

Computing and History

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Fall 2007

CS 210: Computing and Culture

Discussion 4, October 3, 2007

Astronomical Dating of Events

- Events linked to solar and lunar eclipses, comet sightings
- Horoscopes

Three Eclipses of Thucydides

1. Solar (full, stars seen, in Summer, in the afternoon)
2. Solar, 7 years later, ~ March (early Summer)
3. Lunar, 11 years later, late Summer

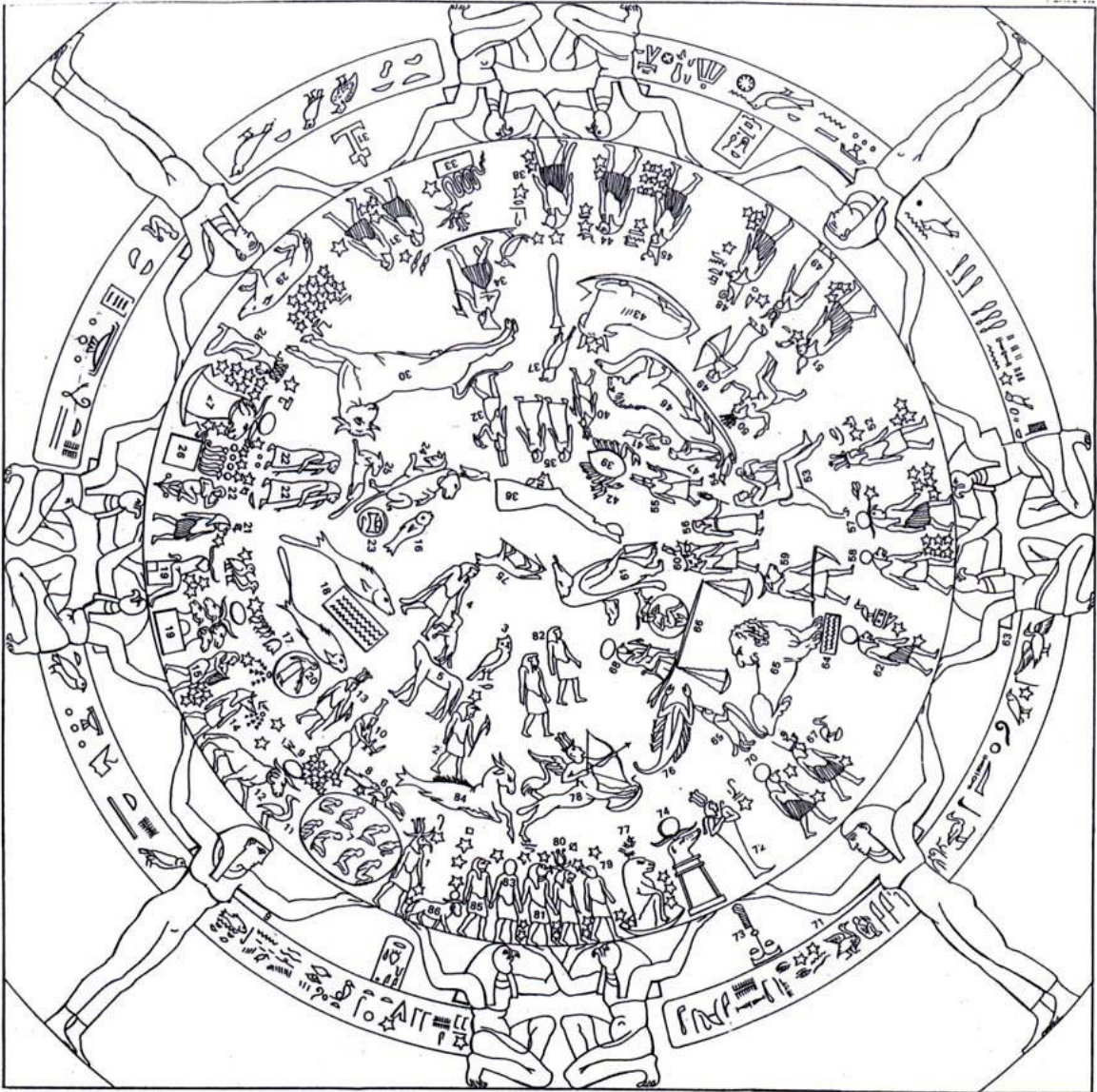
The Three Eclipses: Solutions

- -506/09/01 Su 16:39 0.896 Circular
- -499/04/19 Su 07:30 0.309
- -488/09/27 Su 06:18 0.954
- -430/08/03 We 15:44 0.841 Circular – Peloponnesian war
- -423/03/21 We 06:48 0.710
- -412/08/27 Mo 20:37 1.076
- 812/05/14 Fr 13:17 1.042 Full
- 819/06/26 Su 06:41 0.519
- 830/11/04 Fr 07:15 0.045
- 1039/08/22 We 12:23 0.778 Circular
- 1046/04/09 We 04:48 0.638
- 1057/09/15 Mo 18:10 0.425
- 1133/08/02 We 12:25 0.970 Full
- 1140/03/20 We 15:21 0.507
- 1151/08/28 Tu 23:26 0.333
- 1263/08/05 Su 14:55 0.900 Circular
- 1270/03/23 Su 05:29 0.855
- 1281/08/31 Su 02:22 0.859
- 1914/08/21 Fr 13:03 0.768 Full
- 1921/04/08 Fr 08:52 0.444
- 1932/09/14 We 21:00 0.977
- 1999/08/11 We 11:11 0.825 Full
- 2006/03/29 We 10:48 0.873
- 2017/08/07 Mo 18:19 0.248

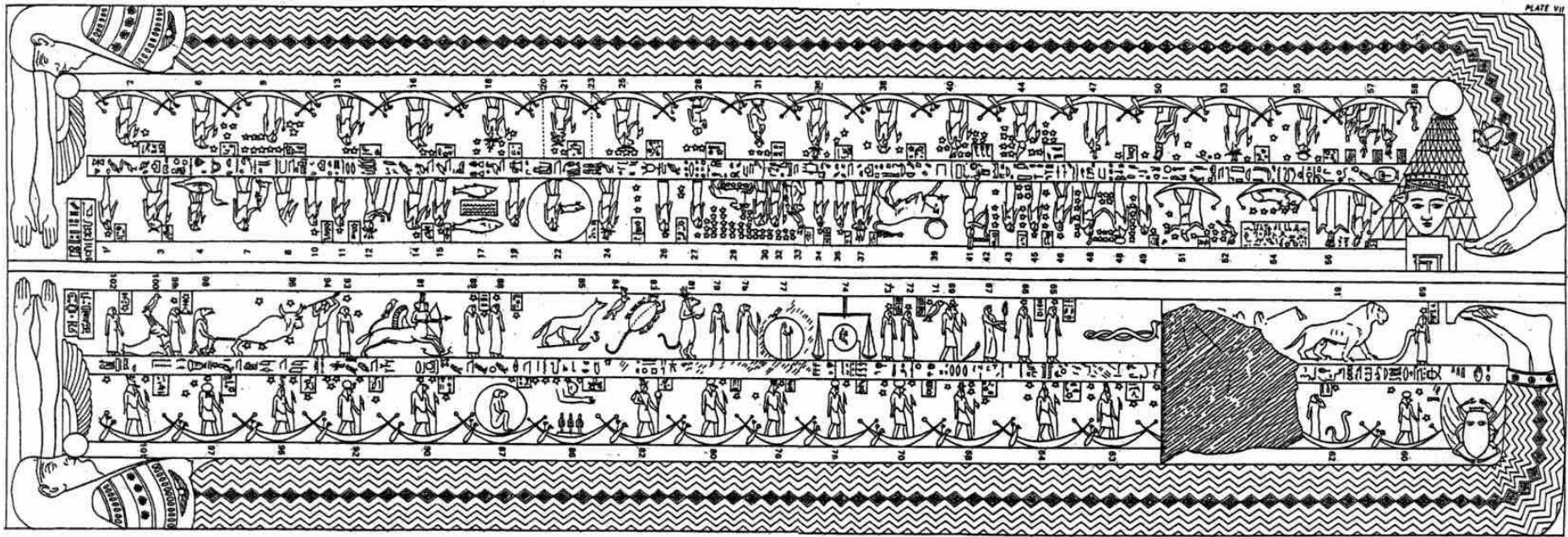
Dendera Zodiac



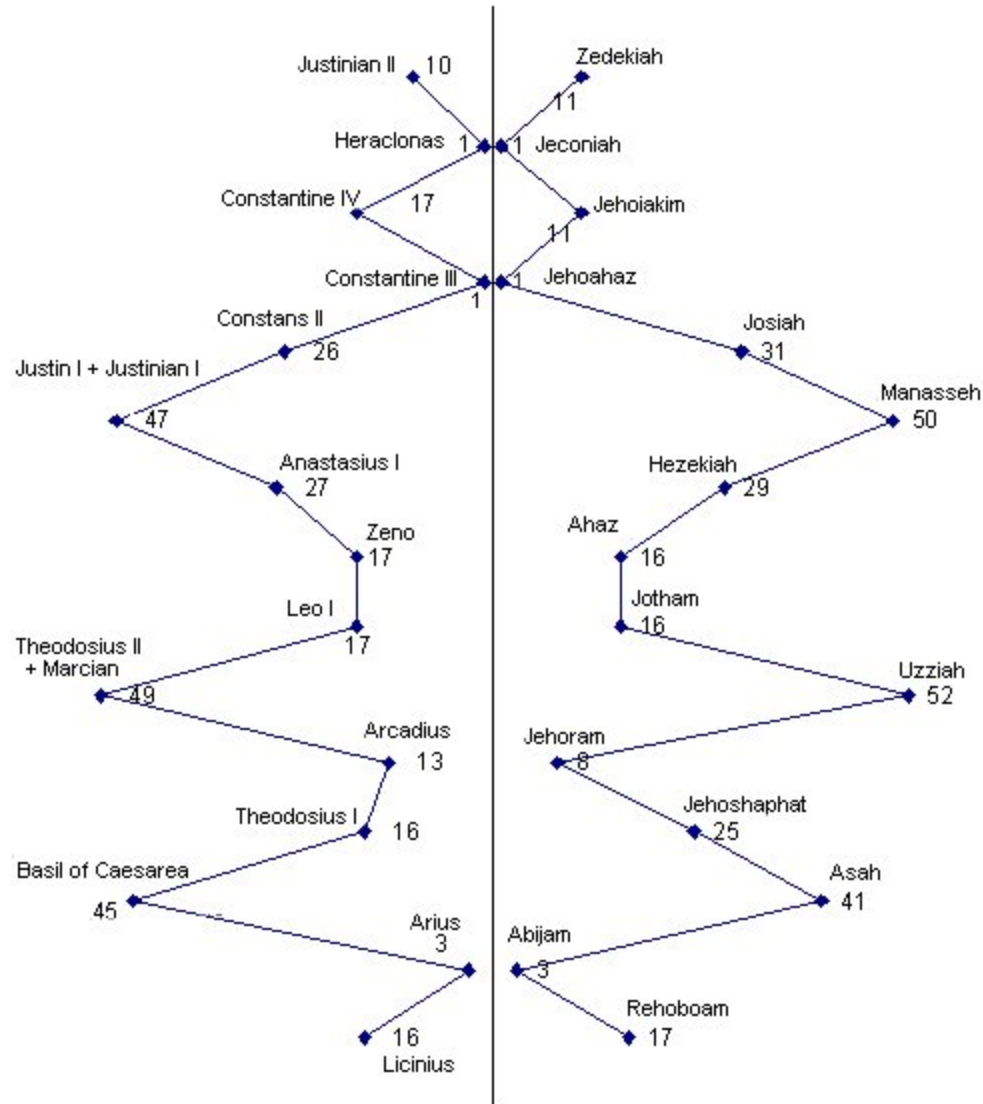
Dendera Zodiac: Ancient Horoscope



Rectangular Dendera Zodiac



Dynastic Parallelism Analysis



Historical Data Visualization in GIS

- A **geographic information system (GIS)** is a system for capturing, storing, analyzing and managing data and associated attributes which are spatially referenced to the earth.

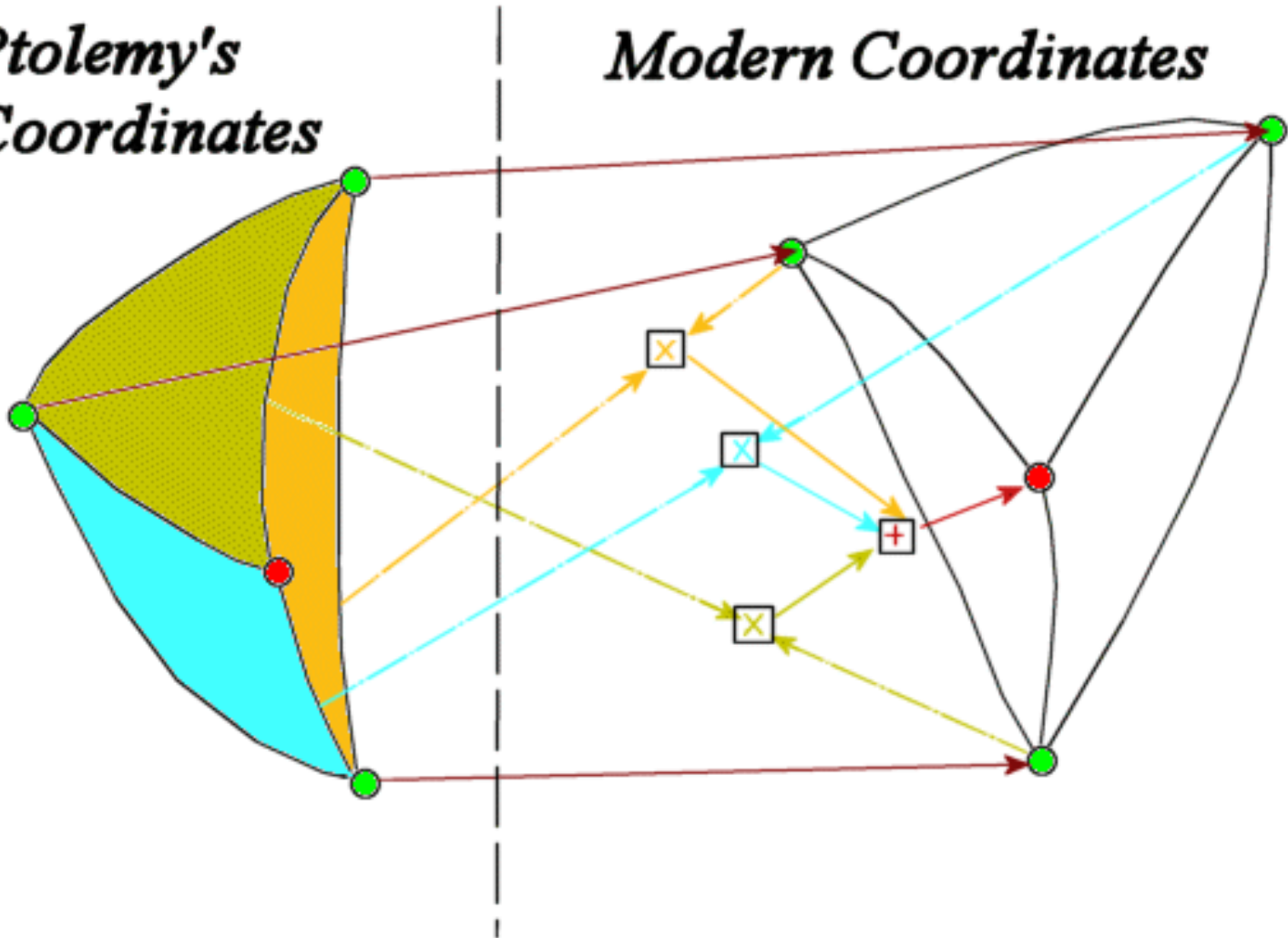
Step 5. Classification of Data Points According to Quality of Localization

- All data points are classified into four categories:
 - 1) **Known with certainty**
 - 2) **Tentatively identified**
 - 3) **Localized approximately**
 - 4) **Likely duplicates**

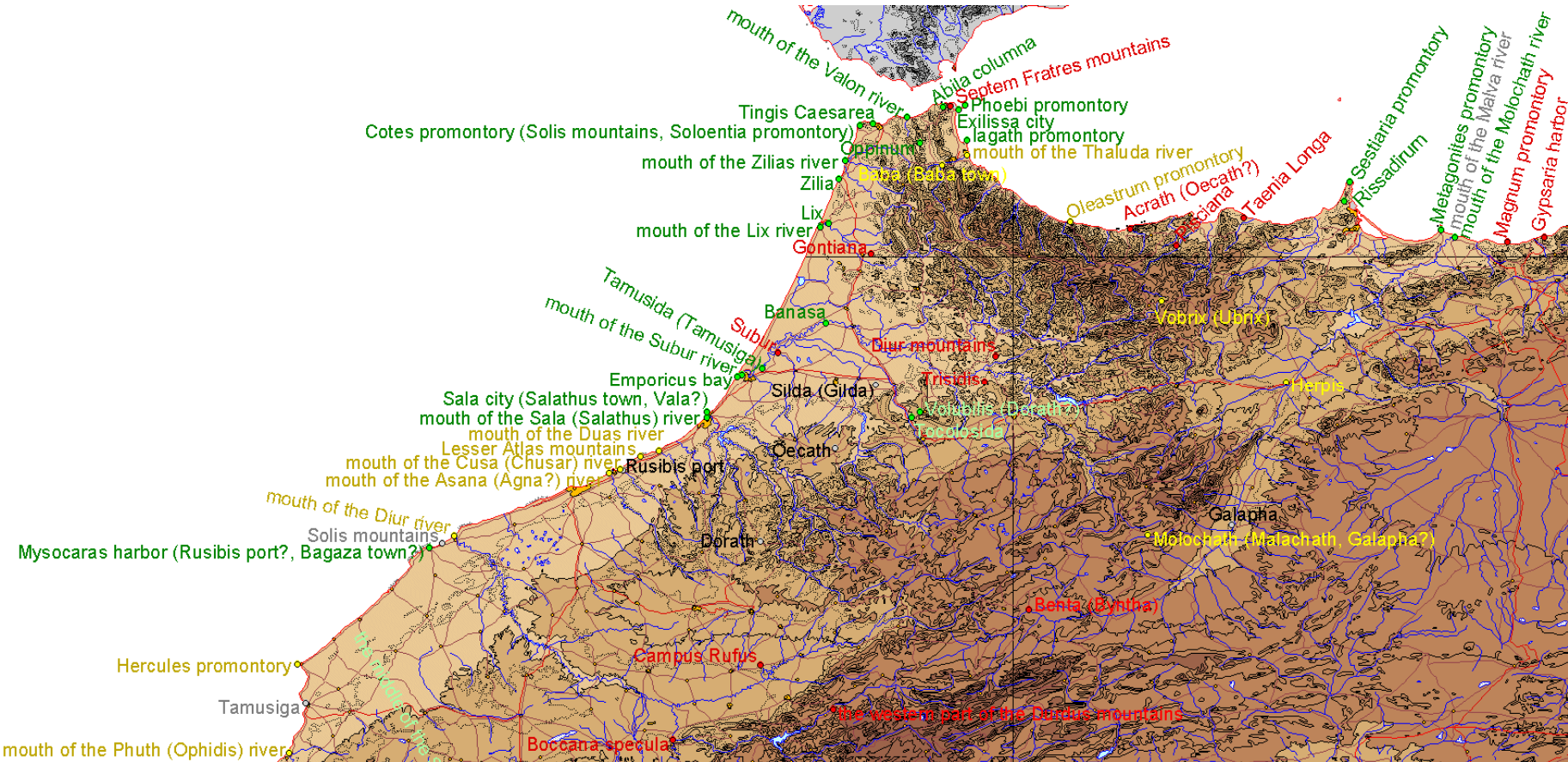
Approximate Localization (performed at Step 5)

*Ptolemy's
Coordinates*

Modern Coordinates



Step 6. Produce the Final Map in a GIS



Mount Teide (Ptolemy's Zero Longitude Mark)

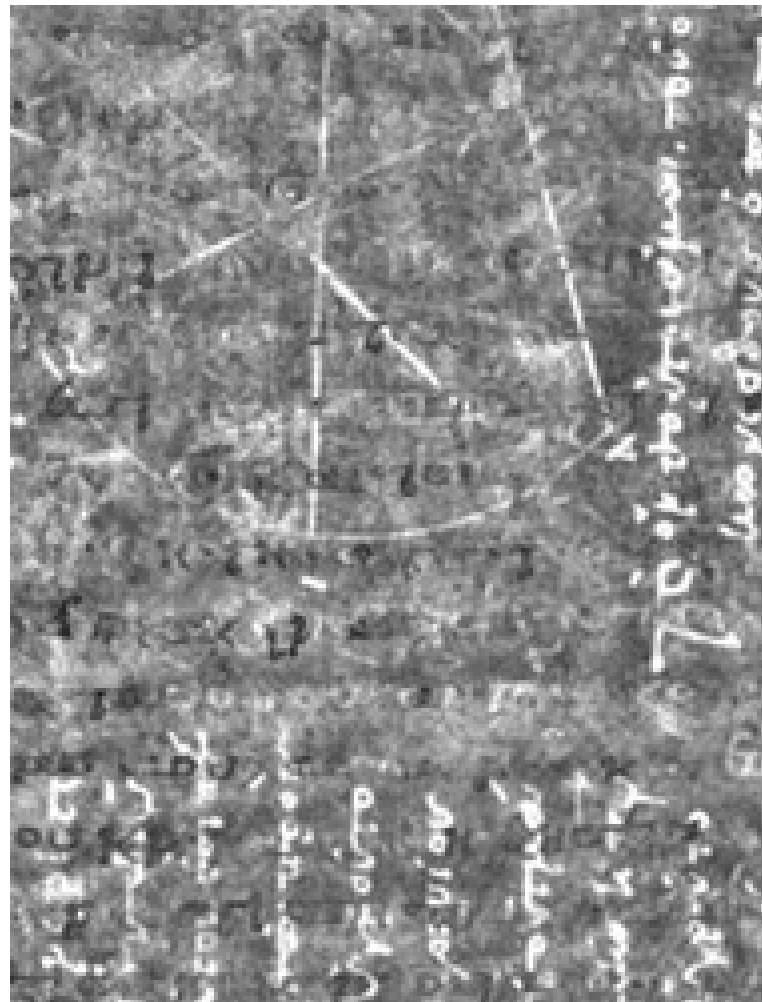


Remote Sensing: Libyan Port?



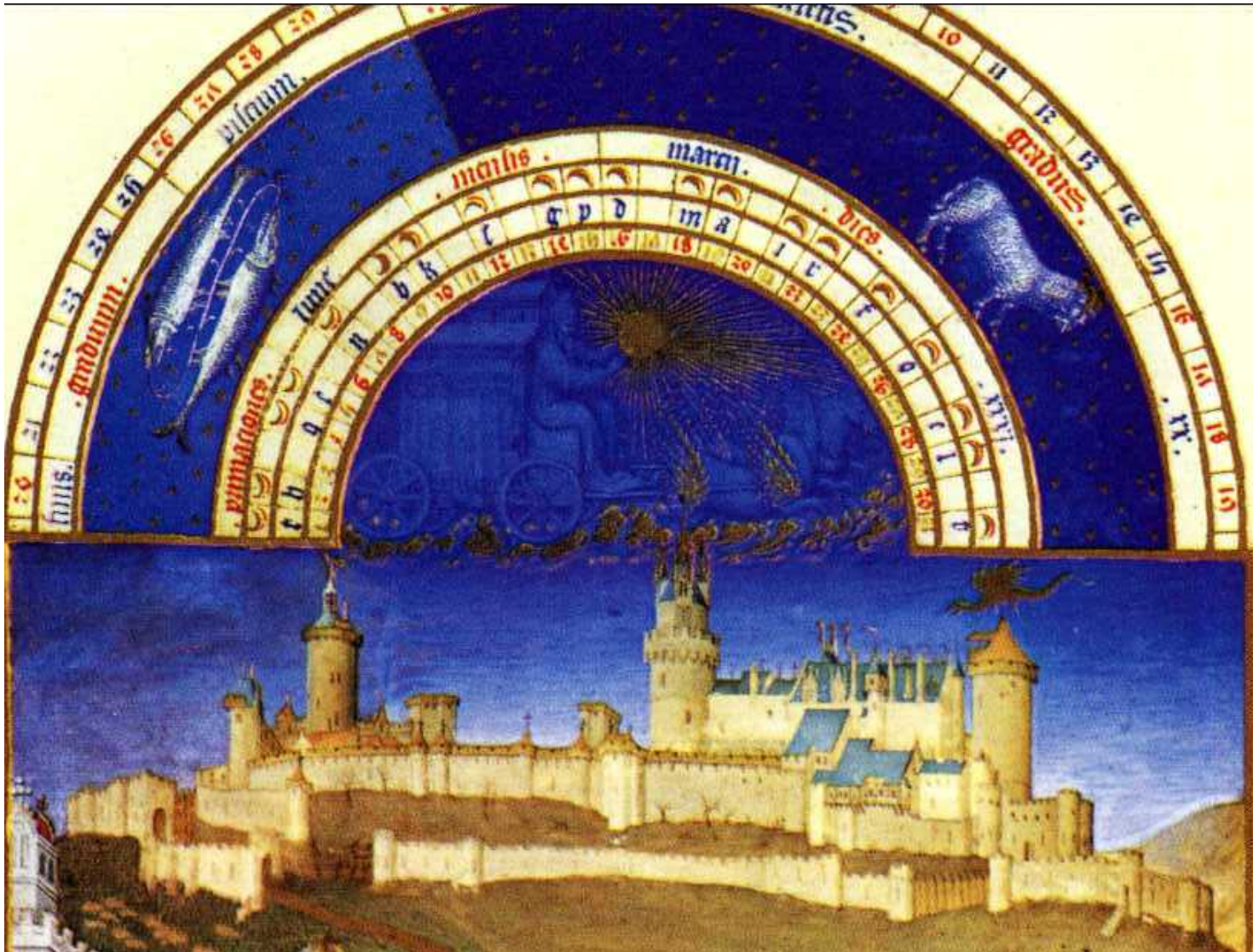
Archimedes Palimpsest

...ριον τρε-θηεσιμδδδωκ
...τω και προτασσορ-τωι
...στη δουε-θηκ-αιου κοι
...κ-αχε σορ-τωι-λασι-οιο
...ωπι σεκ-αταφ-αγορ-τω
...ου σου-και του ημου ιηλ
...ζητησ-ατ-τορ-θη-η
...αριος κω-ατορ-ατασ
...σ-τατ-λουσ-ατορ-και
...α-κου-α-ατορ-και
...οσ-κρ-και ελε-θησ-ατ-
...ου-οση-ωπι-πολυ-αφ-η
...τα-κ-μορ-οση-α-σορ-α



Melusine and the Lusignan Family

<http://www.christusrex.org/www2/berry/>



Why Learn The Past?