

**Theses for doctoral thesis (PhD)**

An examination of the urban hierarchy of Hungary in the Trianon area  
in 1910 and 1930

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## **I. Aim of the thesis, the outline of the topic**

Cities have always been sites of central power and social organisation, but they have also been an integral part of social and technological development. A more general interest in cities was aroused at the end of the 19th century by the impact of urbanisation, firstly in the related disciplines of their own time: statistics, and economics, and from the 20th century onwards, the city as a phenomenon became increasingly popular among scholars of geography, sociology and cultural history. The history of cities has been constantly changing and evolving, becoming more and more a field in its own right. What set it apart from the narrow confines of local history was that it no longer concentrated on the history of individual cities, but also examined the impact of industrialisation and urbanisation on the economic and social transformation of cities, i.e. how macro processes influenced the life of cities. Over time, the focus has moved beyond the focus on a single city to the urban network of a region and its hierarchical structure. Research on urban hierarchies can be dated mainly to the 'quantitative revolution' of the 1960s and 1970s on the international scene. At the national level, these studies were completed by the early 2000s and are no longer essentially part of the new trends in urban history. In the past, these studies were mainly part of a virgin field of regional geography. However, various paradigm shifts have led to a resurgence of empirical and quantitative research, including settlement network studies, both at home and abroad. At the same time, there is no doubt that the rise of spatial computing in some areas of history is also contributing to the updating of this type of study. Such work, new approaches and the growth of interdisciplinarity in recent years offer new opportunities for the multisensory contextualisation of the results of urban hierarchy studies.

A significant role in my research has been played by new perspectives on the social and economic impact of the Trianon Peace Treaty. While it is a fact that 4 June 1920 had a significant impact on our country in all areas, approaches have emerged that paint a more nuanced picture of Trianon and its effects. By combining these findings and perspectives, it is possible to transfer knowledge that can further nuance and colour the picture of the settlement stock of the first half of the 20th century, like a photographic plate dipped in a developing film. In the course of my thesis, I sought answers to the main questions: what was the short-term impact of the boundary change on the contemporary network of sewage systems? What impact did the peace treaty (and the economic and political changes that took place around it) have on the urban network as a network? Which are the regions where significant changes can be observed, and which are the

ones where we can expect to find immobility? Which cities have prospered the most and which cities have been most negatively affected by the 1920s changes in urbanisation?

## **II. Sources and methods**

Urban hierarchy studies using the inventory method are always based on a very complex database of quantified data, regardless of the region in which the municipalities are studied. In most cases, these datasets record indicators that characterise the administrative, health, economic, educational, etc. situation of the municipalities - summarising their more urbanised status - at the time(s) under study.

My functional urban hierarchy study was carried out in two-time sections, for 1910 and 1930. An important criterion in the choice of the time frame was the availability of sources at the municipal level, provided by the census censuses. The study area consists of the settlements (1625 settlements) within the Trianon borders (1920) with more than 1000 inhabitants, for both 1910 and 1930. I have therefore retrospectively projected a slice of the 1930 settlement network back to 1910. However, administrative changes between the two points of analysis have reduced this number to 1591. Thus, 1591 settlements were recorded for both time segments, representing 46% of the 1930 settlement network (3422 settlements). This allowed me to study a relatively wide range of settlements, and also to observe settlements below the urban level in a functional sense.

Based on the above, I constructed the methodological model of my thesis to include all indicators closely related to the urban role in a complex way and to support them with historical sources. I am thinking here of the administrative, economic, financial, educational, health, employment, etc. roles that can faithfully reflect the central character of a municipality. The nineteen indicators examined are grouped around five factors/roles: T1: demographic, T2: administrative, T3: economic, T4: health, and T5: educational role.

Based on my previous experience, the dynamic evolution of population size is not necessarily a relevant variable in such an analysis. I believe that the change in population between the two time periods is an indication of the prosperity of the municipality, but that in the period under study (first third of the 20th century) several factors distorted these values. I am thinking here, for example, of the South Transdanubian region, where the 1920 census figures were significantly influenced by the fact that military troops left the region much later after the First World War. The large military presence in the ports and the explosive population growth in the capital region. For the reasons explained above, I have opted for a static approach to population

size (M1). Several previous approaches and studies have shown that there is a strong correlation between population size and the degree of urbanisation.

Six indicators were included in the administrative factor, the number of institutions with administrative functions (M2-M7). The existence or absence of a post office, a telephone exchange, a tax office, a gendarmerie, a district court and a court of law were recorded from the contemporary directories of localities (1913; 1930). The administrative functions of these institutions were unquestioned at this time. We know of many more institutions with administrative functions from the period. I am thinking here of the office of the chief magistrate, the mayor's office, the office of the chief and deputy magistrates, the magistrates' court, etc. However, the existence of these recorded institutions is also available for 1913 and 1930 from the local directories.

Under the economic factor, I have included - from the Registers of Titles and Names of Officers - the number of lawyers (M8) of the Chamber of Commerce, as the official of several economic, and commercial proceedings (real estate, probate, court cases, etc.). I believe that this indicator may also well reflect a more urbanised establishment, since the number of lawyers can be put in parallel with the number of administrative, judicial and, above all, economic cases. The relevance of this indicator is further strengthened by the correlation matrix constructed for the indicators, where the increase in the importance of lawyers is positively correlated with several indicators that reflect a more urbanised existence.

The inclusion of taxes at the municipal level is a relevant solution for financial - and also economic - indicators. Thanks to Zsolt Szilágyi's research, the so-called FHTT indicator (M9) has come into view. This allows the construction of a kind of GDP proxy index at the municipal level using contemporary tax types. The FHTT indicator was created from four tax bases: land tax, house tax, cooperative tax, and tantièm tax. The method made it possible, after including the number of inhabitants, to establish the FHTT per capita of the municipalities included in the study. These data are available from 1908 and 1934 at the municipal level and from 1910 and 1934 at the city level in the relevant issues of the Statistical Bulletins (new series).

Moving further along the financial line, I have used the deposits of financial institutions (M10), based on the work of Zoltán Gál and Pál Beluszky. This is a very well-used indicator in the literature, and one of its great advantages is that it is available in Compasses from the late 19th to the mid-20th century on an annual basis for all municipalities with financial institutions.

For the economic factor, the existence of a railway station (M11) and a railway station in a municipality is also recorded in the Local Registers (1913; 1930). At that time, the railway station was an institution with a mainly economic role. The role of the railways is often

overestimated, but it is a fact that they played an important role in terms of urbanisation and also had a role as a kind of intermediary (technology, culture, knowledge, goods, etc.). However, the railways do not build the town by themselves, the town builds the railways. I believe that the railway, and with it the station, had an 'empowering' role and many potentialities in the life of a municipality. It reinforced the values, options and urban characteristics of a given municipality.

I have also included in the economic factors the employment indicators that were important in the economy at the time. The relevant volumes of the Statistical Bulletins, which contain data on the main branches of employment and the main groups of workers and dependants in the municipalities, were used to collect employment data. The main groups in the statistical bulletins have been classified into the basic economic sectors accepted by recent geography, according to the following method. In this way, the share of tertiary earners (M12) was measured. This is based on the thesis that the tertiary sector is the basic carrier of urban functions.

To examine the employment rate (M13), it is necessary to include the age group share of the population in addition to the working population of the municipalities. Based on the age group classifications of the census volumes, the age group 15-59 seemed to be the most appropriate for this purpose. The chosen age group boundaries were selected using the methods of recent geography, taking into account the availability of sources. For this variable, I assumed that the higher the employment rate of a municipality, the more likely it is to play a central role in the region. A high employment rate is also likely to be associated with higher economic and social functions. Age groups and main employment groups are also available for both years in the Statistical Bulletin volumes.

Within the healthcare role, I recorded the number of pharmacies operating in the surveyed municipalities (M14). For this, I used the Pharmacists' Yearbook (formerly Pharmacists' Pocket Calendar). Thus all rural pharmacies from 1930 and 1910 were included in the database. The pharmacy per se cannot be equated with improved health conditions, but it was important in the life and health function of a town through the facilities it provided.

About health care, I focused first on recording the number of hospitals. However, at that time, institutions specialising in health care with a few patient beds were also included in the category of hospitals (manorial, mining, private). As a consequence, I found it methodologically better to include not only the existence/number of institutions but also a quantitative index of hospitals that would give a more accurate picture. In the present case, the number of hospital beds (M15). These data are available in the 1931 and 1908 editions of the Hungarian Medical Yearbook and

Directory (MOÉC), unfortunately not for all hospitals. After a long search, I managed to find bed numbers for 1932. For 1910, the picture was more complex, as the aforementioned Doctors' Yearbook for 1910 is not available for 1910, only for 1908 (but not all hospitals had bed numbers there either), so I tried to find data for 1908, which I partly succeeded in doing, as the Hungarian Statistical Yearbook U.F. Volume XVI contains such data for 1908, but only by jurisdiction. I collected the missing data on bed numbers from archival sources, more precisely from the reports of the deputies and from monographs on the history of the period.

The last indicator within the health factor was the crude death rate (M16), specifically the crude death rate for the ten years preceding the study dates (1921-1930; 1901-1910) as a proxy for life expectancy at birth. As the study area (1625 municipalities) is very wide for national urban hierarchy studies, I have tried to use as a factor at least one indicator available for all municipalities, thus differentiating the lower levels. This is why I decided to use this indicator. The data for 1930 were taken from the TMTE database prepared by Zsolt Szilágyi and the data for 1910 from the database available on gistory.hu, prepared by Gábor Demeter.

The education sector (primary-secondary-higher education) is itself hierarchical and therefore fits well with the purpose of the study. For the education factor, I started with the literacy rate (for the population aged 6 and over) (M17). Although it is true that it does not have nearly as much differentiating power in 1930 as it did in 1910, the strength of the indicator is that it is available for all municipalities in both time periods and can even have a differentiating role for the lower levels. Thus, in order to make the lower level municipalities visible within the education factor, the literacy rate was included in the analysis.

I then looked at the types of secondary institutions in the municipalities, and from the relevant volume of the Statistical Bulletins I recorded the number of secondary school pupils per municipality for the school years 1910/11 and 1932/33 (M18).

The secondary level was followed by the upper secondary level. In fact, in 1930 there were universities in four cities (Budapest, Debrecen, Szeged, Pécs), while in 1910 only the capital had a university (within the Trianon borders). However, other institutions were also part of the higher education level of the period. I believe that at the upper levels of the network, it is important to consider an institution with a national, but at least regional, reach. The number of students in higher education institutions can be obtained from statistical publications of the period (M19).

Due to the diversity and variety of the indicators in the study and in order to carry out the calculations, it was considered necessary to standardise the indicators. Due to the different magnitudes and units of measurement, I normalised the values of all indicators and then

multiplied the absolute values between 0 and 1 obtained by normalisation by 100 for the sake of transparency. The normalised average value of the five factors gave the KVM indicator used as the basis for the ranking in both time periods (1910, 1930). Thus, the single methodological model underlying the comparative analysis, which focuses on the same indicators in both time series, was fulfilled.

### III. Results

The study has shown that the position of municipalities in the hierarchy is affected to varying degrees by the separation of peripheral peripheral areas. It cannot be said categorically that this is only significant for lowland cities. The study shows that municipalities at the higher levels of the hierarchy (*regional centres* and *county centres*) are much less affected by peripheral disconnection, whether they are lowland or Transdanubian municipalities. However, for municipalities at lower levels of the hierarchy, there is already a significant change of position in both directions. So the mere fact that a municipality is a so-called lowland municipality - and thus presumably has a large area of suburban land - does not necessarily have a negative impact on the urbanisation of that municipality. Furthermore, the study suggests that the question of the suburbs' status is most influenced by four factors: 1) the perspective and context of the research; 2) the existence or absence of urban law; 3) the geographical location in relation to the municipalities; and 4) the quantity and quality of historical sources on the suburbs, since in many cases the historical sources do not allow - or only to a limited extent - for a separation.

A fundamental question for most functional urban hierarchy studies is the number of people living in towns and cities, the proportion of the so-called urban population in different time periods. The population living in legal cities is usually given, but these studies allow us to further nuance the picture and to shed light on the total population of municipalities with a functional role. In a national context, it can be noted that in 1930, nearly 33% of the population lived in towns in the legal sense (2 881 251 inhabitants). If all the municipalities in the country with an urban role are taken into account, including quasi-towns, 3 596 923 people lived in towns, approximately 41% of the population at that time. So almost half of the population was already considered urban in a functional sense in 1930.

Based on my analysis of the border region, it can be said that the cities of the hierarchical levels along the border were affected differently by the events of the period under study. The hypothesis is that the higher the hierarchical level, the greater the progress between the two time segments is not proven. The border *county centres* achieved the greatest reduction in the

urban hierarchy indicator (KVM). The border municipalities in the functional sense, or quasi-cities, achieved the largest increase in KVM by 1930. This also shows that it was often the municipalities with a low hierarchical level that was part of the catchment area that were more positively affected by economic, social and spatial changes (this could not be examined for *regional centres* due to the low number of elements). However, in the case of actual changes in position, a trend is already emerging in the border zone. The lower the hierarchical level, the more actual changes in position are observed, which in turn demonstrates that the chances of stability, position holding and stagnation increase as one moves upwards between levels. Furthermore, it was also shown that population growth along the border did not reach the highest values at the highest hierarchical levels (*regional centre, county centre*), as was the case in the total area study, but that the border municipalities at the *medium* and *small town* level grew the most.

Although it is a fact that my study covers a short period, both historically and socially, it can be concluded from the changes in the functional roles of the border areas under study that the new spatial structure - which, incidentally, is the origin of the present situation - has not changed significantly since 1910. This can be seen by comparing all the maps showing the roles/factors. So, in a way, it is a continuation of the conditions measured in the former Trianon area, almost frozen in 1910 by 1930. This indicates, among other things, that the area remaining after Trianon was little or not at all affected by the change of borders and the consequences of the World War. It also shows that border territorial inequalities partly reinforced, and in some cases deepened, existing national territorial inequalities.

The study also confirmed an earlier thesis. In his 2018 paper, Zsolt Szilágyi presented the multi-centred development model and argued that it may have contributed to a relatively rapid consolidation process in Hungary after Trianon. In my study, a similar multi-centred network emerged from the perspective of urbanisation by 1930. The six *regional centres* clearly stood out from the network (apart from the capital). These six cities (Debrecen, Szeged, Pécs, Miskolc, Győr and Szombathely) were able to achieve, maintain or even in some cases even surpass the network's high scores for a number of factors and indicators.

These six cities (Debrecen, Szeged, Pécs, Miskolc, Győr and Szombathely) have achieved outstanding scores on several factors and indicators and have been able to maintain and in some cases even increase their centrality in the network. I believe that the strengthening of these *regional centres* after Trianon can be seen in parallel with the strengthening of central roles and development indicators, which often had a strong influence on the surrounding region.

It is legitimate to ask how Győr and Szombathely were able to acquire these positions in 1930. The analysis reveals the basic functional factors behind the growing regional role of Győr and Szombathely, in the background of which the relative proximity of Vienna may have played an important role. Although the structure I am examining is indeed a particular moment - in one case, from 1930 and the years surrounding it - it is just that the structure itself did not develop into such a structure in an instant. So for Győr or Szombathely to reach the hierarchical level that would place it among the *regional centres* in my study, it took long decades, when the city of Vienna still had a very strong influence on the region. This kind of influence is explained in detail in the work of Róbert Győri, published in 2006. After 1920, the influence of the Austrian capital in the economic spatial organisation of the Little Plain is already diminishing. In other words, the regional roles of both Győr and Szombathely were strengthened (this could not happen in the case of Székesfehérvár because of Budapest). I believe that Győr and Szombathely were given a chance to organise their space 'independently' as potential *regional centres*. Consequently, in the western region of the country, two cities emerged after Trianon which temporarily played a regional role in this new state space. They also became rivals because of their geographical proximity. All this was achieved by sharing regional functions between the two cities.

The study then showed that the metropolitan agglomeration experienced significant growth between the two-time segments. It has also become one of the most dynamically developing regions in terms of urban density, as evidenced by its growing population, the granting of urban status and the increase in economic indicators. The background to this is the dynamic development of the capital and its associated radiance, as well as the large influx of refugees, mainly middle class, as a result of the Trianon peace treaty.

All in all, the Treaty has made an already contradictory territorial division even more disproportionate. The situation of some 27 counties and 60 districts were altered by the new borders, and in many cases, districts were created along the border where the designated centres could hardly or not at all fulfil their function as district or *county centres*. Furthermore, although the legal and administrative roles of the different levels became more homogeneous, the structure itself, the hierarchical network, was deformed and became even more disproportionate after Trianon. The gap between the capital and the other actors in the network has widened, and there is also a significant divergence between *regional centres* and *county centres*. In effect, the *county centres* had become disconnected from the *regional centres* by 1930. From then on, the dominance of the *small town* level also increased and this hierarchical level recorded a significant increase between the two time segments. In many cases, I believe, this is due to the

advance of the remaining settlements from the catchment areas of the cities that had lost their central role. A kind of 'role transfer' has therefore taken place at the lower levels during the period under study.



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### List of publications related to the dissertation

#### Hungarian book chapters (3)

- Bán, G. K.:** Belterület és ami mögötte van: A külterületi kérdéskör empirikus vizsgálata az 1930-as településhálózat tükrében.  
In: Fénytörésben : Struktúrák, lokalitások, mintázatok, Bölcsészettudományi Kutatóközpont, Budapest, 151-172, 2021, (Vidéktörténet, ISSN 2498-8804 ; 3) ISBN: 9789634162605
- Bán, G. K.:** A magyar városhálózat hierarchiája és térszerkezete a két világháború között.  
In: Hálózat és Hierarchia / Kövér György, Magyar Tudományos Akadémia Bölcsészettudományi Kutatóközpont, Budapest, 93-146, 2020, (Magyar Gazdaságtörténeti Évkönyv, ISSN 2498-8634)
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In: Területi-társadalmi törésvonalak és a boldogulás útjai / Demeter Gábor, Szalkai Gábor, Bán Gergely Károly, Szirácsik Éva, Tompa László, Bara Júlia, Dobszay Tamás, Kovács Attila, Paréj-Farkas Katalin, Gagy József, Papp Lajos, Horváth Gergely Krisztián, Bartha ÁkosSántha István, Jobst Ágnes, Csikós Gábor, Ö. Kovács József, Káli Csaba, Balogh Róbert, MTA Bölcsészettudományi Kutatóközpont, Budapest, 95-115, 2019, (Vidéktörténet, ISSN 2498-8804 ; 2) ISBN: 9789634161615

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*Új Nézőpont.* 4 (2), 5-29, 2017. EISSN: 2064-7042.





Foreign language scientific articles in Hungarian journals (1)

7. **Bán, G. K.:** Inner Territory and What Lies Behind It: An Inquiry Into the Hungarian Urban Hierarchy in 1930.

*Hung. Hist. Rev.* 8 (1), 153-178, 2019. ISSN: 2063-8647.

**List of other publications**

Hungarian book chapters (1)

8. **Bán, G. K.:** Trianon megjelenése a középfokú földrajzoktatásban a két világháború között.

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Hungarian scientific articles in Hungarian journals (3)

9. **Bán, G. K.:** Kataszterek katasztere: Az MNL Hajdú-Bihar Vármegyei Levéltárában őrzött kataszteri térképek új jegyzéke.

*Catastrum.* 10 (3), 62-64, 2023. ISSN: 2064-5805.

10. **Bán, G. K.:** Városfogalmak különböző tudományok látószögében, modernkori városhierarchiák.

*Hallg. Műtanalum.* 5, 9-21, 2021. ISSN: 2063-6024.

11. **Bán, G. K.:** Tringli István: Sátoraljaújhely.

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