map of 1452 in Madison, American Geographical Library. The map is reproduced and discussed and its legends transcribed in *The Leardo Map of the World: 1452 or 1453*, ed. John Kirtland Wright (New York, 1928).



Figure 5: World Map of Andrea Bianco (Venice, 1436), MS. Venezia, Biblioteca Nazionale Marciana, It. Z, 76, fol. 8.

Reproduced by kind permission of the Biblioteca Nazionale Marciana.

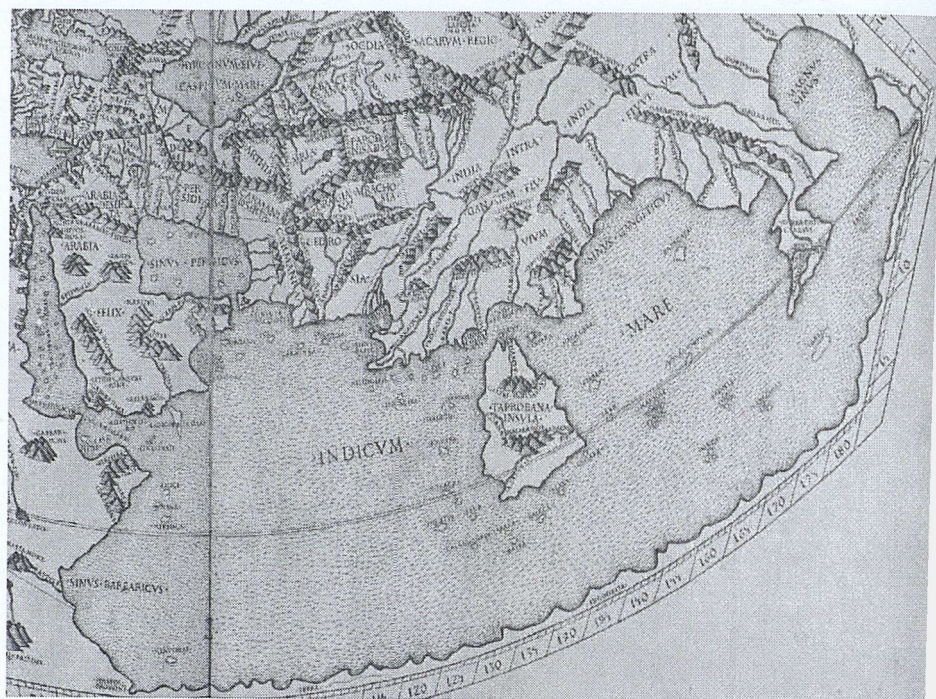


Figure 6: Detail of the Indian Ocean world from the world map from *Claudius Ptolemy Alexandrini Philosophi Cosmographia* (Rome: Buckink, 1478).
 © The British Library Board (Shelfmark C.3.d.6.).

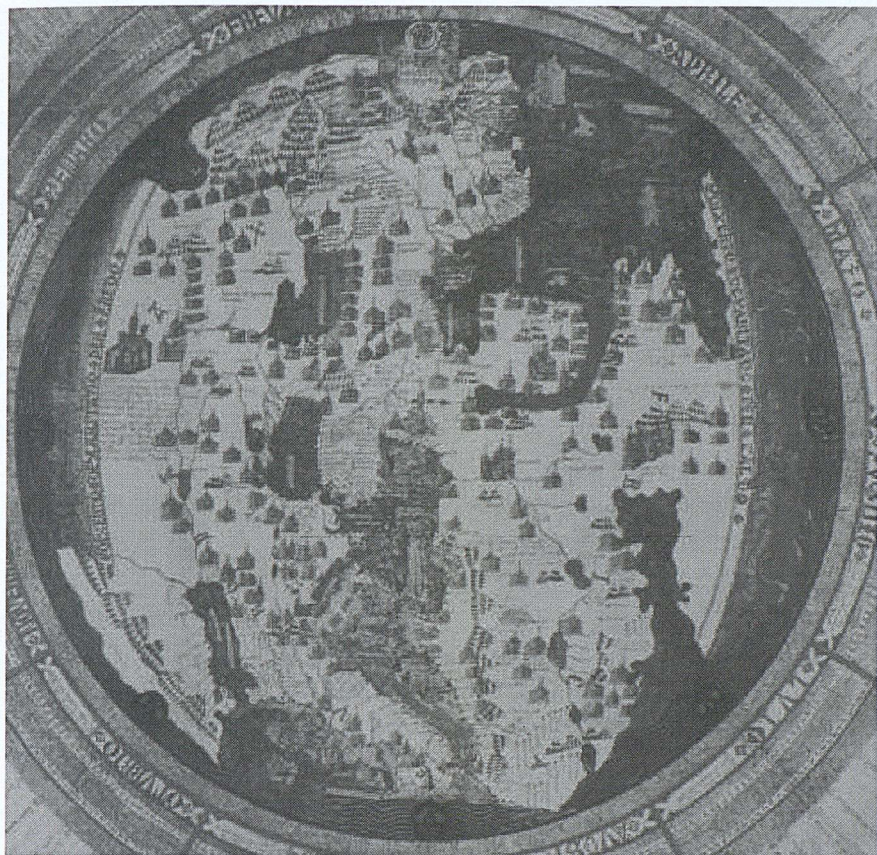


Figure 7: Giovanni Leardo World Map (?Venice, c. 1452).
From the American Geographical Society Library, University of Wisconsin-Milwaukee Libraries.



Figure 7a: Detail of the west coast of India on Leardo's World Map.

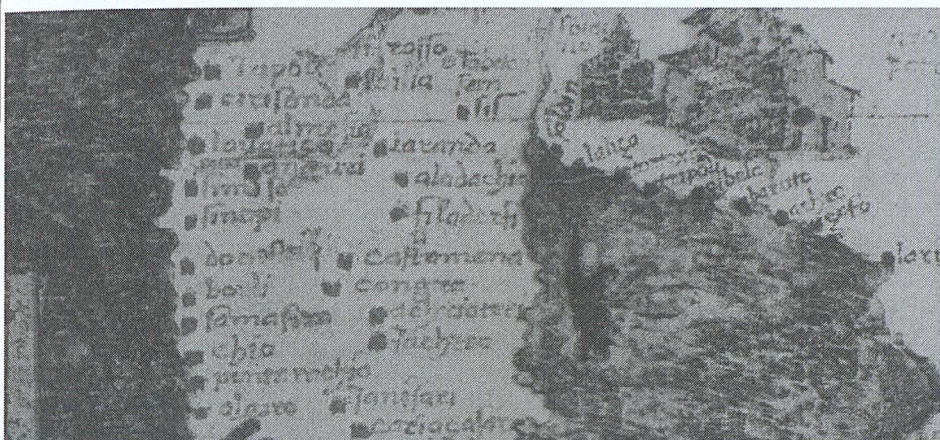


Figure 7b: Detail of the Eastern Mediterranean and Black Sea on Leardo's World Map (East at top).

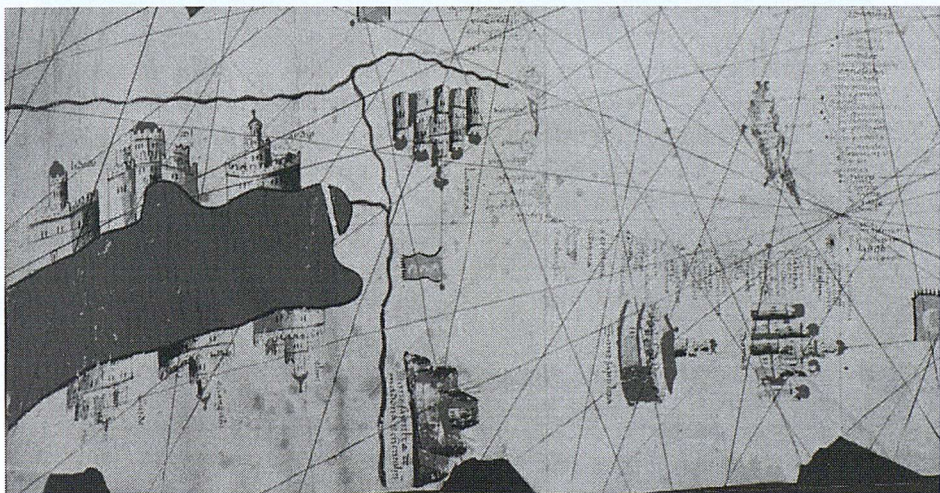


Figure 8: The Eastern Mediterranean and the Red Sea on a marine chart drawn by Petrus Roselli (1466).

Reproduced by kind permission of the James Ford Bell Library, University of Minnesota – Twin Cities. The full map can be viewed at <http://www.lib.umn.edu/apps/bell/map/PORTO/ROS/mainp7.html> [accessed 16.06.2011].

It has been long since established that Giovanni Leardo's world maps are related through their toponyms and coastal outlines to several contemporary and earlier Catalan maps, and that Marco Polo's *Book* is, ultimately, a source for these maps' information on Asia.¹⁰⁰ Nevertheless, the peculiar manner in which the cartographer graphically manipulates this data seems to have avoided notice. The map bears traces of an attempt to synthesise information deriving ultimately from Marco Polo's *Divisament* with details from other travel account sources and with Ptolemy's *Geography*. The *Geography* influences both the shape of Leardo's Asian coastline and his Asian hydrography, but does not tempt him to represent the Indian Ocean, in Ptolemaic style, as an enclosed basin surrounded by *terra incognita*.¹⁰¹ Traces of the mapmaker's synthetic methods appear in its eastern quarter. The port of Hormuz appears twice under different names: once on the Persian Gulf and once on the west coast of India; Kollam appears once on the Indian coast and once as an inland kingdom.¹⁰² Both apparent errors in fact reflect travellers' experiences: Hormuz is effectively the gateway to India for ocean-going travellers to the region, and a such is sometimes presented as belonging to the Indies in texts;¹⁰³ Kollam is, as discussed above, identified as an 'insula' by Odorico, along with other locations he reached by sea. Moreover, the detail that the mapmaker (or indeed his cartographic or textual source) extracts from travellers' itineraries is deployed in such a way as to link the western part of the Indian Ocean world visually and conceptually to the Mediterranean. The map draws heavily for its representation of the western coast of India on the visual

¹⁰⁰ See *The Leardo Map*, p. 9 on the relationship between the map and the Catalan Atlas and Catalan world map from the Estense library (MS. Modena, Biblioteca Estense, C.G.A. 1). On the relationship between the Catalan Atlas, the Estense mappamundi, and the map in MS. Firenze, Biblioteca Medicea Laurenziana, Gad. Rel. 9, see Pullè, *La cartografia antica*, 1: 114–18. Pullè also presents a detailed comparison of inscriptions on the Asian sections of the Catalan Atlas and the Estense world map: 1: 124–39.

¹⁰¹ On the Ptolemaic origin of some of Leardo's Indian river names, see Wright, *The Leardo Map*, p. 38.

¹⁰² See Wright, *The Leardo Map*, pp. 38, 39, 42.

¹⁰³ For example, in the most common Tuscan translation of the *Relatio*, Hormuz is described in Chapter XI, entitled 'D'India e del mare Oceano', in *Libro delle nuove e strane e meravigliose Cose*, ed. Alvise Andreose (Padova, 2000), p. 145.

language of contemporary portolan (nautical) charts.¹⁰⁴ Portolan charts of this period, produced principally by Italian and Catalan chartmakers, delineated maritime regions frequented by Western European vessels: the Mediterranean, Black Sea and Europe's Atlantic coasts. Leardo's map, however, uses the visual language of the portolan chart to represent parts of the Persian Gulf and west coast of India, regions *not* traversed by European vessels in this period. In these areas, toponyms are written as they are on portolan charts: inland, following the direction of the coastline and leaving the sea clear (see Fig. 7a). Alongside each toponym a red dot appears on the coast, giving the appearance of precision proper to marine charts made and used for navigational purposes (see Fig. 8). This can be seen clearly when Leardo's western Indian Ocean (Fig. 7a) is compared with his eastern Mediterranean and Black Sea on the same map (Fig. 7b). Avoiding the stylised fortifications that he uses in his delineation of the African and far eastern coasts (and that contemporary portolan charts like the 1466 copy produced by Petrus Roselli use for the Red Sea, an area beyond the reach of European navigation), Leardo presents the Persian Gulf and western coast of India as though these were known to his community through navigational practice. Not only does Leardo's 1452 map show an expanded Indian Ocean traversed in luxury goods, it also uses the visual language of the portolan chart to mark out the Persian Gulf and west coast of India as a navigable maritime space, bringing these maritime regions conceptually and spatially closer to the Mediterranean world.

An equally striking representation of the Indian Ocean as a navigable space, connected to Europe (and indeed the world at large), is reflected in the contemporaneous world map of Fra Mauro, Fig. 9), the most detailed and stunning map of its period. That the map incorporates the testimony of navigators, travellers and merchants has been amply demonstrated through many detailed studies.¹⁰⁵ Indeed, the cartographer

¹⁰⁴ On nautical or portolan charts in the late Middle Ages see Tony Campbell, 'Portolan Charts from the Late Thirteenth Century to 1500', in *Cartography in Prehistoric, Ancient, and Medieval Europe*, pp. 371-463. For an overview of interpenetration between nautical or portolan charts and world-map-making techniques, see Edson, *The World Map*, pp. 60-89.

¹⁰⁵ Fra Mauro's sources are comprehensively discussed in Angelo Cattaneo, 'La mappamundi di Fra Mauro Camaldolese, Venezia, 1450' (unpublished doctoral thesis, European University Institute, Florence, 2005). See also Cattaneo, 'Scritture di viaggio e scrittura cartografica. La mappamundi di Fra Mauro e i racconti di Marco Polo e Niccolò de' Conti', *Itineraria* 3-4 (2005), 157-202 and Ingrid

himself regularly stresses that he draws for his information on the experience of practiced navigators, 'those who have seen it with their own eyes' and 'all who sail in this sea and live in these islands'.¹⁰⁶

Because of its dependence on a wide variety of sources, the map's representation of the Indian Ocean region is particularly rich. The cartographer identifies islands and coastal and inland regions between eastern Africa and southern China. As with Giovanni Leardo, synthesis leads Fra Mauro to duplication; certain places are plotted on the map two or three times under variant names.¹⁰⁷ However, as one of the map's most assiduous scholars, Angelo Cattaneo, has recently demonstrated, the map not only asserts the Indian Ocean's navigability and habitability, but also reflects an understanding of the tripartite structure of the region's monsoon-based trading patterns.¹⁰⁸ This vision of the eastern and southern oceans as navigated, mercantile space, heavily influenced by the perspectives of the travellers and traders on whose evidence the map draws, is perceptible in a number of longer inscriptions placed in and around the Indian Ocean. In a legend taken in part from Marco Polo, and attached to the island of Lesser Java (identifiable as Sumatra in Marco's *Divisament*), Fra Mauro writes:

A most fertile island, Java Minor has eight kingdoms and is surrounded by eight islands, in which grow fine spices. And on this said Java grow ginger and other noble spices in great quantity, and at the time of harvest, all that grows on this and the other islands is taken to Java Major and there is divided into three parts: one part [is sent] to Çaiton and Cathay, another to

Baumgärtner, 'Kartographie, Reisebericht und Humanismus. Die Erfahrung in der Weltkarte des venezianischen Kamaldulensermonchs Fra Mauro (1459)', *Das Mittelalter* 3 (1998), 161-97. On the possible Arabic and Sanskrit derivations of a number of Fra Mauro's toponyms, legends and orientations, see G. R. Crone 'Fra Mauro's Representation of the Indian Ocean and the Eastern Islands', *Studi Colombiani* 3 (1952), 57-64.

¹⁰⁶ 'Questi i qual hano visto ad ochio' and 'tuti quelli che navegano quel mar e che habitano quele insule.' *Fra Mauro's World Map*, pp. 210-13 (Number 149).

¹⁰⁷ Mogadishu appears three times (Macdasui, Mogodisso, and Mogadesur): *Fra Mauro's World Map*, p. 177; Soffala twice: p. 187 and Zanzibar twice (Xengibar and Chancibar): p. 189.

¹⁰⁸ Angelo Cattaneo, 'La "mappamundi" di Fra Mauro, l'idea di oceano e le direzioni di navigazione all'alba dell'espansione Europea', in *Mundus novus: Amerigo Vespucci e i metodi della ricerca storico-geografica*, ed. Annalisa d'Ascenzo (Genova, 2004), pp. 201-14 (p. 212).



Figure 9: Fra Mauro, world map (c. 1450).

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Hormuz, Çide [Jeddah] and Mecca, by the Sea of India, and the third is sent northwards across the Sea of Cathay.¹⁰⁹

Because this legend is a composite of different travellers' reports which may or may not mean different islands when they use the terms Greater and Lesser Java, it would be pointless to attempt a firm identification of these locations.¹¹⁰ However, that what we would now call Indonesia forms a hub in the trading connections between the Spice Islands, the Indian Ocean and Persian Gulf to the west, and the South China Sea to the east emerges forcefully from this text. As Chaudhuri has outlined, at different points in time, different Indonesian ports served as emporia in the long-distance trade between the Eastern Indian Ocean and the South China Sea.¹¹¹ Furthermore, equally specific information about other links in the great chain that is the spice trade is given elsewhere on the map. The following inscription is placed alongside Hormuz, a key port of long-standing economic importance on the Persian Gulf:

Here come some ships from India with their merchandise of pearls, pepper, ginger and other spices in great quantity. These then travel by way of Balsera [Basra] and Bagadat – that is, the Babilonia of the Chaldeans – to

¹⁰⁹ 'Giava menor, isola fertilissima la qual ha viij regni et è circumda' da viij isole, ne le qual nasce le specie sotil. E ne la dita giava nasce çençero e altre specie nobile gran quantità e tute quele che nasce in questa e ne le altre al tempo de recolte vien portade a giava maçor e di li se despensa in tre parte: una per çaiton e chataio, l'altra per el mar de india a hormus, çide e la mecha, l la terça per el mar del chataio de la parte de tramontana'. *Fra Mauro's World Map*, p. 303 (Number 589). Long translations here are Falchetta's, with my occasional omissions and additions signalled with [].

¹¹⁰ The information in this legend appears, in part, only in texts of the 'B' family of the *Divisament*. See Milione, ed. Barbieri, ch. XCIX, p. 286. In the *Divisament*, Marco appears to intend Sumatra by 'Lesser Java', and Java proper by 'Java'. However, in Poggio Bracciolini's redaction of Niccolò Conti's travels, Sumatra is identified with Taprobane (Poggio Bracciolini, *De l'Inde*, p. 94), which is consequently represented as a separate island on Fra Mauro's map, somewhat to the south-west of its alter-ego, Lesser Java. Guéret-Laferté tentatively identifies Niccolò's Java maior with Borneo, and Java minor with Java, in Poggio Bracciolini, *De l'Inde*, p. 114.

¹¹¹ According to Chaudhuri, trade shifted in the fifteenth century to from Sumatra to Malacca. However, Tomé Pires reports in the sixteenth century that merchants from Gujarat had until relatively recently traded for produce from the Spice Islands at Grise, in northern Java: See Chaudhuri, *Trade and Civilization*, pp. 54, 102, 110-14.

the river Tigris and Euphrates and then to Mesopotamia, Armenia, Cappadocia and even the Sea of Pontus [the Black Sea].¹¹²

Fra Mauro outlines the navigational and trading practices that link together disparate regions of the Indian Ocean world. At Lesser Java, the map's legend points out that spices travel from there to Hormuz; at Hormuz, the map redirects its user yet again, this time along the trade routes that lead to the Mediterranean's neighbour, the Black Sea. The socio-spatial relationships between the Mediterranean world and Hormuz, mainland India, the Spice Islands and southern China, whose locations in abstract, Euclidean space are hazily understood, are meticulously delineated on the map. This mode of representation does not merely show the Indian Ocean as navigable, habitable and populous, it shows it as interconnected with Europe in a way that brings the two regions conceptually and spatially closer together.

Conclusion

Whilst it is undoubtedly the case that texts and maps that represented the ocean as a peripheral or liminal space continued to be produced up to 1500 and beyond, the texts and maps discussed in this article constitute a graphic and articulate challenge to that discourse. Something of the perspective of the oceanic traveller, navigator, or trader seeps into maps such as those discussed here, affecting the way their makers and communities think about and represent oceanic space. The notion of the ocean as a border or a barrier gives way, in these instances, to a conception of it as a connecting force.

It would be wrong, however, to suggest that, even on the maps discussed here, the notion of an oceanic boundary disappears altogether. Indeed, Fra Mauro, in the same way as he marks out and annotates maritime routes in the Indian Ocean, also marks out a new periphery, one whose nature is indicative of the nature of the map's conceptualisation of oceanic space. Alongside a ring of islands that encircle the south-eastern edge of the map the following legend appears:

¹¹² 'E qui capitano parte de le nave de india cum le sue marchantie, che sono perle, piper, çençero e altre specie in gran quantità, le qual poi sono contute de li per la via de la balsera e da bagatat çoè babilonia de caldea, per el fiume tygris et eufrates et per mesopotamia, armenia, capadocia e perfina al mar de ponto'. *Fra Mauro's World Map*, p. 254 (Number 348).

Shown here all around its circumference, this uninterrupted chain of islands surrounds the Sea of India [...]. Note that when navigators see the birds of these islands, they think that they have come too close to them and they pull away – because beyond these islands are the Shadows [*'le tenebre'*], which are so dense that if a ship ventured into them it would not be able to go either backwards or forwards. And this is known from the experience of those who did venture into them, and who perished.¹¹³

Cattaneo has argued that these islands, 'suspended between the elements of earth and water', demarcate the 'physical and metaphysical limits of the knowable and the known' on the map.¹¹⁴ I am not sure that I can agree. The islands mentioned in the legend do not form a barrier; they are merely a signal. The barrier to navigation that matters in this legend is formed by *'le tenebre'*: the shadows. This text is just one of several mentions of *'le tenebre'* or *'le oscuritade'* on the map, all placed at the southern, south eastern and south western edges of the Indian Ocean,¹¹⁵ and has parallels in Arab navigational sources in which shadows and dense seas are said to prevent navigation in the southern and Atlantic oceans.¹¹⁶ Fra Mauro here talks not about the 'physical or metaphysical limits' of knowledge, but about practice; he explains what navigators *do*. To avoid being dragged into the strong, fast trade winds of the far southern latitudes that, before the age of steam, would have borne away

¹¹³ 'Quela tirada de isole che cençe el mar d'india come è designato a la via circular sono habitade per deverse qualità de oseli [...] E nota che quando i naveganti vedeno li oseli de le isole predite, parendoli esser acostadi tropo a quele, se delongano da esse perché oltra quele sono le tenebre, le qual son tanto dense che le nave che se abatesse intrar in quele non poria ni andar ni tornar in driedo. E questo se sa per experientia che quele che se hano abatude sono peride'. *Fra Mauro's World Map*, p. 183 (Number 25).

¹¹⁴ 'I confini fisici e metafisici del conoscibile e del conosciuto assumono la morfologia geografica della realtà insulare, realtà evidentemente sospesa tra i due elementi di acqua e terra'. Cattaneo, 'La "mappamundi" di Fra Mauro, l'idea di oceano', p. 206 (citing Donattini, 2000).

¹¹⁵ *Fra Mauro's World Map*, p. 183 (Number 24); p. 219 (Number 178); p. 179 (Number 19).

¹¹⁶ *Fra Mauro's World Map*, p. 182 (Number 24), quoting G. R. Tibbetts, *Arab Navigation in the Indian Ocean before the Coming of the Portuguese, Being a Translation of 'Kitâb al-Fawâ'id fî usûl al-bahr wa'l-qawâ'id' of Ahmad b. Maiid al-Najdi* (London, 1971), pp. 219, 339.

any that drifted into them, one watches for a certain type of bird.¹¹⁷ The 'shadows' on this map, which evidently derive ultimately from Arab navigational practice, mark out the limits of the Indian Ocean as practiced space to the south-west, south, and south-east, and it is the limits of practice that inform and create the conceptual limits.

In maps like Fra Mauro's, Giovanni Leardo's and others discussed here, it is possible to see how Latin Europeans' experiences of human, social spatial practices in the Indian Ocean world interact with oceanographic and geographical theory, bringing about new varieties of spatial thought and practice. The political ramifications of this fall outside the remit of this article, but should not be forgotten. A copy of Fra Mauro's world map was sent in 1459 to Alfonso V of Portugal, at the time sponsoring the series of voyages down the western coast of Africa that would eventually take Bartolomeu Dias and Vasco da Gama into the Indian Ocean.¹¹⁸ The cartographic assertion of the Indian Ocean's navigability and interconnectedness with the *orbis terrarum*, not just on Giovanni Leardo's and Fra Mauro's maps, but also on a number of the late medieval world maps discussed here, created the Indian Ocean as a space accessible and navigable to Europeans fifty years before it became so in practice.

University of Southampton

¹¹⁷ The winds and currents of the ocean are discussed in Pearson, *The Indian Ocean*, pp. 23-24. Ibn Mājid discusses the use of birds in navigation: Tibbetts, *Arab Navigation*, pp. 196-97.

¹¹⁸ Susy Marcon, citing Angelo Cattaneo, in 'Leonardo Bellini and Fra Mauro's World Map: The Earthly Paradise', in *Fra Mauro's World Map*, pp. 135-69 (p. 143).