# General Athanasios Daskarolis' historical map collection:
## a digital approach in "ESTIA", the Institutional Repository of Harokopio University

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Abstract

The paper aims to present General Athanasios Daskarolis' historical map collection which after digitization is stored in ESTIA the Institutional Repository of Harokopio University and provided under open access.

General A. Daskarolis was one of the officers that led Greek troops in Asia Minor Campaign (1919-1922, a highly important and decisive part of Greek history) using those maps, so their historical and cultural value is priceless. The collection consists of 15 maps made by the Hellenic Military Geographical Service. As General's family was familiar with a faculty member of Geography Department, they decided to donate the maps to Library and Information Center in order to be sustained, processed and used not only by Harokopio's University academic community but by all citizens as well.

The presentation will briefly disclose some biographical information regarding General A. Daskarolis' military action and will describe the maps that compile the digital collection. Additionally there will be an extensive reference to the standards that were used for the collection to become accessible. Moreover future actions regarding the better promotion of the geographical information for the wide audience will be recorded.

Key words: *map collections, Institutional repositories, digitization projects, General Athanasios Daskarolis, military maps, historical map*

## 1. Introduction

Academic libraries are playing significant role in preservation of cultural and historical heritage. In many cases through collaborative actions and digitization projects shed light to aspects of history hidden for years (see Trikoglou Collection in Library and Information Centre of Aristotle University of Thessaloniki).

The work presented here aims to provide an insight into how Library and Information Centre of Harokopio University in its effort to enrich its cartographic collection took advantage of the exploitation and process of General Athanasios Daskarolis' (GAD) map collection donation.

As soon as General Athanasiou Daskarolis' family honored the Library by donating his maps, University's administration respectfully felt that we ought not only to preserve the maps but also to make known General Athanasio Daskaroli, an usung hero, and available to public his cartographic material. Despite the fact that not all paper maps are preserved (Zentai, 2006) and definitely those military maps included in his collection are not the solely items in Hellenic Military Geographical Service (HMGS) Collection, there is a fact that turns them into unique items and add historical value: they accompanied the Lieutenant –at that time- A.Daskarolis during the battles he and the rest Greek troops took part. So, we decided to preserve these special items because of their significance historical importance, as parts of the cartographic and national heritage. By digitizing these old maps and making them available to the internet, the preservation of the original maps is also contributed.

## 2. Harokopio University Library's & Information Centre Geographical Collection

The geographic collection development in the Library and Information Center (LIC) of Harokopio University occurred with the launch of Geography Department in 2000. Initially, importance was given to the acquisition of printed and electronic related material (books, reference material, e-journals, databases). Over the years, LIC obtained printed maps from donations (Geography Department, other libraries and institutions, and also individuals who recognized the effort that the library is making and they considered it as the appropriate organization to preserve and make their maps available to the public.

Map cataloguing started in 2015 after the donation of 35 maps form Gennadius Library. LIC as a member of Heal Link consortium made a strategic decision and joined a cooperative cataloguing schema ILSaS[1] (Integrated Library System as a Service). For that purpose all the bibliographic records from HORIZON information system that was used under UNIMARC standard had to migrate to SIERRA using MARC 21 standard.

The operational tasks resulting from a project as that delayed the process of cartographic material. As the organization of ILSaS geographic content is one of its priorities, a member of LIC is an active member of ILSaS Cataloguing Committee and has worked to record the cataloging policies that will be used by all members of the schema for cataloging printed maps in SIERRA information system. ILSaS, currently uses AACR2, and subject headings from Library of Congress and National Library of Greece.[2]

In 2018 two important events contributed to the collection's empowerment:

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[1] The main goal of ILSaS (http://opac.seab.gr/) is to share resources and to provide modern support services for the staff and users of the 26 Universities in Greece that participate. Although there is a collaborative catalogue, each University has the ability to sustain its own catalogue.

[2] https://opac.seab.gr/search~S27*gre

a) the Geography Department donated to LIC about 100 maps in a map cabinet which facilitates their storage and contributes to improving the collection's organization. Till then maps were enclosed in cylindrical boxes.

b) Eugenides Foundation Library  as one of the libraries we collaborate in the narrow geographical area donate to LIC about 1400 books related to subject categories of geography, history, geology, meteorology, astronomy, seismology etc. As a result of this donation is the cataloguing and dissemination of a significant number of books with embedded maps, available not only to the members of our academic community but also to any interested citizen as well.

Today LIC manages a collection of about 150 printed maps (historical, soil, geological, population etc) from the 20th century to the present made by various public sectors (e.g. Institute of Geology and Mineral Exploration, Hellenic Statistical Authority). After LIC's initiative Greek academic libraries with geographical collections joined a network[3] along with the National Library of Greece in order to improve the management of their geographic material (cartographic materials and geospatial information) and, furthermore to provide value added services to their users. The objectives of the collaborative scheme include:

- Developing and utilizing common geographic collections development policies.
- The exploitation of geographical material that might not have been processed and promoted to the users before.
- Supporting and enhancing librarians' skills in the management of geographic information.
- Joint actions for accessing digital resources of geographical interest.
- Improvement of the offered geographic information services.

Moreover, we anticipate that the participation of a LIC's member to Map & Geoinformation Curators Group (MAGIC) will contribute not only to the scientific communication (issues related to policies, standards, open access etc) but will also lead to fruitful cooperations.

The year 2019 finds LIC with the challenge of spatial reorganization of the map collection, the implementation of the geographic collection development policy, and finally the completion of the map cataloguing process.

### 2.1.     Institutional Repository "ESTIA"

LIC is amongst those Greek academic institutions that early developed institutional repositories and became familiar with open access ideas and benefits. ESTIA's mission is to collect, preserve and make its resources available and useful not only to HUA's academic community but also to a wider audience with minimal license restrictions.

ESTIA was established in 2006 using Dspace platform and the Dublin Core metadata schema. As ESTIA[4] needed to work both as institutional repository and a digital library as well, LIC planned to develop several collections in order not only to collect and sustain the "born digital" content that is locally produced by the members of the academic community (grey literature, research data, scholarly publications) but also to preserve and archive that possessed content with historical and cultural value.

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[3] The following institutions are members of the Network of Academic Libraries with Geographical collections: National and Kapodistrian University of Athens, Aristotle University of Thessaloniki, Agricultural University, University of Aegean, National Technical University of Athens, Harokopio University and National Library of Greece

[4] http://estia.hua.gr/

"General's A. Daskarolis Map Collection" is the first sub-collection of an entire "Historical Maps[5]" main collection. So, any new original map items/map collections received by the LIC will be included as a sub collection to the "Historical Maps" online collection. The main tasks developed in the frame of the project were: a) selecting and providing the proper descriptive metadata schema for "Historical Map Collection", b) scanning of the historical maps, and c) creating a web accessible environment for the maps.

After European Union funding through the Operational Programme "Digital Convergence", in 2015 ESTIA merged in a new platform (Fedora and Niovity Butterfly) in order to cover the needs of multiple and different collections that library intended to develop. ESTIA supports the harvesting of Dublin Core metadata through OAI-PMH, and also supports Europeana Semantic Elements (ESE) to enable data import in Europeana. Additionally ESTIA offers REST/JSON APIs that allow embedding data in any application. As part of the equal acceptance and treatment of all social groups, the WCAG 2.0 AA standard for people with disabilities was followed. In particular, it offers enhanced accessibility to people who are visually impaired since they can access the site with a special graphical environment.

Eventually, six collections emerged which each one has its own sub-collections: 1. Grey Literature, 2. Scholarly Publications, 3. HUA's Historical Archive, 4. E-Journals, 5. Historical Maps, and 6. Research Data. The "General's A. Daskarolis Map Collection" is a sub-collection of the "Historical Maps" collection.

### 3. Historical Frame: Asia Minor Campaign

The Asia Minor Campaign is internationally known as the Greek-Turkish War of 1919-1922 and was a series of military events that occurred during the breakup of the Ottoman Empire after World War I between May 1919 and October 1922. The war was conducted between Greece and the Turkish National Movement, which would later establish the Republic of Turkey. It is also known as the War of Asia Minor, and for Turkey it is a part of the Turkish War of Independence by the European occupying forces (Britain, France, Italy, and Greece, likewise).

In 1919, Greek Prime Minister Eleftherios Venizelos and his government, with the support of World War I winners, ordered the Greek troops to enter Asia Minor with a "mandate" to restore peace and order, in essence the Entente's decision on implementing the forthcoming Treaty of Sevres on defeated Turks[6]. And although the ultimate goal of the Greeks was to annex Asia Minor areas (mainly to the coasts) where the Greek element, whether as a majority or not, lived and acted intensely, although the primary concerns of Venizelos Government was, in fact, the protection of Greek population "*from Turkish arbitrariness as well as the completion of the recovery of territories and population from the former Ottoman Empire*, and the realization of the "*Great Idea*" (Christopoulos and Bastias, 1978, p.10). While the Sultan accepted the treaty, the Young Turks headed by Mustafa Kemal or Atatürk did not recognize it and began to prepare for war to face the Entente and its Greek allies. This led the Greek government to take action to impose the agreed terms, with the prospect of gaining additional territories, which they considered to be majority in the Greek population ("Venizelos line"). Thus, the Greek troops began to evolve into the semi-archaic Ottoman Empire, which was plagued by civil conflicts between the Sultan and the Kemalists.

Political developments in Greece overthrew Venizelos, since he was not elected in the November 1920 election, while in Turkey Mustafa Kemal strengthened its position. This led to the weakening

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[5] http://estia.hua.gr/browse/49
[6] The signing of the Treaty of Sevres (August 10, 1920) determined how far the Greek troops could advance.

of the Greek army in Asia Minor, which was mainly based on Venizelist officers, and vice versa, to the empowerment of the Turkish. At the same time, Constantine's rise to the throne provoked the discontent of the "allied" forces against Greece and soon its political isolation at international level.

In 1922 the Turkish troops started a counterattack. Having achieved the break-up of the Greek forces the severance and crushing of some of them, the Kemalist Turkish army forced the remaining Greek army to retreat continuously, while with the Greek troops were Greeks who feared retaliation by the Turks and they were leaving their homes. The Greek army was forced to leave Asia Minor and the war was ending with the recapture of Smyrna by the Turkish forces and the Great Fire of Smyrna.

The term "*Asia Minor Catastrophe*" is a term that has been adopted by Greek historiography to describe the results of the Asia Minor Campaign in Greece and Hellenism in general. In particular, it refers to the end of the Greek-Turkish war of 1918-22, the escape of the Greek administration that had settled in the western coast of Asia Minor under the Treaty of Sevres from Turkey, and the almost disorderly retreat of the Greek army after the collapse of the front the generalized expulsion of much of the Greek and Christian population from Asia Minor. These events resulted in the destruction of Thracian and Asia Minor Hellenism along with the Pontus.

With the Treaty of Lausanne (July 24, 1923), the new territorial regimes of the Greek and Turkish States were respectively defined while this Treaty predicted the first in history mandatory exchange of population[7]. The mutual exchange of most of the Muslims of Greece and the Christian Orthodox of Turkey resulted in the uprooting of 350,000 Muslims from Greece and the installation of more than 1,200,000 Christian refugees in the Greek state, increasing the population of the country by about 25% in just two years (Hirschon, 2004, p.11).

In Greece, the arrival of the refugees offered both burdens and opportunities. The burdens were immediately obvious; the heavy financial costs of both short-term and long-term resettlement; the real social tensions between the newcomers and established Greek society. However, there were also benefits: quite apart from their entrepreneurial skills and initiative, the refugees also helped to hellenise the ethnic kaleidoscope of northern Greece, and held out the promise of an expanded domestic market and a cheap industrial workforce (Mazower, 1992, p.120)

### 3.1. General Athanasios Daskarolis (1899-1988)



General Athanasios Daskarolis, the eighth and youngest child of his family, was born in Messina in 1899 and died on 28.5.1988. He studied at the Hellenic Army Academy, the Supreme School of War, the Law School of the University of Athens and the National Technical University of Athens. He spoke three languages and he took part in the Asia Minor Campaign (1919-1923), the Greek-Italian War (1940-1941) and the Battle of El Alamein. As Lieutenant of the 2nd Battery (part of the Independent Division SKODA–at that time-A. Daskarolis returned to Smyrna during the disaster and through Tsesme arrived at Chios and then to Thessaloniki to the Evros front.

After the liberation of Greece he took part in the events of December (1944) as a commander of a Guerrilla battalion, and served as a member of the Hellenic Committee for Cross-Border Control of Germany. He was still a Chief of Staff, commander of large units and a military attaché in Paris. From January to September 1951 he was the commander of the Greek

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[7] - as they were then called "ethnic cleansing" - which was ratified by the Great Powers with the Treaty of Lausanne on 24.7.23.

expeditionary corps in Korea and a Greek government liaison to the Far East Headquarters. In his long military service, the moral remuneration awarded is as follows:

- *Asia Minor 1919-1922*:

a) Medal of Honor
b) War Cross of the Third Order
c) Medal of Military Value
d) Medal of Victory

- *From 1924-1940*:

a) Medal of Order of the Phoenix
b) Medal of Military Value

- *From 1940 to 1946*:

a) Medal of Honor in Albania
b) War Cross (twice) in Albania
c) Medal of Honor in El Alamein
d) Medal of Exceptional Acts
e) Medal of Royal Order George I
f) English Empire Medal

- *From 1946 to 1950*:

a) Gold Medal of Honor (twice)
b) Third Class War Cross
c) Cross of the Royal Order of George I Taxiarchs after Swords
d) The Golden Cross of the Royal Order of George I

He published several military studies while some of them focused on ballistics.

## 4. General A. Daskarolis' Map Collection

The GAD Map Collection was donated by a member of his family after the recommendation of a Department of Geography Faculty member. In a folder 32x23 cm were included 15 cartographic items that are parts of 7 different map series of Turkish provinces (Map 1).
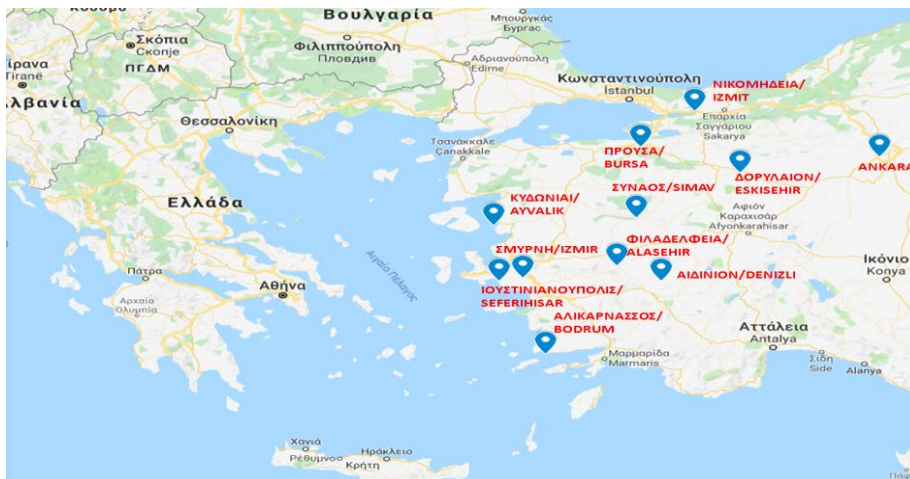


**Map1: Turkish provinces' maps**

All maps are example of military making of the HMGS in a scale 1:250.000. Military maps of such scale are usually used to draw up military enterprises, for the move and gather of troops during

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operations, for the move and distribution of military supplies, etc. (Hellenic Army General Staff, 1988, p.5)

*Describing the maps*

The maps included in the collection are described in detail below. Each map is named in Greek with its original title and in the same with the map dictation.  The English name is given in brankets and the current toponym is given in parenthesis.

Following the map title, the map series, part of which is the particular map and is represented with grey colour, is given as a table. They are all in a fair condition and in recto (i.e. the back side of the map) is handwritten the name of the map (see Fig.1).
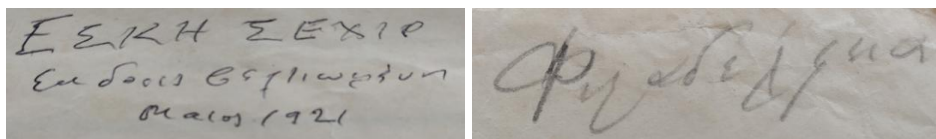


**Fig.1: Examples of the handwritten titles in the en verso of the maps**

1. Άγκυρα (Ancara) (90x70 cm). In the back of the map is written with pencil "7th Battery" while is torn on the bottom. The map is part of the following map series:

| Ποντοηρακλειά (Pontoirakleia) | Κασταμονή (Kastamonu) |
|---|---|
| Σιβρί-Χισάρ (Sivrihisar) | Άγκυρα (Ankara) |
| Ακ-Σεχίρ (Aksehir) | Ικόνιον (Ikonion) |

**Table 1**

2. Κυδωνίαι [Kydoniai (Ayvalik)] (61x50 cm). It is cut in the corners and there are underlines in many toponyms while in blue pencil circle is the ancient city "Πέργαμος" [Pergamos (Pergama)]. With capital blue pencil letters is written the word «ΖΩΝΗ» (while with yellow pencil colour letters is written «ΤΟΜΕΑΣ ΠΕΡΓΑ…» [unfinished the word ΠΕΡΓΑΜΟΣ i.e ΤΟΜΕΑΣ ΠΕΡΓΑΜΟΥ (Pergamos Section)]

**Map 2: detail from Kydoniai with the underlined toponyms**   **Map 3: Kydoniai Map**
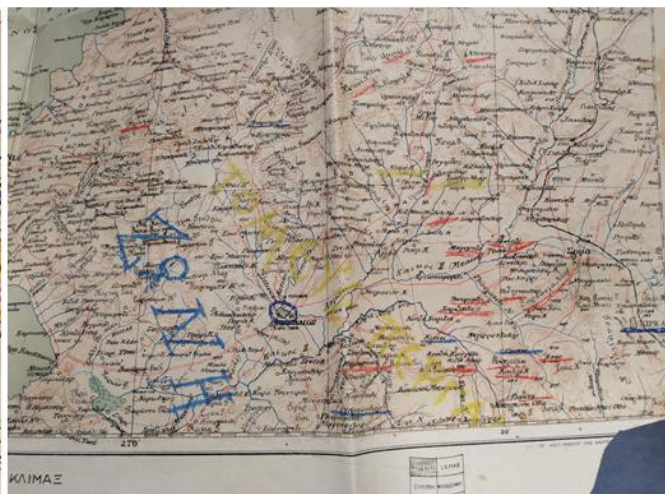
3.  Σμύρνη [Smyrna (Izmir)] (68x52 cm). There are 3 exactly same maps of Smyrna, and from the same map series as well. In the first one –that seems to be more used- there is hand written in the back of the map: "Μαγνησίας" [Magnesia (Bodrum)]. The same word "ΜΑΓΝΗΣΙΑΣ» is hand written with blue pencil and capital letters in the upper right of the map while in the bottom left the word "ΖΩΝΗ ΑΙ» [unfinished the word ΑΙΔΙΝΙΟΥ]. With yellow capital letters the phrase "ΤΟΜΕΑΣ ΜΑΓΝΗ..» [i.e. "Τομέας Μαγνησίας"[Magnesias Section] (see Map 4).
    The second map of Smyrna has underlined only the toponym "Τουρμπαλί' [Torbali], while the third map has no hand written notes.



**Map 4: The most used map of Smyrna in the collection**

4.  Αλικαρνασσός [Alikarnassos (Bodrum)] (68x52 cm, torn in points and cut in the corners). In this map the rest of the word "ΑΙΔΙΝΙΟΥ" is distinguished.

**Map 5: Map of Alikarnassos**

5. Αϊδίνιον-Ντενισλί [Aidinion – Denizli (Aydin)] (68x52 cm, cut in the corners).


**Map 6: Detail from Aidinion Map**

6. Φιλαδέλφεια [Philadelphia (Alasehir)] (2) (70x53 cm, many toponyms are underlined while handwritten is the word "Λελεχού» [Lelehou] the "Hill Mitsopoulos" and "Hill Stathopoulos". We speculate that hills named after the officers charged to guard this specific area) (see Map 7).
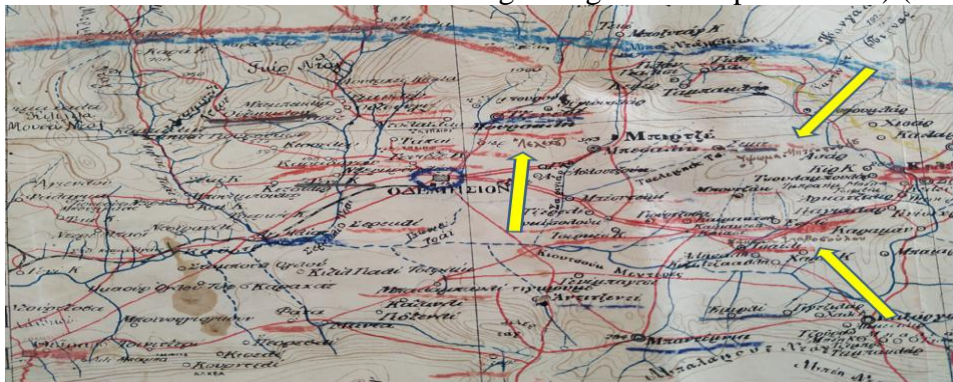

**Map 7: Detail from the most used map of Philadelphia with handwritten notes**

There are 2 same maps for Philadelphia and in the second one the toponym "Οδεμήσιον" [Odemesion (Odemis)] is underlined while the number «1$^{η}$» [1$^{st}$, maybe Battery?]. This is a region that A. Daskarolis acted as a Battery Lieutenant during the years 1919-1920 (Hellenic Army General Staff, 2019).
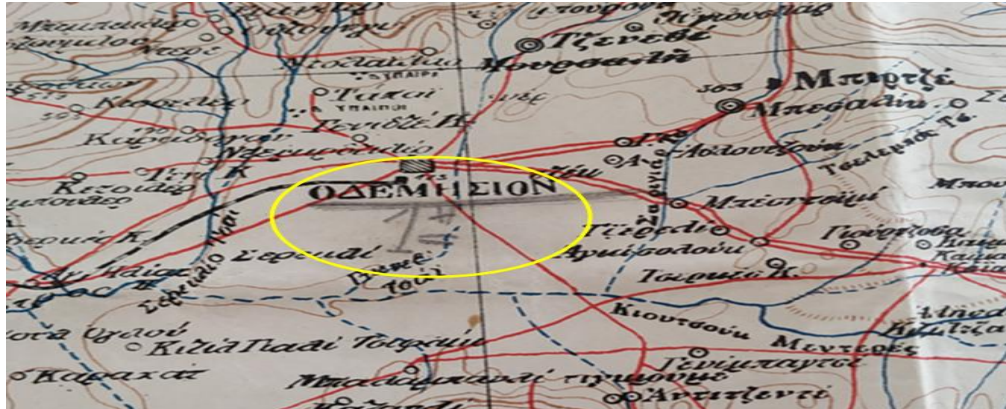


**Map 8: Detail from the 2$^{nd}$ Map of Philadelphia**

Maps are part of the following map series:

| | |
|---|---|
| Κυδωνίαι (Ayvalik) | Σεμάβ (Akin Semav) |
| Σμύρνη (Izmir) | Φιλαδέλφεια (Alasehir) |
| Αλικαρνασσός(Bodrum) | Αϊδίνιον-Ντενισλί (Aydin) |

**Table 2**

When putting the above maps in order according their place in the map series, their operational functionality is easily distinguished.

**Map 9: The above maps in order**

7. Νικομήδεια [Nikomidia (Izmit)] (90x70 cm). Half of the map is torn.
8. Συναός- Σιμάβ [Synaos (Simav)] (68x52 cm, cut in the corners)


**Map 10: Map of Synaos**

Maps are part of the following map series:

| Προύσα (Bursa) | Νικομήδεια (Izmit) |
|---|---|
| Συναός (Simav) | Κουτάχεια (Kutahya) |

**Table 3**

9. Προύσα [Prousa (Bursa)] (68x52 cm). In the recto of the map are the following handwritten words (see Fig.2): [III Πεδινή Μοίρα Πυροβολικού/ Προύσσα/ κ.Αποστόλου (?) = III Field Artillery/Proussa/Mr Apostolou (?)]
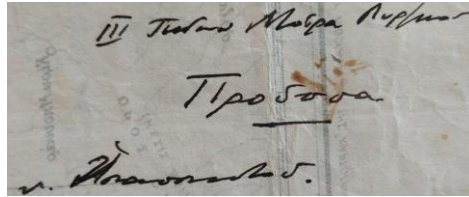


**Fig.2: Notes in the recto of Prousa Map**



**Map 11: Map of Prousa**

Map is part of the following map series:

| Καλλίπολις (Kallipolis/Gelibolu) | Προύσα (Bursa) |
|---|---|
| Κυδωνίαι (Ayvalik) | Σιμάβ (Simav) |
| Σμύρνη (Izmir) | Φιλαδέλφεια (Alasehir) |

**Table 4**

10. Δορύλαιον – Εσκί-Σεχήρ [Dorylaion (Eski Sehir)] (62x52 cm). With hand writing in the back of the map "ΕΣΚΗ ΣΕΧΙΡ έκδοσις βελτιωμένη, Μάιος 1921 (Eski Sehir, improved edition, May 1921)
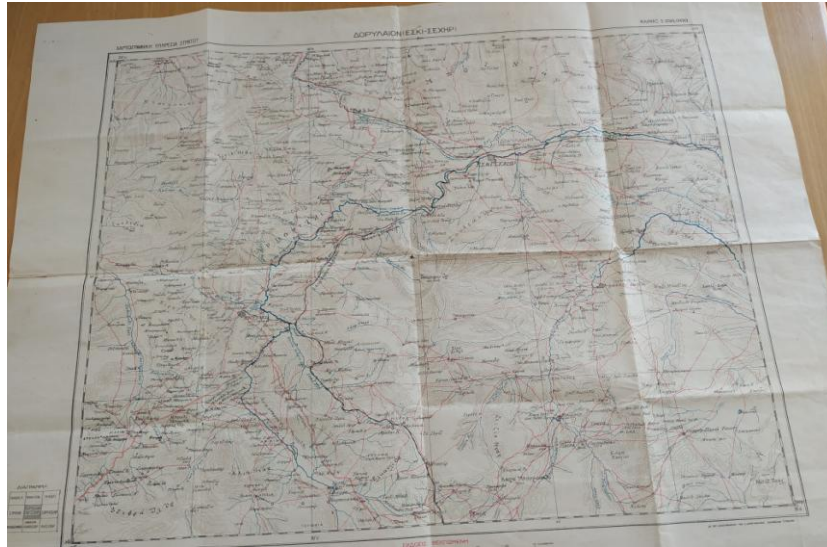
**Map 12: Map of Dorylaion**

Map is part of the following map series:

| Προύσα (Bursa) | Μπιλετζίκ (Bilecik) | Μπολί (Bolu) |
|---|---|---|
| Συναός (Simav) | Δορύλαιον-Εσκί Σεχίρ (Dorylaeum-Eskisehir) | Σεβρί-Χισσάρ (Sivrihisar) |
| Φιλαδέλφεια (Alasehir) | Αφιόνκαραχισάρ (Afyonkarahisar) | Ακσεχίρ (Aksehir) |

**Table 5**

11. Δορύλαιον – Εσκί-Σεχίρ [Dorylaion (Eski Sehir)] (62x51 cm) With hand writing in the back of the map «Εσκή Σεχίρ ΔΟΡΥΛΑΙΟΝ»



**Map 13: Map of Dorylaion (2nd)**

Map is part of the following map series:

| Προύσα (Bursa) | Νικομήδεια (Izmit) | Μπολού (Bolu) |
|---|---|---|
| Συναός (Simav) | Δορύλαιον-Εσκί Σεχίρ (Dorylaeum-Eskisehir) | Ιουστιανούπολις-Σιβρί Χισάρ (Sivrihisar) |
| Φιλαδέλφεια (Alasehir) | Αφιόνκαραχισάρ (Afyonkarahisar) | Ακσεχίρ (Aksehir) |

**Table 6**

The dictation of the toponym in each of the above two maps of Dorylaion and also in the toponyms included in map series indicates their diversity.

12. Ιουστινιανούπολις- Σιβρί Χισάρ [Ioustinianoupolis (Sivrihisar)] (70x88 cm)



**Map 14: Map of Ioustinianoupolis**

Map is part of the following map series:

| Νικομήδεια (Izmit) | Ποντοηρακλειά (Pontoirakleia) |
|---|---|
| Δορύλαιον(Dorylaeum-Eskisehir) | Ιουστινιανούπολις- Σιβρί Χισάρ (Sivrihisar) |
| Αφιόνκαραχισάρ (Afyonkarahisar) | Ακσεχίρ (Aksehir) |

**Table 7**

*Digitization*

Digital reproduction methods have multiple benefits such as the reduce costs to working time and manpower and also the dissemination of the cartographic product by using the internet and digital storage media (Jobst, 2006).

As the map collection meant to be one of the IRs collections and additionally would be wide open to the audience, its effective dissemination was taken into account in the format of the digital storage. Project standards for map digitization were developed in consideration with the project's stated objectives of producing high quality documents. The digitization process had the following results:

- Multipage TIFF, in 300dpi analysis, which are used as master files.
- JPEG2000 in at least 200dpi analysis, for viewing on Internet.
- Thumbnails in at least 72dpi analysis which are used as thumbnail.

The above kind of resolution allows the observation of sufficient level of details in the documents (Fernandez-Wyttenbach, Ballari & Manso, 2006). The maps were digitized and the colored

reproductions are shown in ESTIA in jpeg format, as the one that can be handled by the majority of users, which are not familiar with sophisticated formats or simply don't know any other formats just those ones which are supported by their internet browser (Zentai, 2006).

*Metadata*

Maps are in Greek language and each one is named after the place name Greeks were using –since there was a sizeable Greek speaking orthodox christian population leaving in Asia Minor- for the specific region. Some maps have in Greek language both, the Greek and the Turkish toponym e.g. Dorylaion – EskiSehir. Estia is a bilingual platform (in Greek and English) therefore maps are catalogued in both languages. *Geonames* geographical database was used in order to locate and use the Turkish toponym which corresponds to the Greek name of the map.

ISO 19115 was chosen to be the metadata schema used for the cataloguing process while the mapping in Dublin Core would assure interoperability and harmonization during browsing and searching in the repository.

The catalogue entry for each map includes the title of the map, the publisher or the organisation that is responsible for producing the specific item, the geographical area, the language in which is the map, description, date, scale, coordinates, subject headings, key words, notes, licenses (see Fig.3). Any additional information regarding the map is given since we anticipate that this kind of information will be of great help to those experts who have to link these maps with the historical events which took place on that age (Fernandez-Wyttenbach, Ballari & Manso, 2006).



**Figure 3: A map record in ESTIA**

**5. Future work**

Digitizing, cataloguing and sharing broadly General's Athanasiou Daskaroli Map Collection was the primary work LIC did for its promotion. Beyond organizing several events for communicating General's A.Daskarolis action in Asia Minor Campaign it would be really interesting to represent his troop's march to these regions through the years 1919-1923.

The digital analysis of historical maps and their comparative study with modern maps have become nowadays a field of great interest for many researchers, working on different scientific areas, such as Geography and Computer Science, using historical maps, to enrich their research with new results. In order to use and study digitally a historical map, it is important to correctly georeference it to its reference system, if it is known and can be reconstructed, or to adjust the map to modern geospatial data using a best fitting process, in case the reference system of the map is unknown (Tsorlini and Hurni, 2015). Furthermore, locations on the maps can be linked to historical texts, to military documents, to photographs, sound or other contemporary maps (multimedia) (Drakoulis, 2006) and generally the data and information that can be extracted from those maps can be cross-referenced with data derived from other analyses. As can be seen when describing the maps further research for place names would allow comparing and analyzing the various forms of the same geographic name. Additionally, since cartographical documents from past eras can be used in the study of how an environment has changed (Visintini e.a., 2006) the comparison of maps from that time providing us with a diachronic image of this process of development.

**Acknowledgments**

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