

Introduction

The Bernese *Kunyutu* 坤輿圖

A manuscript double-hemispherical world map in Chinese, newly discovered in Bern, Switzerland in 2017, now collected in Zentralbibliothek Zürich.

Thanks to the introduction of Mr. Markus Oehrli during the ICHC2019, the author learned about the information and began studying this important heritage in the history of the Sino-European mapping cultural exchange.

No direct information about the **date** or **mapmaker**. It was dated **too late** by the Zentralbibliothek Zürich (1750 to 1800) and some previous studies (from 1750 to 1850 or the late 18th Century).



Figure 6: Nolin's World Map 1700

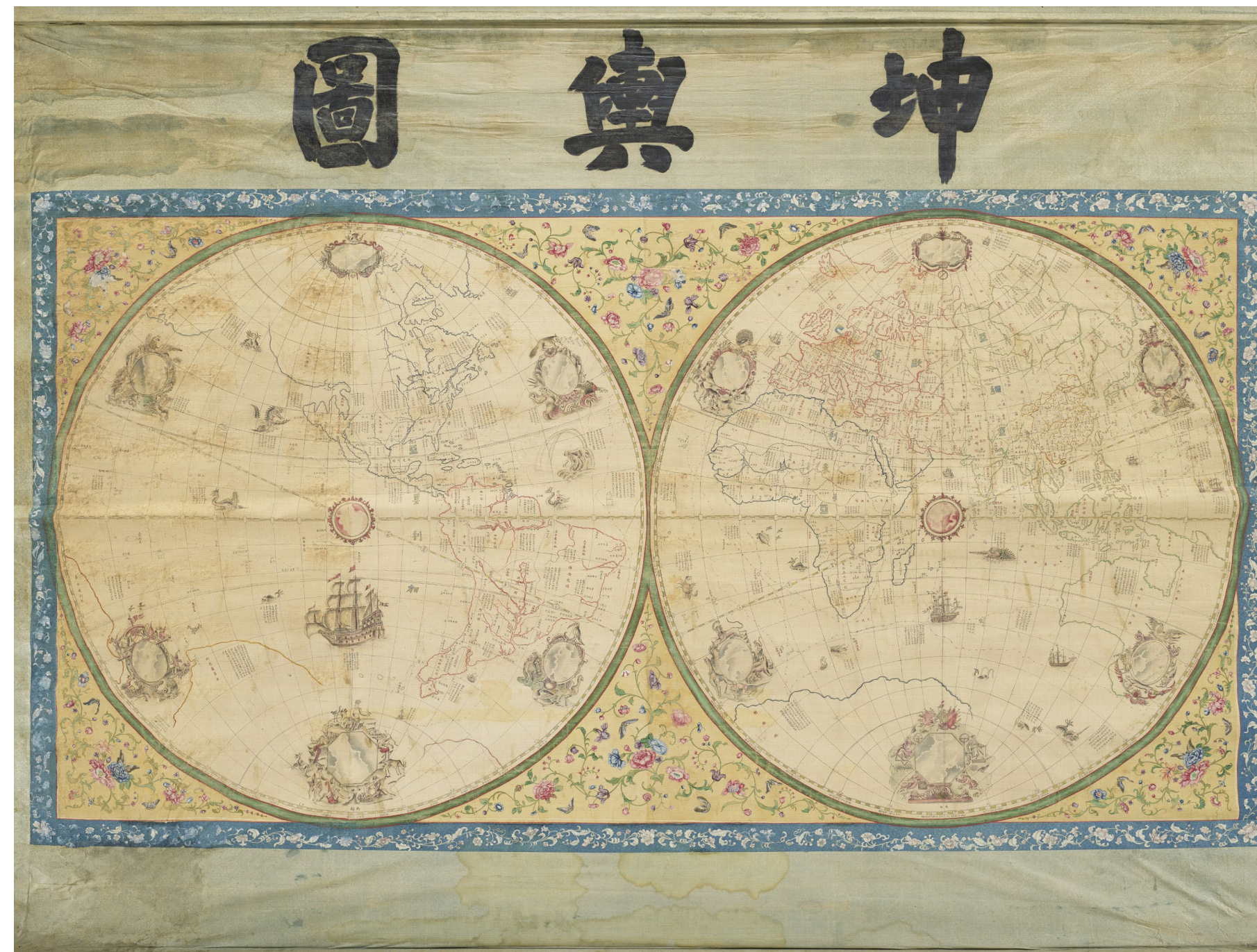


Figure 1: The Bernese *Kunyutu* 217×314cm, diameter of each hemisphere is about 135cm Painted on silk and mounted on paper over linen.

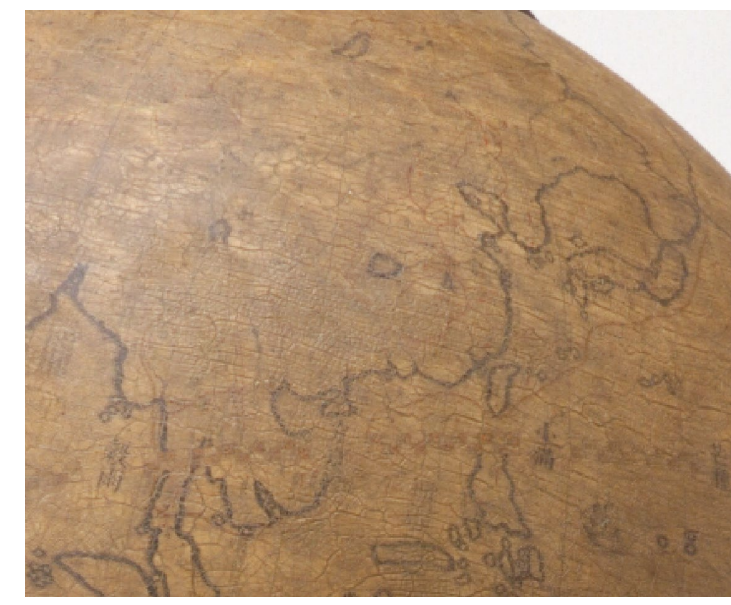
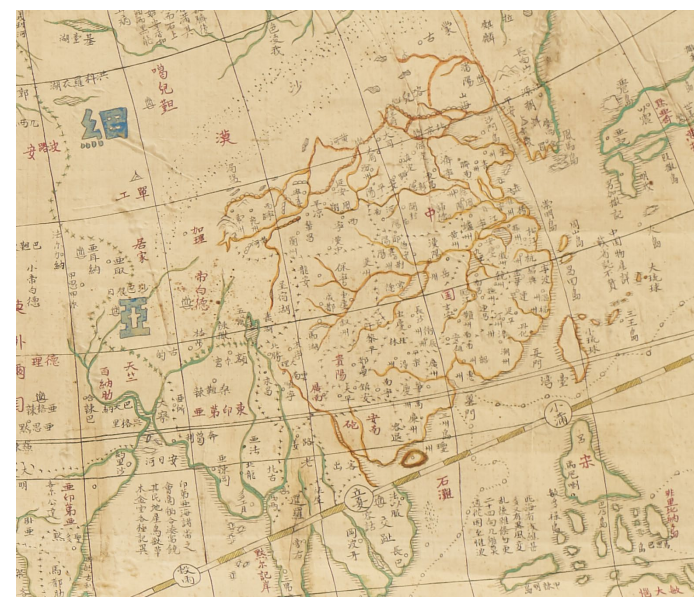


Figure 2: Chinese Globe Palace Museum



Figure 3: Revised *Kunyutu* (E. hemisphere) the First Historical Archives of China

Figure 4: Qing China on the three above works

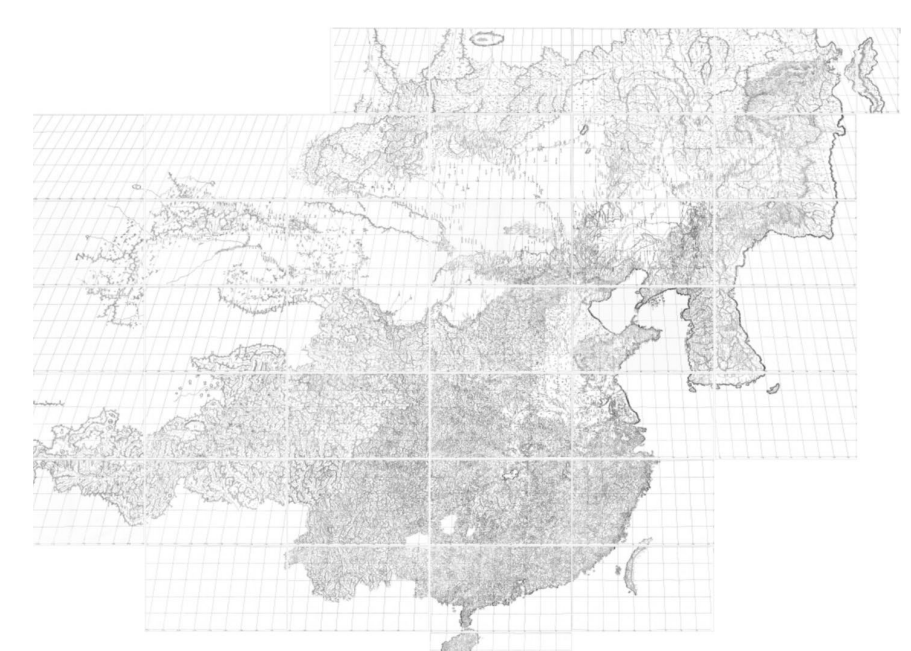


Figure 5: 皇輿全覽圖 Court map of Qing China after geodetic surveys

Source materials for the mapmakers

→→→ chronological upper limits

The details in the toponyms and graphics reveal that the Bernese *Kunyutu* had largely referred to **Guillaume Delisle's French world, continental and regional maps** made during the first years of the 18th century, as well as derived maps such as **Jean Baptiste Nolin's world map (1700)**.

The reference to **Delisle's Carte des Indes et la Chine (1705)** shows that the **Bernese Kunyutu** should have been made **no earlier than 1707** (considering the journey between Paris and Beijing).

In a few places, the mapmaker also referred to **Nicolas de Fer's maps** brought by French Jesuits to Beijing during the turn of the 18th century.

Some elements referred to **early world maps in Chinese** by precedent Jesuit missionaries including **Matteo Ricci (1602)**, **Ferdinand Verbiest (1674)**.

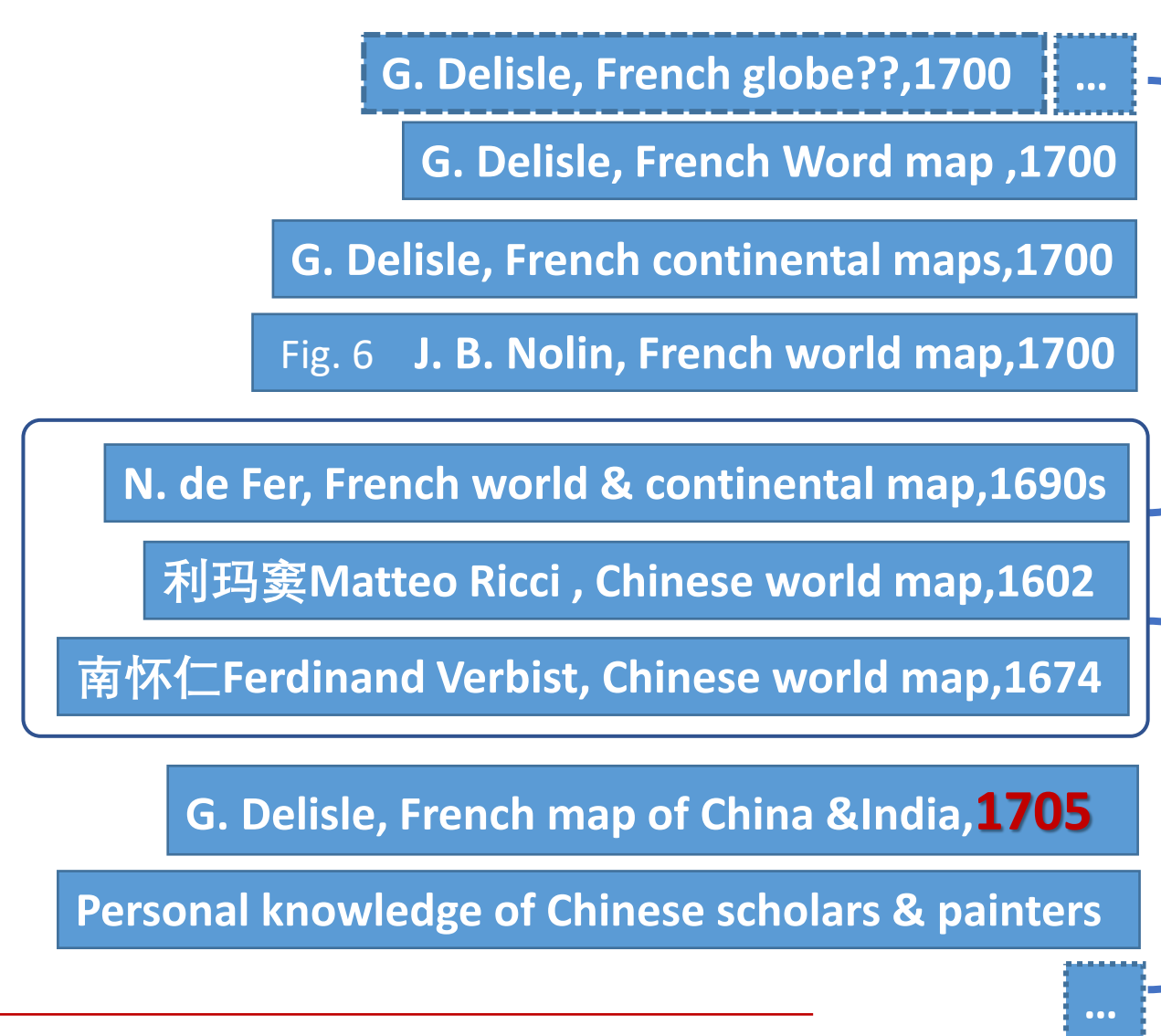


Figure 8: origin of the 1012 toponyms on Bernese *Kunyutu*

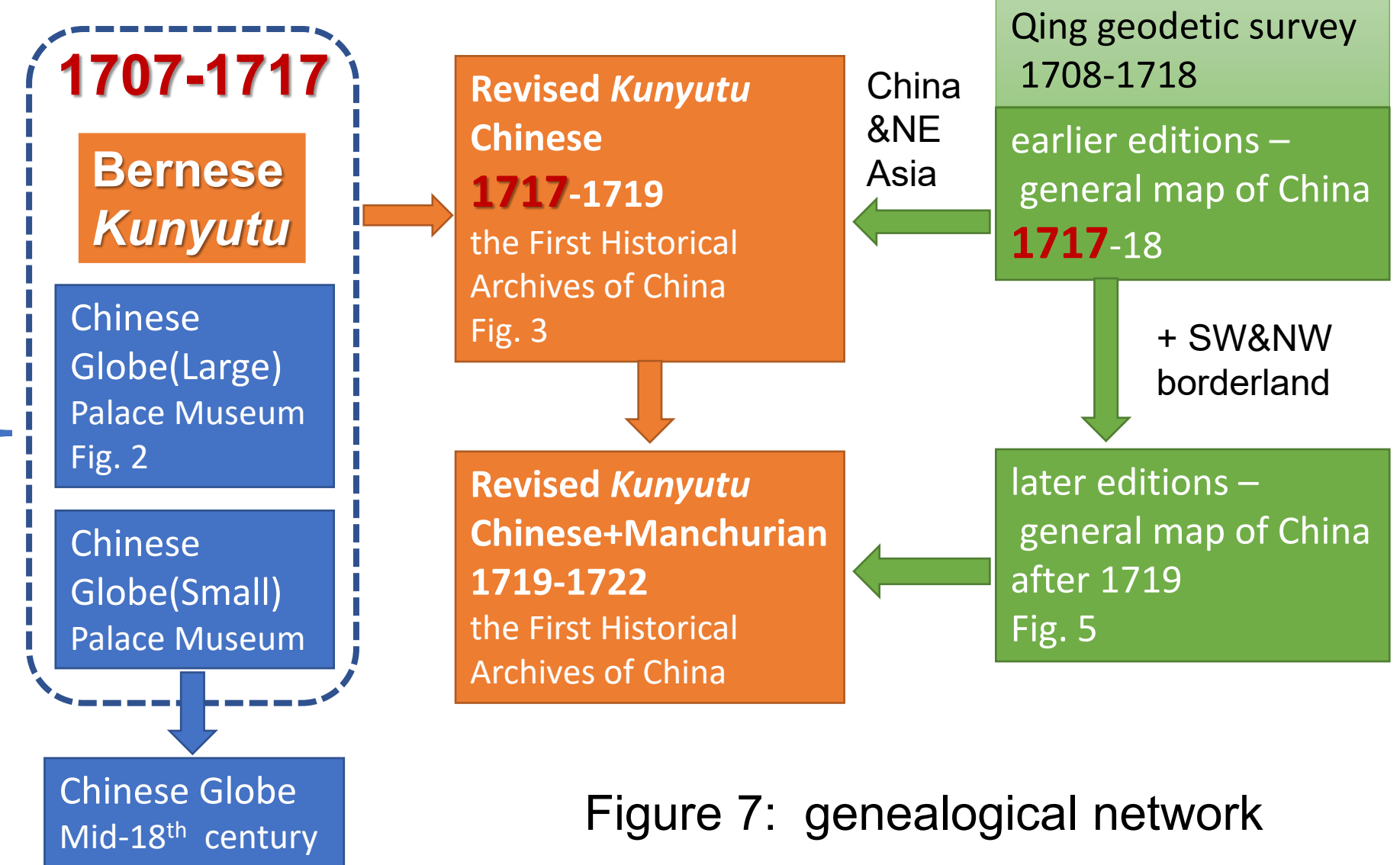
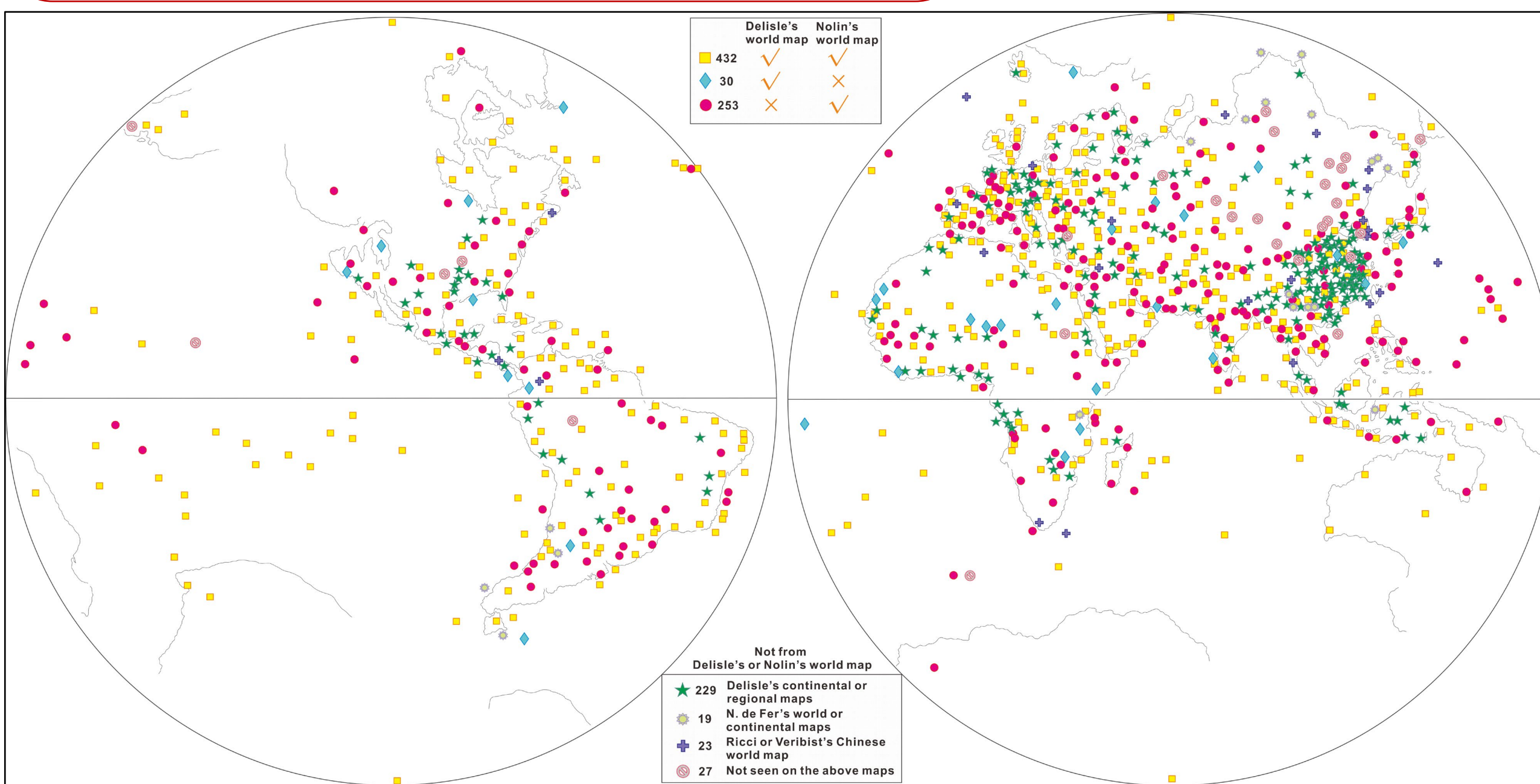


Figure 7: genealogical network



Bernese *Kunyutu* vs. earlier Jesuits' world geographical works

Main differences with earlier maps:

- China at east, rather than center
- Reduced Longitudinal span of Eurasia from the innovative knowledge since J. D. Cassini, end of 17th Century
- Physical geographical features
- Portrayal of boundaries
- Selection and translation of most foreign toponyms

Some links with earlier works:

- Some toponyms
- Mapping of some local features
- Overall world figure is shifted 10° to the east relative to the source French maps influence by Verbiest's map
- Among the 111 geographical block texts, most referred to Ricci, Giulio Aleni, Verbiest's works, with cutting, grafting and transforming, some were deliberately repositioned. (Fig.9)

Simultaneous or derived Chinese globes & world maps

→→→ chronological lower limits

The contents of the **Bernese Kunyutu** match the **two Chinese globes** now held in the Palace Museum (Beijing). The three were made simultaneously on the basis of one lost draft map.

At the end of the Kangxi-period (1717-1722), **two other revised world maps** were made also named as *Kunyutu*, now held in the First Historical Archives of China (Beijing). The main modification: **the figure of Qing China** was changed according to the **geodetic surveys** directed by the Jesuits in China (1708-1718). In contrast to the Beijing editions, the date of **the Bernese map** should be **no later than 1717** when a **brand-new** map of China was finished in Qing Court after the geodetic surveys.(Fig. 4)

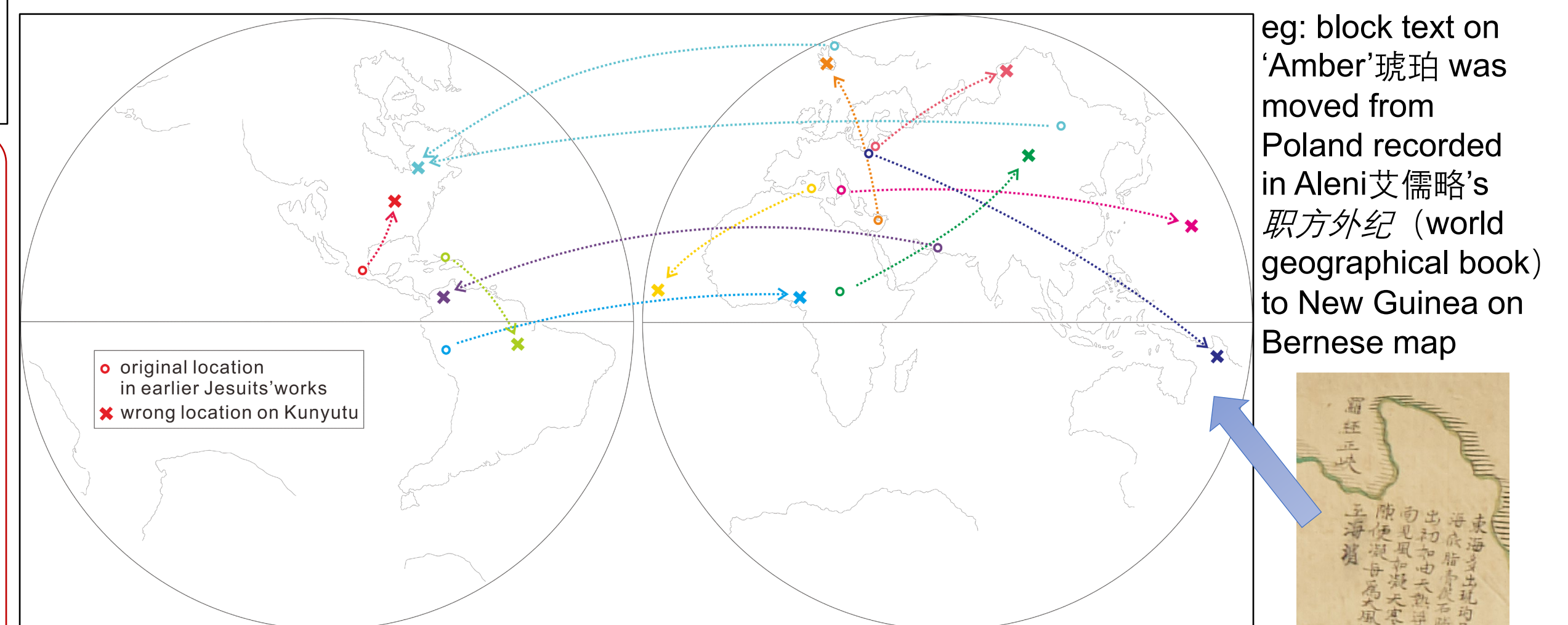


Figure 9: long range reposition of the block texts

Conclusion

During the late Kangxi-period, **the French Jesuits** in the Qing China Court introduced and translated the newest Delisle's and Nolin's French maps, while **the Chinese official scholars** were also deeply involved in the mapping process, possibly under the supervision of **Ying Lu 胤祿, the sixteenth prince of Emperor Kangxi 康熙**, and the Bernese *Kunyutu* was finally painted by **less educated Qing court painters**, resulting in some clerical errors.

The series of *Kunyutu* and globes, with many confusions and errors made intentionally or not by the cooperating map makers with complex identities, served mainly as decorative, display or ritual items in the Qing Court, to please the small number of map readers. The simplified illustrations of *Kunyutu* had some limited impact on public intellectual circles in the middle to late Qing Dynasty.

The maritime routes, map symbols, monsters, cartouches and other map elements on it are worth further studies.

