

Ethnic Map of Hungary by Jenő Cholnoky

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Abstract. Jenő Cholnoky was born in Veszprém in Hungary on 23 July 1870. He attended school in Veszprém and Pápa. He was still at school when he started writing about topics concerning geography. He wanted to become a geography teacher, but his father wanted him to attend a technical university, because according to him all teachers were poor. He attended the Technical University of Budapest where he studied hydrology, after which he became an assistant at the same university, where he met Lajos Lóczy, who was at that time a famous geographer. Cholnoky went on a scholarship to China with the recommendation of Lóczy. While fulfilling his tasks in China he, came in contact with ethnography. In 1905 he moved to Kolozsvár (today Cluj-Napoca) where he became professor at the University of Kolozsvár, spending 15 years there. In 1919 he fled Kolozsvár as the Romanian forces were approaching the city. After arriving in Budapest, he was elected as an expert to the committee who prepared for the peace talks on behalf of Hungary.

The ethnic map made by Jenő Cholnoky is based on the census of 1900. The map tried to represent every ethnic group situated in a certain area according to their presence. Hungary at the time was divided into 64 counties (72 including Croatia). These were divided into 442 districts. Cholnoky took the total population of each district and divided the area into small rectangles on the map. He coloured the rectangles according to the ratio of a particular ethnic group in the district. So if a particular ethnic group made up 20% of the population of a particular district, 20% of the rectangles were coloured representing that particular ethnic group. This has the advantage that all ethnic groups appear on the map, even if they live in a minority in the area. This also helps to present the areas of mixed ethnicity. This method only localizes a certain ethnic group to a particular district. Cholnoky did

try to place the rectangles so that they do represent the geographic location of the ethnic groups within the district, but this was not always possible. Since the scale of the map was 1:2350000 this did not make too much of a difference. This method gives a very good picture of all ethnic groups living in Hungary at the time. Since the districts were rather small entities, the distribution of the population can be seen very well. If only the majority is shown on the map, then ethnic groups who form a minority, or where the majority is localized only in a small area can disappear on the map. With this method Cholnoky managed to overcome this difficulty. In the Banat for example, the mixture of ethnic groups can be seen very well. The same can be said about the southern part of Transdanubia, and most parts of Transylvania. In the Banat there is a mixture of Hungarian, German, Serb, Slovak and Ruthenian populations. Similarly in Transylvania the mixture of Hungarian, German and Romanian population can be seen. In those areas where a certain ethnic group makes up the overwhelming majority, large homogenous surfaces can be seen. This can be seen on the Great Hungarian Plane, in western Transdanubia, eastern Transylvania, where the Hungarian population had overwhelming majorities, while in most parts of south-western Transylvania the same can be seen in case of the ethnic Romanians. In northern Hungary the areas of overwhelming Slovak majority can be observed, while on the western rim of Transdanubia the German majority dominates. This map gives us a very good picture of the ethnic structure of the country, as all ethnic groups are represented.

Keywords: Jenő Cholnoky, Ethnic mapping, Hungary

Introduction

Jenő Cholnoky was born in Veszprém, Hungary on 23 July 1870. He attended school in Veszprém and Pápa. While still at school he wanted to become a geography teacher, but his father wanted him to study at the Technical University of Budapest as, according to him all teachers were poor. So Cholnoky studied hydrology at the Technical University in Budapest.



Figure 1. The house in Veszprém Hungary, where Cholnoky was born in 2015 (Picture taken by the author)

After completion of his studies, he was appointed as an assistant at the Technical University. Later he made friends with Lajos Lóczy, who was already a well known Hungarian geographer, who persuaded him to join him as his assistant at the Budapest University of Sciences (today Eötvös Loránd University of Sciences).

In 1896 Cholnoky went on a two year study trip to China, where he studied mainly the hydrology of Chinese rivers. While in china, he came into contact with ethnography. After his return from China he was made assistant professor. In 1905 he moved to Kolozsvár (today Cluj-Napoca) where he started teaching at the Franz Joseph University. In 1912 he made a tour of the United States of America with Pál Teleki. In 1919, the Romanians on reaching Kolozsvár, demanded that the university personnel swear loyalty to the Romanian king. The university personnel refused and two days later the Romanian army stormed the building and ejected everybody.

Cholnoky fled to Budapest, where he was appointed geographical expert for the peace delegation preparing for the peace talks in Trianon. In 1920 he became an associate member of the Hungarian Academy of Sciences. From 1921 he was head of the Geography Department at the Budapest University of Sciences. His lectures were very famous, and many students who were studying at other faculties came to hear them purely out of interest. In 1940 he went on pension, but continued to work in his home in Budapest. He died on 5 July 1950. He published many studies about physical and human geography, hydrology and even one on cartography in 1902. In Hungary he is remembered as one of the great geographers of the nation. His house in Veszprém has a plaque in his memory. There is also a plaque on the house where he lived in Budapest. A geographical society is named after him in Kolozsvár.

The map of ethnic groups in Hungary

1.1. The basis of the map

In 1903 he made an ethnographical map of Hungary entitled "Magyarország néprajzi térképe" at a scale of 1:2350000, based on the census data of 1900. It was published by the Hungarian Geographical Society. On the map the borders of Hungary are visible, as are the larger rivers, the county borders, larger towns and the larger lakes. The place names are abbreviated. Cholnoky used only one shade of each colour and even though there are differences in the intensity of the colours, it is well balanced compared to other ethnographic maps. All details are clearly visible. This helps to avoid confusion such which would arise through certain colours blending into each other. When a large area of dark colour has a patch of a light colour in it, the latter might not be visible. By choosing the correct colours, Cholnoky avoided these problems. The borders of districts are not discernable on the map. In Croatia the Croats and the Serbs were shown in the same category, while in Hungary they formed a separate categories. The map was published twice. Different colours were used for the different ethnic groups on the two publications.

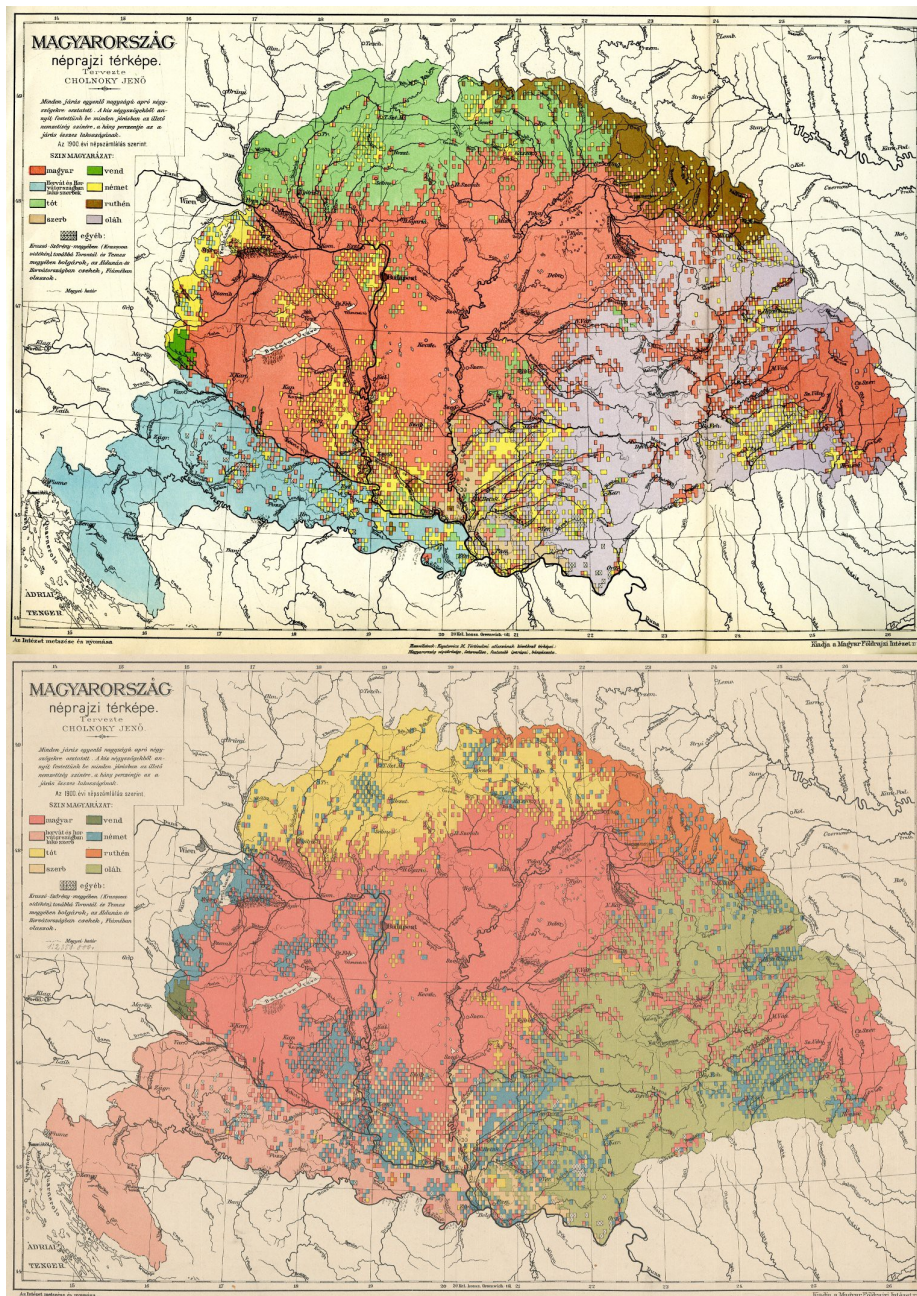


Figure 2. The two variations of the Ethnographical map of Hungary by Jenő Cholnoky. The different colours used can be seen. (Top image: Li-

brary of the Department of Cartography at the Eötvös Loránd University, Budapest bottom image: Insitute for Military History, Budapest).

1.2. The presentation of ethnic groups on the map

The districts were divided into rectangles of equal areas. The percentage of rectangles of a particular colour equaled the percentage of the ethnic group represented by that colour in the particular district. The advantage of this was that an ethnic group was visible even if it was in the minority. This allowed the Germans in Tolna and Baranya counties to be visible, as well as the Germans and Hungarians in Southern Transylvania and the Serb diaspora North of Szentes. The ethnically heterogeneous structure of Szilágy, Bihar and Kolozs counties is discernable, as well as the mixed population of Germans and Romanians in Beszterce-Naszód counties. While showing the minorities, the map also indicates clearly where an overwhelming majority of a certain ethnic group exists. The northern part of the Great Plane (also known as Great Hungarian Plane) for example, was inhabited overwhelmingly by Hungarians, while southern part of Transylvania had an overwhelming majority of Romanians with some Hungarian and German diaspora living there. In the North the Slovak majority can be seen with German, of Hungarian and Ruthenian minorities. The Banat (Hungarian Bánság) has a very mixed ethnic structure. The picture one gets is that no ethnic group makes up an absolute majority. As every part of the country belongs to a particular district, neither the uninhabited areas of a district, nor is the population density is indicated.

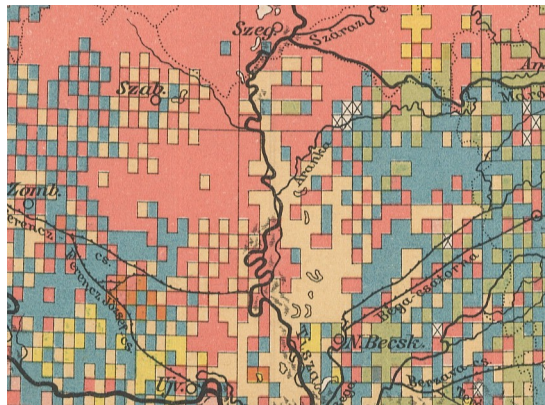


Figure 3. The Banat on the Cholnoky map (Insitute for Military History, Budapest). The mixed population can be seen clearly. It can be seen that in some areas no ethnic group makes up absolute majority

The method does on the other hand, compensate for the fact that the cities have larger population density than villages, since with this method the overall population is shown, and the population of the cities will show on a larger area than that of the villages. It does not, however take into account the fact that some districts have a lower population density than others. Also, the high mountains appear to be inhabited on this map. In fact the high mountains that form the country's borders are mostly uninhabited.

Comparison the Cholnoky map to another map based on the same census data

2.1. A map by Paul Langhans showing ethnic groups in Hungary

The map entitled Nationalitäten-karten von Ungarn was made by Paul Langhans and published in Deutsche Erde in 1912. He based his map, as did Cholnoky, on the 1900 census data. The scale is 1:1500 000. He also based his method on the districts. If a district was shown with a solid colour, it meant that a particular ethnic group comprised 90-100% there. If an ethnic group formed an absolute majority but was less than 90% of the total population, a lighter shade of the colour was used for that ethnic group, with vertical stripes running through the coloured area. If it comprised a relative majority, it was shown with a lighter colour without stripes. A minority over 10% was indicated by a spot of a darker hue. He put only one spot per minority into a district, showing that a minority population of over 10% was present, regardless of the extent by which this population exceeds 10% in that district. Every minority in excess of 10% in the district received one spot. The spot gave no indication whether a minority makes up 10, 20 or 30 per cent of the district's population. This map, similarly to the map made by Cholnoky, does not give any information on population density or uninhabited areas.



Figure 4. An uninhabited area in the eastern Carpathian mountains. The area on both maps is shown as if it were inhabited (Picture taken by the author)

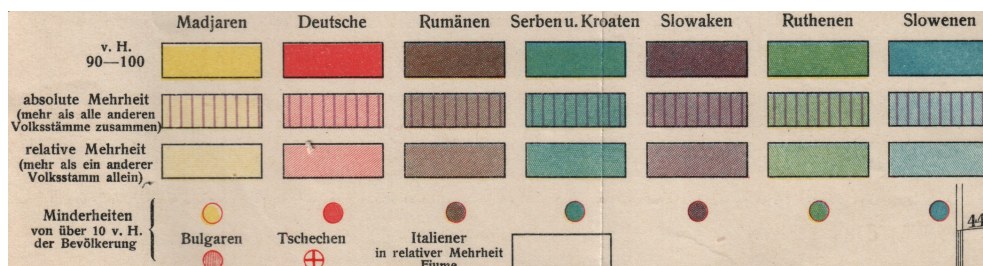


Figure 5. The legend of the Langhans map (Badische Landesbibliothek, Karlsruhe). The three different categories for each ethnic group can be seen.

2.2. The confusion caused by the colours used on the Langhans map

Both maps used the same source, yet one gets completely different pictures from the two ethnic maps. The light shade of yellow used on the map for Hungarians is a much weaker colour than all other colours. The brown used for the Romanians, even as a light shade, was very dark, making it stronger than all the other colours. Similarly the reddish brown used to show the Slovaks is a very strong colour. It blends in with the pink used for the Germans under 90%. The districts that have German majorities under 90% are very hard to discern in the northern part of the country. This makes it very hard to read the map clearly. The red spots used to show the German minorities blend into the brown patches used to show the areas where Slovaks make up a majority of less than 90%.

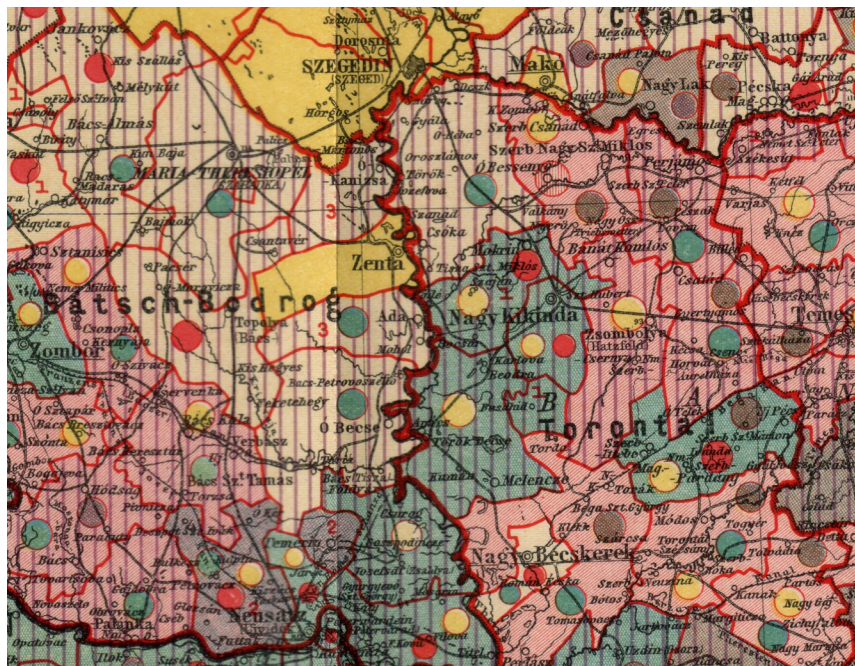


Figure 6. The Banat in the Langhans map (Badische Landesbibliothek, Karlsruhe). The differences in the strength of the colour used can be seen.

2.3. A detailed comparison of the two maps

2.3.1. A comparison of the overall presentation of the maps

Cholnoky's map, even though there is difference in the intensity of the colours used, does give the reader a balance, while the map by Langhans tends to be confusing, especially since he uses different hues of the same colour. The light hue of one colour can be darker than the dark hue of another colour. For example the dark yellow patches are lighter than the light brown patches. Even though Langhans used a larger scale than Cholnoky, the Hungarian and German minorities in Transylvania can be seen much more clearly on the map by Cholnoky than on the Langhans map. The areas where one ethnic group comprises 90% or more of the total population are clearly visible. While on the map by Cholnoky does not make such a distinction, the composition of the ethnic composition can be clearly seen. The heterogeneity of the Banat is much clearer on the map of Cholnoky than that of Langhans. The extent of the different minorities living in the western and southern part of Transylvania can also be seen on the map by Cholnoky, as we not only have information on the fact that a minority making up at least 10% of the district's population is present, but also get some information on how much of the population it comprises.

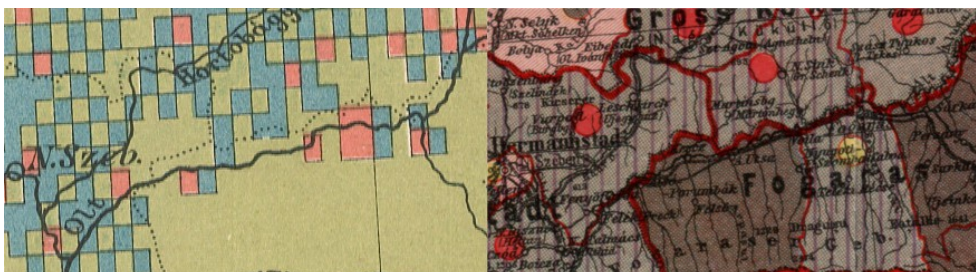


Figure 7. To the left is shown the eastern part of southern Transylvania on the Cholnoky map, while on the right the same area on the Langhans map. The extent of German and Hungarian populations are much clearer on the Cholnoky map.

The ratio of the Hungarians and the Germans making up of the population in Transylvania in areas where they do not form majorities can be seen better on the map made by Cholnoky than on the map made by Langhans.



Figure 8. On the left the area of Beszterce (today Bistrița) can be seen on the Cholnoky map (Insitute for Military History, Budapest), while to the right the same area on the Langhans map (Badische Landesbibliothek, Karlsruhe). The heterogeneity of the population is much clearer on the Cholnoky map

Similarly the extent of the German and Hungarian populations in the North is also much more discernable on the map by Cholnoky than on the map by Langhans, as are the Germans in the Southern part of Transdanubia.

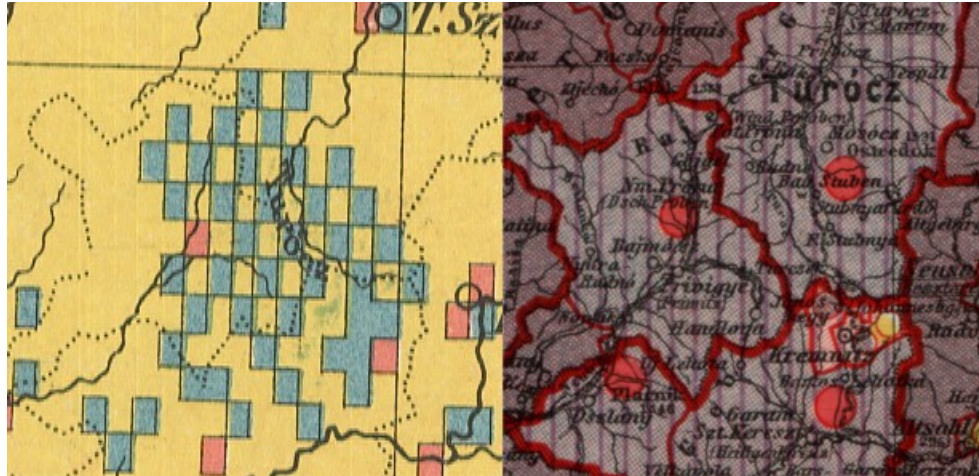


Figure 9. Parts of Turóc, Nyitra and Bars counties as seen on the Cholnoky map (Insitute for Military History, Budapest) to the left, and the Langhans map to the right (Badische Landesbibliothek, Karlsruhe). The German population of the area is much more visible on the Cholnoky map

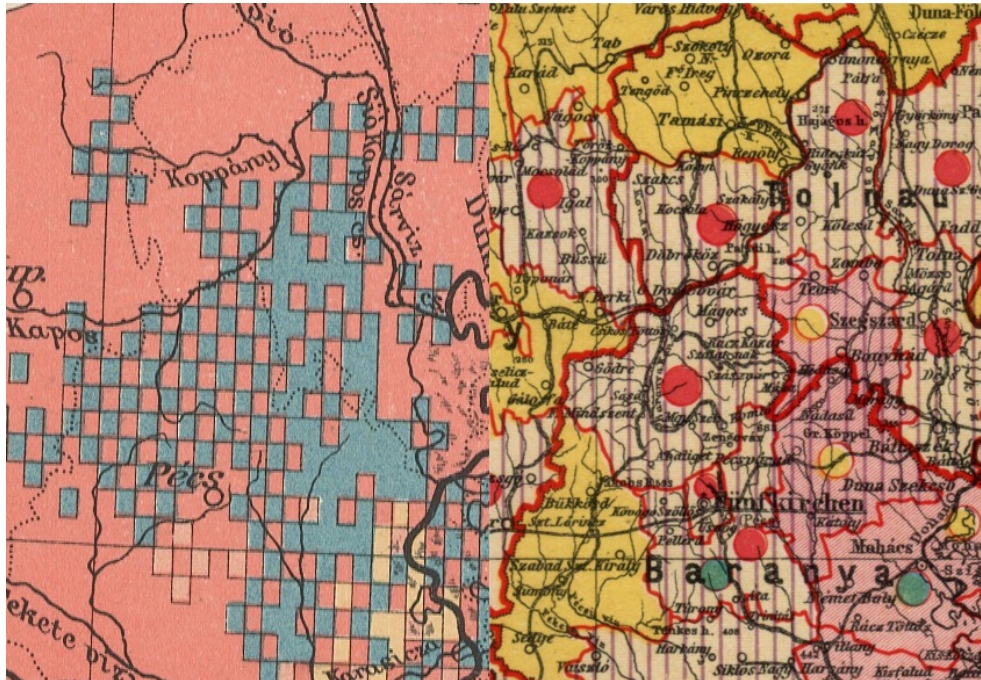


Figure 10. to the left southern Transdanubia can be seen on the Cholnoky map (Institute for Military History, Budapest). The mixture of the German and Hungarian populations can be discerned clearly. To the right the same area can be seen on the Langhans map (Badische Landesbibliothek, Karlsruhe)

2.3.2. Comparing the mapping methods of the two maps

Thanks to the method used, the Cholnoky map is clear despite the small scale. It is easier to read the majority on the Langhans map, but it does not show the diaspora so clearly. The spots used for minorities over 10% do help, so the heterogeneity of the Banat is clearly visible. This method would probably give the user a clearer picture if the colours chosen had a better balance. The method used by Cholnoky gives a better picture of the ethnic mixture of the population, even if the colours used were not taken into consideration. The areas that have populations that are overwhelmingly of one ethnic group can be clearly seen on both maps. The Langhans map has slightly better accuracy, since it clearly indicates that in a given district the population is made up of 90% or more of the same ethnic group. While the map by Cholnoky does not make such a distinction, it is clear that all districts that were

coloured in a lighter shade by Langhans have at least one square in them that has a colour different to the majority in the district.

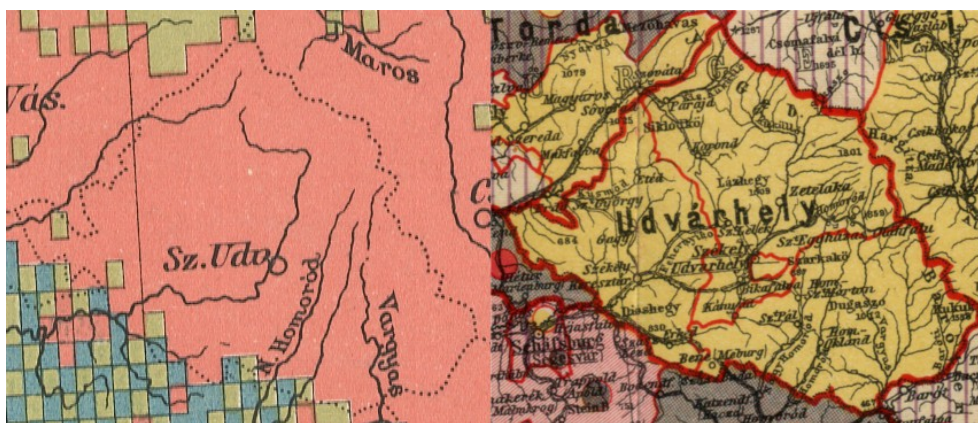


Figure 11. On the left Udvarhely county seen on the Cholnoky map (Institute for Military History, Budapest), while on the right the same area on the Langhans map (Badische Landesbibliothek, Karlsruhe). The overwhelming majority of Hungarian population in the county can be seen on both maps

Some districts that were coloured dark by Langhans have some minorities appearing in them on the Cholnoky map, for example the Hungarians and Germans on the bank of the Száva (Sava). These do appear as spots on the Langhans map, but their extent cannot be clearly seen.

Note on the digitalisation of the Cholnoky map

The author made a digitalized copy of the map in 2009 at the Department of Cartography of the Eötvös Loránd University in Budapest. Due to an error in the software, the colours were altered on the digital image and the orange was changed to red. As a result the orange and red squares used for the Ruthenians and the Hungarians appeared to be the same colour. This was not indicated on the screen at the time of scanning. The scanned image was saved in a file. When the image was required much later, the scale as measured on the digitised image was found to be half the size compared to the scale written on the map. On 30 March 2015 the author visited the archives of the Institute for Military History

in Budapest where the original map is kept and noted the difference between the original map and the scanned scanned image. The institute had a scanned version where the colours were correct which was given to the author.



Figure 12. The area surrounding Ungvár on the Cholnoky map (Institute for Military History, Budapest). The image scanned in 2009 is on the left and the scan of 2015 on the right. It can be clearly seen how the colours were distorted due to a software error on the 2009 version.

Conclusion

The map made by Cholnoky gives a very good indication of the mixture of ethnic groups. Despite its small scale, it contains much information, even when compared to an other map that has a larger scale. The method used by him lends itself to the making of a small sized map of Hungary, while at the same time it gives as much information about the ethnic structure of the country as possible. It does not, however give the user information on population density and uninhabited areas.

Biographical Note

János Jeney was born in Durban, South Africa. He obtained his degree in Cartography at the Eötvös Loránd University in Budapest, Hungary. At present he is working on his PhD thesis at the Eötvös Loránd University in Budapest, Hungary and the Technical University in Dresden, Germany. He is aiming to earn a PhD degree awarded jointly by both universities. The area of his research is the methods used on ethnographic maps of Austria-Hungary

which were made in the second half of the nineteenth and the first half of the twentieth centuries, with special attention to the multi-ethnic regions of lands formerly comprising Hungary. He teaches the History of Cartography at the Technical University of Dresden to English speaking students since October 2013. He is a member of the German Society for Cartography (Dgfk) and the Hungarian Society of Surveying, Mapping and Remote Sensing (MFTTT). He speaks fluent English, Hungarian and German.

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