The HKUST Ancient Map of China Collection-the next step: from digital images to GIS and datamining

Marco Caboara

Digital Scholarship & Archives Manager
Hong Kong University of Science and Technology
Lee Shau Kee Library

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Outline

- The HKUST Antique Maps of China Special Collection
- Digitization as preservation
- Digitization as enrichment
- Collaboration with the Pelagios Project
- Annotating Western and Chinese maps
- Further steps (geo-resolution, iconological analysis)

The UST library and its map collection

- UST map collection: 100+ ancient European printed maps of China and East Asia
- From Italy, the Low Countries, France, Germany, England
- An exhibition is currently on at the library:
- http://library.ust.hk/special/tartary/tartary.html

World Map from the Nuremberg Chronicle of the World (Schedel, 1493)

Secunda etas mundi
Secunda etas mūdi
Folīū XIII
·IAPHET·
·SEM·
·CAM·
Europa
Affrica
Asia minor
Persia
Arabia
Ethiopia
Indus
Babilonia
Jndia ꝯ gangem
Jndia vltra gangem
Taprobana insula
Mare rubrum
Mare persicum
Mare caspium
Mare Egeum
Mare Tyrrenum
Mare Adriaticum
Mare Ionium
Mare Siculum
Mare Ligusticum
Mare Britannicum
Mare Germanicum
Mare Balthicum
Mare Scythicum
Mare Caspium
Mare Rubrum
Mare Persicum

A new map of China (Ortelius, 1592)

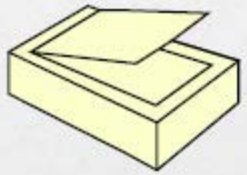
The kingdome of China (Speed, 1627)

China subdivided into its provinces (Coronelli, 1695)

Digitization as preservation

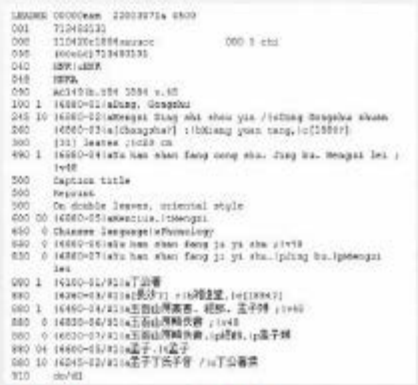
Workflow

Storage
Tiff, jpg, pdf



Scanning

RSe server
Collection, thumbnail

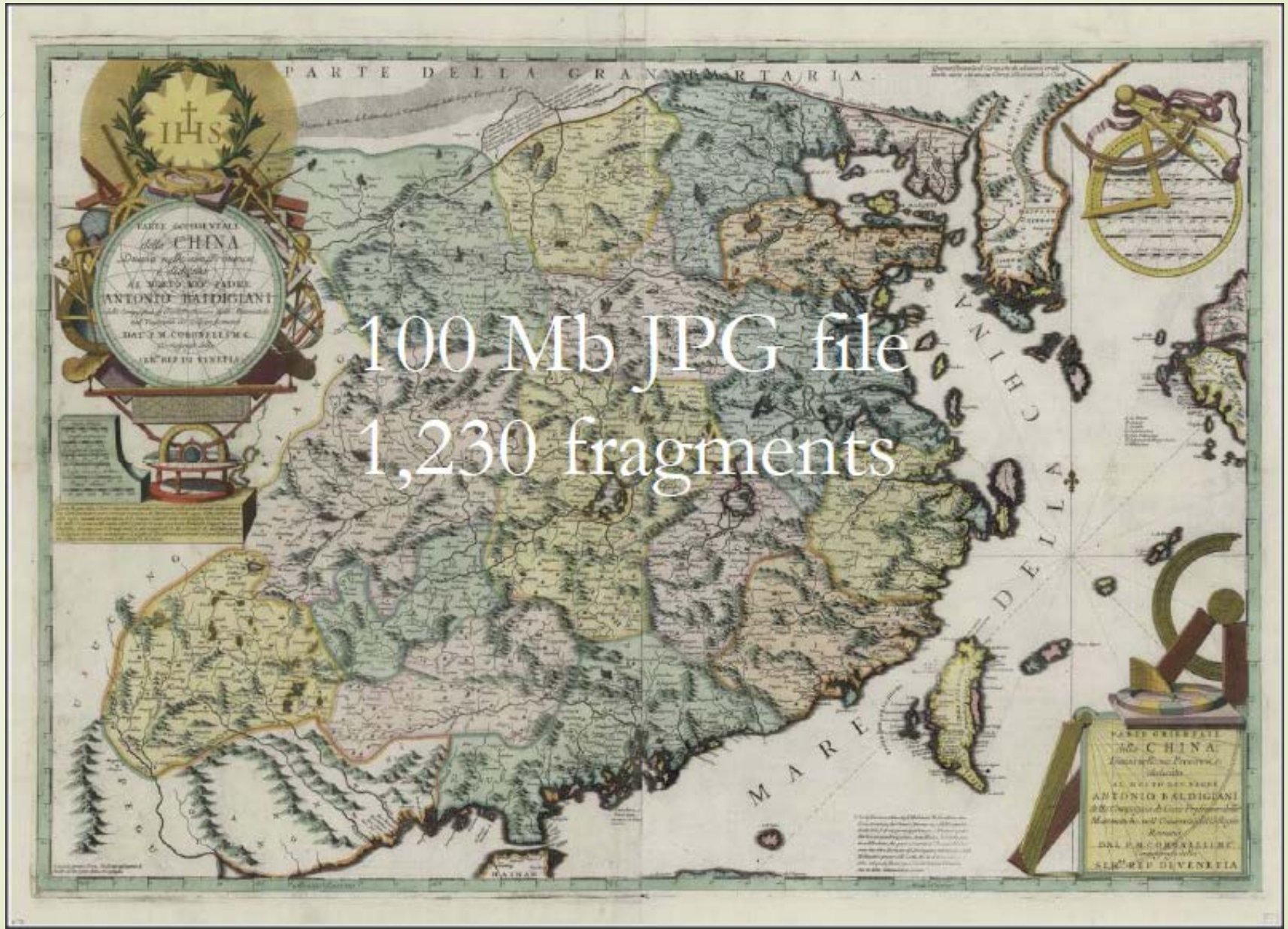


MARC record: bibliographic data

CMS metadata & images

Digitization process

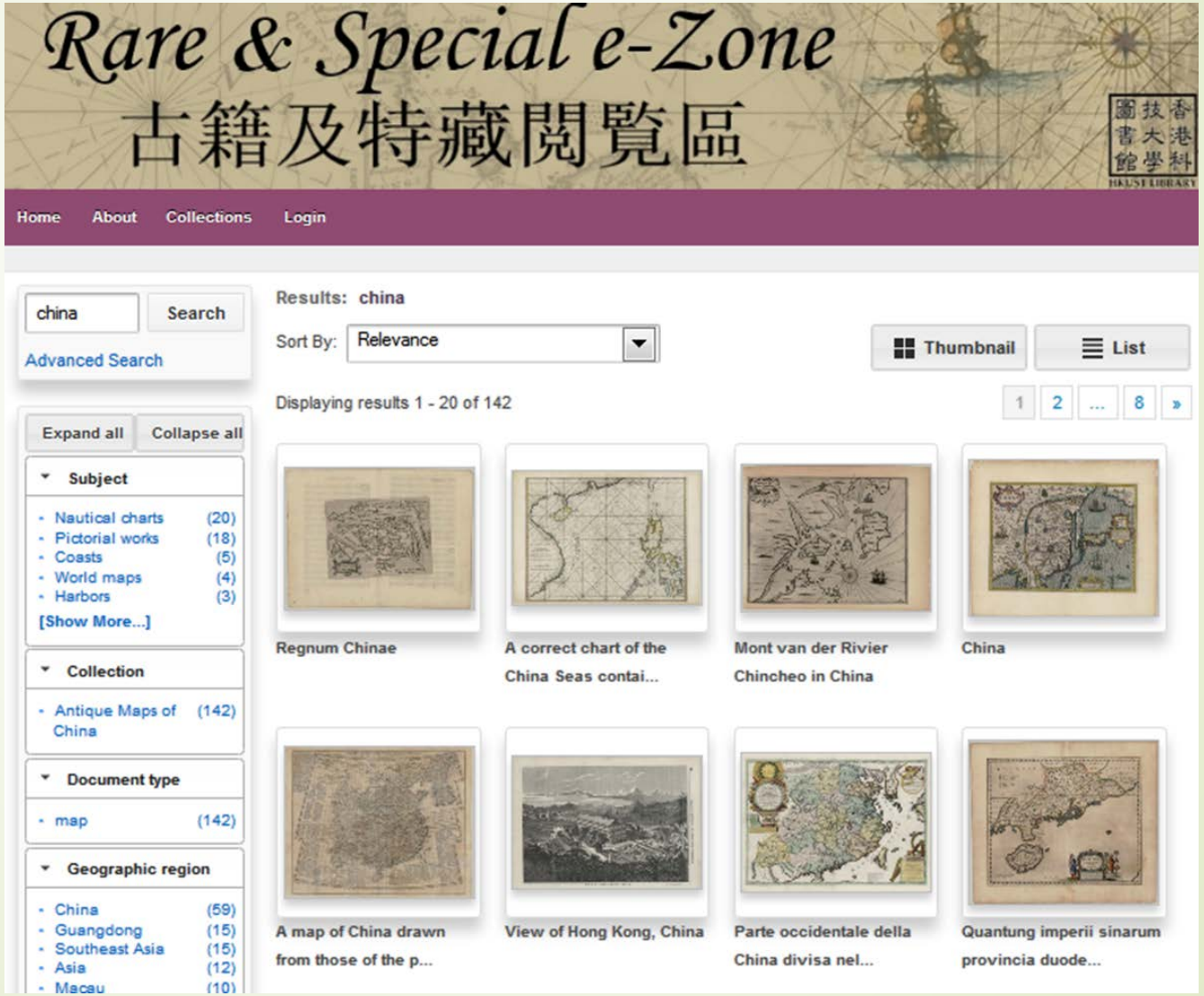
Digital images



100 Mb JPG file
1,230 fragments

Rare & Special e-Zone

http://lbezone.ust.hk/rse/



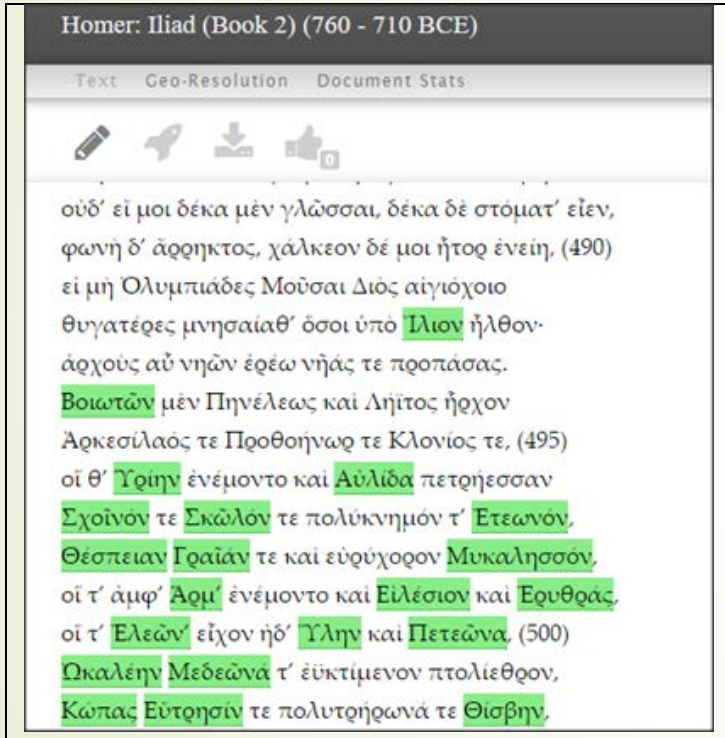
Digitization as enrichment

Digitized maps increase accessibility, but are static surrogates of the originals.

The next steps:

- Transcribe old place names
- Identify their modern counterparts
- Link them to modern maps (geo-resolution)
- Analyze them as visual objects (image indexing)

Pelagios project: text based, modern maps



Place names from Homer's Ilyad shown on a georeferenced map

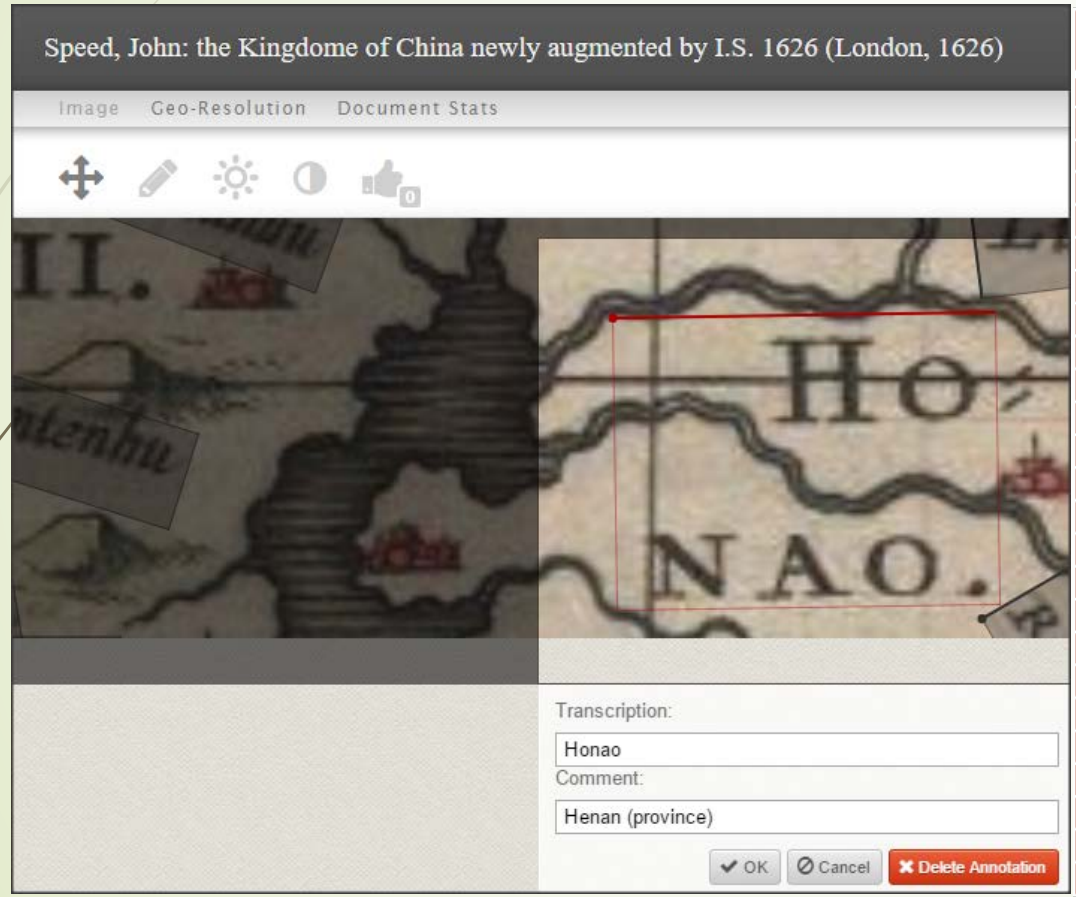
http://commons.pelagios.org/

Recogito project: image based, ancient maps

Speed's map of China (left) and the same map with image annotations (right)

http://lbezone.ust.hk/bib/b536691

Transcribing and identifying locations



Details of place name annotation on Speed's map

Quadrant	Text	Chinese
C3		
D2, E2		
D1		
D1		
C2		
D1		
B1		
B1		
B2		
C1, D1		
B2		
B1	Agouro.	
C2	Chiquiano.	
D3	Cichio.	
C2	Cipuaon.	
C3	C.de liam: | po.	
D3	Honao	Henan 河南
D2	Hoquai.	
B2	C.Huquia	
E1, E2	C.Lancamo.	
D3	C.Liamton.	
C2	C.Naniquin.	
D2	C.Pamnihu.	
D2	C.Paquin.	Beijing 北京
D2	C.Pautim	

Place names in Speed's map of China

Challenges

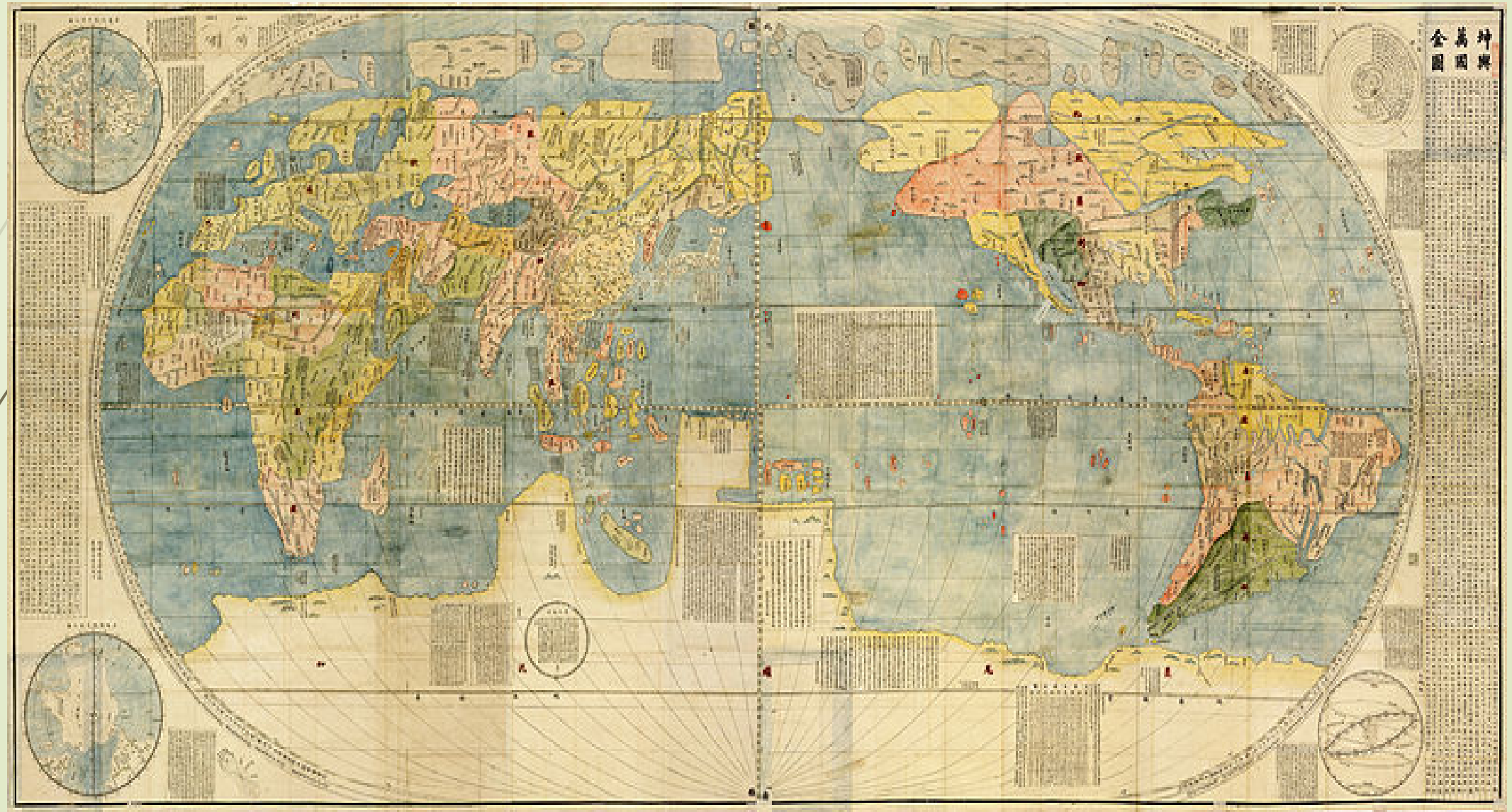
The amount of annotation work is large.

Crowdsourcing is an option.

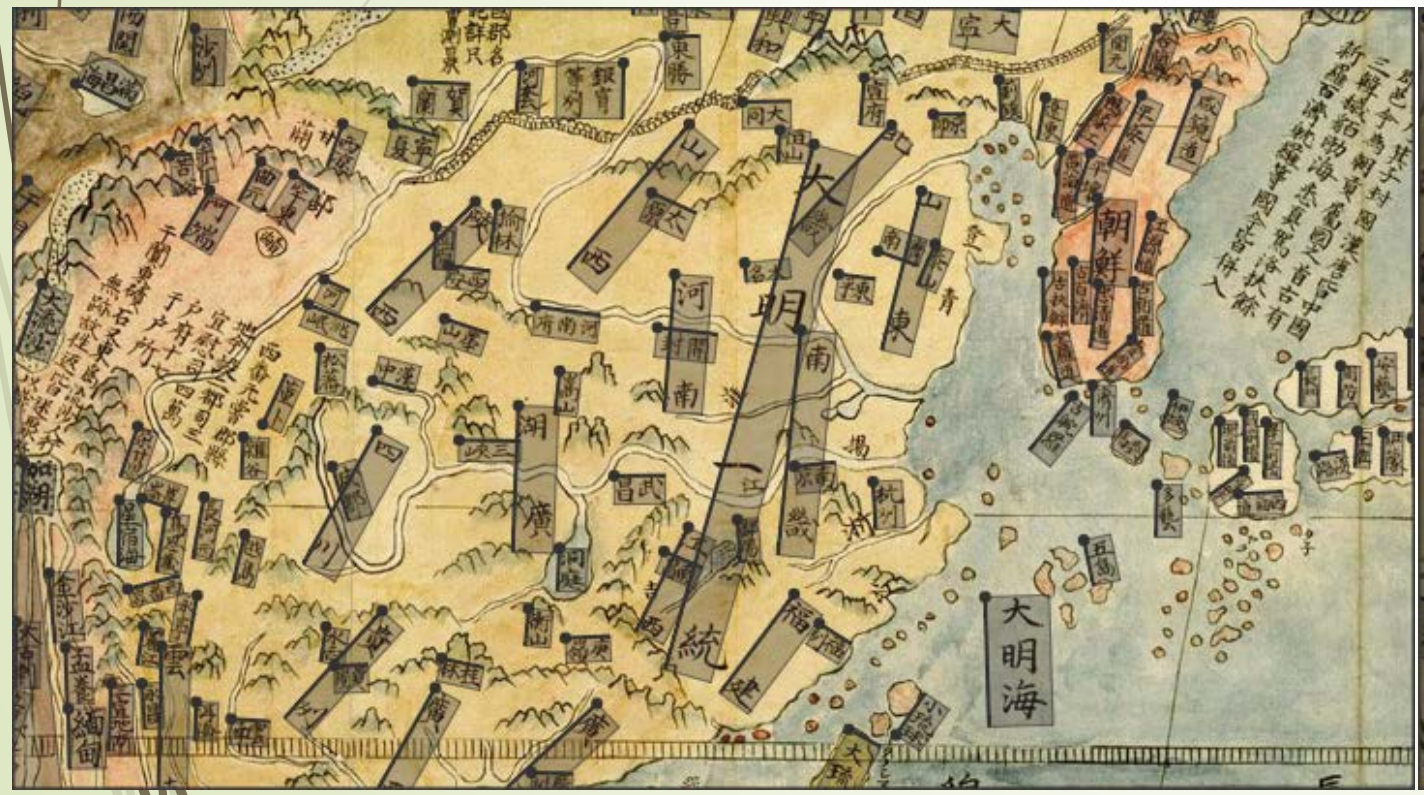
But old western place names in the maps are:

- difficult to identify
- non standardized
- difficult to read

Matteo Ricci's Chinese World Map (1602)



Transcriptions of Chinese map names



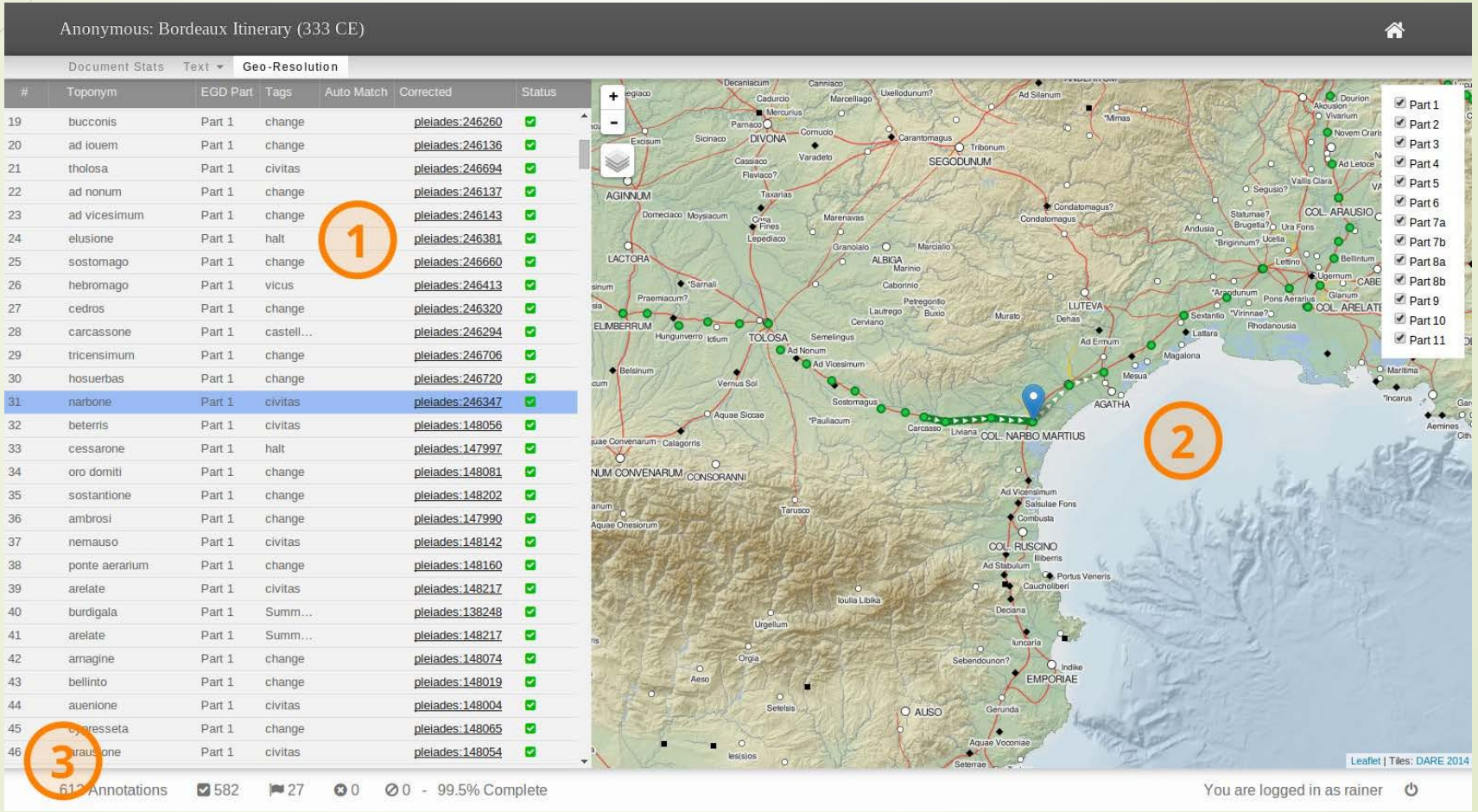
Detail of Ricci's annotated map of the world

Details of place name annotation on Ricci's map

Advantages

- The map has been extensively researched.
- It is complementary to contemporary western maps.
- It can be used in the classroom: Chinese place names in the map are often non standard, but are easier for local students.
- It can be used by other institutions.

Next steps:
1. Geo-resolution



Geo-resolution of Roman place names from Recogito

Next steps:
2.Iconological analysis of cartouches

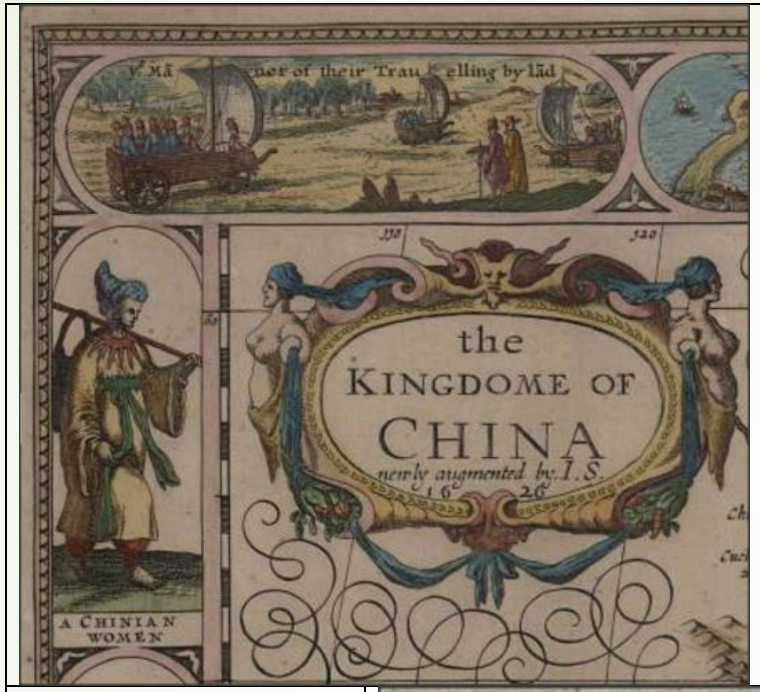


Fig. 10 Top left corner of Speed's map of China

Fig

Fig12 Source of Speed's image

Linschoten, *Itinerario*, 1596.

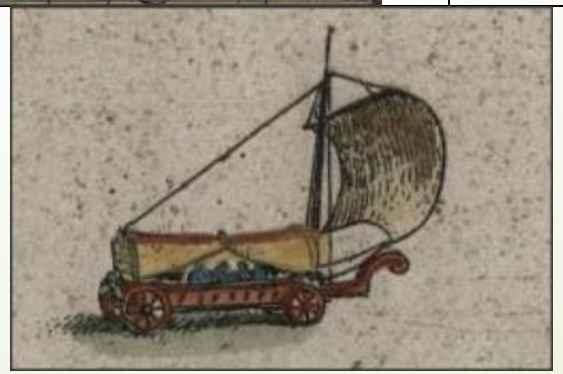


Fig. 13 Source of Speed's image

Ortelius, Map of China, 1584

Conclusion

- Ancient maps are both textual and visual objects.
- They acquire meaning by being compared with other texts, other images, other maps.
- Digitization can increase both accessibility and knowledge.
- It can address both scholars and the general public, as users and as creators.