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## **An interactive secondary education history class project using cartographic heritage interfaces: The Ancient Olympia landscape key-study**

*Keywords:* Cartographic Heritage; Secondary Education; Teaching History;  
Maps in teaching; Ancient Olympia

### *Summary:*

This work is an experiment on the implementation of cartography, maps and Cartographic Heritage in the teaching of History, History of Art and relevant courses in the secondary education, giving at the same time a “technology” notion and reference in this teaching, since the map use is of central importance. The rich backlog of 17<sup>th</sup>-19<sup>th</sup> c. ancient Olympia’s cartographic heritage is used for this key-study, as it provides plans and maps suitable to support an everyday class-lecture in secondary education, in association with widely used material easily retrievable from major web sources like, e.g. Google Earth, Wikipedia and other well established institutional providers in the net. In our example we show how a typical History lecture can be easily and normally extended in associated environmental and technological domains, “stinging” the interest for History of modern high school students who are addicted to modern information and communication technologies.

### **Introduction**

This work is an experiment on the implementation of cartography, maps and Cartographic Heritage in the teaching of History, History of Art and relevant courses in the secondary education, giving at the same time a “technology” notion and reference in this teaching, since the map use is of central importance here. The basic concept of this experiment is that we assume as given the teaching curriculum about Olympia in History courses and history of Art throughout the secondary education and that the aim is to enrich the courses with additional visual material coming from the field of Cartographic Heritage given mainly, if not exclusively, by widely and freely available relevant web providers as Google Earth and/or Wikipedia. The target is that the student gains the sense of time and space through cartographic representation, with respect to the historical and archaeological site of interest, the sense and the understanding the spatial evolution of the historic subject and objects within, as they are represented on maps since the earliest available mapping and cartographic sources. Of special interest in this module is to promote the technological distinction between the map derived by field work and the map derived by scholar means, as it is stressed in the study presented here, addressed to high school history teachers and to students of 15-16 years of age.

The key-study is focused on ancient Olympia, a key issue in Greek and World History, since the Olympia sanctuary of Zeus, located in the western Peloponnese was, aside from

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Delphi, the most important sanctuary of ancient Greece. It owes its fame, both in antiquity and in modern times, to the Olympic Games which took place in Olympia every four years, from 8<sup>th</sup> c. BC, bringing together the entire Greek world for peaceful competition. As the relevant 19<sup>th</sup> c. Cartographic Heritage for the site is well known, the coupling with the history course topic is well established as a paradigm of good practice in enriching an everyday class-lecture (e.g. in lessons of History and Art) throughout all the secondary education, getting data and supporting information directly from the web.

### Getting familiar with an archaeological site (Ancient Olympia) in the class

The site tour starts with the relevant Google Earth images, stressing the meaning and impact of spatial scale of the representation. The Google Earth tool is indeed familiar to the students of the age of 15-16 years. Arriving to the highest offered enlargement of the Olympia site in the satellite image, with all the excavated buildings and remains, without searching for the time other available elements given by the provider as e.g. artistic reconstructions of buildings (perspective images) etc. (Fig. 1), the stadium and the typical temples are easily recognizable among other buildings. A simple observation offers the feeling about the general spatial distribution of the structural elements in the site, i.e. the main “edifice” as it is the stadium, the Kronios Lofos (Saturnalian Hill) and the overall natural environment. The first and general spatial reconnaissance of the archaeological site can be facilitated by using Wikimedia Commons. This general spatial approach, and the reference to the Kronios Lofos, gives the teacher the opportunity to extend the discussion to environmental issues as well (in association to history and archaeology), using as a pretext the devastated fire of 2007, which threatened Olympia with a disaster. This environmental assistance to the history and archaeology narration in the class increases the awareness of the students in environmental matters concerning the possible dangers around a monument of cultural heritage. The available relevant web material is easily obtained for an on-line supporting discussion on the issue.



Figure 1: Ancient Olympia in Google Earth and plan of ancient Olympia derived from Wiki Commons.

## The Cartographic Heritage for ancient Olympia

The use of Google Earth and the comparison with a modern surveying and reconstructed representation of the archaeological site (we can see this as “snapshots”: the modern image vs the reconstructed ancient image) are not enough for the creation of a more penetrating space-time “image” of ancient Olympia, especially how this “image” was developed in the course of time, given its “disappearance” from the visible territory till to the very recent past. The idea here is to show the progressive “reappearance” of the archaeological place, using historic cartographic material and digital technologies as a powerful supporting tool in teaching, allowing a broadening of the teacher’s narration with elements coming from the world of map and Cartographic Heritage.

Having in mind as key-chronology the early 19<sup>th</sup> c., when the former almost totally forgotten ancient Olympia’s placement was identified by excavation, we can indicate three major groups of old maps suitable for use for this project in the reach, free to download in its majority from the internet backlog of the Ancient Olympia’s cartographic heritage (Fig. 2):

1. Early maps derived by land surveying vs. scholar and semi-scholar maps (until the early 19<sup>th</sup>.c)
2. Travellers’ plans and descriptions in the same period that *Olympia is partially revealed*.
3. Scientific plans and maps of the excavations held by the French Morea Expedition (1828-1832) and the German Archaeological Institute (1875-1887).

### *Early land surveying maps, scholar and semi-scholar maps*

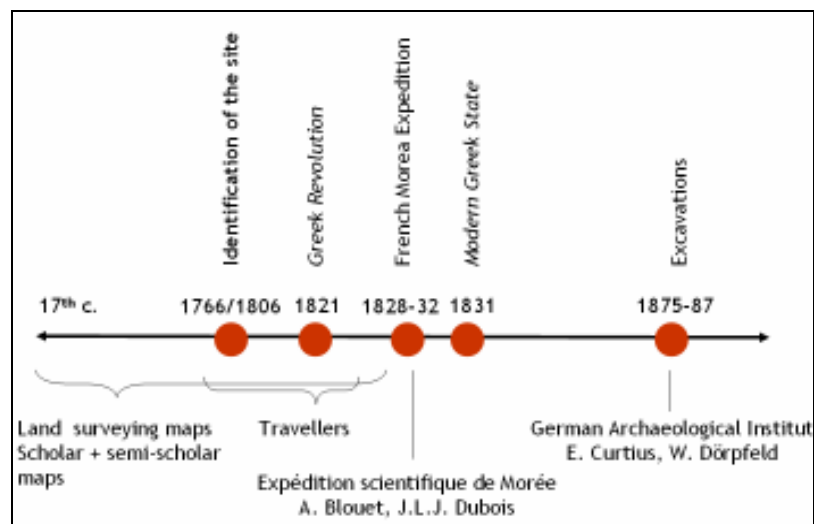


Figure 2: Material in Cartographic Heritage relevant to Ancient Olympia until the end of 19th c.

Until the early 19<sup>th</sup> c., given that Olympia is still unrevealed and unknown, there is no evidence in early land surveying maps of a relevant toponym. In Venetian maps of the early 18<sup>th</sup> c., in the broader area of Fanari territory there is only mention of the main village Fanari (toponym used until today).

The decade from 1821 to 1832 is a fundamental period for the creation of the New Greek state. The period started with the war of independence and ended with the

international declaration of the establishment of the state. The French interest for the affaires in the broader area is very intense for more than a century before, reflected massively in map production. In the second decade of 19<sup>th</sup> c. Pierre Lapie produced, in the frame of the Dépôt de la guerre, two maps, one in 1822 representing the European territories of the Ottoman Empire and a second in 1826 focused in Greece already engaged in the struggle for independence. In this kind of surveying land maps of the early 19<sup>th</sup> c., the ruins of Olympia are marked (Lapie, 1822: *Ruines d' Olympie / PHANARI* Lapie, 1826: *Ruines d' Olympie / Ruines de Pisa / PHANARI*), together with the modern toponyms mentioned before in the Venetian maps (Figure 3). What happened between is that already in the 18th century English and French travellers identified the territory located in the western Peloponnese as the ancient site of Olympia,<sup>1</sup> based in Pausanias' descriptions (~ 160 AD). Moreover, in another map of South Balkan Peninsula by F. Weiss (1829), ancient Olympia is identified as the modern village *Antilalo*.<sup>2</sup>

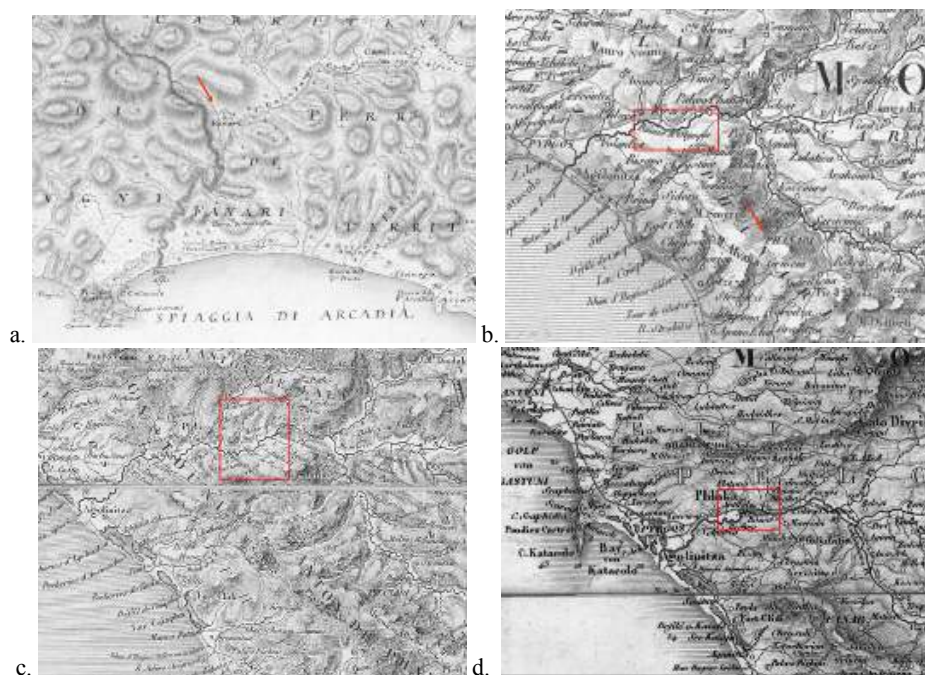


Figure 3: a. Venetian map 18<sup>th</sup> c. (no mention of Olympia), b., c. Lapie 1822 and 1826 (*ruines d' Olympie*), d. Weiss 1829 (*Antilalon / Olympia*).

<sup>1</sup> In 1766, the English theologian and antiquarian Richard Chandler visited the site and identified it as Olympia, thanks to the apparent wall stubs and doric capitals, while in 1806 the Englishmen Edward Dodwell and William Gell, assisted by the locals, exposed part of the Temple of Zeus. See *History of Excavations at Olympia*, Powerhouse Museum, Sydney, Australia, 2000. In digital form: [http://www.powerhousemuseum.com/greek/pdfs\\_2009/History\\_of\\_excavations\\_063.pdf](http://www.powerhousemuseum.com/greek/pdfs_2009/History_of_excavations_063.pdf), Lennartz, K. *Olympia and History II*. In digital form: <http://www.la84foundation.org/OlympicInformationCenter/OlympicReview/1978/ore128/ore128v.pdf>.

<sup>2</sup> The toponym “Antilalo” is for the first time mentioned in a Venetian map by Battista Palnese in 1516. The map was first published by C. Sathas in C. A. Sathas *Documents inédits relatifs à l'histoire de la Grèce au moyen âge*, 1880, Paris 1880 (now in Biblioteca Marciana, Venice). See *History of excavations...*, *ibid.* According to Boetticher, the toponym *Antilalon* = *Echo* (in modern Greek) is reflecting the ancient toponymy of *Echo Valley*. See Boetticher, A., 1886. *Olympia: das Fest und seine Stätte; nach den Berichten der Alten und den Ergebnissen der deutschen Ausgrabungen* (2. durchges. u. erw. Aufl.). Berlin. In digital form: <http://digi.ub.uni-heidelberg.de/diglit/boetticher1886/0055/ocr>.

In contradiction with the early land surveying maps, there is some mention in maps of the so-called scholar tradition, as well as to the “semi-topographic” or “semi-scholar” maps: e.g., in 17<sup>th</sup>-early 19<sup>th</sup> c. scholar maps by Ortelius (*Graecia Sophiani*), Lotter, Rigas Velestinlis and semi-scholar maps by Barbié du Bocage,<sup>3</sup> the toponym *Olympia / Pisa* is mentioned, based on the descriptions derived by classic writers.



Figure 4: Olympia in Ortelius *Graecia Sophiani* 17<sup>th</sup>.c., Lotter 1778, Rigas 1797, Barbié du Bocage 1788.

During the 18<sup>th</sup> c., the European scholar circles are interested in everything relevant to the ancient Greek civilization in such an extent, that a plan of the Olympia sanctuary is created, based on the descriptions of Pausanias in his *Voyage in Greece*. For example, a Barbié du Bocage's detailed plan of Olympia<sup>4</sup> was published by Barthélemy in *Voyage du jeune Anacharsis* (1790). A macroscopic view of the plan proves it completely wrong, with the stadium and hippodrome placed to the west of Kronios Hill instead of east and the monuments of the sanctuary far to the southeast.<sup>5</sup> It is interesting though how many buildings, which were to be exposed almost 100 years later, are marked on the plan (Figure 5a-b). Again a best fitting of the Olympia plan to the Google image makes obvious the differences between the actual placement of the buildings and the imaginary “Olympia” of the late 18<sup>th</sup> c. (Figure 5c-d).

<sup>3</sup> In the early 19<sup>th</sup> c. the representation of the area of Greece was depicted in Barbié du Bocage's work as the map of the Peloponnese (1803-1807) and the map of Greece for general use (1810-1811).

<sup>4</sup> For Barbié's description of the maps for the Voyage, see: J. D. B. du Bocage, J. J. Barthélemy, *Recueil de cartes géographiques, plans, vues et médailles de l'ancienne Grèce, relatifs au Voyage du jeune Anacharsis* [of J.J. Barthélemy]; précédé d'une analyse critique des cartes, 1790. In digital form: [http://books.google.fr/books?id=aTMBAAAAQAAJ&pg=PR5&dq=Barbie+du+Bocage+Jeune+Anacharsis&hl=fr&ei=a1qXTeCOFM3EswbHiP2tCA&sa=X&oi=book\\_result&ct=result&resnum=2&ved=0CDsQ6AEwAQ#v=onepage&q=Barbie%20du%20Bocage%20Jeune%20Anacharsis&f=false](http://books.google.fr/books?id=aTMBAAAAQAAJ&pg=PR5&dq=Barbie+du+Bocage+Jeune+Anacharsis&hl=fr&ei=a1qXTeCOFM3EswbHiP2tCA&sa=X&oi=book_result&ct=result&resnum=2&ved=0CDsQ6AEwAQ#v=onepage&q=Barbie%20du%20Bocage%20Jeune%20Anacharsis&f=false)

<sup>5</sup> See *History of excavations...*, *ibid.*

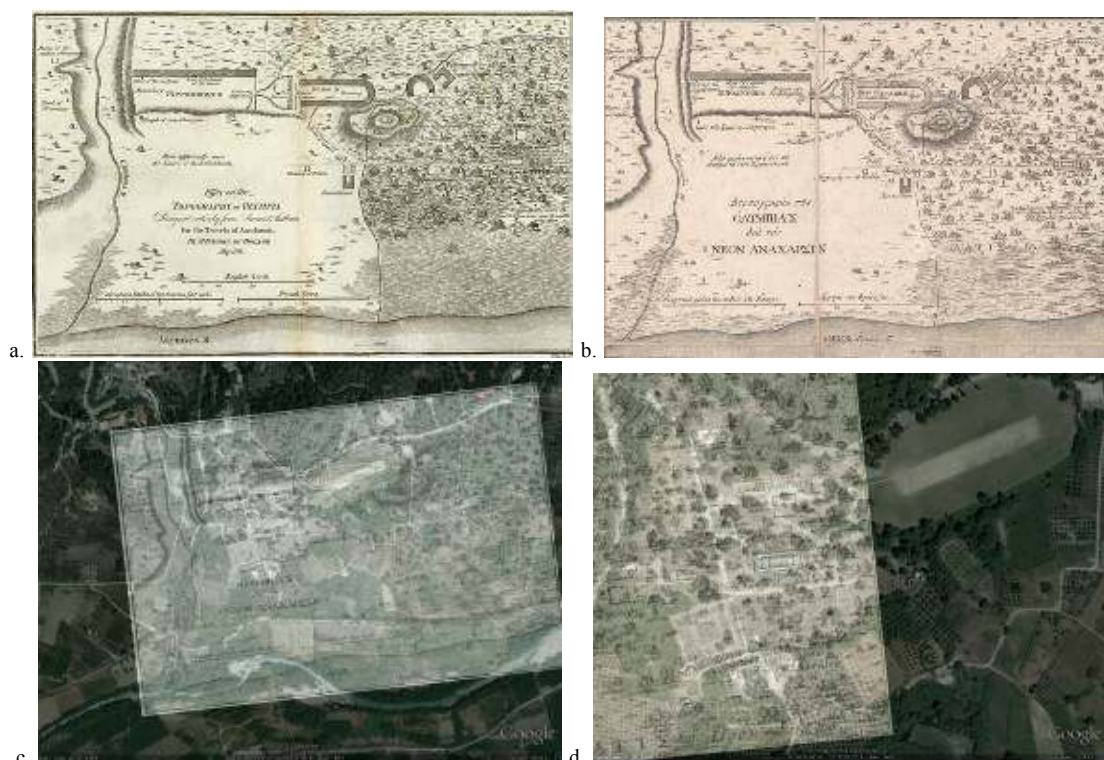


Figure 5: a. Barbic du Bocage' plan of the Olympia (1791); b. the Greek equivalent in Rigas Velestinlis *Charta* (1797); c., d. Best fitting of Rigas' plan of Olympia to Google Earth image.

### *Travellers' reports and plans in the era of Olympia's partial revelation.*

While Olympia is still not revealed, there is a strong discussion in the circles of western historical and theoretical circles, concerning whether Olympia really existed or “invented”, as an utopic, ideal place, a metaphorical expression of the “ancient Greek spirit”.<sup>6</sup> The question led to strong disagreement in 1813 at the French Académie des Inscriptions et Belles Lettres in Paris and resulted to Lord Spencer Stanhope's travel to Olympia in 1813 and to the first chart of Olympia's plain, made by the architect Allason.<sup>7</sup> This plan was published in 1824 and was also included in W.M. Leake's *Travels in Morea* (1830), based on his journeys in 1805 (Figure 6).<sup>8</sup>

<sup>6</sup> Starting from 1767, when the “father of art history” J. Winckelmann expressed the view that an excavation in Olympia would reveal the greatness of ancient Greek art. In a lecture given to the history and antiquities class at the Institut de France (1813), Gail, for the first time, expressed the view that the town of Olympia might just be an illusion. See *History of excavations...*, *ibid*.

<sup>7</sup> See Lennartz, *ibid*: Allason made the first chart of the plain on the basis of triangles which, in spite of much effort, took 14 days to complete. Right up until the German expedition, it remained the only plan in existence, and, since that time, has served as a basis for all subsequent research made at Olympia. The draftsman was sufficiently honest to indicate all his lines of measurement on the map; an on-the-spot check of his work could thus be easily carried out. However there are several faults in it which make the picture of the plain and in particular the surrounding hills rather unclear. Nevertheless, for an ideal reconstruction of the sites of the festivals and games based purely on the reports of Pausanias, it is perfectly adequate and, therefore, the best work to be carried out on Olympic soil. According to Lord Spencer's descriptions, little now remains of what is supposed to have been the Temple of Jupiter, except some of its foundations, and fragments which can only serve to prove that it was of the Doric order; sufficient, however, is not left to establish that its proportions answered to those of the Temple of Jupi-

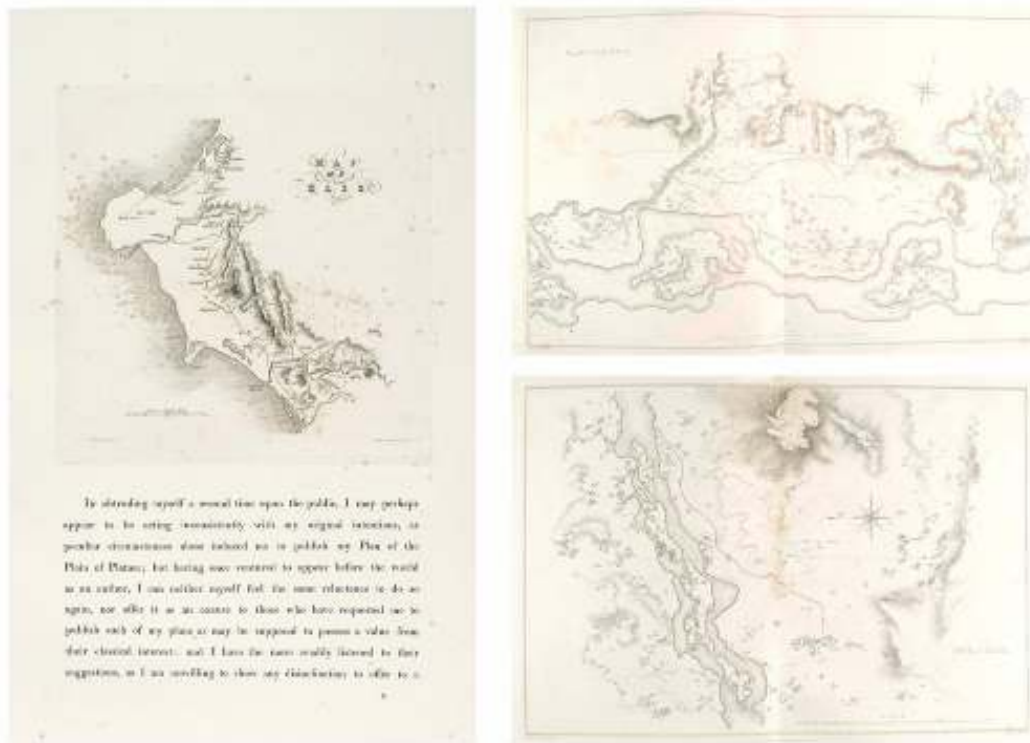


Figure 6: Lord Spencer Stanford's plans of Olympia.

### *The Expédition Scientifique de Morée*

As mentioned before, in 1821 begins the Greek war of independence and some years later in 1828, the troops of Nicolas-Joseph Maison of the French *Expédition du Morée* arrive in Peloponnese. In the frame of the Expédition, the first scientific map on the territory of Greece was constructed and printed in Paris in 1832, the year of the official creation of the Greek state.<sup>9</sup> The architect Guillaume Abel Blouet,<sup>10</sup> chief of the

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*ter, as described by Pausanias. An excavation has been made round the ruins, but the space enclosed is only 125 feet by 60 feet, whereas, the area of the Temple of Jupiter was 230 feet by 95 feet. Other travellers have been more fortunate than ourselves...*

<sup>8</sup> Lennartz, *ibid*, *History of excavations...*, *ibid*. C. Witmore 2005, "Multiple fields approaches in the Mediterranean: Revisiting the Argolid Exploration Project", PhD Dissertation in Classical Archaeology, Stanford University, the chapter dedicated to William Martin Leake.

<sup>9</sup> Ploutoglou N., M. Pazarli, C. Boutoura, M. Daniil, E. Livieratos 2011. *Two emblematic French maps of Peloponnese (Morée): Lapie's 1826 vs the 1832 map (Expédition Scientifique). A digital comparison with respect to map geometry and toponymy*. 25th International Cartographic Association Conference, 3-8 July 2011, Paris. Livieratos E., 2009. *Cartographic adventures of Greece, 1821-1919*, Athens: ELIA - Hellenic Literary and Historical Archive (in Greek: Chartografikes peripeteies tēs Ellados, 1821-1919). C. Witmore 2005, *ibid*.

<sup>10</sup> It is worth mentioning the extend and plethora of information given in the relevant articles in Wikipedia in French and English edition, in contradiction of the limited articles in Greek and German edition: Expédition de Morée (French),

[http://fr.wikipedia.org/wiki/Exp%C3%A9dition\\_de\\_Mor%C3%A9e](http://fr.wikipedia.org/wiki/Exp%C3%A9dition_de_Mor%C3%A9e), Morea expedition (English)

[http://en.wikipedia.org/wiki/Morea\\_expedition](http://en.wikipedia.org/wiki/Morea_expedition), Εκστρατεία του Μωριά (Greek)

[http://el.wikipedia.org/wiki/%CE%95%CE%BA%CF%83%CF%84%CF%81%CE%B1%CF%84%CE%B5%CE%AF%CE%B1\\_%CF%84%CE%BF%CF%85\\_%CE%9C%CF%89%CF%81%CE%B9%CE%AC](http://el.wikipedia.org/wiki/%CE%95%CE%BA%CF%83%CF%84%CF%81%CE%B1%CF%84%CE%B5%CE%AF%CE%B1_%CF%84%CE%BF%CF%85_%CE%9C%CF%89%CF%81%CE%B9%CE%AC), Morea-Expedition (German), <http://de.wikipedia.org/wiki/Morea-Expedition>.

fine arts section and one of the principal authors of works following the scientific part of the Expedition, supervised the excavation works in Olympia, which focused in the Zeus Temple and to a byzantine church, shown later to have been built in the ruins of Pheidias' workshop. Blouet's plans and designs were published in Paris in three volumes.<sup>11</sup> Among them, the plan of the Olympia valley,<sup>12</sup> with the two revealed monuments, thanks to which the image of Olympia and today image begin to converge with each other (Fig. 7).



Figure 7: a. Blouet's plan of Zeus Temple; b. Best fitting in Google Earth. There are minor differences in the environment (river) but the fitting of Kronios Hill and of the two monuments (byzantine church, Zeus Temple) is almost identical.

#### *The German Archaeological Institute works (1875-1881).*

In the period 1875-1881, the German Archaeological Institute, which had opened offices in Athens, began the first large-scale continuous excavation in Greece at Olympia, made possible through international contracts between the two states. The excavations of 1875-1881 cleared the main part of the sacred plain and some buildings e.g the Temples of Zeus and Hera, the Metroon, the Terrace of the Treasuries and the Philippeum. The first project included as directors some of the most famous scholars, among others the archaeologists E. Curtius, G. Hirschfeld, A. Furtwängler and G. Treu and the architects W. Dörpfeld and F. Adler.<sup>13</sup> The publication of the works held in Olympia included hundreds of detailed plans, object drawings and reconstructions.<sup>14</sup>

<sup>11</sup> Blouet, A., A. Ravoisié, A. Poirot, F. Trézel, F. de Gournay, 1831-1838. *Expédition scientifique de Morée, ordonnée par le gouvernement français. Architecture, sculptures, inscriptions et vues du Péloponèse, des Cyclades et de l'Attique*, v. 1. Paris: Firmin-Didot frères. In digital form: <http://gallica.bnf.fr/ark:/12148/bpt6k5562220x.r=Abel+Blouet+Expedition.langEN>.

<sup>12</sup> Blouet, *ibid.*

<sup>13</sup> Most of the publications of the 19<sup>th</sup> c. German excavations are digitalized by the Library of the Universität Heidelberg at <http://www.ub.uni-heidelberg.de/helios/fachinfo/www/arch/digilit/olympia.html>. For the cartographic production of this period and the German maps in Greece, see Livieratos 2009, *ibid.*

<sup>14</sup> Between 1866-88 the museum of Olympia was built thanks to the foundation of Andreas Syngros, to house more than 14.000 objects. See "Olympia: Sanctuary and numerous buildings, monuments and

These plans and surveying land maps are in such a point accurate and precise, that they consisted until recently the basis for any further investigation and use. Photographic material of this era (Fig. 8) is available to be used inside the class, in order to show the change in the environmental image due to the excavations. Besides, the best fitting images of the archaeological plans (Figure 9a, b) to the relevant Google images (Figure 9 c, d), almost identical, can be used by the teacher inside the class, in order to mention matters relevant to the technology of the map and furthermore, the way that this technological progress affects the image that the people creates about the “real” place of the “emblematic” Olympia –an image entirely different than 100 years ago (see Barbié du Bocage’s plans).

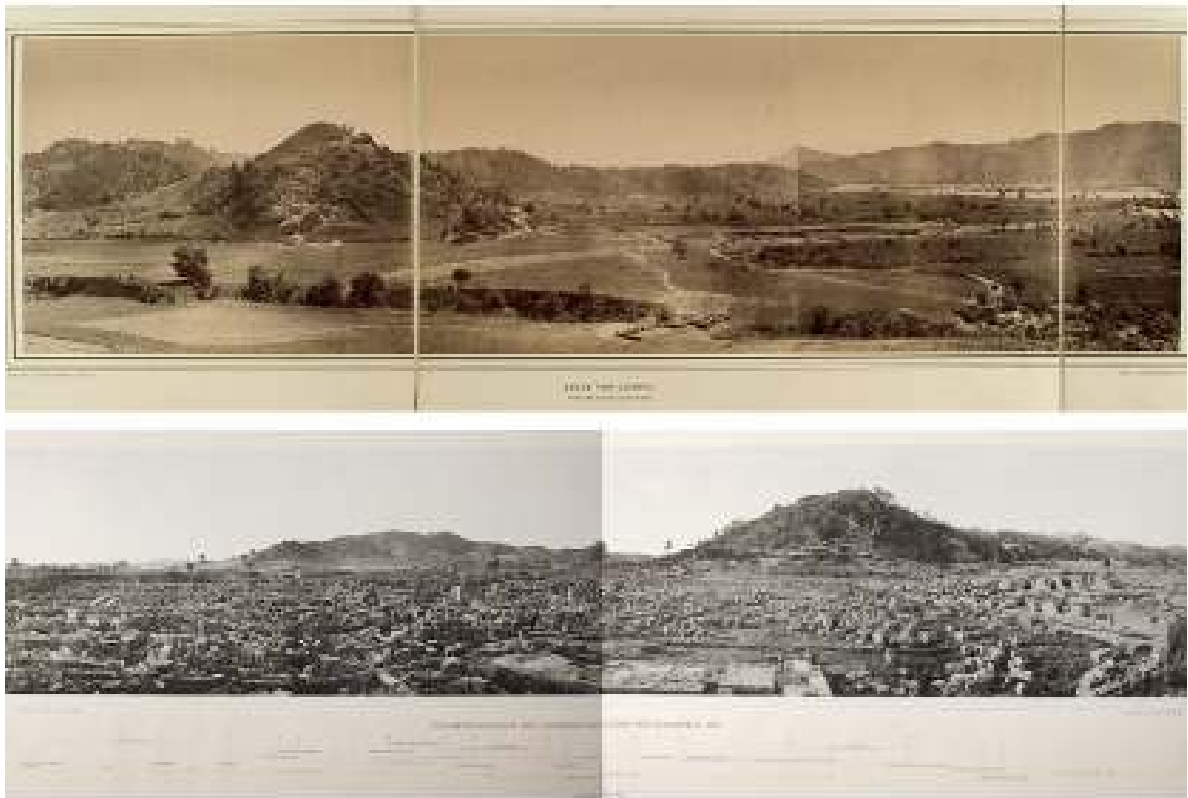


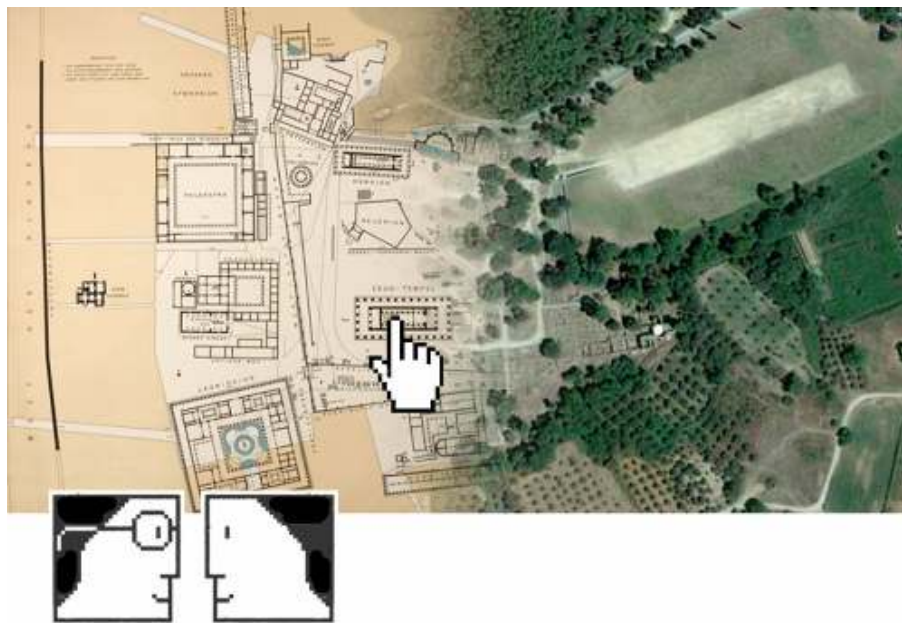
Figure 8: Early pictures from Olympia plan (1876, 1897) during the excavations.



Figure 9: a., b. Curtius' plans of Olympia (1897); c. d. Best fitting of Curtius' plans in Google Earth images. The fitting is almost identical, in contrary with Barbié du Bocage's (Rigas') plans.

*Inside the school class: further reading*

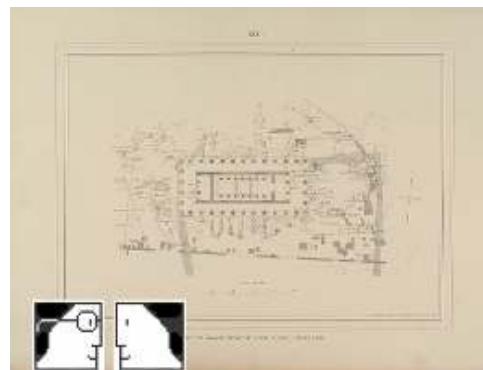
The backlog provided by the Cartographic heritage, provides the basis for multiple applications inside the class, e.g. a more detailed and deepen investigation of each monument, using photographs, ground plans and reconstructions of each building, designs of their architectural elements etc., in combination and comparison with modern 3-D reconstructions of the same buildings or of the area or additional material, provided by easy accessible and wide-used websites, like Wikipedia (Fig. 10, 11).



a.



b.



c.



d.



e.



f.

g.

Figure 10: A simple ppt application (a) for further reading and practice inside the class or by the student, in the case of Zeus Temple: 3-D reconstructions of the Temple (b, f) in comparison with Cerman 1882 ground plan (c), Blouet's and Curtius' reconstruction (d., g.) and 19th c. photographs (e).



Figure 11: Inside the class.

### Conclusions

In this work a fruitful cooperation between the high school and university education was tested and successfully implemented. A new concept in teaching History has been proposed, where Cartographic Heritage plays a key part, in association with widely used material easily retrievable from major web sources like, e.g. Google Earth, Wikipedia and other well established institutional providers in the net (e.g. Gallica, Google books etc.).

It is shown how Cartographic Heritage tools combined with textual and visual information massively and freely available in the web, which are familiar to the world of the secondary education, especially to the students, can enrich, broaden and deepen the teaching of History in the secondary education system. In our example we showed how a typical History lecture can be easily and normally extended in associated environmental and technological domains, “stinging” the interest for History of modern high school students who are addicted to modern information and communication technologies.

The research is now planned to be extended and practically evaluated in the “battlefield” of the real class, where, in general, History courses are not so popular among the young students of our days, mainly because of the traditional and stereotypical way of teaching.

### Acknowledgements

Except of the maps and relevant images uploaded from international free web providers, the other maps used here are kindly obtained from public (Aristotle University of Thessaloniki) and private map collections (*Mrs. Margarita Samourka, Mrs. Sylvia Ioannou*) in Greece. *Mrs. Olga Katsiardi-Hering* Prof. of History at the University of Athens, made kindly available the Venetian map of Peloponnese. Thanks are due to the Director of the “Aristoteleion College” of Thessaloniki *Mr. Christos Grozoudis*, Dipl. Math., who supported enthusiastically the preparation and the implementation of the project in the school-class.

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[http://books.google.fr/books?id=aTMBAAAAQAAJ&pg=PR5&dq=Barbie+du+Bocage+Jeune+Anacharsis&hl=fr&ei=aIqXTeC0FM3EswbHiP2tCA&sa=X&oi=book\\_result&ct=result&resnum=2&ved=0CDsQ6AEwAQ#v=onepage&q=Barbie%20du%20Bocage%20Jeune%20Anacharsis&f=false](http://books.google.fr/books?id=aTMBAAAAQAAJ&pg=PR5&dq=Barbie+du+Bocage+Jeune+Anacharsis&hl=fr&ei=aIqXTeC0FM3EswbHiP2tCA&sa=X&oi=book_result&ct=result&resnum=2&ved=0CDsQ6AEwAQ#v=onepage&q=Barbie%20du%20Bocage%20Jeune%20Anacharsis&f=false)

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