

## SPECIAL THEMATIC MAPS ABOUT THE HISTORY OF CARTOGRAPHY

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### *Summary*

*During the last 20 years one of the author (Prof. Cohen) has been developing a new direction in the thematic mapping - "Maps for the needs of geodesy and cartography". The opportunities of this direction are considered for the needs of research and education in the field of history of cartography.*

*Algorithms for the compiling of thematic maps about the history of cartography are presented. Examples are given about specially compiled maps about the history of cartography demonstrating different technologies and objectives.*

*Historic-biographic maps about prominent persons in cartography as part of studying the history of cartography are demonstrated.*

#### **1. The history of Cartography – Main directions and users**

**From the cartography point of view, the question of the cartography history can be discussed in some aspects:**

1. Examination of old maps from different epochs, which demonstrate directly the evaluation of the cartography like thematic, subject, representation and technology;

2. Development of the Cartography in connection with the contribution of notable persons, schools and organizations;

3. The development of cartography like a science, including information for institutes, institutions, libraries and others, take care of the history of cartography.

The examined special thematic maps can help in solving some tasks, subjects of the history of the cartography, like:

1. Tracing of the main trends in cartography development

2. The attempt for chronicle the history of the cartography

3. Showing and analyzing of the main cartographic productions – "representing" of a precise types and group of maps;

4. Using history of cartography studying like an instrument for enlarging its influence over the population;

Before starting to compose a map, its needed to find out its destination and its users. In **Table 1** are mentioned some of the main directions in historical - cartographic investigations, as well as the expected results.

**Table 1**

<b>Main directions of investigations in the area of the history of cartography</b>	<b>Expected results</b>
1. Investigation of the describing methods in Cartography	<ul style="list-style-type: none"> <li>- Uncovering regularity in cartographic modeling development</li> <li>- Uncovering the principle in cartography semiotic by map's language;</li> <li>Adapting pictorial methods to computers technologies</li> </ul>
2. Investigation the thematic of mapping	<ul style="list-style-type: none"> <li>- Building up a base for systematization of the thematic</li> <li>- Discovering new area for analytic, synthetic and complex mapping.</li> </ul>
3. Studying the main directions in development of the technology of composing, modeling and printing maps	<ul style="list-style-type: none"> <li>- Discovering the regularity in Cartography technologies and attempts for their improvement and prognostication;</li> <li>- Using the new technologies and their adaptation to old decisions</li> </ul>
4. Studying the contributions of notable cartographers and some cartographer's schools.	<ul style="list-style-type: none"> <li>- Clearing the contribution of some scientists and science schools for development of a specific cartography directions;</li> <li>- Investigation of the complex social-economic, technical and cultural background in cartography developing;</li> <li>- Critical analyze over the subjective factor role over cartography developing</li> <li>- investigation the role of the traditions in</li> <li>- Map compilation and map design</li> </ul>

5. Like an additional tool for investigators-historicist and collectors of old maps.

In solving this tasks, the maps, that we already mention can help for:

- Marking the regions, including maps from exact epoch;
- Investigations the developments of the methods of representation;
- Investigation of the author's contribution;
- Investigation of the development of the thematic and special maps and others.

From the mentioned different tasks and aspects, we will examine only a few.

**2. Historical maps for tracing the development of the representation the relief ( Aspect 1 )**

**Development of cartographic methods for can** be studding on the base of authentic and a typical "maps -models " and at the same place "pilot-maps". "Pilot-maps" show the regions for which the etalons are, or the place in which the maps are composed.

Like derivative from "authentic maps" for the aims of investigation can be used a separate fragments (usually in larger scale), who use for investigation as well a representatives methods, as a using technologies

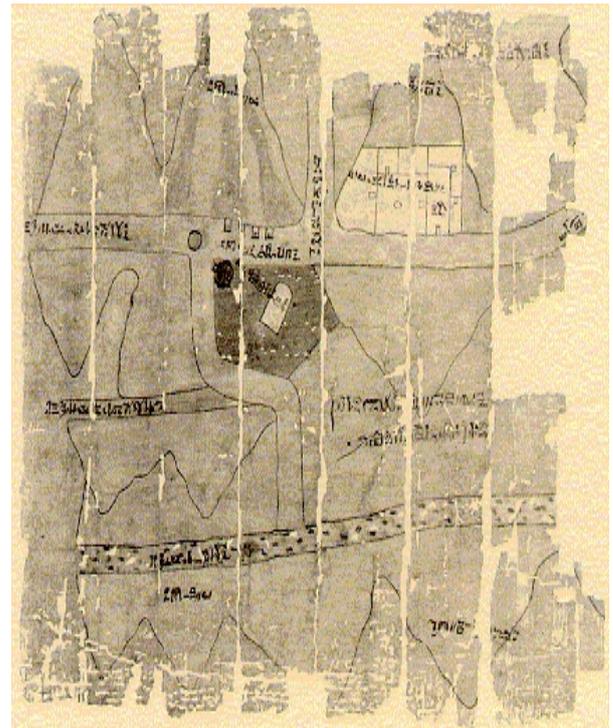
Computer mapping describes new possibilities for composing of "Multiplan maps". With their support it can be demonstrate typical models of maps and the regions, which they represent. It can be demonstrate as well cartographic centers, in which the maps ware composed, and images and notes for their composers.

"Clicking"( Click ) on some are from the "pilot-map", on the computer screen will appear typical "authentic maps".

**Example 1.**



**Fig.1**



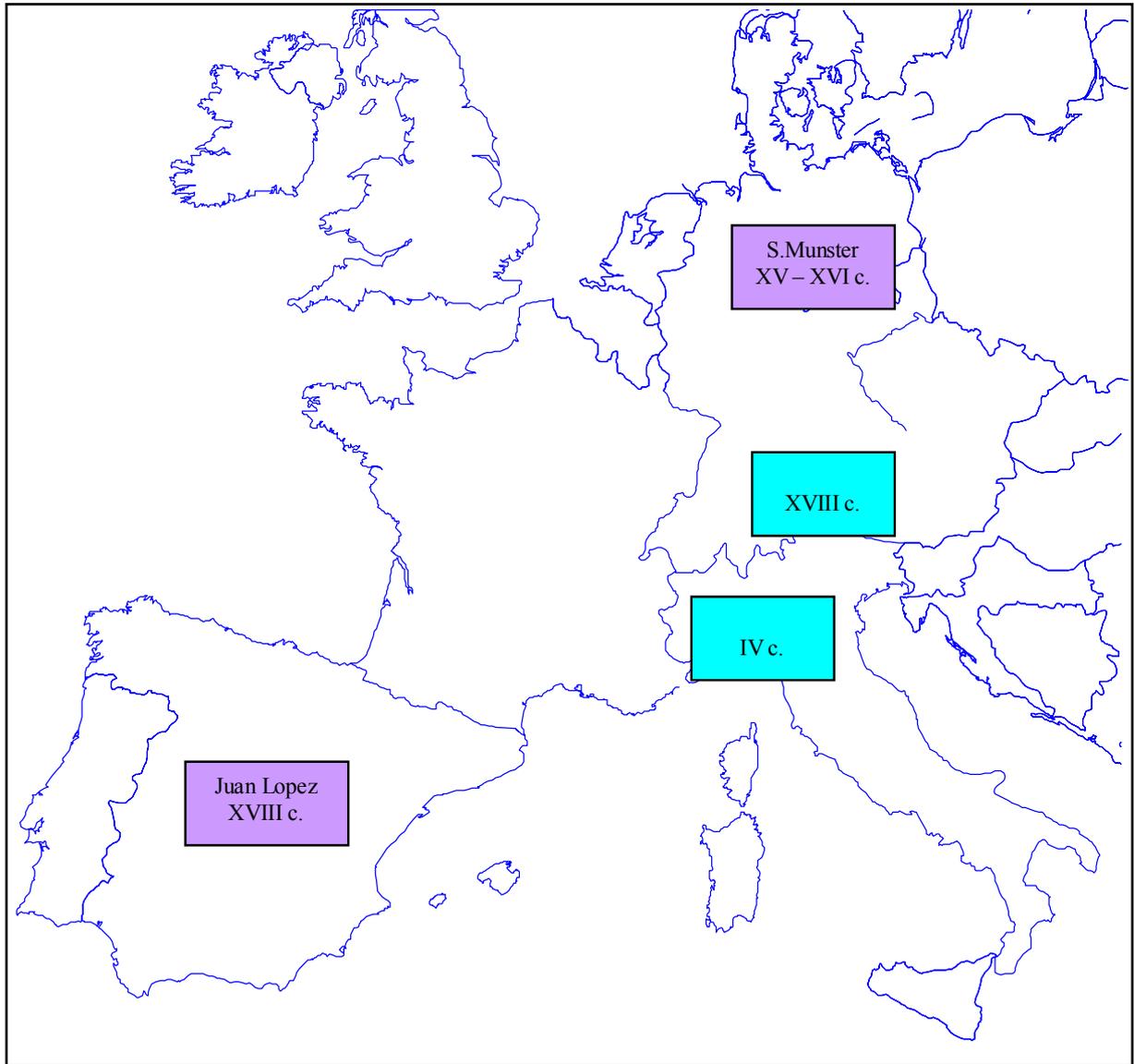
**Fig.2**

On **Fig. 1** is shown one “pilot map” for northeastern Africa region, on which is marked scope of one of most ancient maps, represented relief. It is Ancient Egypt map of Nubian golden fields (somewhere around Red sea) from the time of Ramses II – the pharaoh (1290–1224 BC). The authentic map is shown on **Fig. 2**. The map original is kept on papyrus in Egizio museum –Torino (Italy).

This is an example for naivestic relief representation. It is shown mountain neighborhood with roads. Mountains are shown as they can be seen from the two main roads – one is upside, the second are upside-down

On **Fig. 3** is shown “pilot map”, including places of maps from different regions from Europe, composed from different periods.

## Example 2



**Fig.3**

In this map also it is shown the country, from which came the famous cartographer from XV – XVI century Sebastian Munster ( 1485 – 1552 ). His maps are an indicator for relief representing in XV – XVI century. Clicking on this part of “pilot map”, it will appear a part of composed from Munster map of Asia, included in his composition Cosmography (Basel, 1628).

It is starting with one Middle-ages copy of a Rome road map from the second half of the fourth century (an example from the map “Tabula Peutingeriana” stored in Austrian National Library) **Fig 4**.



### Example 3.

On next example, clicking over the part of Pilot map, related to the cartographer Sebastian **Munster**, it will appear a part of a map of Asia, composed by him and included in his composition “Cosmography” (Basel, 1628) –see Fig. 5.

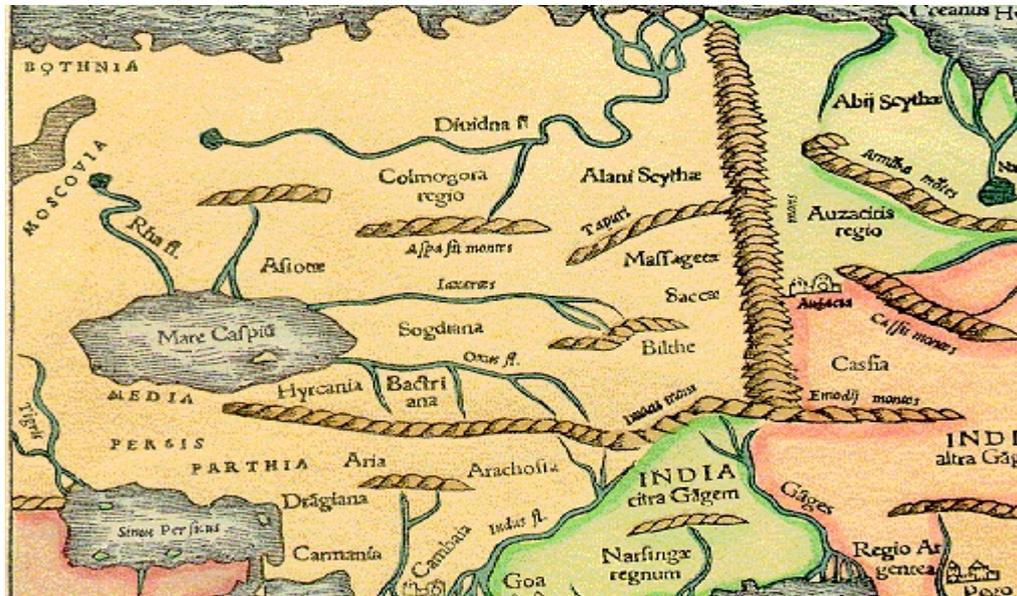


Fig.5

The next example show the location of published in 1785 in Madrid Juan Lopez’s map of Mexico town surroundings. Clicking on the sign near to Madrid, on the screen it will appear a part of this map – Fig.6



Fig.6

It shows comparably undeveloping in relief representing in non-European countries in the end of 18 century.

#### Example 4.

If we use the figures 4 and 6, we can demonstrate also showing of the detailing fragments from both of maps. In the first case reader can see a specific representation of the flora over the mountains (**Fig 4a**) and in the next case, showing the volcano (**Fig 6a**). This possibility, given to us from computer imaging is extremely useful, in investigation of representative methods and using technologies in ancient maps.

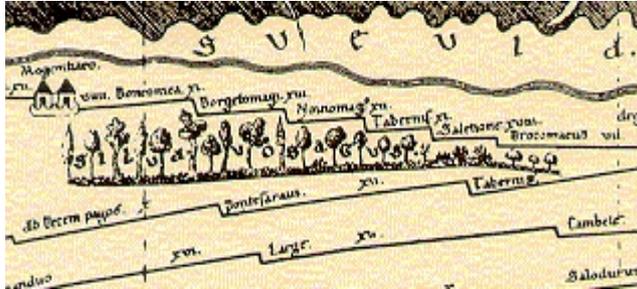


Fig.4a



Fig.6a

On the base of this kind investigation it can be composed additional special maps, on which to be marked analogies in representations methods, the time of their use, used technology for composing and printing and others.

### 3. Conclusions about the possibilities for using multimedia maps for studding the history of the cartography on Internet

Based on examples, showed in this paper, some proposal for developing of this direction of mapping in computer cartography conditions and Internet can be done:

a/ Developing of sides for history of cartography on Internet (WWW) can be used like a permanent base for studying the history of cartography, based on multi-layered representation computer maps **including fragments with specific details.**

b/ Developing of this kind of a page can be supported by dividing the works between the participants and the **permanent commission for the history of cartography.**

c/ Studying the history of cartography can significant increase its level and efficient, if it is based on largest using of presented special thematic maps. Largest Internet wide spreading can give a stimulate effect also over “outside users” – collectors, historians and others. From this the cartography will only going to win.

## **Lyterature**

- [1]. A. M. Berlyant, Geoinformational mapping, M.,1997
- [2]. A. M. Berlyant, I. A. Ushakova, Cartographic animations, M.2000
- [3]. B.Cohen, Thematical Maps referring to the History of Cartography, ANNUARE DE L'INSTITUTE D'ARCHITECTURE ET DE GENIE CIVILE – SOFIA, Vol. XXXI , 1983 – 1984, 59-65
- [4]. B.Cohen, Historical-Biographical maps of Famous figures in the field of Surveying and Cartography, ANNUARE DE L'INSTITUTE D'ARCHITECTURE ET DE GENIE CIVILE – SOFIA, Vol. XXXIV ,. 1988– 19849, 91-98.
- [5]. B.Cohen, School maps for Surveying and Cartography, ANNUARE DE L'INSTITUTE D'ARCHITECTURE ET DE GENIE CIVILE – SOFIA, Vol. XXXIV , 1988– 19849, 83 - 90.
- [6]. B.Cohen, Съставяне и използване на специални карти за изучаване и популяризиране историята на картографията, Сборник доклади на Национален семинар “История на картографията в България”, София, 1994, с.109-116.
- [7]. B.Cohen, Geoinformational Mapping, ANNUARE DE L'INSTITUTE D'ARCHITECTURE ET DE GENIE CIVILE – SOFIA, Vol. XXXIX , 1998, 79 – 80 .
- [8] . Geographisch- Kartographischer Kalender - VEB Hermann Haack , Geographisch- Kartographische Anstalt Gotha/ 1968