

# Kogutowicz's Globes in the Virtual Globes Museum, Budapest – The Kolozsvár Connection

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The recently opened Virtual Globes Museum (<http://vgm.elte.hu>), founded by the author at the Department of Cartography and Geoinformatics, Eötvös Loránd University, publishes three-dimensional virtual models of old globes on the Internet. The main purpose of the museum is to preserve these artefacts of old cartographers and at the same time to make them available for anyone who wants to study their content all over the World. In the Virtual Globes Museum project several globes are shown in their current, real state. There is a searchable background database containing detailed datasheets for each globe. The models are fully interactive: visitors can spin the globes around, zoom in and out. Manó Kogutowicz was one of the founders of modern cartography and map publishing in Hungary. He died just 100 years ago, on 22 December 1908 at the age of 57. He had a short, but varied and rich life. György Kisari Balla, researcher of his life, has made a catalogue of his 542 publications (maps, atlases, globes) made between 1884 and 1908, which included six globes. Unfortunately, five of them could not be found by the author of this paper even after searching in the major globe collections. However, several map prints of globes not listed in the catalogue were found. By now these maps have been processed and published in the Virtual Globes Museum. In this way there are already two globes of 51 cm and four of 25.5 cm diameter in the VGMOne of the 51 cm diameter globes was found at the Cholnoky Collection in Kolozsvár (Cluj-Napoca) with the help of Zsombor Bartos-Elekes, the lecturer of Babeş-Bolyai University, Faculty of Geography. Now this is the only known printed sheet of globe segments which was made by Kogutowicz in 1896.

## **Some words about our project on the Virtual Globes Museum**

Some years ago, when I counted the number of Hungarian globes, I had got one hundred at least. I considered those globes as Hungarian globes which

were published in Hungarian language or which were made by Hungarian author(s).

In Hungary, we have at least another one hundred very important globes made abroad, such as the terrestrial-celestial pair of Blaeu's globes in Zirc,

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and one or two dozen of manuscript globes which exist in one copy only.

I think it very interesting that although we have about one hundred terrestrial or earth globes, there are only a few celestial globes issued in Hungarian or by a Hungarian author.

Unfortunately, there is no museum for globes in Hungary now, such as the one in Vienna, for example. There is no museum where one can study the marvellous pieces of Hungarian globe making. That is why I decided to found the Virtual Globes Museum one and a half years ago (Márton 2007). This is both a museum for virtual globes (globes that have never existed before) and a virtual museum for globes (Márton, Gede, Zentai 2008; Márton, Gede 2008). My young colleague and friend, Mátyás Gede helped me to solve the technical problems (Gede 2008, 2009; Gede, Márton 2009).

The goal was to create a homepage where we can collect all the valuable pieces of Hungarian globes making, creating their 3D models, showing photos about them and giving a detailed description of them. The goal was as well to collect the most important foreign issued globes from the great Hungarian map collections, from museums, libraries, research institutes and schools.

### **Sources for the model of 3D globes and the “facsimile” problem**

There are two sources for building up the model of a 3D globe.

We are lucky if the map prints of the globe are still available. They

are normally composed of a set of twelve segments (if the globe is very big, there may be a series of 18 or even 24 segments). In most cases, these segments are completed by two separate polar caps, which represent the region of the Arctic and Antarctic areas. These caps are also useful to cover the increasing matching errors of the map segments near the polar areas, which evolves when mounting the segments on the base globe. In this case, the scanned segments and polar caps have to be carefully fitted on the surface of the virtual globe by georeferencing their content.

However, if only the earth or celestial globes (that is prints mounted on globes) are available, we may need several good quality copies of the globe to overcome the errors due to the improper mounting or the damage caused by time. In this case, series of photographs of the globes have to be taken. After selecting the best parts of the images, the bits can be fitted on the globe by georeferencing them using the geographical grid. This is in fact the same way as the digital restoration works: the damaged parts of the globes are completed by the help of photographs taken of other available copies of the same edition.

The virtual globes are the facsimile copies of the original. The reproduction is virtual, because the image on the computer display is compiled by the further processing of digital photographs or scanned maps. The product is a virtual facsimile. Defining the meaning of facsimile is a crucial point. The Explanatory Dictionary of Cartography says the following: “817.7 facsimile map: The reproduction of an

old map true to its original." However, what does "true to its original" mean? May it mean the reproduction of the present state of the map? Generally, this approach is accepted. The colour separation of high-resolution colour photographs of the old maps is used to make the printing originals or plates. The printed facsimile shows the present state of the map. The accidental damage and faded colours are reproduced, which means there may be great differences between the present and the original states.

In many cases, the present state of the map is not the same as that of the original. If they are identical, then the product is a contemporary facsimile. The original map prints of the globes are normally kept in files and protected from illumination unlike the globes, which faded in time even if they were carefully handled. Those virtual globes that are made by processing the prints will show the contemporary, original map content of the globe.

### **The collection of the Virtual Globes Museum and the mutations of globes**

The idea of virtual globes is well known from literature (Riedl 2000, Hurby et al 2005, 2006). However, I have no information of another virtual globes museum that would be similar to the museum developed and opened at Eötvös Loránd University, and we do not know about the existence of such a collection. The collection in the Virtual Globes Museum is continuously expanding and is accessible at <http://vgm.elte.hu> in English, German and

Hungarian. Naturally, the languages refer to the descriptions only. Several "language mutations" of the same globe may be seen in the collection. Cartographia Enterprise, a former map publishing company in Hungary often published such globes between 1966 and 1990 (Márton 1988, Kovács, Márton 1989).

In early times, at the end of the 19<sup>th</sup> and at the beginning of the 20<sup>th</sup> century, there were no or it was very rare in Hungary that a new issue of a globe was prepared without important changes in its lithography, its colours or its cartographic elements. These represent another type of mutations such as the globes made by Manó Kogutowicz (1851–1908). His globes were recently digitally processed on the occasion of the 100<sup>th</sup> anniversary of the author's death. The mutations in this case mean that the same globe in a new edition has different colours. Today, preparing such globes by computer is very easy. However, their production required a new lithographic work at the turn of the 19<sup>th</sup> and 20<sup>th</sup> century. Even in the black and white pictures on the screen below, the colour difference between the different issues can be seen very well.

Currently, the museum displays two types of globes: the well-known earth globes and the less frequent celestial globes. The images of the first two types of globes can be viewed in any position and rotated in any direction without limitation. Zooming in and out of the 3D globe by a mouse is simultaneously possible on the screen of the computer.

It is a major objective of the museum to develop its collection of globes related to Hungary in some way. The

museum identifies and collects those globes that were made by Hungarians at home or abroad either in Hungarian or in another language. For instance, the German language globe made by the first “modern” Hungarian author, Ferenc Elekes in Vienna in 1831 is already placed in the museum. Naturally, those globes are also of interest for the museum which were made in Hungarian in other countries. Such globes were produced among others in East Germany by VEB Ráthgloben-Verlag in Leipzig.

The museum collects “new” globes too. The representation of historical maps on virtual globes is not a new idea, though not old either. Among the pioneers of this method is the Hungarian Gyula Pápay, professor of the Department of History at the University of Rostock in Germany (Pápay 2006). He donated the world maps of Strabon (1<sup>st</sup> c. BC) and Ptolemy (2<sup>nd</sup> c. AD) fitted on globes to the Virtual Globes Museum.

There are several globes kept in various Hungarian collections, and many of these copies represent great cultural value. They are often important relics of the cartographic history. For instance, the digital versions of Bleau's earth globe and celestial globe from the first half of the 1600s (the originals are exhibited in the small town of Zirc) or Perczel's globe from 1862 can be representative items in the Virtual Globes Museum. Naturally, famous globes that are not related to Hungary in any ways, such as the Coronelli globes (17<sup>th</sup> century) may also find their place in the museum.

## The Kolozsvár connection

This is the place for me to give many thanks to Zsombor Bartos-Elekes, the lecturer of Babeş–Bolyai University, Faculty of Geography, who helped me last year to find the printed gores of Kogutowicz's 51 cm diameter globe made in 1896. This is a very important piece of Hungarian globe making, which is now held at the Cholnoky Collection of the university. Later you will see the importance of this discovery.

## Some words about Kogutowicz's globes

In the VGM, we have six different globes of Kogutowicz now. Two of them are 51 cm diameter globes, the other four are of 25.5 cm diameter. All of them are contemporary facsimiles.

### 1. Globe from 1896 (Figure 1).

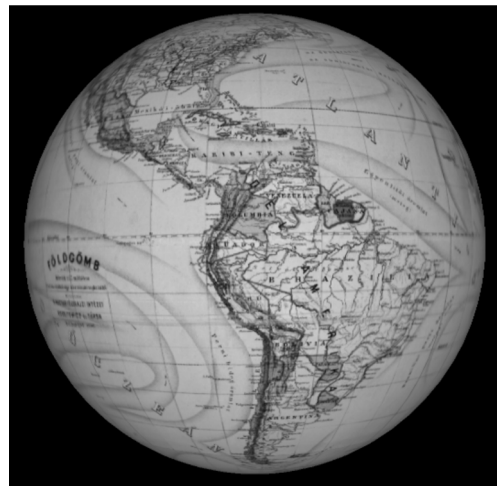


Figure 1. Virtual globe in the Virtual Globes Museum made after the map print of the 51 cm globe of 1896

51 cm diameter political globe, relief by hachuring, full colouring counties. Cartouche: „FÖLDGÖMB | Mérték 1:25 millióhoz | Szerkesztette: Kogutowicz Manó | A vallás és közoktatásügyi m. kir. minister megbízásából | készítette | A MAGYAR FÖLDRAJZI INTÉZET | KOGUTOWICZ ÉS TÁRSA | BUDAPEST 1896.” (Here and on later globes the cartouche is put on the territory of the Pacific Ocean, West of South America.) The globe map print on three sheets is probably a proof print, because there are no polar caps on any of the three printed sheets. At present, there is no knowledge of the existence of a version mounted on a globe with a stand. The prints are kept in the Cholnoky Collection of the Faculty of Geography of Babeş–Bolyai University.

## 2. Globe from 1910 (Figure 2).



Figure 2. Virtual globe in the Virtual Globes Museum made after the map print of the 51 cm globe of 1910

A political globe published after the death of Kogutowicz (1908). The 51 cm diameter globe with state boundary bands was coloured in the style of the National Geographic. The

relief was represented by hachuring. The ocean currents and the limit of drifting ice were graphically shown. The map prints (three sheets) of the globe are held in the Map Collection of the National Széchényi Library (shelf mark: T 1963-1, T 1963-2 and T 1963-3). Cartouche: „FÖLDGÖMB | Mérték 1:25 millióhoz | Szerkesztette: Kogutowicz Manó | A vallás és közoktatásügyi m. kir. minister megbízásából | kiadja | A MAGYAR FÖLDRAJZI INTÉZET | RÉSZVÉNYTÁRSASÁG | BUDAPEST 1910.” The title field is completed with the explanation of two map elements: one for the shipping routes and another for the deep sea cables. A copy mounted on support is known in the Hungarian Geographical Museum in Érd (without shelf mark, on display).

## 3. Globe from 1901 (Figure 3).



Figure 3. Virtual globe in the Virtual Globes Museum made after the map print of the 25.5 cm globe of 1901

25.5 cm political globe, relief by hachuring, full coloured country surfaces. Cartouche: „FÖLDGÖMB | Mérték 1 : 50 millióhoz | A vall.- és közokt. m. kir. minister megbízásából |



készítette | a magyar földrajzi intézet | KOGUTOWICZ ÉS TÁRSA | Budapest 1901". The print is held in the Map Collection of the National Széchényi Library (shelf mark: T 1958). Its version mounted on a globe and support is known in the Paleontological Collection of the Hungarian Natural History Museum.

#### 4. Globe from 1905 (Figure 4).

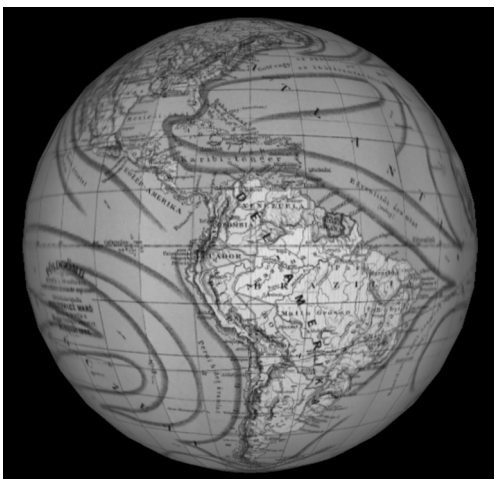


Figure 4. Virtual globe in the Virtual Globes Museum made after the map print of the 25.5 cm globe of 1905

25.5 cm political globe, relief by hachuring, full coloured country surfaces but with moderate colours. The map print /shelf mark: MR 3509 (G.1. 251/913)/ is kept in the Map Collection of the Department of Cartography and Geoinformatics, Eötvös Loránd University. Cartouche: „FÖLDGÖMB | Mérték 1 : 50 millióhoz | A vall.- és közokt. m. kir. minister megbízásából | Tervezte és rajzolta | KOGUTOWICZ MANÓ | Készíti és kiadja a | Magyar Földrajzi Intézet r. t. | Budapest 1905.” No version mounted on support is known.

#### 5. Globe from 1908 (Figure 5).



Figure 5. Virtual globe in the Virtual Globes Museum made after the map print of the 25.5 cm globe of 1908

Political globe with coloured state boundary bands in the style of the National Geographic, relief by hachuring. The map print /shelf mark: MR 3508 (G.4.s. 963/920.)// is kept in the Map Collection of the Department of Cartography and Geoinformatics, Eötvös Loránd University. Cartouche: „Hazai gyártmány | FÖLDGÖMB | Mérték 1 : 50 millióhoz | A vall.- és közokt. m. kir. minister megbízásából | Tervezte és rajzolta | KOGUTOWICZ MANÓ | Készíti és kiadja a | Magyar Földrajzi Intézet r. t. | Budapest 1908” No version mounted on support is known.

#### 6. Globe from 1910 (Figure 6).

Political globe with coloured state boundary bands in the style of the National Geographic, relief by hachuring. Published after the death of Kogutowicz, but was made by him according to the cartouche: „IV. kiadás, eng. száma 81371-71/910 | FÖLDGÖMB | Mérték 1 : 50 millióhoz | A vall.- és

közokt. m. kir. minister megbízásából | tervezte és rajzolta | KOGUTOWICZ MANÓ | Készíti és kiadja a | Magyar Földrajzi Intézet r. t. | Budapest 1910". In addition to the proof print of the globe maps held in the Map Collection of the National Széchényi Library (shelf mark: T 1694) – which was used for building the virtual globe –, its versions mounted on globe and support are also known: one in the same place (shelf mark: TG 10, „fully equipped No. III copy”<sup>1</sup>), another in the Great Library of the Reformed College of Debrecen (shelf mark: U 2330), and a third one in the Map Collection of the Department of Cartography and Geoinformatics

1. The explanation of the old terms, “equipped No. I., II. and III.” on the basis of contemporary price list:

– “equipped No. I (fixed axis, without copper meridian)” This is the simplest product, where the globe is supported by a bended steel wire fitted into a lacquered, brown, lathe-turned wooden stand. The steel axis is tilted 66.5° to the horizontal.

– “equipped No. II. (fixed axis, with copper meridian).” More expensive product. The globe is placed on a lacquered wooden stand; its axis is tilted 66.5° to the horizontal and fitted to a brass (half) meridian ring. Every 10° are written and every 1° latitude is indicated from the Equator to the poles on the ring.

– “fully equipped No. III.” This is the most elegant and complete product. The globe is fitted into a dark-brown lacquered and lathe-turned wooden stand with a calendar frame based on three supporting arms. Every 5° are written on the inner circle of the calendar frame and every 1° is indicated from the eastern and western points towards north and south from 0 to 90°; the next circle includes the signs of the zodiac, their graphics and Hungarian name. The next rings outwards includes the astrological calendar related to the zodiac with daily units (every 5 days are written). The next circle indicates the days of the Gregorian calendar in the same manner, then the names of months can be read. The outmost circle indicates the points and letters of east, south, west and north.

of Eötvös Loránd University (without shelf mark). The last two are “fully equipped No. II” copies. The map content is practically the same as that of 1908, but the colours are different. The most striking difference is in the representation of sea currents. The former boundary bands are replaced by surfaces: in this way, the cold and warm sea currents can be easily separated.

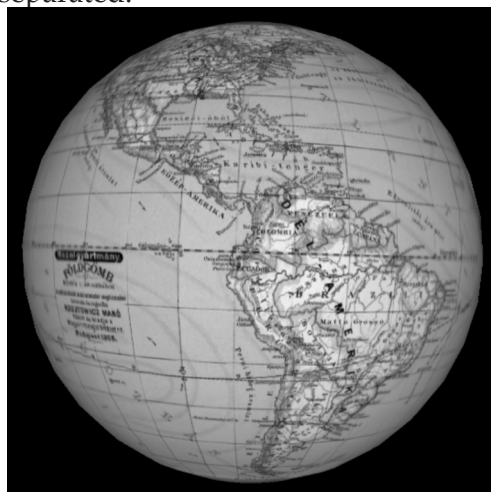


Figure 6. Virtual globe in the Virtual Globes Museum made after the map print of the 25.5 cm globe of 1910

In addition to the above mentioned six globes there is another Kogutowicz’s globe from 1897.

### Globe from 1897

51 cm political globe, relief by hachuring, full coloured country surfaces with moderate colours compared to the map print of 1896. The moderate colours are probably explained by the direct fading effect of the light and air. Cartouche: „FÖLDGÖMB | Mérték 1:25 millióhoz | Szerkesztette: Kogutowicz Manó | A vallás és közoktatásügyi m. kir. minister megbízásából | készítette | A MAGYAR FÖLD-

RAJZI INTÉZET | KOGUTOWICZ ÉS TÁRSA | BUDAPEST 1897" No globe map prints are known. Known copies mounted on support are known in the following places: Great Library of the Reformed College of Debrecen (shelf mark: U 2438), Map Collection of the National Széchényi Library, Budapest (shelf mark: TG 17 – on display in the reading room), and the Library and Archives of the Semmelweis Medicinal History Museum, Budapest (without shelf mark, on display).

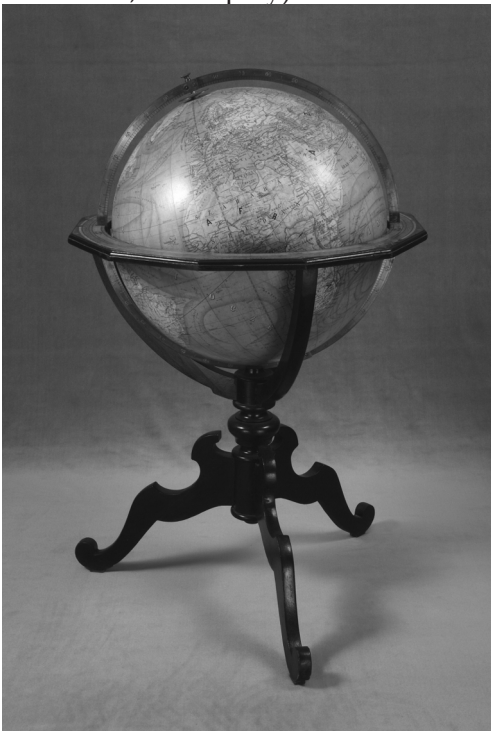


Figure 7. The 51 cm globe published in 1897 in the Map Collection of the National Széchényi Library

According to literature (Kisari Balla), further globes may be discovered. It is also possible that further map prints will be luckily found.

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