

The First International Workshop on Digital Approaches to Cartographic Heritage

Thessaloniki, Greece, 18-19 May 2006

In distinction to History of Cartography which concerns the continuous, methodical record of cartographic events or the study of the diachronic development of cartography or the sequence of facts related to Cartography and maps, Cartographic Heritage deals with whatever valuable is inherited or is inheritable from cartography and maps considering as cartography-heirs all those who are recipients of the goods from cartography and maps, i.e. the general public! In this sense, Cartographic Heritage (a part of the overall Cultural Heritage) represents a broader domain related not only to the literate component of cartography but also to its material counterpart, involving thus, issues affined to sciences and technologies.

In this context, all cartographic valuables inherited or inheritable from the past and the needs of all the recipients of those valuables, constitute a new field of research and implementation which concerns not only the humanistic part of the issue (i.e. history, a highly specialized domain addressed mainly to experts) but also the relevant sciences and technologies supported by modern digital Information and Communication Technologies (ICT) addressed to the general public.

This was the basis on which the recently established ICA Working Group on Digital Technologies in Cartographic Heritage was founded (www.maplibrary.gr/ica_heritage) trying to bring together the ensemble of Cartographic Heritage with the digital mainstream not only to comply with the international policies on cultural heritage both in the conceptual and the operational sense (e.g. all projects on cultural heritage financed by the European Commission should obey the digital clause!) but also to offer the ground for the attraction of young researchers in cartography who are already familiar with digital technologies and are interested in culture.

In this way, the fascinating domain of our rich and profound heritage in mapping and mapmaking (as documented in the long history of Cartography and maps) acquires a new dimension and broadens considerably its audience. The belief that Cartographic Heritage is a challenging field for modern research is mainly based on the apprehension of the cardinal changes the digital revolution is introducing to our modern societies and cultures, and especially to the new generation's way of thinking, feeling, acting and producing. It is so radical the impact of the digital revolution, that Euclid's postulation twenty-three centuries ago, that *'...everything on earth can be described by numbers (digits)...'* sounds now more than prophetic!

The WG's main concern, to contribute in the dialogue between the humanistic and the scientific/technological components of cartography, in the domain of Cartographic Heritage with the aid of digital technologies, was reflected on its First International Workshop on Digital Approaches to Cartographic Heritage held in Thessaloniki, Greece, from 18 to 19 May 2006, hosted at the Museum of Byzantine Culture (the Council of Europe's Museum Prize 2005).

It was organized with the support of the Hellenic National Centre for Maps and Cartographic Heritage, the Aristotle University of Thessaloniki and the Hellenic Cartographic Society, sponsored by the Hellenic Republic Ministry of Macedonia – Thrace, and was addressed to cartography scholars and researchers, map-historians, map-curators, map-librarians, map-collectors, administrators, digital industry/market operators and students, from different cultural, scientific and

engineering backgrounds whose work is either focused on, or affined to Cartographic Heritage.

The Workshop (www.maplibrary.gr/ica_heritage/workshop.htm) offered a common ground where colleagues from various disciplines and practice met, interacted and exchanged knowledge, experience, plans and ideas on how modern ICT can or could be used and contribute to Cartographic Heritage in terms of acquisition, processing, analysis, interpretation, storage, viability and communication of relevant digital data. Forty scientists from twenty countries (Austria, Bulgaria, Croatia, Cyprus, Czech Republic, Egypt, Finland, France, Germany, Hungary, Israel, Italy, Lithuania, Netherlands, Portugal, Spain, Sweden, Switzerland, United Kingdom, USA) and almost equal number of participants from the hosting country, the majority young researchers, together with the ICA president Milan Konecny, the secretary general Ferjan Ormeling, the past-president Bengt Rystedt and the ICA Commissions chairs, Georg Gartner (Maps and the Internet), Alexander Wolodtschenko (Theoretical Cartography) and Lazslo Zentai (Education and Training), contributed with forty papers and discussed a variety of issues related to the use of modern ICT in the access to and the study, analysis, documentation, preservation and dissemination of the multifaceted Cartographic Heritage.

The contributions were presented in eight sessions covering topics like the classification, the preservation, the conservation and the promotion of old, even from the prehistoric period, and of modern cartographic products, i.e. artefacts, maps, atlases and globes (Beconyte/Cesnulevicius; Bandrova/Kameranov; Wolodtschenko; Zentai; Ormeling), the sustainability of cartographic heritage (Jobst), the methods and technologies applied in accessing cartographic heritage via the web (Gartner) and the web uses as on-line source-provider assisting the study of map history (Drakoulis), as a ubiquitous tool for the promotion and presentation of map archives to the general public (Fleet; Jessop; Lovison-Colob; Kowal) or for assisting the education process by networked multimedia (Reyes Nuñez).

A part of the workshop's thematic was covered by the analysis of the geometric content of old maps in association with its semantics, as it is e.g. the estimation of the planimetric accuracy of historical maps giving interpretation about map compilation (Jenny), the involvement of digital transparency in unveiling the copying of old maps (Daniil), the application of navigation principles in evaluating early nautical map projections (Gaspar), or the investigation of Vermeer's expertness in map painting (Livieratos/Koussoulakou).

Digital archives, either as map libraries (Fernandez-Wytenbach/Ballari/Manso; Geospatial Enabling Technologies) or as photo libraries (De Gennaro et al.) together with issues on innovative harmless digitisation processes as applied to vulnerable documents of cartographic heritage (Tsioukas/Daniil/Livieratos; Color Consulting Group) gave the technology essence while an entire session was dedicated to the 3-d virtual reconstruction of historical urban spaces with the use of old cartographies (Guerra/Adami; Davie/Frumin; Visintini et al.; Brumana et al.; Achille et al.).

Modelling historical evidence in digital maps (van den Heuvel) and terrain accuracy of cartographic entities represented on old maps (Benavides/Koster) as well as the digital elaborations for the study of territorial temporal transformations (Balletti) and for the analysis and the comparative evaluation of shaded relief representations in old maps (Boutoura/Dalás) showed the potentiality offered by modern technology in broadening the utility capacity of cartographic heritage.

It was demonstrated that the use of numerical and pictorial data derived from classical texts relevant to cartography, allow to get insights

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on the cartographic design structures derived from such old texts like Ptolemy's *Geographia* and renaissance *Isolarii*. Ptolemy's coordinates were the basis for spatial analyses related to modern positioning of archaeological sites (Manoledakis/Livieratos), for comparisons with relevant depictions on Ptolemaic maps (Livieratos/Tsorlini/Boutoura) and *Isolarii* texts offered the pictorial data for calibrated placements of individual islands on spatially continuous insular modern maps (Ploutoglou/Pazarli/Papadopoulos).

Finally, the historic cadastres, these first large-scale mappings, which contributed to the advancement of modern cartography (Rystedt), a distinct reference in cartographic heritage, were treated using mainly tools from GIS analysis (Heere) and implemented in some key studies of regional historical importance (Orciani et al.; Pearson).

All contributions, already available in CD-ROM, will soon be published in the Workshop's paper proceedings and also in the 2006 issues of the new international web journal *e-Perimtron* on sciences and technologies affined to history of cartography and maps (www.maplibrary.gr/e_perimtron) which is willing to assist the Working Group's work.

Together with other more technical issues, which also discussed during the sessions, the final outcome of the Workshop demonstrated the need for such a working topic, on Cartographic Heritage, within the ICA structure not only because it seems to interact nicely with other topics treated by ICA Commissions and WG, which besides have expressed their collaborative interest for this first Cultural Heritage Workshop, (like e.g. Maps and the Internet, Education and Training, Theoretical Cartography, Visualization and virtual environments, Map projections, History of Colonial Cartography), but also because it contributes to the broadening of the presence and influence of scientific and engineering cartography in the Wide World of Culture.

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Visit to Mount Athos to see Ptolemy's manuscript on atlas production (*Geographia*)

We were sorry that the two other initiators of the ICA National and Regional Atlases Commission, Tim Trainor and Eva Siekierska, were not able to join us, on this 'pilgrimage' to the repository of one of the oldest existing manuscripts of Ptolemy's *Geographia*, a description of the manner how to produce an atlas with world maps and regional maps, with a list of 8000 places and their coordinates, originally from the 2nd century AD. Just prior to the First International Workshop on Digital

Approaches to Cartographic Heritage, organized by the ICA Working Group on Digital Technologies in Cartographic Heritage (that is by Prof. Evangelos Livieratos and his staff), Thessaloniki 18-19 May 2006, we were allowed to make a day trip to the Vatopediou Monastery, the second largest in this autonomous monasterial republic (where only men are admitted), of the Holy Mountain or of Mount Athos, where the Ptolemy manuscript is kept.

Departing from Thessaloniki at 5AM, being picked up by Miltiadis Daniil, a Cartography PhD student from Democritus University in Xanthi, we reached Ierissos on the far side of the Chalkidiki peninsula at 7 AM, where we met an intermediary from whom we received our Diamonitiria (working permits to visit Mount Athos, signed by the abbots of the Great Lavra, Dochiarios, Xenofoon and Esfigmenos monasteries), which were subsequently checked by a border patrol of the Greek Navy, and then were allowed to board the boat that would deliver us straight to the Vatopedi monastery by 9.45AM. This gave us a window of a good hour and a half, as the same boat, the only direct link with the outside world that day, would call again on its journey back to Ierissos at 11.30. After a reception in the guesthouse and a visit to Father Arsenios' study we finally arrived in front of the Monastery's treasury where amongst others the manuscript is kept. Unfortunately, because of the religious festivities on this very day, the staff responsible for the treasury was attending a function elsewhere, but they had left instructions how to handle the many keys. These proved to be insufficient, as all the attempts to open the first lock by Father Arsenios and his assistant were in vain. He finally suggested Bengt to try it as well, and this worked! 20 minutes before the boat was to call again on its return visit, all the 5 other locks underneath the first one had been opened as well without any problems, we were in the treasury and in front of the manuscript!

Although the short duration of the visit prevented us to see more of this wonderful monastery dating from 972AD, seeing this first atlas (as in most other Ptolemy manuscripts, the guidelines how to produce the world and regional maps had been followed and elaborated as well, so that it really has been turned into an atlas) was a very special occasion for us, having worked with and on atlases for so long. At 3.00 PM we were again in Thessaloniki, back from another world.

Ferjan Ormeling
ICA Secretary General



ICA past president Bengt Rystedt with Father Arsenios, Vice-Abbot of the Vatopedi Monastery on Mount Athos, in front of the book in which the 13th century Ptolemy manuscript is bound.