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Panorama of the Austrian cartographic impact in the late 18th, 19th and early 20th century Greece. A strong example of the international character of Cartographic Heritage.

Keywords: Austro-Greek 19th cent. Cartography; Internationality of Cartographic Heritage; 19th cent. Greek state mapping.

Summary

The cartographic heritage of Modern Greece is strongly related to Vienna. Starting from the late 18th century when the milestones of Greek scholar cartography (i.e. the Rigas Velesinlis “Charta” and the Anthimos Gazis “Pinax” as well as his rare world map) are published in the Austrian capital, the traces of Austrian cartography in relation to early 19th century Modern Greece are found in the -unknown till recently to Greek cartographers and map historians- maps of Franz von Weiss (1821, 1829), and in the emblematic map (1838) of the German Ferdinand Aldenhoven, who based his project on Lapie’s, Leake’s and Austrian military (evidently the Weiss maps) cartographies.

In the second half of 19th century, the Austrian cartography is again present in Greece with the implementation of von Scheda’s maps in the 1880s, the printing of maps of the Greek state in Vienna and the culmination of the Austrian cartographic impact represented by the Heinrich Hartl’s mission (1889-1896) in organizing the first state cartographic service of Greece, according to the Austrian mapping traditions and standards. Since then and until the early 20th century all maps of Greece were printed in Vienna and the best Greek military cartographers were trained in the legendary “K.u.K. M.G.I in Wien”.

The impact of Austrian cartography in the actual northern territories of Greece is also strong, thanks to the coverage of these lands by the relevant map-sheets of the “Franz-Josephinische Landesaufnahme” which were used as the basis for the later Greek cartography (following the same map-sheet tiling) until the mid 20th century. Analogous Austrian impacts can be also traced in the cartographic heritage conserved in some prestigious cultural institutions of Greece (e.g. the Municipal Library of Kozani) where treasures from geography and cartography literacy came from Vienna, since the 18th century, thanks to a strong Greek Community living in the Austrian capital at that time.

The example of the intersection of Austrian and Greek cartographic history is a very representative paradigm of the strong international character implicit in the notion of Cartographic Heritage.

Introduction

The history of 19th century cartography of Greece, related mainly to the struggle for and to the establishment of a new state (1821–1830) is mainly referred, more or less, to the cartography of the so called “great naval powers” of that time, Britain, France and Russia, which were authorized to assure order and legality to that part of the Mediterranean according to the new post-Napoleonic European political architecture designed by the Vienna Congress treaty of June 1815. Especially France played an important and intense role in representing cartographically Greece, even from the beginning of the 19th c.¹, and of course with the first geodetically based mapping of the new state known as that of the “Expédition de Morée” which lead to the publication in Paris of

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¹ See the so-called “semi-topographic” maps by Barbié du Bocage and the Jean Lapie’s maps of 1822 and 1826.

the first map of the Greek state in 1832². The three “great naval powers” are also present in the preparation of the emblematic map³ depicting the first official border line of the new Greek state, published in Argos (1834), which is actually the first mapped change of the European borders⁴ as designed by the Vienna Congress, with respect to the territories of the Ottoman Empire. The English cartographic tradition is also well documented in the international cartographic literature with the Admiralty mapping of the Greek seas and coasts, in 1825, as well as with the reconnaissance mapping carried out earlier in the beginning of 19th c. by the military and scholar William Martin Leake⁵.

In the history of the Modern Greek state, the involvement of the three “great naval powers” and especially of France and Britain is a typical milestone until, say, the end of the Great War. Cartographically speaking France is active until the mid 19th c. and then for the second half of this century the German cartographic presence (1862–1878)⁶, with the well known mapping of Attica and of the surroundings, it is well referred and documented in historiography because it is related to archaeology and archaeological surveys of the prestigious German Archaeological Institute.

In the general collective political-historic memory of the Greek people, referred to 19th c., the political and economic interfering role of Britain, France, Russia and Germany (in the second half of the century) is a matter of clear and well perceived evidence. On the contrary, the Austrian influence is apparently almost absent, since it is not evident as not interfering, at least distinctly and decisively, in the Greek political life of that time. But surprisingly, on the other hand, the Austrian cartographic impact is exceptionally strong and very much non-proportional to the political influence of this fourth great power of the century. This sounds almost as a paradox. How Austria, even if not involved in Greek politics, as the other powers did, could dominate the cartography of this small country for almost the whole of 19th c.?

An answer to this question will be attempted in this presentation, treating the issue of the intersection of Austrian and Greek cartographic history as a strong and very representative example of the deep international character of Cartographic Heritage.

The Austrian cartographic impact in 19th c. Greece

The first half of the century

Constraining chronologically the approach here, in 19th c.⁷, it can be seen that Austrian cartography intersects since very early the history of Modern Greece in two crucial dates for the foundation of the new state by the two big maps of military origin, generally not widely known (espe-

² In six (+two) sheets, 1:200.000 scale. A second extended map, in twenty sheets, was published also in Paris in 1852.

³ See E. Hertslet 1875, *The Map of Europe by Treaty*, London: Butterworths and Harisson.

⁴ According to the relevant 1830 London Protocol.

⁵ The Lord Elgin’s principal associate in taking the Parthenon Marbles to Britain.

⁶ The German cartographic presence in Greece concludes in 1894 after the publishing of the complete mapping.

⁷ The 18th c. Greek Cartographic Heritage is wealthily related to Vienna, since in the Hapsburg capital we have the printing of numerous important geography books in Greek language as well as the publishing and printing of the Greek cartographic monument, the Rigas Velesinlis *Charta* in twelve sheets (see, e.g., E. Livieratos 2008, “On the cartography of Rigas Charta”, *e-Perimtron*, Vol. 3, No. 3, 120-145 and the papers in this journal’s issue dedicated to Rigas) and the almost equally important and rare maps by Anthimos Gazis (see, e.g., E. Livieratos 2008, “The Anthimos Gazis world map in Kozani”, *e-Perimtron*, Vol. 3, No. 2, 95-100). Also see M. Pazarlı, A. Tsorlinj, E. Livieratos 2010, “*Vienna, late 18th century...: Birth and importance of two monuments of Greek cartographic heritage, the Rigas Velesinlis’ Charta and the Anthimos Gazis’ Pinax, from a digital point of view*”, 5th ICA Workshop *Digital Approaches to Cartographic Heritage*, Vienna 22-24 February.

cially the first one), prepared by the Austrian army officer, Franz von Weiss (1791–1858). Both published in Vienna, the first in 1821, in seventeen sheets, under the title “Geographische Karte des Osmanischen Reiches” in 1:576.000 scale⁸ and the second in 1829, in twenty one sheets at almost the same scale, under the title “Carte der Europaeischen Turkey nebst einen theile von Kleinasien”. The dates of the two maps are extraordinary: The first (1821) is the year of the start of the Greek War for Independence and the second (1829) is the year of the end of the Russian-Ottoman war and of the French invasion in Peloponnesus, when France started the military mapping there. The Greek War of Independence, initiated the year the first von Weiss’ map was issued, was in strong contrast with the conditions agreed in the still fresh Vienna Congress treaty and especially with Metternich’s policy of that time. On the contrary, in 1829, the year the second von Weiss’ map appeared, Metternich seems to have changed his political approach in favor of the Greek case, smoothly since 1825 but strongly at the beginning of 1830s, as underlines the historian Gunnar Hering⁹.

In 1838 the first map of the Kingdom of Greece (extended in the lands of Thessaly, Epirus and Crete, still under Ottoman rule) was printed in Athens in eight sheets, prepared by the German engineer Ferdinand Aldenhoven. This map in 1:400.000 was derived using principally the French 1832 map and for the areas not depicted in the French map, the maps by Leake and Lapie were used plus some itinerary spatial descriptions and “maps of the Austrian Headquarters”¹⁰. Evidently the reference to the Austrian maps is addressed to the Weiss map (1829) most probably available to the Bavarian Court of King Otto to whom the map is dedicated.

Some years before, in 1834, a well educated, man of sciences, experienced and trained personality¹¹ from Metternich’s diplomatic service was established in Athens as the Austrian ambassador: Anton von Prokesch-Osten (1795–1876). This remarkable man participated in the 1813-14 wars against France and joined from 1818 to 1820 the services of Karl Philipp von Schwarzenberg, who is related to the preparations of Franz von Weiss maps¹². Then, Prokesch-Osten followed in proximity the Greek War of Independence, observing facts and politics and gaining experience in the Near East affairs. He stayed in the Greek capital for 15 entire years (1834–1849), before going back to serve as the diplomatic bridge in the turbulent Austro-German affairs in the second half of 19th c. His mausoleum in the native city of Graz was designed by Theophilus Hansen the productive architect very well known both in Athens and Vienna.

The second great personality who enforced the Prokesch-Osten influence creating a dipole in the Austro-Greek relations of the first half of 19th c. is a Great Benefactor of Greece, the banker

⁸ See I. Kretschmer, J. Dorflinger, F. Wawrik 1986, “Lexikon zur Geschichte der Kartographie”, *Enzyklopädie der Kartographie*, Band C/1, C/2, Wien: Franz Deuticke, 64. A copy of this map is with the War Archives (Kriegsarchiv, Österreichisches Staatsarchiv) in Vienna.

⁹ See G. Hering 1992, *Die politischen Parteien in Griechenland, 1821-1936*, München: R. Oldenbourg Verlag. Also in p. 141, footnote 35, of the Greek translation (2004), referred to Anton Prokesch-Osten jr. (editor), 1881, *Aus dem Nachlasse des Grafen Prokesch-Osten*, II, Wien.

¹⁰ As it is stated in an official report of the Hellenic Military Geographic Service (1889–1957), Athens: HMGS, p. 57.

¹¹ He participated in the 1813–1914 wars against France and joined the services of Karl Philipp von Schwarzenberg (1818-1820) before following in proximity the Greek War of Independence and gaining experience in the Near East affairs.

¹² E. Livieratos 2009, *Cartographic adventures of Greece, 1821–1919*, Athens: ELIA (in Greek, *Chartografikes peripeteies tēs Ellados, 1821–1919*). This presumption is derived by the comments apparent in the English version of von Weiss map used in the Crimean War (1854). See also N. Ploutoglou, Ch. Boutoura, E. Livieratos, M. Pazarli 2010, “Franz von Weiss’ maps of SE Europe (1821, 1829) issued in two crucial dates associated with the establishment of the Modern Greek state in early 19th century: A digital comparative approach”, 5th ICA Workshop *Digital Approaches to Cartographic Heritage*, Vienna 22-24 February.

Georgios Sinas (1783–1856), known in Austria as Georg Simon von Sina¹³, a Prokesch-Osten's close friend.

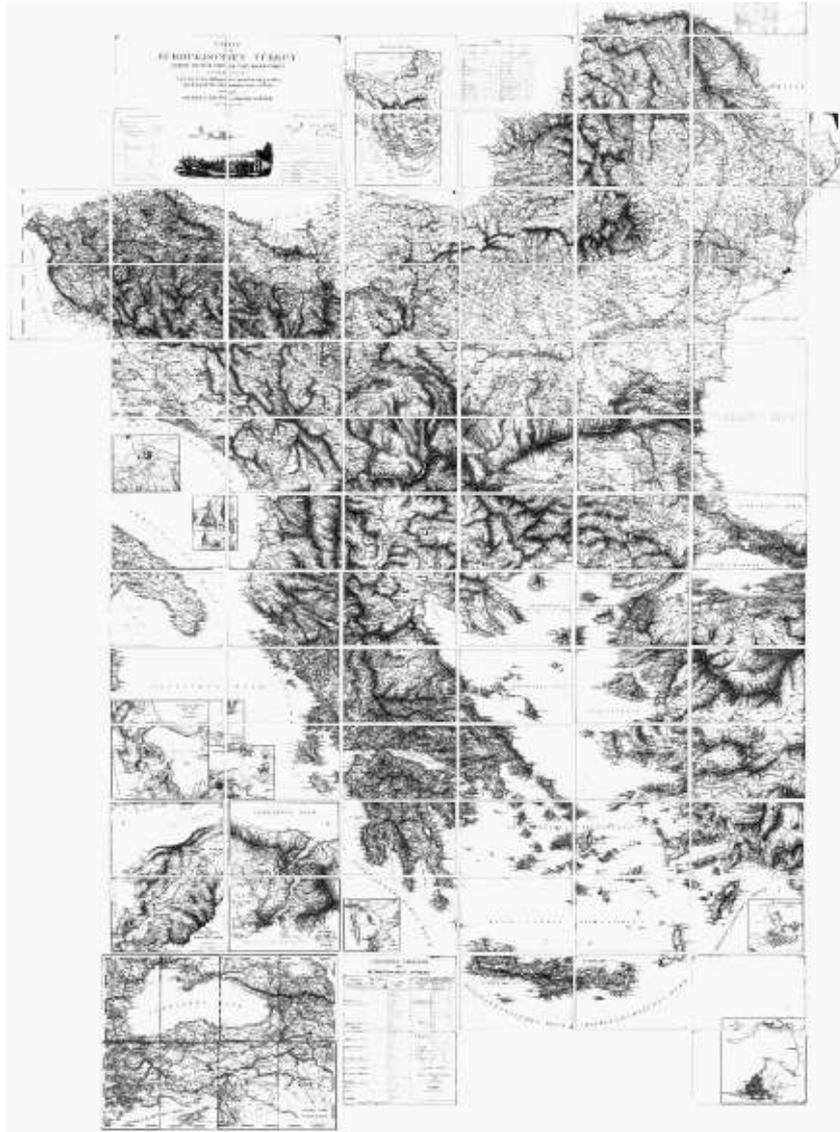


Figure 1. The Franz von Weiss map (1829 version)

¹³ Born in the Serbian city of Niš he spent nine years of his childhood in the Greek city of Serres before moving to Vienna where he settled with his father in 1790. He becomes the chief director of the National Bank of Austria, position held for 25 years and a major supporter for the foundation of the Technical University of Vienna. His multifaceted financial activities made him soon one of the most important financier, businessman and land owner in Europe of his times.



Figure 2. Left: Anton von Prokesch-Osten (1795–1876); Ambassador of Austria in Athens (1834–1849). Right: Georgios Sinas (1783–1856); Counselor of Greece in Vienna (1833–1856)

In 1833, one year before Prokesch-Osten was appointed ambassador in Athens, Sinas becomes the counselor of Greece in Vienna keeping the diplomatic office for 23 years until his death. It was Prokesch-Osten, the man of sciences, together with his secretary in the Athens Austrian Embassy¹⁴, the friend who advised Sinas to make a huge donation to the Greek state, the Athens Observatory in 1842 designed by the common friend Theophilus Hansen¹⁵ and inaugurated in 1846. It is the site where 45 years later another Austrian, the Lt. colonel Heinrich Hartl, made the first astrogeodetic measurements for the foundation of the first geodetic Datum of Greece, as head of the Austrian military mission invited in Athens to organize the first state cartography and cadastre of Greece (1889–1896).

The second half of the century

Even if the apparent foreign political influence on the weak but pretentious new Greek state was mainly and directly applied by the main western European powers, i.e. Britain and France, it seems that the dipole of influence Prokesch-Osten – Georgios Sinas found a fertile ground of a, so to say, indirect influence, embedded in the wide, active and financially wealthy Greek Diaspora established and networked in the Hapsburg territories, mainly in Vienna and Trieste¹⁶.

In the frame of the foreign affairs of the new state with the major western powers, it is not yet affronted in historiography, how the French total presence in mapping the Greek territory until the 1850s lost its impact in favor of an Austrian cartographic influence, which was gradually and noiselessly expanded during the course of the second half of 19th c. culminated by the mission of Austrian military cartographers in 1889. And more curiously, this growing Austrian cartographic “permeance” was not affected or subverted by the very strong German cartographic mission¹⁷ in Athens and in wider Attica, started in a first phase since 1862 and expanded from 1875 onwards, for a detailed large scale and high quality mapping satisfying the heavy archaeological interests of the established German scholarship.

¹⁴ Georgios Vouris, also a mathematician and physicist.

¹⁵ The Sinas’ donations to the young new state are numerous and important, i.e. to the University of Athens

¹⁶ P. Mackridge 2009, *Language and national identity in Greece, 1766–1976*, Oxford: University Press, 38.

¹⁷ The well known Curtius – Kaupert mission.

In contrast to the French and German cartographic policy, characterized by a closed attitude in managing the relevant mappings for their own, without transferring and developing any substantial know-how in the hosting country¹⁸, the Austrian approach was completely different: Until 1889, when the small group of the Austrian cartographic mission was invited to organize the first state mapping service, Austria acting from distance, offered almost noiselessly, its printing facilities to the Greek military, creating since the 1870s a growing tradition in the printing of Greek maps and in training Greek military cartographers in Vienna for almost three decades.

How this was possible in a state where, in the second half of the 19th c., all of its governments were oriented and depended on Britain and France and the Court on Britain and Germany? How Austria become gradually the major cartographic supplier and map-reference of Greece until the Great War? The answer lies not in the state and/or foreign-affairs official politics but in the role of individuals, powerful and influencing enough, who as often happens in history, make sometimes the course of facts deviate from stereotypes and standards of the official political dynamics. These persons like e.g. the Prokesch-Osten and Sinas dipole or other wealthy Greeks actively present and interacting in both Hapsburg and Ottoman Empires by controlling trade, finance, infrastructures, industrial production and traffic networks and investing in their social prestige as benefactors, in both sides, played an important role in the backyard of international policy, in favor of the Hapsburgs (as it is the very case of the influencing Greeks in Trieste¹⁹). These Greeks seem to have influenced some sectors or persons in Greek politics of the time to trust Austrian cartography and the remarkable technical advances in map printing of the Viennese cartographic military Institute thanks e.g. to the technical skills of Joseph Ritter von Scheda (1815–1888). This Institute, from the introduction of lithography in 1818 made rapid steps forward in introducing plate printing in 1826, electroplating in 1846, photolithography in 1854 (replacing the laborious intaglio) and heliography in 1869²⁰.

The crisis in the Balkans from 1875 to 1878 was the basis for the production of a new derived map of the Kingdom of Greece, prepared by the military engineer Iphicrates Kokkidis, who was the head of the Greek provisory invasion in Thessaly in 1876. Kokkidis designed a map utilizing the French map published in 1852 and some of his own in-situ surveys in Thessaly, using the Austrian 1:300.000 map-sheet division and format model of the so called “Schedakarte” developed from 1871 to 1876, first in 47 sheets reaching later 207, as the “Provisorische Karte von Zentral-Europa”. This map was actually a photographic enlargement of the earlier 1:576.000 map series²¹. The Kokkidis map-project resulted in two important maps, of the “Schedakarte”-type, printed in Vienna in 1884 and 1885 (including Thessaly annexed to Greece in 1881²²) the “General-Karte des Königreiches Griechenland”, in eleven map-sheets, first in Greek language and

¹⁸ Both campaigns, the French (1829-1831 and 1837-1840) and the German (1862-1868) and (1875–1878) were carried out by entire groups of French and German military surveying engineers in which some sparse Greek military engineers participated as observers. These campaigns lead to relevant map productions in 1832 and 1852 in France and in 1868 and 1894 in Germany, which were generally not available to the Greek state.

¹⁹ See, e.g., O. Katsiardi-Hering 2001, “La presenza dei Greci a Trieste: tra economia e società (metà sec. XVIII – fine sec. XIX)”, in R. Finzi, G. Panjek (edit.) *Storia economica e sociale di Trieste*, Vol. I, Trieste: LINT, 519-546.

²⁰ I. Kupčik 1981, *Cartes géographiques anciennes*, Paris: Gründ, 202.

²¹ Known map-series (1856–1869) as the “General-Karte des österreichischen Kaiserstaates” (1:576.000).

²² As a result of the Berlin Conference in 1878 on the “Oriental Question”.

next in German, revised by Heinrich Kiepert²³. The map was actually the southwards continuation of the “Schedakarte” series representing Central Europe.



Figure 3. The “Schedakarte”-type map of Greece in 1:300.000 in two versions both printed in Vienna. Left: The Kokkidis map (1884); Right: The Kokkidis-Kiepert map (1885).



Figure 4. The “Schedakarte”-type map of Greece in 1:300.000 known as the Kokkidis map (1884) with respect to the same map-format tiling of the territories outside of the Greek state.

²³ See C. Boutoura, N. Ploutoglou, A. Tsorlini 2010, “The von Scheda 1:300.000 map tradition as the basis for the official map coverage of Greece and its updating in late 19th century”, 5th ICA Workshop *Digital Approaches to Cartographic Heritage*, Vienna 22-24 February.

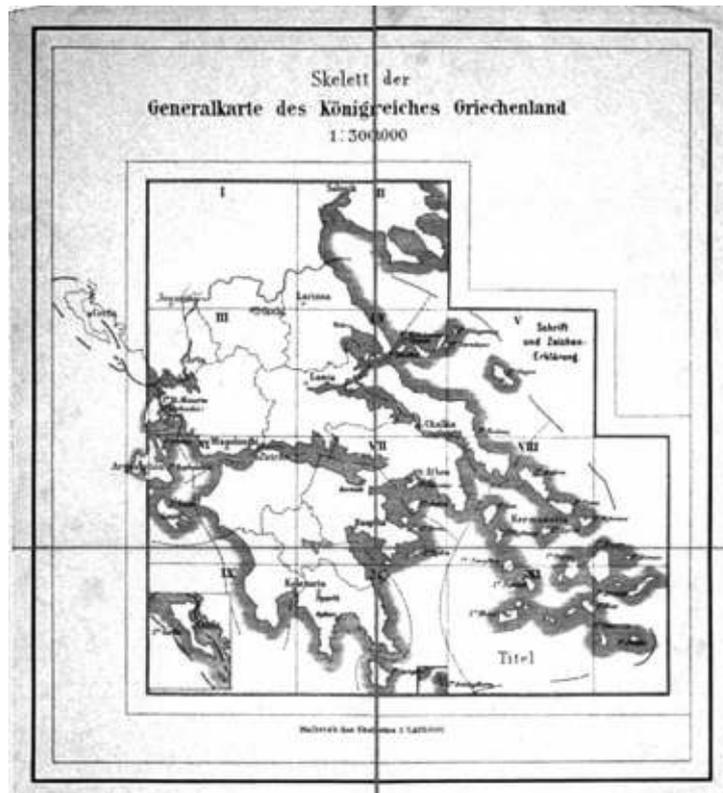


Figure 5. The eleven map-sheet layout of the Kokkidis-Kiepert 1:300.000 map (1885).

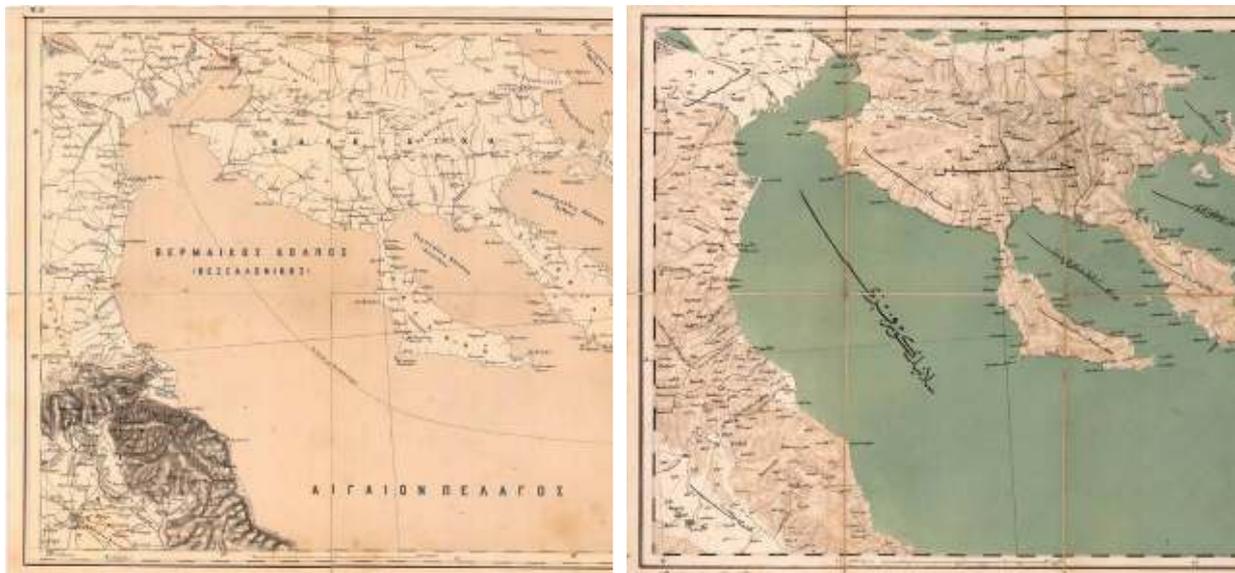


Figure 6. Examples of the same map-sheet of the “Schedakarte”-type in 1:300.000 (1883–1884). Left: The Greek version; Right: The Ottoman version.

The Austrian mapping mission (1889-1896)

After a short interval of pure Greek surveys by a small group of officers from 1887 to 1889 carried out in Thessaly²⁴ the government decided to invite in 1888 an Austrian military geodetic mis-

²⁴ Twelve second lieutenants under Alexandos Mavrokordatos performed in two years a high quality land survey in 1:25.000, mapping 1.600 square kilometers represented in 1:50.000 map-sheets.

sion headed by Lt. colonel Heinrich Hartl (1840–1903)²⁵, who as a captain participated earlier in the field works for the “Generalkarte” mapping of the territories of North Greece, from 1873 to 1875²⁶. The three Austrian officers²⁷ arrived in 1889 joining a first group of three young Greek military engineers in the formation of the “Geodetic Mission”²⁸. The decision for inviting the Austrian officers seems to be taken not only due to the fame of the Viennese mapping institution, the famous “K. u. K. Militär. Geographischen Institute” but also due to the influence of powerful and influencing circles of the Greek Community of Trieste²⁹, known for the firm support offered to the Hapsburg Court. The issue was the establishment of a geodetic triangulation in order to create the new cadastre and topographic map of Greece.



Figure 7. Left: Konstantinos Karousos, the cadastre and cartography intellectual and activist in the 1880s. Related to the Trieste Greek Community, he worked for the invitation of the Austrian military mission but later he opposed the pure geodetic work on which the mission was concentrated (in the frame of the “Internationale Gradmessung”) instead of following the initially intended and agreed work on cadastre and topographic mapping. Right: Heinrich Hartl, the head of the three-member Austrian military mission in Greece (1889-1896).

The Austrian officers stayed in Greece till 1896³⁰ organizing the works, introducing a remarkable scientific and technical know-how, participating in the works of the international geodetic community of that time³¹ and training a group of officers who most of them played later, as personalities, a wider and important role in the Greek military and political history of the early 20th c. Thanks to this Austro-Greek relation in mapping, which was active long after 1896³², a great number of Greek officers trained in Vienna in map design, map printing and map production. Almost the whole of Greek cartography of that period was printed in Vienna. The official mapping

²⁵ A Vienna Technical University graduate, head of geodesy at the K. u. K. Militärische Geographische Institut.

²⁶ E. Livieratos 2003, “The first scientific map of North Greece”, in *Map sheets of North Greece, The first representation, late 19th – early 20th c.*, Thessaloniki: NCM&CH (in Greek, “O prōtos epistēmōnikos chartēs tēs Voreias Elladas”, *Fylla chartē Voreias Elladas, Ē prōtē apeikonisē, tēlē 19ou – arches 20ou aiōna*)

²⁷ Lt. col. H. Hartl, captain Franz Lehrl and Lt. commander Julius Lohr.

²⁸ “Geodaitikē Apostolē”. Renamed in “Geodetic Detachment” (1891) and in “Cartographic Service of the Army” (1895). The actual name “Geographic Service of the Army” was given in 1923.

²⁹ See E. Vogli 2009, “The Greek state, 1889-1896: The period and its main features”, appendix in E. Livieratos, *Cartographic adventures of Greece, 1821–1919*, 213-226 (in Greek).

³⁰ The works were often published in the “Mittelungen” of the Vienna institute.

³¹ Internationale Gradmessung.

³² Almost until the Great War.

of Greece followed the Austrian “Spezialkarte” standards in 1:75.000 scale tiling, the zero-meridian and the Datum orientation referred to Athens Observatory and introduced originally by the relevant Hartl’s astrogeodetic measurements.

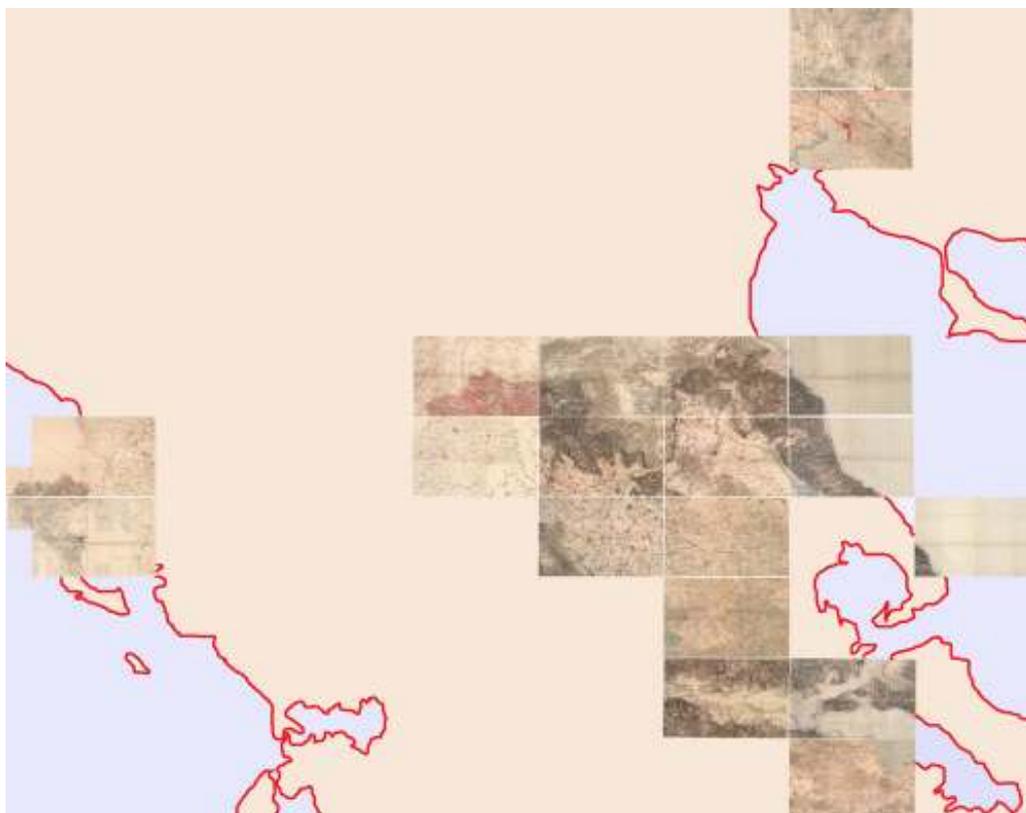


Figure 8. Example of the 1:75000 Greek map-series according to the Austrian “Spezialkarte” model (Late 19th - early 20th c.).

In the early 20th c. the Austrian cartographic tradition was still very live in Greece. Officers continue to gain cartographic training and know-how from Vienna, the map design and printing developed mainly in Vienna³³ where all “Generalkarte” map-sheets covering the northern territories³⁴ in 1:200.000 were transcript in Greek language together with the “Schedakarte” map-sheets in 1:300.000 outside the borderline as it was traced till 1912-1913. The impact of Austrian cartography in the actual northern territories of Greece goes strong far beyond these dates, thanks to the coverage of these lands by the relevant map-sheets of the “Franz-Josephinische Landesaufnahme”, used as the basis for the later Greek cartography (following the same map-sheet tiling) until the mid 20th century, as it happens in the neighboring Balkan states.

³³ With the exception of some sheets printed in Athens by private printing firms.

³⁴ Greece established the actual northern borders in 1912-1913.



Figure 9. Images of “K. u. K. Militär. Geographischen Institute” activities, from the personal archive of the Greek officer Vasileios Kourousopoulos, stayed in Vienna with the Institute from 1908 to 1910. (Kourousopoulos archive; ELIA-Hellenic Literary and Historical Archive).



Figure 10. Left: Captain Vasileios Kourousopoulos during his stay in Vienna with the “K. u. K. Militär. Geographischen Institute” (1908-1910). Right: From Kourousopoulos archive, Eduard von Orel with his stereograph in 1910. (Kourousopoulos archive; ELIA-Hellenic Literary and Historical Archive)

Concluding remarks

The close links between Austria and Greece in the domain of Cartographic Heritage are dominant since the 18th c., clearly visible in the first half of 19th c. and considerably developed in the second half of this century as well as in the early 20th c. until the Great War.

These cartographic links are not a result of official political ties and constraints in the frame of foreign affairs and diplomatic alliances characterizing the apparent relations of a small and weak new state, as it is the case of Greece in 19th c. It is a very interesting result of the, so to say “back-door” links between individual personalities of the flourishing communities of the Greek Diaspora in the Hapsburg territories, in 19th c., with top Austrian officials as it is confirmed by the Prokesch-Osten – Sinas strong example in the first half of the century and by the interactive political and financial influence of the Trieste Greek Community to both the Hapsburg Court and aristocracy and to the Greek state establishment in the second half of 19th c.



Figure 11. Military and civilians in “K. u. K. Militär. Geographischen Institute”, Vienna 5 Nov. 1912. (Kourousopoulos archive; ELIA-Hellenic Literary and Historical Archive)

Here we have thus, a particular case of developing a Cartographic Heritage outside the main stream of the strict regulations governing international politics where, personal and community links and interactions play an important and decisively role in developing histories and traditions as it is the history and the tradition of the Austro-Greek ties in Cartographic Heritage, not yet sufficiently studied and promoted. The example of these ties is typical in characterizing the issue of a deep internationality factor characterizing the general context of Cartographic Heritage, open for new research not only in terms of Cartography, but also in terms of human, political and social sciences.

Analogous Austrian impacts related to Cartographic Heritage can also be traced in some regional but prestigious cultural institutions of today’s Greece (e.g. the Municipal Library of Kozani³⁵) where treasures of geography and cartography literacy sent from Vienna, since the 18th century, thanks to a strong Greek Community living in the Austrian capital at that time³⁶, are living testimonies of Cartographic Heritage’s internationality.

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E. Hertslet 1875, *The Map of Europe by Treaty*, London: Butterworths and Harisson.

³⁵ See the web-site of the Kozani Municipal Map Library: <http://cartography.web.auth.gr/Kozani>

³⁶ E. Livieratos et al. 2009, “How the cultural heritage of cartography and maps may positively influence the development of a small society: the Kozani experiment (2008-2010)”, 24th International Cartographic Conference, Santiago, Chile, On-line in the ICA server: http://www.icaci.org/documents/ICC_proceedings/ICC2009/html/nonref/25_5.pdf.

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