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FROM EAST TO WEST: STUDY, CONSERVATION AND EXHIBITION OF THE *TABULA CHOROGRAPHICA ARMENICA* (17th CENTURY)

Riassunto

La *Tabula Chorographica Armenica* è una mappa di grandi dimensioni commissionata dal nobile bolognese Ludovico (Luigi) Ferdinando Marsili all'intellettuale Eremia Č'ēlēpi K'ēōmiwrčean e realizzata a Costantinopoli nel 1691. Scritta in armeno e riccamente dipinta, conservata presso la Biblioteca Universitaria di Bologna (BUB), è una rappresentazione cartografica dei luoghi sacri sorti in Armenia tra il IV e il XVII secolo, progressivamente ridotti in rovina dalle continue invasioni e, infine, dalla spartizione del territorio tra gli imperi ottomano e persiano.

La richiesta del Metropolitan Museum of Art di New York di esporre la *Tabula*, ha rappresentato per la BUB l'occasione per realizzarne il restauro "in pubblico" e avviare un programma di studio e valorizzazione di quest'opera, tanto importante quanto ancora poco nota.

Keywords: Armenian worship sites, map conservation, scroll preservation, three-crescent watermark, Ludovico (Luigi) Ferdinando Marsili, Eremia Č'ēlēpi K'ēōmiwrčean.

The *Tabula Chorographica Armenica*

From September 2018 to January 2019, New York's Metropolitan Museum of Art (MET) hosted an exhibition dedicated to Armenian culture and its rich heritage of artefacts. Among these was the *Tabula Chorographica Armenica* from the Biblioteca Universitaria of Bologna (from here on referenced simply as BUB) displayed in the United States for the first time (Fig. 1).

The *Tabula* is an oversized map (more or less 3580 × 1200 mm) in the form of a scroll and contains a vertically organized presentation of the historical sites of worship in the Armenian tradition through miniatures and legends written in classical Armenian.

It is a significant work for several reasons. First, it is distinctive on account of two extended annotations found at the map's top and bottom margins (Fig. 2). Here the author gives information about himself, the commissioner, where and when the map was made and what it represents.

The author of the map is the Armenian intellectual, Eremia Č'ēlēpi K'ēōmiwrčean, born in 1637 in Constantinople, capital of the Ottoman Empire and since 1461 the site of an important patriarchate aggregating the large resident Armenian community. K'ēōmiwrčean was fluent in

Fig. 1: *The Tabula Chorographica Armenica* shown at the MET (Photo by Sara Mantovani)

several languages (Greek, Latin, Turkish), authored works of history, geography and cartography,[1] and maintained contact with many well-known intellectuals of the time.

The commissioner was a nobleman, born in Bologna in 1658, Ludovico (Luigi) Ferdinando Marsili, serving in the imperial army of Leopold I of Augsburg, at the time engaged in pushing back against the Ottoman expansion into Europe. Marsili was a cultured general, with interest in many fields, from geography and natural phenomena to botany, antiquarianism and the customs of the peoples and places he encountered.[2]

In 1691, Ludovico Marsili was in Constantinople on a diplomatic mission for the emperor. His questions to Eremia about the most important sites of the Armenian Christian tradition provide the opportunity for the creation of this map, born of the collaboration between Eremia and his youngest son, Malak'ia, a talented miniaturist of manuscripts.

1 H. Margaryan, 'Characteristic Features and Periodic Classification of the Medieval Armenian Historiography', in: *Journal of Armenian Studies*, 1 (2013), 53. The author underlines the fact that Eremia Č'ēlēpi K'ēōmiwrčean wrote an Armenian historiography, which he then translated into Turkish. The original has been lost, so the Turkish version remains fundamental in understanding Armenian history.

2 D. Clementini, *Luigi Ferdinando Marsili. Viaggio nelle scienze*. (Doctoral thesis in philosophy, XIX cycle, University of Bologna, 2007), 60-72.

Fig. 2: *The Tabula Chorographica Armenica*, recto: in evidence the annotation by the author at the map's top and bottom margins (Courtesy of Biblioteca Universitaria, Bologna)

The *Tabula* is unique in being the first map handwritten in Armenian[3] and in the fact it displays a comprehensive overview of the traditional sites of worship of the historical Armenian territory from the 4th to the 17th centuries. It depicts hundreds of monasteries, convents, hermitages, and the main ecclesiastical centres – including the patriarchates of Constantinople and Jerusalem – all the way from the first conversion to Christianity due to Saint Gregory the Illuminator and his anti-pagan preaching at the turn of the 4th century.

The map is clearly not intended as a travelling tool: it shows no geographical realism, there are no metric reference points or indications of latitude and longitude, and the spatial orientation is typically Medieval: east at the top, south to the right, west at the bottom, north to the left.

Eremia Č'ēlēpi K'ēōmiwrčean's description is thus not based on his direct experience or the physical reality of these sites, but rather on traditional accounts, both oral and written.[4] When K'ēōmiwrčean and Marsili met at the end of the 17th century in Constantinople, many of these places of worship, spiritual retreat, and pilgrimage had been destroyed or severely damaged by continuous invasions and the resulting border changes up to the division of the land between the Ottoman and the Persian empires in 1605.[5]

Having lost its political autonomy, the Armenian identity becomes increasingly tied to the deeply rooted Apostolic Church: its capillary presence and organization created continuity through the centuries, despite political and territorial changes.

Finally, the *Tabula* is made more precious by the fact it was rediscovered only in 1991 amidst the materials of the Marsili Collection in the BUB after it had been thought to have been lost for nearly 300 years.

The *Tabula Chorographica Armenica* in the Marsili Collection

When Marsili returned to Bologna in the spring of 1692, he brought the *Tabula* back with him. In 1712, after the end of his military career, the count founded the Istituto delle Scienze e delle Arti (Institute of Arts and Sciences) in Bologna, to which he donated the greater part of his collections. Marsili himself mentions the *Tabula* in his handwritten inventory (ms 421):[6] the map is number 100 on the list and described as "hanging on the wall of the Institute library".[7]

When the institute library became the Biblioteca Universitaria di Bologna, the rich heritage of objects, books, and maps ended up in the "Marsili collection" of the BUB. However, the *Tabula* was not in the official catalogues of the BUB up to the inventory written in the 20th century by Ludovico Frati, responsible for the manuscript collection. He recorded map no. 24 among the scrolls of the library under the title *Tabula Chorographica Armenica,* which it keeps to this day.

In 1991, an exhibition provided the opportunity to look more closely at scroll no. 24. Thanks to the contributions of Gabriella Uluhogian, professor of Armenian culture, and her translation from classic Armenian to Italian, the map's importance has come to light.

3 R. Galichian, *Historic Maps of Armenia. The Cartographic Heritage. Revised and Abridged* (London: Bennett & Bloom, 2014), 76.

4 Uluhogian Gabriella, *Un'antica mappa dell'Armenia. Monasteri e santuari dal I al XVII secolo* (Ravenna: Longo editore, 2000), 39. The author notes how the general structure of the work and the legend text particularly refer back to the work of Vardan Arewelc'i, author in the 13th century of a geography (Asxarhac 'oyc'), which widely spread and copied in the following centuries.

5 Just to give an example, identifiable on the *Tabula* is lake Van, a large saltwater basin surrounded by the monasteries that replaced the pagan temples after the conversion to Christianity. Together with the lakes Sevan and Urmia, traditional sources list it as one of the three seas of Armenia: today it is located in Turkey, lake Sevan is in the Republic of Armenia and lake Urmia is part of Iran.

6 B. U. B., ms 421, «*Inventario dei codici mss., mappe ed altri recapiti donati dal Gen. Co. Luigi Ferdinando Marsili all'Instituto delle scienze di Bologna, riformato, corretto e accresciuto oltre quello che era l'inventario registrato nella donazione*».

7 L. Miani, 'L. F. Marsili e la Tabula Chorographica Armenica (rot. 24) della Biblioteca Universitaria di Bologna', in: G. Uluhogian, *Un'antica mappa dell'Armenia. Monasteri e santuari dal I al XVII secolo* (Ravenna: Longo editore, 2000), 17.

The artefact

The request made by the Metropolitan Museum to display the *Tabula Chorographica Armenica* became a chance to verify the artefact's condition. This produced a considerable quantity of material data neglected up to that point in favour of its textual understanding.

The shape of the *Tabula* is irregular, like an upside-down bottle, wider at the top (1190 mm) and progressively narrower towards the bottom (880 mm). It is composed of 16 juxtaposed sheets of laid papers, uniform in quality and dimensions (about 450 × 620 mm each),[8] placed alongside each other in pairs and aligned in eight rows.

From top to bottom, in the first eight sheets, the chains are placed vertically, and the laid lines horizontally; in the next four sheets, the chains and laid lines are placed in the same way, but the paper dimensions are altered by trimming to create the bottleneck effect. The last four papers go back to regular dimensions, but the laid lines are vertical and the chains horizontal.

A three-crescent watermark is visible on almost six sheets, confirming the use of paper of the same quality (Fig. 3). The peculiar structure of the artefact is thus not casual and precedes the authors' intervention, a fact also testified by the continuity of graphic marks even in the areas of juncture between different sheets.

It is well established that the watermark known as *tre lune* originated in Italy for paper destined for export to Arab regions. In the second half of the 17th century, Constantinople hosted many Armenian printing

Fig. 3: The three-crescent watermark, grazing light (Photo by the author)

presses, and because of the lack of local manufacture, it is mostly through Venetian trade routes that printers obtain the paper, inks, and materials necessary to produce books.[9]

The quality of the media (ink, gold and a variety of colours) is thus that none of them produced instability or damage to the paper; the tonalities are bright, and their adhesion to the paper is excellent. The fact that the map was preserved rolled up and away from light sources, which is the most serious cause of corruption for colours and pictorial binding agents, contributed positively to the general conditions of the work.

A lining cloth is on the back of the *Tabula,* made up of six pieces of varying dimensions stitched together.[10] The dimensions of the cloth are a few centimetres greater than that of the paper map, and its borders remain unrefined and subject to fraying. Gelatine was used for the lining: in a few points, damage sustained by the cloth reveals the glue and the paper underneath it.

8 The dimensions of the single sheets seem to correspond to the Realle format of the well-known Bolognese decree defining in 1389 the official dimensions of the four types of 'carta bombagina', that is: Imperialle (Imperiale) 500 × 740 mm, Realle (Reale) 450 × 620 mm, Meçade (Mezzano) 350 × 520 mm and Reçute (Rezzuto) 320 × 450 mm. They were rapidly adopted as the standard in the production and commercialization of Italian and also European paper until the rise of industrial production in the 19th century. – *Testa di bue e sirena. La memoria della carta e delle filigrane dal medioevo al seicento,* ed. by P. Rückert (Stuttgart: Landesarchiv Baden-Württemberg, Hauptstaatsarchiv, 2007), 19.

9 M. Pehlivanian, 'Mesrop's Heirs: the early Armenian book printers', in: *Middle Eastern Languages and the print revolution: a cross-cultural encounter*, ed. by E. Hannett-Buzz and others (Westhofen: Skullma, 2002), 53-64.

10 Dimensions of the pieces of cloth, from the top one (the widest) to the final one: the first piece measures 685-695 × 1205-1220 mm; the second piece measures 700 × 1220 mm in the widest part and 700 × 1215 mm at the lower end, which is narrower; the third piece measures 700 × 1220 mm in the widest part and 690 × 1180 mm (the seam is not straight) in the narrowest; the fourth piece measures 685 × 1170 mm in the widest part and 685 × 905 mm in the narrowest; the fifth piece measures 695 × 905 mm in the widest part and 695-700 × 900 mm in the narrowest; the sixth piece is very short and measures 165-168 × 900 mm in the widest part and 165-168 × 895 mm in the final part, the lower extremity of the *Tabula*.

Fig. 4: Indented shape lacunas repaired in the past (Photo by the author)

The lining is evidently from after 1691, the year in which the *Tabula* was made. This can be gleaned from the many *lacunas* visible on the map's sheets: their indented shape points to rodents, and in any case, none of them extends to the cloth. They were repaired by fillings made of paper, pasted to the back some time before the lining of the map (Fig. 4).

Small holes can also be observed at regular intervals along the entire perimeter of the *Tabula*, sometimes evident only on the cloth, at other times passing through both the paper and the cloth and stained with rust, signalling the use of iron nails, probably used to hang the map on a wall, as stated by Ludovico Marsili.[11]

The cloth also bears the number 100, which is how the map is indicated by Marsili in the same manuscript, and the title *Tabula Chorographica Armenica,* written close to the top margin of the map.

The conservation project

In 2018, I had the chance to examine the *Tabula Chorographica Armenica* and agreed with the scientific coordinator of the BUB and the library curators for a minimally invasive intervention to improve its general conditions so that it could withstand the transfer to and exhibition in New York without further risks.

Incoherent deposits and dust had accumulated; the edges had detached from the cloth in many different points and presented tears and holes: some had been created by rodents, others were due to the stress-induced by unfolding and rolling up the map and were in danger of more fragmentation.

As already mentioned, the *Tabula* was rediscovered only in 1991, and since then there have been few occasions for its study or display to the public. We did not want to remove the map from consultation to send it to an external laboratory; we thought that the conservation intervention could become an opportunity to promote awareness of this work, in the firm conviction that interest and care for our cultural heritage can develop only when directly faced with its uniqueness. It was therefore decided that the conservation treatment would be done "in public" in the library itself, although that meant reorganizing spaces and involving the security staff.

This option brought with it considerable advantages. First, in addition to giving visitors the opportunity to see the intervention itself, specific study days were promoted for the public.

Second, the open collaboration between the conservator and the library curators made possible an ongoing modulation of the methods and results of the intervention.

At the same time, the risks involved in moving the artefact and the microclimatic variations during the transport and permanence in a place different from the library were avoided.

Finally, the constant dialogue between the library curators, the conservator, and the people responsible for the "Armenia!" exhibition at the MET decided how the work would be exhibited in New York. The initial idea at the MET was to hang the map vertically on the wall, but it became apparent in dealing with the public that the legends and miniatures could only properly be seen with the map in a horizontal position.

A room (Aula IV) was specially set up to carry out the conservation treatment.

It is a space shared between the BUB and the adjacent Museum of Palazzo Poggi,

11 L. Miani, note 7, 17.

Fig. 5: Reattaching the raised edges of the map to the lining using starch paste (Photo by the author)

the ancient seat of the Istituto delle Scienze e delle Arti founded by Ludovico Marsili. Aula IV used to be the library of the institute, and it can be reached both from the entrance of the BUB and from that of the museum.

One of the three long (6 metres) display cases in the room was covered with a soft table pad and non-woven fabric and became the map's support surface during the intervention.

The microclimate was permanently under control in Aula IV; thermo-hygrometer values appeared to be generally appropriate, with an average temperature of 24°C and a fairly constant relative humidity of around 50%. As for lighting, we modulated the spotlights' intensity: appropriately oriented, they cast about 300 lux on the surface of the *Tabula*. This seemed to be an acceptable compromise between the light intensity required to carry out the intervention and the one recommended for exhibitions of such a delicate work of art on paper; certainly enough to allow visitors to appreciate the *Tabula* even at a proper distance. We also verified the ultraviolet (UV) radiation incidence, which was of 20 microwatt/lumen, which is in the range of the minimum UV quantity emitted by artificial lighting.[12]

12 Canadian Conservation Institute, *Measurement of Ultraviolet Radiation – Canadian Conservation Institute (CCI) Notes 2/2* https://www.canada.ca/en/conservation-institute/services/conservation-preservation-publications/canadian-conservation-institute-notes/measurement-ultraviolet-radiation.html

The conservation treatment took about three weeks, in the period of May 8–26, 2018.

The map was first dry-cleaned. Soft brushes and smoke-off sponges (rubber latex vulcanized) were used by dubbing on the marking-free areas of the recto to render the contrast between support and drawings more vivid.

The raised edges of the paper were reattached to the lining using wheat starch paste (Fig. 5), and Japanese long-fibre papers were selected to realign tears.

In the case of *lacunas*, the advisability of filling was assessed case-by-case with the curators. Some of them, located on the perimeter of the work, were due to incautious handling and to the stress that was induced when rolling and unrolling the scroll. They were irregular in size and shape and could have expanded and degenerated into new tears and fragmentations, compromising larger portions of text and drawings, as was already the case for both corners of the upper side of the *Tabula*. These *lacunas* were thus filled with starch paste and Japanese paper and toned with watercolour pastels to make it less visually jarring on the map.

In contrast, the indented *lacunas* caused by rodents were not treated, and we also decided not to remove the repairs adhered in the past to the back of the artefact. Similar considerations were made for the holes along the perimeter of the map, taking care not to alter their morphology and not to obliterate the oxide stains caused by the missing iron nails: in the absence of further information on the historical vicissitudes of the map, we avoided altering this material evidence.

The dimensions of the lining cloth exceed those of the map on each side, and this is a good form of protection for the paper; however, the operations of rolling and unrolling the artefact are always complex. Even when the map was laid flat, its upper and lower extremities tended to roll up again and needed to be kept on the ground with weights, usually placed on the edges of the cloth but sometimes also on the map

Fig. 6: Preparing the flap in Japanese paper to be pasted on one of the map's margins, verso side (Photo by the author)

surface. To prevent the lining cloth from being improperly used, a Japanese paper flap (200 mm wide) was pasted to the edges of the cloth on both of the short sides of the *Tabula*: as a result, the paper and the adhesive modified the weight of the cloth, preventing further curls; moreover, the flaps increase the support surface for any weights and make the rolling up of the map easier (Fig. 6).

Promotion activities

The conservation project was coupled with intense activity aimed at promoting the *Tabula Chorographica Armenica* and the historical and cultural context in which it originated. The initiative, organized by the University Museum System, by the Biblioteca Universitaria di Bologna and by the Department of History, Culture and Civilization of the University of Bologna, was sponsored by the Embassy of the Republic of Armenia in Italy and involved collaboration between institutions and scholars.

From the beginning (8th May), the conservation project was presented to the public, introducing the textual and material analysis of the work (Anna Sirinian, professor of Armenian history and culture at the University of Bologna) as well as the methods and objectives of the conservation intervention (myself).

Since the University of Bologna was the first seat of an Armenian Studies chair in 1973[13] and has significant cultural exchanges with members of the Armenian community, on 10th May the BUB hosted the conference "Marsili's Armenian Map and the Armenian treasures of the University Library of Bologna", which was attended by scholars from University of Bologna (Anna Sirinian), from the Institute of Ancient Armenian Manuscripts "Matenadaran" of Yerevan (Khachik Harutyunyan),[14] and from the Academy of Fine Arts (Nazenie Garibian) of Yerevan. The theme was the relationship between the *Tabula* and the production of handwritten and illuminated Armenian works of fundamental importance.

Aula IV, where the conservation intervention took place, was included in the visit to the Museum of Palazzo Poggi. Precautions were taken to maintain a proper distance between the public and the work, so as to limit any significant alteration of the microclimate close to the map by the presence of large crowds. However, greater proximity of the work was allowed during four specially booked visits for groups of 20 persons each (Fig. 7). The BUB scientific coordinator, Giacomo Nerozzi, professor Anna Sirinian, the special collection curator Sara Mantovani and the conservator (myself) accompanied

13 From 1973 to 2013, the Armenian Language and Literature chair at the University of Bologna was held by Gabriella Uluhogian, who studied and translated the text of the *Tabula Chorographica Armenica* from Armenian into Italian.

14 The Matenadaran or Mesrop Mashtots Institute of Ancient Manuscripts is a research institute and museum in the capital of the Armenian Republic, Erevan or Yerevan or Jerevan, and it hosts the most important collection of Armenian manuscripts.

Fig. 7: One of the specially booked visits for groups in Aula IV (Courtesy of Biblioteca Universitaria, Bologna)

the groups through a "reading" of the *Tabula* and its rich drawings, a structural analysis of the multi-material artefact and to the observation of the conservation treatment in progress.

In May, the Museum of Palazzo Poggi recorded approximately 2530 visitors[15] who had the chance to see this exceptional cartographic work, kept in Bologna since the end of the 17th century but almost unknown and for a very long time thought altogether lost.

Ready for the Metropolitan

The conservation project included an *ad hoc* box, suitable both for long-term storage, guaranteeing the map protection against the risks that may arise during handling (impacts, shocks, etc.) and stable thermo-hygrometric conditions during transfer. This phase of the project took shape through the dialogue between the library curators,

15 Data registered by the University Museum System (SMA).

Fig. 8: The *Tabula* rolled up in the cardboard cylinder. On the right, the flap in Japanese paper at the map's top margin, support surface for weights (Photo by the author)

the conservator and the company that produced the box.

Until the conservation intervention, the *Tabula* was kept in an anonymous cardboard tube whose diameter (14 cm) forced the map to be rolled up tightly to reduce its size. By opting to keep the map in the form of a scroll, it was provided with a support structure for when it is rolled up, a cardboard tube suitable for preservation with a diameter of 150 mm and a length of 1400 mm (Fig. 7). These dimensions allow for eight comfortable folds of the map, a number considerably lower than that to which it was previously forced for storage in the old cylinder.

Thus rolled up, the *Tabula* is housed in a 250 × 250 × 1400 mm case (base and lid) made of corrugated cardboard in pure cellulose, with alkaline pH and a buffer reserve. The inner compartment of the case is lined with expanded ethafoam, shaped so as to form a cradle for the map, which remains contained and protected even in case of handling.

The upper part of the cradle has windows to allow for inspection of the map; in the ethafoam are compartments for the datalogger necessary for thermo-hygrometric detection and the humidity stabilizing silica gel (Fig. 9).

After the conservation treatment, the *Tabula Chorographica Armenica* was housed in its case together with silica gel and a datalogger. It was then packed up in September for the flight to the MET,

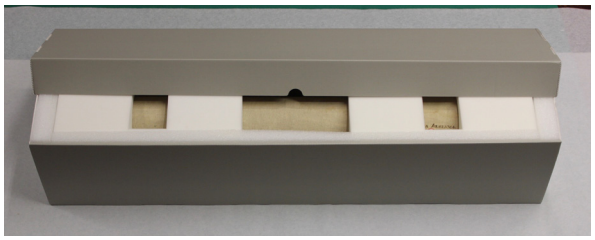

Fig. 9: The *Tabula* housed in its case (Photo by the author)

accompanied by the special collection curator of the BUB.

It was her task to follow the work during its transportation, from preparation for the flight to the transfer to the MET, as well as the phases of unpacking and preparing the *Tabula* for exposure and, above all, to make sure that the display modalities were adequate for the preservation needs of the delicate artefact.

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