Building a World Unified by Maritime Networks. Fra Mauro's *Mappa mundi* between Venice and Lisbon, ca. 1450

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EXPLORING MARITIME HERITAGE DYNAMICS

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Fra Mauro’s *Mappa mundi*, ca. 1450, 223 x 223 cm. Venice, Biblioteca Marciana.

The Mediterranean Sea, Africa, the Indian Ocean, Cathay, Mangi.

A PROJECT TO BUILD A FULLY CONNECTED WORLD

(Inverted image – North on the top)
Medal coined in honor of Fra Mauro (ca. 1490-1459). Venice, Museo Correr, 1460

“Frater Maurus S. Michaelis Moranensis de Venetiis ordinis Camaldulensis chosmographus incomparabilis”

“Friar Mauro of the Monastery of Saint Michael on Murano at Venice of the Camaldolese Order, cosmographer without equal”
Fra Mauro’s  
*Mappa mundi*,  
ca. 1450,  
223 x 223 cm.  
Venice,  
Biblioteca Marciana.

The map was held until 1811 in the monastery of San Michele.

A copy was commissioned by King Afonso V of Portugal in 1457-59.
1. The composite networks of contemporary knowledge:

- Scholasticism
- Humanism
- monastic culture

2. Technical skills like:

- marine cartography
- Ptolemaic cartography
- mercantile practices

combine in the epistemological unity of Fra Mauro’s map.
A cosmographic project to change the world connectivity through the linking of several maritime and fluvial networks in the Indian Ocean, Central Asia, the Mediterranean Sea basin, and involving for the first time the circumnavigation of Africa.
Fra Mauro’s Mappa mundi, Venice, c. 1450

Fra Mauro's text

- **3,000 inscriptions** with some **115,000 characters**.

- **200 legends** make up a large cosmographical treatise that deals with natural philosophy, description of places and people, commercial geography, history, navigation and direction of expansion, and, methodological issues dealing with “how should we design a good the map of the world”.

- **29 auctoritates** quoted, discussed, criticized, confronted and contrasted.
Fra Mauro’s *Mappa mundi*, Venice, c. 1450

Fra Mauro's text

29 *Auctoritates* - 4 Groups - 4 Discourses

1) **Theologians**, the Fathers of the Church: St. Augustine, Bede, Boetius, Rabanus Maurus, St. Paul, St. Jerome, Damascenus, Basilius and Chrisostomus;

2) **Natural philosophers**, Aristotle and his Arab and Christian commentators, Avicenna, Averroës, Albertus Magnus and St. Thomas Aquinas;

3) **Classical Cosmographers**: Caius Julius Solinus with his *Polyhistor* Pomponius Mela’s *Cosmographia*; and last, Ptolemy with his *Cosmography* or *Geography*.

4) **Travelers**: Marco Polo, Piero Querini, Niccolò de’ Conti, Odorico da Pordenone, Coptic Ethiopian monks…
When and in what way did Fra Mauro refer to his *auctoritates*?

1) **Theologians** ⇒ **COSMOLOGY** (description of the general structure of the mundus, the universe and its meaning)

2) **Natural philosophers** ⇒ **COSMOGRAPHY** (description of the general structure of the sublunary world)

3) **Classical cosmographers and Travelers** ⇒ **CHOROGRAPHY** (description of regions, cities, people)

4) **Ptolemy** ⇒ **METHODOLOGY** (against Ptolemy)
The Hereford
Mappa mundi,
ca. 1300,
160 x 190 cm.

ca. 1000 textual units

Hereford Cathedral, Wales, UK.
I. The sea in the context of natural philosophy:
- a critique of Ptolemy’s idea of an enclosed Indian Ocean basin.
- the outer sea as both a metaphysical limit of human action.

II. The sea as a complex of global commercial integrated networks linking the Mediterranean Sea basin to the Indian Ocean (Mare Indicum) basin.

III. The sea as a tragic narrative.
Some authors [Ptolemy, Geography] write that the Sea of India is enclosed like a pond and does not communicate with the sea ocean (mar ocean). However, Solinus claims that it is itself part of the ocean and that it is navigable in the southern and south-western parts. And I myself say that some ships have sailed it along that route. This is confirmed by Pliny…

«Alguni autori [Tolomeo, Geographia] scriue del mar d'india che'l sia serado come un stagnon e che'l mar occean non li entri, ma Solin uol che'l sia occean e che quella parte austral e del garbin sia nauigabile, et io affermo che algune naue açira e volta quel camin. E questo anchor conferma Plinio …»

Mappamondo IX, s 25
The Seas in Fra Mauro’s cosmography

1. The Indian Ocean - *Mare Indicum* is “open” and not a “huge pond”

Compare the closed Indian Ocean in Ptolemy’s *Geography* to the “open” one in Mauro’s vision.
The Seas in Fra Mauro’s cosmography

- The marginal sea and islands as metaphysical limits of human action

Fra Mauro’s *Mappa mundi*

ca. 1450, 223 x 223 cm.

Venezia, Biblioteca Marciana.

Detail with the red circle separating navigable waters from those that are «tegnente» – that is, dense, gripping – and «appiccicose», that is sticky
“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, 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.”

“The ships which, sailing south, pass too close to the Lost Islands are carried by the currents into the Shadows, which—like the water below them—are so dense and sticky that the ships cannot go forward, and they inevitably perish”

A ship circumnavigating Africa

«Indian» Junks in Java and the trade circuits in the Indian Ocean
Fra Mauro’s *Mappamundi*, ca. 1450, 223 x 223 cm. Venezia, Biblioteca Marciana. Detail with a ship circumnavigating Africa, close to the coast of «Ethyopia Austral».
Circa hi ani del Signor 1420 una naue ouer çoncho de india discorse per una trauersa per el mar de india a la uia de le isole de hi homeni e de le done de fuora dal cauo de diab e tra le isole uerde e le oscuritade a la uia de ponente e de garbin per 40 çornade, non trouando mai altro che aiere e aqua, e per suo arbitrio iscorse 2000 mia e declinata la fortuna i fece suo retorno in çorni 70 fina al sopradito cauo de diab. [...]»

Around 1420 a ship, or junk, from India crossed the Sea of India towards the Island of Men and the Island of Women, off Cape Diab, between the Green Islands and the shadows. It sailed for 40 days in a south-westerly direction without ever finding anything other than wind and water. According to these people themselves, the ship went some 2,000 miles ahead until – once favourable conditions came to an end – it turned round and sailed back to Cape Diab in 70 days...
Many opinions and many texts claim that in the southern regions the water does not surround this whole inhabited and temperate area. But I have heard many opinions to the contrary, above all from those who were sent by his Majesty, King of Portugal, in caravels so that they might explore and see with their own eyes. These men say that they sailed around the coast from the south-west some 2,000 miles beyond the Strait of Gibraltar. […]

Molte opinion e leture se troua che in le parte meridional l'aqua non circunda questo nostro habitabile e temperado çona, ma aldando molte testimoniançe in contrario e maxime queli iqual la maiestà del Re de portogallo a' mandato cum le suo carauele a çerchar e ueder ad ochio, i qual dice hauer circuito le spiaçe de garbin più de 2000 mia oltra el streto de çibelter […]

Mappamondo XI, D 3
What is more, I have spoken with a person worthy of trust, who says that he sailed in an Indian ship caught in the fury of a tempest for 40 days out in the Sea of India, beyond the Cape of Soffala and the Green Islands towards west-southwest; and according to the astrologers who act as their guides, they had advanced almost 2,000 miles.

Thus one can believe and confirm what is said by both these and those, and that they had therefore sailed 4,000 miles.

Mappamondo XI, D 3
From the Indian Ocean to the Mediterranean Sea

4,000 miles
The world as a cluster of five interconnected commercial networks

Fra Mauro’s *Mappamundi*, ca. 1450, 223 x 223 cm. Venezia, Biblioteca Marciana. Detail showing the navigation of «zoncho da India», that is Indian junks in the «Mare Indicum», between Sumatra and Tapobrana.
Le naue ouer çonchi che nauegano questo mar portano quatro albori e, oltra de questi, do' che se può meter e leuar et ha da 40 in 60 camerele per i marchadanti e portano uno solo timon; le qual nauega senza bossolo, perché i portano uno astrologo el qual sta in alto e separato e con l'astrolabio in man dà ordene al nauegar. (IX, P 25)

MARCO POLO

[P]oscia ch'abbiamo contato di tante province terrene, com'avete udito, noi conteremo de le meravigliose cose che sono ne l'India. E coninceròvi a le navi, ove i mercatanti vanno e vegnano. Sapiate ch'elle sono d'un legno chiamato abeta e di zapino, ell'ànno una coverta, e 'n su questa coperta, ne le piúe, à ben 40 camere, ove in ciascuna può stare un mercatante agiatamente. E ànno uno timone e 4 àlbori, e molte volte vi giungono due àlbori che si levano e pognono; le tavole so' tutte chiavate doppie l'una sull'altra co buoni aguti. (…) Queste navi voglion bene 200 marinai, ma elle sono tali che portano bene 5.000 sporte di pepe, e di tali 6.000. E' vogano co remi; a ciascun remo si vuole 4 marinai, e ànno queste navi ta' barche, che porta l'una ben 1.000 sporte di pepe. (…) Or v'ò contato de le navi che vanno per l'India.

(Marco Polo, Historia delle cose de Tartari, III.1)
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 Caiton and Cathay, another to Hormuz, Cide and Mecca, by the Sea of India, and the third is sent northwards across the Sea of Cathay. And according to the testimony of those who sail this sea, from this island one sees the Southern Cross a yard above the horizon.
The province of Mogolistan, shown above to the right, lies opposite the island called Hormuz, [...] 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 and Bagadat – that is, the Babilonia of the Chaldeans – to the river Tigris and Euphrates and then to Mesopotamia, Armenia, Cappadocia and even the Sea of Pontus. The main city of the island has the same name – that is, Hormus – and in ancient times it was built by the philosophers.

Маппамондо XV, s 12

«La prouincia dita mogolistan, posta qui de sopra a man dextra, è in dromo de la isola dita Hormus, […] E qui capitano parte de le naue de india cum le sue marchantie, che sono perle, piper, çençero e altre specie in gran quantità, le qual poi sono condute de lì per la uia de la balsera e da bagadat çoè babilonia de caldea, per el fiume tygris et eufrates et per mesopotamia, armenia, capadocia e perfina al mar de ponto. La cità principal de la dita isola tien el nome de l'isola, çoè hormus, la qual antichamente fo edificada per phylosophi»
III. The sea as both a tragic element and narration

Fra Mauro’s *Mappamundi*, ca. 1450, 223 x 223 cm. Venezia, Biblioteca Marciana. Navigation and shipwrecks in the *Mare Indicum*
III. The sea as both a tragic element and narration

Fra Mauro’s *Mappamundi*, ca. 1450, 223 x 223 cm. Venezia, Biblioteca Marciana. Navigation and shipwrecks in the *Aethylanticus* off the Straight of Gibraltar
‘The very order of things created by God shows the unity of the world. For this, the world is called one by the unity of order.’

Thomas Aquinas, *Summa theologiae*, I, 47, a. 1

For Mauro the seas could transform the world into one single human unity, still without forgetting its essential tragic as well as metaphysical nature.