

# THE MANUSCRIPT MAPS OF ANGOLA BY MAGYAR LÁSZLÓ AND THE CHOLNOKY MAP COLLECTION OF CLUJ

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## **Abstract**

In *introduction* we have to present the two unconventional sources of our paper. On one hand we provide a briefing over the discovery of a map collection at the Babeş–Bolyai University in Cluj-Napoca (Romania) which had been lying unknown decades on the bottom of a store-room. This one was named as Cholnoky Jenő Map Collection and has been cataloged by the first author and now seems to be the second largest collection in Romania. On the other hand we give a briefing over the research of the second author, about the cartographic work of a Hungarian explorer, who was well-known mostly for his geographical-ethnographic works. This explorer, Magyar László lived in the area of the present-day Angola between 1848 and 1864. He traveled and described some South African areas as first European. He sent home his maps and his geographical-ethnographic papers. Why we connect these two topics? The linking point of the two roots is a manuscript map which was hidden in the unknown collection. The map was made by Magyar in 1858, discovered by us, and now stored in the Cholnoky Map Collection. Until now we know only his manuscript map from 1857 representing the coastline of Angola, the other parts of his cartographic work about the inner parts was known only by the revisions of August Petermann. On the map from 1858 discovered by us, Magyar represented an inner part of Angola. This area was hardly known at that time by Europeans. On the map Magyar drew his contemporary's, Livingstone's path through this area.

We had two *objectives*. We had to clarify the route of his maps from South Africa to Hungary and Romania (the Romanian location was an improbable location). Furthermore we wanted to analyze the accuracy and the content of the manuscript maps.

We adopted two different *methodologies* in dealing with the two objectives. For clarifying the route of the map, the second author – after processing the nearly three thousand items found in libraries and archives mostly in Hungary and Portugal but also in Germany and Austria – compiled a massive bibliography related to Magyar and his contemporary South African travelers. For analyzing the two manuscript maps the first author used digital tools, GIS-methods, statistical index numbers and some tools of Toponymy.

Beside the facts that we cataloged the discovered map collection and we made the bibliography of the explorer's works, as *results* we highlight that we discovered a

manuscript map which was looked for, but not found by many researchers in the last 150 years. In the paper we give a possible scenario of the route of map from South Africa to the actual location. Moreover, we analyzed the two manuscript maps of Magyar, which represented South African areas hardly known at that time by Europeans. We determine the accuracy of the maps by using statistical index numbers.

Our *conclusions* are the following. The analyses of these maps contribute to the history of exploration of Angola in the 19<sup>th</sup> century. The spatial data gained from the textual descriptions of Magyar, absolutely complement the cartographical sources with a graphic layout. Magyar – because he not only traveled but he lived there, he integrated in local society – was able to map homogeneously the area which was impossible for travelers who stayed there less time. The cartographical analysis has shown that the explorers, mapping the divide of the Congo and the Zambezi rivers, knew and used the each other's findings. His correspondence provides hints concerning the missing manuscripts. The most probable location of the missing documents could be the Arquivo Histórico Ultramarino (Lisbon), the further research in this direction may provide more results.

### **The Cholnoky Map Collection (Cluj-Napoca, Romania)**

A lot of old maps and photos were discovered in 2001 at the Babeş–Bolyai University of Cluj-Napoca in a store-room. It was a surprise, nobody knew about the existence of the collection. After the first contact with the dusty and in some places molded papers, we realized that the collection was built up by one of the greatest Hungarian Geographers, Cholnoky Jenő one hundred years ago.

To understand the history of the collection we have to relate it in parallel with the history of the region. The location was part of the Austro-Hungarian Monarchy, the Hungarian name of the city is Kolozsvár, the name of the university was Francis Joseph University. Cholnoky was head of a department at this university between 1905 and 1919. The Monarchy was defeated in WWI. As consequences, the eastern part of Hungary, the historical region of Transylvania inhabited by Romanian, Hungarian and German population, where Kolozsvár lies, became part of Romania by the end of that war. The Hungarian university and also Cholnoky left the city, but the collection remained. The official name of the city was turned into the Romanian name of Cluj (later Cluj-Napoca). A Romanian university was settled in the buildings of the former university. According to the inventory stamps found on the maps, we can conclude that the map and photo collection had disappeared in the communist period of the fifties. In 1989 the communist government fell, the university became multicultural: now the name of the university is Babeş–Bolyai University with Romanian, Hungarian and German languages of education. The collection was discovered in 2001, so the maps spent fifty years in anonymity. (Bartos-Elekes 2008)

At first the photo collection was cataloged by Imecs Zoltán. The photo collection contains more than 5000 non-series photos from the beginning of the 20<sup>th</sup> century mostly photographed by Cholnoky in Transylvania, but also on his travels even in other continents (China, USA). (Imecs 2004)

The map collection was cataloged between 2006 and 2008 directed by Bartos-Elekes Zsombor, and assisted by students (Groos Boróka, Lázár István and Veres József). The map collection contains 6100 items. Of these items 4200 items are chorographic and thematic maps, 1750 items are (mostly Austrian) topographic map sheets and 150 items are atlases. The oldest maps are from the 17<sup>th</sup> century, but the majority of the maps are from the 19<sup>th</sup> century. The map collection can be considered the second largest collection of old maps in Romania after the collection of the Romanian Academy in Bucharest (the Cholnoky Map Collection is larger than the map collection of the Romanian National Library). During the cataloguing we found some valuable manuscripts as well. In this paper we would like to relate about only one of these: the map by an explorer of Angola, Magyar László. (Bartos-Elekes 2008)

### **Magyar László, a Hungarian explorer in Angola**

Magyar László was born in Szombathely (Hungary) in 1818, he left Europe in 1843. Magyar arrived in Africa in 1848, where he lived and traveled on the present territory of Angola. He was the son-in-law of the sovereign of the Bie territory, so he integrated in the local society. During this time, he lived in Kuito, Benguela and he died in Ponto do Cuio in 1864. (Nemerkényi 2008)

During his travels in South Africa in some areas he was the first European explorer. He traveled in the borderland of the present states of Angola and Democratic Republic of Congo (1850–1851) and in the southeastern part of Angola (1852–1854) so at the divide area of the basins of rivers Zambezi and Congo. (*See Figure 1*).

Magyar had an extended correspondence with many scientific circles. The Portugal Government in Benguela requested Magyar to edit the map of Angola but the intention failed. He sent his ethnographic-geographical works home to the Hungarian Academy of Science. As outcome he became corresponding member of the Hungarian Academy in 1858. (Nemerkényi 2008)

Until 2007 the researchers knew about just one original manuscript map by Magyar, drawn in 1857. The second manuscript map from 1858 was discovered, within the Cholnoky Map Collection, by Bartos-Elekes and identified by Nemerkényi in 2007.

### **Manuscript Map from 1857 stored in Budapest, Library of the Hungarian Academy**

Magyar László sent the first volume of his reports and the additionally edited map to Hunfalvy János, member of the academy, with the intervention of the Portuguese

government in 1857. He was informed about the successful delivery and the publication of his work, as well as his academic appointment in 1861.



Figure 1. The travels of Magyar and his contemporaries and the areas represented on his manuscript maps

This way, his first manuscript map became part of the collection of the manuscript department of the Hungarian Academy where it has been stored until today (Magyar 1857). The first Hungarian patron of Magyar's case, Hunfalvy wrote a preface to the textual part and supplemented it with notes, to be published in 1859. (Hunfalvy 1859) (See Figure 2).

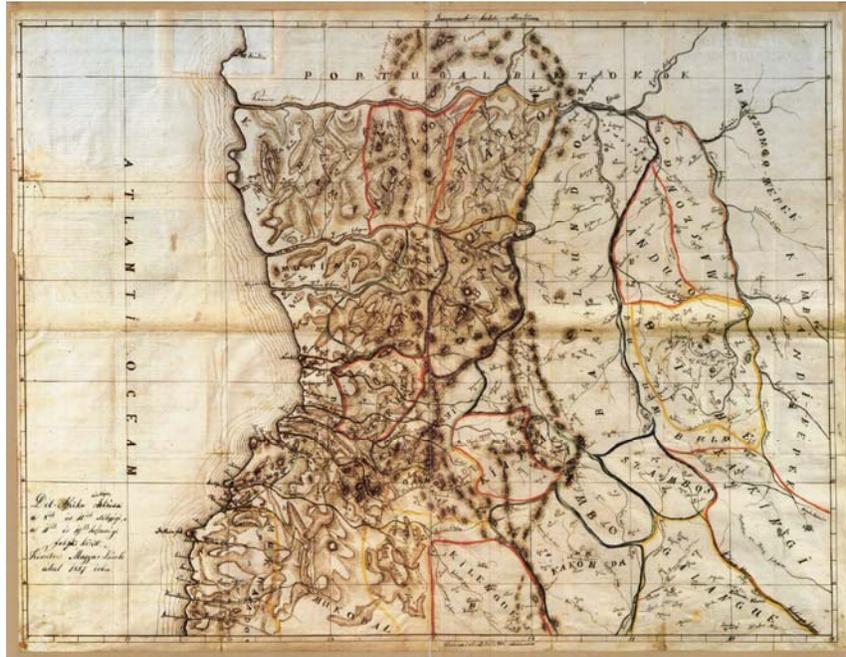


Figure 2. The manuscript map from 1857

Similarly to earlier letters and reports, Hunfalvy sent the German translation of this material to August Petermann as well as to the officers of the Royal Geographical Society. It cannot be documented that Hunfalvy sent the original map to any institute abroad, but supposedly he forwarded its re-edited copy, along with Magyar's textual descriptions, to the representatives of the international scientific community.

#### **Manuscript Map from 1858 stored in Cluj-Napoca, Cholnoky Map Collection**

In his letter sent to Hunfalvy 1858, Magyar appended the description of the countries of Moluva, *alias* Moropuu, and Lobal as well as a map sheet displaying the territory (Magyar 1858a). It was the study to be read by Hunfalvy as the inaugural lecture of Magyar at the Hungarian Academy of Sciences (Magyar 1859).

The same study appeared in the geography journal of August Petermann with a minor difference: he also published the re-edited version of the appended map and the Moluva word list of approximately 200 words from the original manuscript (Magyar 1860a, 1860b). It was the last publication to refer directly to the original and unaltered manuscript map. From then on, almost for about a century and a half, various studies referred to the copy published by Petermann.

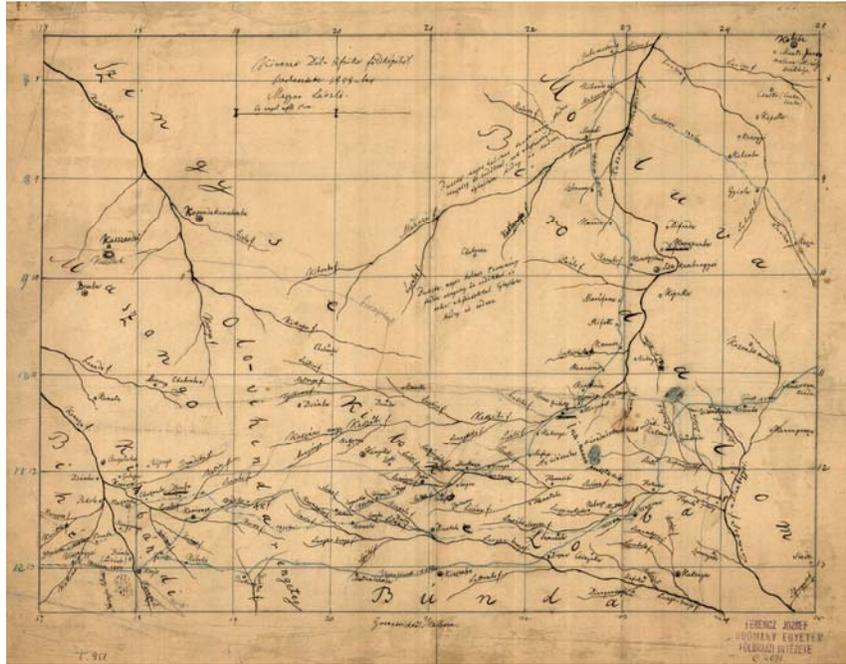


Figure 3. The manuscript map from 1858

In his biographical study published in 1937, Thirring Gusztáv still refers to „maps” in plural, without providing accurate indication of sources (Thirring 1937). The use of the plural was indeed correct, since the before-mentioned correspondence and reports obviously imply the editing of more maps, out of which Magyar sent at least two pieces to Hungary via Portuguese mediation. In 1888, Thirring visited Alexander Supan, the editor-in-chief of *Petermann's Geographische Mittheilungen* in the Justus Perthes Geographical Institute in Gotha, to ask for the manuscript map of Magyar. However, it was no longer in the map collection of the Institute at the time.

It would have been indispensable to have access to the unaltered version of the map in order to provide a summary of Magyar's scientific achievements and a cartographic analysis. Therefore, Nemerékényi has conducted research in the collections of the Justus Perthes Geographical Institute in Gotha, the Lisbon Geographical Society, as well as the Royal Geographical Society, but they all yielded only references to the map in question. None of the institutes had the map. The original manuscript map was discovered at a surprising location, at Cluj-Napoca, in April 2007 by Bartos-Elekes, during cataloguing the Cholnoky Map Collection and it was identified by Nemerékényi. (Magyar 1858b) (See Figure 3).

The map discovered in 2007 reached Hunfalvy as the appendix to the treatise; he forwarded it to Petermann to publish it in his journal. So far, it has seemed probable that the manuscript version is in the Justus Perthes Geographical Institute in Gotha. Today,

however, it can be taken for granted that Supan was not mistaken when he was unable to locate it at the request of Thirring in 1888. After editing and publishing the study and the appended map in 1860, Petermann must have returned it to Hunfalvy by 1888 who might have added the precious map to the collection of the Hungarian Geographical Society, founded in 1872 and directed by himself – instead of the collection of the Academy. This is supported by the fact that the map emerged from Cluj-Napoca where it might have ended up through the intervention of Cholnoky. It is hardly probable that Cholnoky could have brought it along from the manuscript department of the Hungarian Academy of Sciences. In the Hungarian Geographical Society, Cholnoky served as secretary from 1905 to 1910 and as president from 1914 to 1945. He carried the map to Cluj-Napoca during his tenure as a professor at Francis Joseph University. When he was suddenly forced to leave in 1919, he could not take it to Budapest, Hungary. If the departmental map collection had a catalog, this map had a place in it. The seal of the *Ferencz József Tudományegyetem Földrajzi Intézete* (Geographical Institute of Francis Joseph University) appears in the lower right corner with the catalog number C 4071 underneath. From this, it is obvious that the map became part of the collection in Cluj after 1905 but before 1919.

### **The accuracy of the manuscript maps**

The two manuscript maps altogether represent Central Angola. The 1857 one represents the western part (and the coastline), the 1858 one the inner parts (with territories of DR of Congo). They have overlapping area. The represented area was hardly known for Europeans: David Livingstone in 1853–55, António Francisco Ferreira da Silva Porto in 1841–1854 traveled in that zone close to Magyar.

Both maps show the geographic coordinate system. The grids are quadratics, so we can declare that the projections are the Equirectangular Cylindrical Projection with true scale latitude in Equator. Based on the dimensions of the grid we can calculate the theoretic scale of the maps (theoretic: compared to the geographical grid). On the map of 1857, 1 degree (111 km) corresponds to 91 mm, so the scale is at about 1:1,220,000. On the map of 1858, 1 degree (111 km) corresponds to 54 mm, so the scale is at about 1:2,040,000.

We analyzed the maps with MapAnalyst software (Jenny 2007). For comparison we used as a new map the sheets of the Soviet topographic maps of South Africa (1:500,000) converted by us with GIS methods in Equirectangular Cylindrical Projection with true scale latitude in Equator (the same projection as used by Magyar).

On the map from 1857 we found 18 control points. The local scale factors of the map (compared to the content of the map) are 1:1,050,000 horizontally and 1:1,170,000 vertically. So the map is larger with 16% (horizontally) and with 4% (vertically) than Magyar supposed. So the error in latitudes is only 4% but the error in longitudes is 16% (the measuring of longitudes was more complicated as the measuring of latitudes).

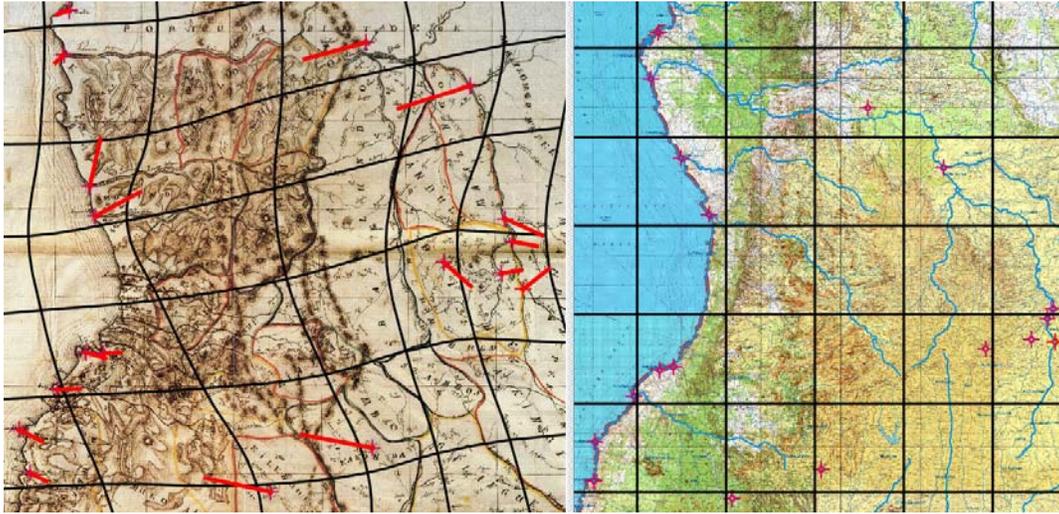


Figure 4. The geographic grid and the distortion vectors on the map from 1857

The standard deviation of the displacement vectors is 37 km, the mean positioning error is 52 km. The displacement vectors mostly have a horizontal direction (the larger error was in longitudes). The places on the coastline were drawn western as they are in fact. The places close to Kuito (Magyar's residence) were drawn eastern as they are in reality. (See Figure 4.)

On the map from 1858 finding control points was harder because this area was poorly mapped, we found just 9 control points. Here the scale factor of the map is also larger than Magyar supposed (with 25%). The displacement vectors are 20–30 km, the vectors have varied directions. (See Figure 5).

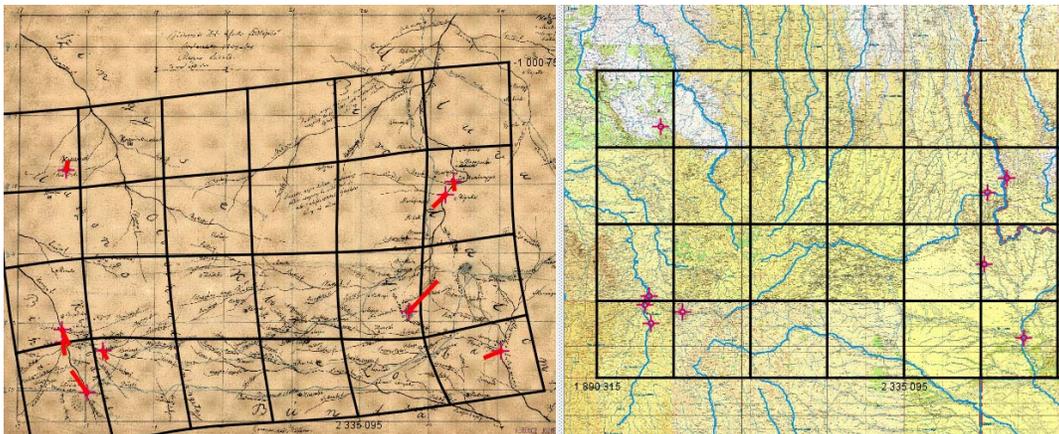


Figure 5. The geographic grid and the distortion vectors on the map from 1858.

Magyar used astronomic positioning measurements for the latitudes, here he has smaller errors. His estimations of longitudes have larger errors. Moreover on the map from 1857 probably he used other maps as a source that is why this one is more correct. The map from 1858 (which represents the inner area) is inaccurate because this one represents an area never mapped before.

### **The content of the manuscript maps**

Both maps represent the geographic grid, the hydrography and the settlements. The map from 1857 represents the terrain and the boundaries. The map from 1858 shows the route of Livingstone as well. We have to highlight that the maps try to represent the area homogeneously in other words with uniform detailing. This merit is the result of the fact that Magyar was integrated in the local society. He had more information about the whole area not just only about the territories that he covered. We can compare them with the map of Livingstone from 1854 from the similar area where the map represents only a stripe around the explorer's route.

The number of names is 450 (on the map from 1857) and 150 (on the map from 1858). The names are mostly place-names and hydronyms with some description notes in Hungarian. So it is very a detailed map compared with the maps of other travelers (e.g. Livingstone). (Livingstone 1854)

### **Lost documents**

The Academy learned about the Hungarian traveler's death only in 1868. Upon receiving the sad news, they asked permission from the Portuguese government to transport his bequest to Hungary. The Portuguese authorities reported in 1872 that the case with Magyar's bequest was destroyed by fire. The Hungarian scientific circles had difficulty accepting this explanation, but the period of eight years that passed since the death of Magyar had been too long to allow for effective action.

Several manuscripts were certainly destroyed, but it would be premature to write off all the documents. Our research makes it already clear that some objects and documents, found after Magyar's death, could provide further insights in the study of his discoveries. However, one cannot squarely exclude the possibility of the second and third volumes and the pertinent maps in question coming to light from an archive in Angola, Portugal, or even elsewhere in Europe. Judging from the example of the manuscript map from 1858, finally, it is not at all certain that one has to do research where it would seem most logical.

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