



# Inner Territory and What Lies Behind It: An Inquiry Into the Hungarian Urban Hierarchy in 1930

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The study of the emergence of the Hungarian urban hierarchy raises a number of methodological questions concerning the complex settlement structure and the unique urban development of the Carpathian Basin. Research on the Hungarian urban hierarchy reveals a strong positive correlation between the position of the cities in the hierarchy and the complexity of their urban functions. The aim of my inquiry is to provide a complex picture of the Hungarian urban hierarchy of the 1930s, or, more precisely, the potential hierarchies. I approach this issue from various perspectives. As there are different definitions of cities in judicial (administrative), statistical, economic, sociological, and geographical contexts, the questions remain open: what do we consider a city, and what makes a settlement a city in the interwar period in Hungary? One of the cornerstones of my research is the issue of the outskirts. In administrative terms, we can speak about a unit, but due to the differing patterns of urban development in Hungary, the relationship between the core territory and its periphery is complex. Since the classic homestead theory has been challenged, hierarchical investigations have had to address the problems involved in dividing the data between urban cores and urban peripheries. Hierarchic rankings based on the incorporation of outskirts are quite different from rankings which omit the latter zones, which tend to be dominated by scattered farms not linked functionally to the urban core. The differences also show strong regional patterns. This study, based on statistical data, tries to highlight these differences in the urban hierarchy using this new approach. This way, it becomes possible to put the study of the Hungarian urban hierarchy in the interwar period on a new methodological footing which differs in several significant ways from the foundations of earlier research on the subject in Hungary.

Keywords: periphery issue, settlement structure, urban hierarchy, Hungarian urban network, historical geography.

“If society is inevitably spatial and the concept of space is impossible to separate from its social content, it not only means that social processes are to be analysed as they spatially present, but also means that what we consider to be spatial features are to be analysed theoretically and within social concepts.”<sup>1</sup>

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1 Massey, *Spatial Division of Labour*.

In today's era of interdisciplinarity, when the breakup of formal boundaries between disciplines is a common phenomenon, it is not easy to find a common language, common sets of concepts, and shared methods for different disciplines to use in their common research fields.<sup>2</sup> A good example of this is the research on urban history, especially the research on urban hierarchies. The complexity of this research topic is illustrated by the fact that it is a relevant field and perspective of inquiry in several disciplines, including geography, history, sociology, statistics, and economics. If we were to ask which discipline offers the most relevant, most fitting definition for the city as a form of settlement, then the answer is, simply, all of them.

Any discipline that has the city within its scope of interest has had to come up with a fitting definition, fitting, at least, from their respective points of view. Understandably, each discipline identifies different factors as decisive, thus leading to different notions of the city. "In the case of a complex, complicated entity such as the city in particular, we can consider these differences natural."<sup>3</sup> Each discipline paints a one-sided picture of the city's essence as it looks at the city from different angles and uses different conceptual sets to approach what it considers the most relevant feature of the city. Even if these essential factors are listed in a complex definition, the weight and the importance of them would also turn out to be differentiated at different moments in time. So, as a researcher, I cannot decide which discipline is right and which is not, because as a whole, these factors are not comparable across disciplines. "Sociology is no exception: it cannot shed light on the complex reality of the city", Tibor Mendöl wrote in 1939.<sup>4</sup> Sociology uses only one possible approach, and it understands the concept within its own context when grasping at the definition of city, but other perspectives are present in other disciplines, and a definition is not exclusive to any point of view.<sup>5</sup> However, I find that the geographic approach is currently dominant in the research in Hungary.<sup>6</sup>

My long-term goal is to present a complex picture of the city hierarchy in Hungary in the 1930s. More specifically, I offer a picture of potential city hierarchies. I plan to investigate a city hierarchy and to approach the issue from

several perspectives. The explanation for this is that the different disciplines work with different definitions of the city, which are definitely represented in research papers on urban history in the recent years.<sup>7</sup> Legal (administrative), statistical, economic, sociological, and geographic concepts of the city all create different understandings of it. Why should not we talk about the definition of the city in the context of these city concepts, that is, administrative, statistical, sociological, etc. urban hierarchies. This will give way for a number of new aspects for the analysis of the settlement structure and hierarchy.

The background to the methodology I use for my urban hierarchy study, which is based on the geographic city concept, has already been published in the *Rural History Yearbook*<sup>8</sup>. The present work is a preliminary study, and I examine only one important methodological question: the question of the periphery, which is methodologically prominent both in geographic, sociological, and statistical urban hierarchy studies. The subject has been discussed a great deal both in works on urban geography and settlement stock,<sup>9</sup> but it is rarely the true focus, except in studies which were written in the interwar period. A researcher who examines the Horthy-era town-farm theme can easily feel as if time has come to a standstill and the "research" has taken no steps forward. One major reason for this is that nowadays there is very little interest in similar issues and studies among professionals and readers alike. There is no question, however, that very little is known about the subject in a contemporary setting. It is essential that we re-approach the question, as further study could result in a better understanding of the hierarchical network of cities between the two world wars.<sup>10</sup>

Based on the factors outlined above, I find it justified to incorporate new approaches and methods into the research of the town-city relationship system and the city hierarchy between the two world wars. This allows us to get closer to the actual state of things.

The questions remain open: where does the periphery belong? How did the periphery affect the hierarchical ranking of the settlements between the two world wars? My aim in this preliminary study is to answer these questions empirically.

2 Beluszky and Győri, "A város a láz a nyugtalanság."

3 Tóth, "Tér- és időbeli sajátosságok a magyar városodásban," 55.

4 Mendöl, "Az alföldi városokról," 218.

5 Ibid., 218–19.

6 Bácskai and Nagy, *Piacörzetek, piacközpontok*; Timár, *Vidéki városalakók*; Beluszky and Győri, *Magyar városhálózat*.

7 Bácskai, "Vas megye várostörténeti munkáinak," 137–52.

Gyáni, *A város mint zárt és nyitott tér*, 205–20.

8 Bán, *Város, hierarchia, pozíció*.

9 Timár, "Az alföldi és dunántúli városok," 42–55; Beluszky and Győri, *Magyar városhálózat*; Beluszky, "Az Alföld szindróma;" Erdei, *Magyar Tanya*; Mendöl, "Az alföldi városokról," 217–32.

10 Szilágyi, "Város és tanya kapcsolata."

*Periphery or Boondocks*

The centuries-old history of the evolution of the “scattered farm” of the plains, by the nature of its complexity, has yet to be clearly unraveled. In the interwar period, ethnographer István Györffy hypothesized that the appearance of these “scattered farms” could be connected with the nomadic lifestyle of Hungarian settlers during the so-called Conquest.<sup>11</sup> On the basis of this hypothetical connection, he derived the distinctive type of Hungarian city known as the “Alföld country town.” His position was that these cities used to be “two internal plot” (“*két beltelkes*”) so-called hutch-garden (“*ólas-kertes*”) settlements, which he thought to be the predecessors of the later scattered farm cities. His perspective was widely accepted by historians, geographers, ethnographers, and sociologists, so this concept became widespread. The idea that Kecskemét might also have been “two internal plot” settlements once came up,<sup>12</sup> although no evidence has emerged to this day in support of this theory. Furthermore, the earliest maps which allow for morphological comparison suggest that it is unpersuasive. Also, at the end of the eighteenth century, quite a few plains settlements had this two inlot system. One could hardly base the notion that this was a prevailing system solely on the other two of the three cities in question, Cegléd and Nagykőrös, which exhibit this form. In recent years, the formation of the farms has been seen in new light thanks to István Orosz’s research on the Modern period land use of these farms on the plains.<sup>13</sup> It shows that at the start of the eighteenth century, at least 107 settlements were listed on the Great Hungarian Plains where “*parlagoló*”<sup>14</sup> agriculture was present, and plough fields and grasslands alternate systematically. Typically, a third of the land was used in a “*parlagoló*” system because communities on plains which were used to support livestock found it easier to renew grasslands using this method. One precondition of this was to have extended borders (because without extended borders, the “migration” of plough fields and hayfields was impossible to execute) and also to keep the population low in relation to these borders. The latter was important, since a growing population caused the grasslands to shrink with the extension of plough fields. Therefore, with a growing population, “*parlagoló*” systems only

remained feasible as long as the land could be extended beyond the borders by the inclusion of new fields (plains). As the population of the Great Plain grew steadily in the eighteenth century, there were two main options for the “*parlagoló*” settlements; either to rent or buy new plains like Kecskemét or, if this was not possible, to give up “*parlagolás*” (often due to outside pressure). Whichever option was chosen, due to the growing demand for grains, further fields had to be cultivated, facilitating and speeding up the spread of farms on the borders. Farms existed even before the eighteenth century, mostly as a consequence of the “*parlagoló*” system. The use of a “*parlagoló*” system meant that a farmer’s land remained a single unit (as opposed to pressure cultivation), and this was both an indispensable prerequisite of modern agriculture and also allowed for the development of scattered farm agriculture. It is hardly a coincidence, then, that the boundaries of nineteenth-century scattered farm agriculture coincided with the spread of the earlier “*parlagoló*” system on the plains.<sup>15</sup>

The economic function of agrarian gardens changed seasonally. From spring to late autumn, they were used for plant production, but in winter they were used to keep animals, and the food accumulated during the year provided food for the animals in the cold months. The agrarian garden under cultivation is known as a hibernacle. Early in the spring, the animals were kept on the fresh lawn between the gardens until April, when farmers were obliged to take their livestock out to the common pastures (and they faced punishment if they failed to do so). It is therefore evident that these agrarian gardens were one part of the estate. They lay on the city’s borders, and they were privately owned. These properties were often called moneyed gardens in the common parlance, as they were freely given and sold. Most of them lay on the southern boundary, beyond the inner Pasture belt, on the urban land, but there were also agrarian gardens in the west, on the border of the village of Nyíri and in Talfáj, which is the northern area of the city of Kecskemét today. All of them used to be moneyed agrarian garden, or at least the sources indicate that buildings (agricultural) had been erected on them by the seventeenth century. The construction of these kinds of building on land used for this purpose, however, only became common practice at the beginning of the eighteenth century.<sup>16</sup> Quite a few of these properties also had dug wells, which increased the value of the estates. The water from these wells was consumed by the workers on the scattered farm, but

11 Györffy, *Magyar tanya*, 72–76.

12 Szilágyi, *Kecskemét várostörténeti atlasz*, 10–11.

13 Orosz “Parlagoló földművelés az Alföldön,” 2014. – We are saying thank you to Professor István Orosz for his manuscript.

14 Hungarian soil shifter agricultural system in which one part remains unsown.

15 Orosz, *Parlagoló földművelés*, 14–15.

16 Czettler, *A tanyakérdés*, 443–446.

from November to April, the wells were used to provide water for the animals, though it may also have been used for irrigation in smaller quantities. By the eighteenth century, large livestock farms gave the city its main economic profile. The domestic animals (milking cows, work stock) were usually kept close to the city and placed on the inner pastures. The animals intended for sale for their meat were placed on distant and rented plains, and they were brought closer to the town just before sale. Large herds were needed to keep huge supplies of livestock. When a city rented out fields, the better-quality parts with softer soil were separated and were distributed between the cattle and horse owners. The so called “livestock owner” (*marhásabb*) farmers were given whole hibernacles, and the less wealthy were given smaller parts. These agrarian gardens on the plains were called “scattered farms donated by the town”.<sup>17</sup> The enclosed parts were then cultivated, ploughed, sown, or mowed. Like the “moneyed agrarian gardens” (*pénzes mezzei kert*) in the city borders, they were hibernacles and were considered prohibited lands. Since agrarian gardens built on rented plains were not the property of Kecskemét, in general no buildings were constructed on them, given the renting conditions.

Due to the different ownership situation, the two types of agrarian garden differed not only in appearance but also in function. Though both the “moneyed agrarian gardens” (*pénzes mezzei kert*) and the “city’s donation gardens” could be embodied. (The latter only until the lease over the plains lasted.) The sources indicate that the agrarian gardens that were formed in the seventeenth and eighteenth centuries and had different agricultural buildings erected and wells dug on them began to be called scattered farms to differentiate them from the town’s gift agrarian gardens, which had much simpler functions. In fact, in these “moneyed agrarian gardens” (*pénzes mezzei kert*) it is possible to recognize the later (nineteenth and twentieth century) scattered farms, which were based on plant production. The spectacular rise in the number of gardens accelerated the transformation of gardens by the fact that, due to bad weather conditions in the area, it was necessary to produce the necessary wheat locally. Within the given geographic and economic context, the only viable route for this was to break up lands that were previously had not been tilled or cultivated. However, given the lower quality of the less-bound sandy soils of these lands, their capacity for production was exhausted after a few years of field cultivation, and most of them were not suitable for grazing for a long time. With the transformation of the

methods of land use, the surrounding sand became mobile and began to move, a process which was significantly accelerated by climate change. The eighteenth century bore witness to warmer and drier weather in the area, as a result of which Lake Fertő was already low in the 1720s and even dried up twice, first in 1740 and then in 1773.<sup>18</sup> The limited extent of arable land, the narrowing of the pastures, the inability to rent new plains which could be used for planning and grazing, and the warming of the climate after 1745 all contributed to a shift in the second half of the eighteenth century, as scattered farms became increasingly numerous on the borders. This process was captured as a snapshot of maps by the first military survey. With the transformation of “moneyed agrarian gardens” (*pénzes mezzei kertek*), a new kind of farm management emerged based not on animal husbandry but plant production. This process was promoted by planting forests and orchards, viticulture, and last but not least, peaking grain prices from the middle of the nineteenth century. Additional momentum was brought by the appearance of the railroad.<sup>19</sup>

If we move to a specific conceptual background, it can be seen that all disciplines have put the scattered farm in different contexts, and everyone has approached the concept from a different perspective, just like the concept of the city, as mentioned in the introduction. Offering a definition, however, is always a perilous gesture, as any definition assigns significance to some aspects while apparently excluding others. Scattered farms have been examined from the perspectives of public administration (law), geography, sociology, economics, and ethnography.<sup>20</sup> In this case, I present two types of definitions: geographic and sociological.

Geography has basically a landscape-oriented approach. Settlements are examined from the perspective of the relationship between man and landscape. In addition, the landscape itself offers opportunities for people in the given space, and geographers also consider how these opportunities are utilized by the people living there. The first researcher who looked at Nyíregyháza’s “bush formation farms” (*bokortanyák*) from the perspective of geography and gave a definition of them was Gyula Simkó. He was followed by a number of geographers, including Tibor Mendöl. Of the geographic approaches I am going to mention, the definition of certain communities as “scattered settlement” (*szórványtelepülés*) is one. In most cases, these farms were permanently inhabited by colonies, though

18 Rácz, “Magyarország környezettörténete,” 200.

19 Szabó, “A kecskeméti szőlő- és gyümölcsstermesztés,” 6.

20 Erdei, *Magyar tanya*.

17 Szilágyi, *Kecskemét várostörténeti atlasz*.

administratively these colonies belonged to a particular settlement but formed a separate landscape.<sup>21</sup> This interpretation of the scattered farm as a settlement within a settlement constituted a new approach.

The sociological approach, represented by Ferenc Erdei, contrasts with the notion of some cohesion between the scattered farm and the settlement (town/village) and suggests instead a geographic concept: the accessory settlement. This settlement is commonly referred to as an agricultural area within the living space of a given settlement. According to Erdei, the scattered farm was only of economic importance, and the place of residence was only secondary, because the actual homes of these lands as temporary domiciles were within the inner city. In addition, the established road network itself constituted another important argument for the relevance of the sociological approach. There was little to no connection between the farms, as in most cases the roads only led to the given settlement/town.<sup>22</sup>

To sum up, the two disciplines approached the economic and social factors of the farm and the city itself from different perspectives. The main starting point for the scattered farm is the extent to which it could be said to constitute a long-term form of settlement: periodically or permanently. Given these differences in perspective, it was only a matter of time before the representatives of the two disciplines arrived at varying interpretations of the scattered farm.

Given the uniqueness of the scattered farms (as settlement types), there is little mention of it in the international secondary literature, but the question of the Hungarian scattered farm and the outside area has attracted the attention of some foreign researchers, most notably, that of Berlin historian Konrad Schünemann (1901–1940). Professor A. N. J. Den Hollander has also written an accomplished book and some articles about the Hungarian Great Plain.<sup>23</sup> This book is a rarity in this series of historical, sociological, and ethnographic works. In Hungary there is very rich secondary literature on the scattered farm.<sup>24</sup> A smaller library could be filled with the scholarly works in Hungarian on this subject. A 1786 book by Samuel Tessedik comes to mind,<sup>25</sup> and the works by the aforementioned Ferenc Erdei and Tibor Mendöl are also worth mentioning.

21 Erdei, *Magyar tanya*, 22–24.

22 Erdei, *Magyar tanya*.

23 Den Hollander, *Az Alföld települései és lakói*; Den Hollander, *The Great Hungarian Plain: a European Frontier Area (I-II)*.

24 Szabó, *A debreceni falurendszer*; Erdei, *Magyar Tanya*; Györffy, *Magyar falu, magyar ház*; Szabó, *A kecskeméti szőlő- és gyümölcsstermesztés*.

25 Thessedik, *A paraszt ember Magyarországban*.

Erdei and Mendöl both dealt with domestic farm research, and in some cases they differed significantly in their views.<sup>26</sup> In this paper, I focus more on empirical research.

### *The Methodology of the Research*

My inquiry focuses on one specific moment in the history of Hungary: 1930, when a census was taken. By then, the situation of the country had stabilized after a period of relative economic prosperity (1925–29). These four years had been characterized by rapid growth.<sup>27</sup> The world economic crisis (1929–1930) only caused stagnation at first, but a significant decline began in 1931.

One of the cornerstones of my preliminary study is that I separate the data concerning the inlot downtown and the data concerning the total area (the administrative town), so I set up two separate hierarchical ranges. Thus, the two territorial units are empirically comparable. This perspective is provided by the diverse development of the settlements in the country. I am referring to the differences between the settlements in the Great Plain and the settlements in Transdanubia and western parts of the country, but in a larger context I would also mention the differences between Eastern European and Western European urban development.<sup>28</sup> Another important methodological background for this model is that the analysis of the population size and employment structure of settlements which contain outskirts between the two world wars does not necessarily reflect the real characteristics of the city network. Rather, it reflects the ideas of less well-informed researchers who leave out of consideration the critical analysis of historical statistical data.<sup>29</sup>

The point of view of the research topic is not completely unprecedented. However, the previous works,<sup>30</sup> in contrast with my study, only accomplished the

26 See the discussion: Mendöl, “Néhány szó az alföldi városokról,” 217–32; Mendöl, *Egy könyv a magyar faluról*, 204–8; Mendöl, *Megjegyzések Erdei Ferenc*, 113–15; Erdei, *Magyar tanya*; Erdei, *Tanyás települések földrajzi szemlélete*, 103–13; Publications about the discussion: Timár, “Sociology and Geography,” 86–92; Timár, “Vidéki városok,” 49–51; Timár et al., “Vita a magyar városokról,” 617–28; Szilágyi, “Város és tanya kapcsolata.”

27 Tomka, *Gazdasági növekedés, fogyasztás*.

28 Timár, *Az alföldi és dunántúli városok*, 42–55; Erdei, *Magyar tanya*; Gyáni, *A város mint nyitott és zárt tér*, 205–20.

29 Timár, “Az alföldi és dunántúli városok,” 42–55.

30 Erdei, *Magyar Tanya*; Mendöl, *Az alföldi városokról*, 217–32; Mendöl, *Megjegyzések Erdei Ferenc*, 113–15; Timár, *Szociológia és geográfia*.

separation of the external and internal territory in a representative settlement layer, namely cities with legal implications.

In the course of my research, I used the “inventory” method<sup>31</sup> to set up two hierarchies. I collected the data from the various censuses at the settlement level. Consequently, two complex databases containing quantified data have been constructed. It was important to create artificial variables which are available in central statistical records both for the inlot and for the whole area of the settlements

However, I must emphasize that for the year in question (1930), we do not have the same quantity and quality of settlement-level data sets as provided by the census in the beginning of the century. Therefore, given the current state of research, more complex internal indicators cannot be included.

The works of József Nemes Nagy<sup>32</sup> and Pál Beluszky<sup>33</sup> provided additional data which helped add to the mathematical and statistical basis of my inquiry. Furthermore, concerning the statistical sources, I should mention the central documents that were prepared for public access and are the basis of any research concerning twentieth-century Hungarian town networks or city hierarchies. These documents include the publications of the Hungarian Royal Hungarian Central Statistical Office, the gazetteer for the given years, and the various national economic and demographic data series, which are in many cases available in digital form<sup>34</sup> today.

First, I grouped data from Hungary’s gazetteer of 1930, which recorded data for settlements with more than 1,000 residents. According to Beluszky’s research,<sup>35</sup> we can talk about urban settlements in functional terms (“functional towns”) above 10,000 inhabitants in the Great Hungarian Plain and over 4,000 inhabitants over the Transdanubia in the 1910s. First, I focused on settlements with populations over 2,000, but later I thought it would be worth expanding the survey with data concerning settlements with smaller populations, considering that the modeling of small towns and near-urban processes can be particularly important in the study of peripheries. Accordingly, I lowered the population threshold so that my research would include more settlements and thus become

31 conf. Beluszky and Győri, *Magyar városhálózat*, conf. Gál Zoltán, “*A magyarországi városhálózat vizsgálata*,” 50–65; conf. Major Jenő, “*A magyar településhálózatról*,” 32–65.

32 Nemes Nagy, *Terek, helyek, régiók*, 51–57.

33 Beluszky and Győri, *Magyar városhálózat*, 93–102.

34 [https://library.hungaricana.hu/hu/collection/kozponti\\_statistikai\\_hivatal\\_nepszamlalasi\\_digitalis\\_adattar/](https://library.hungaricana.hu/hu/collection/kozponti_statistikai_hivatal_nepszamlalasi_digitalis_adattar/) Accessed on August 8, 2018.

35 Beluszky and Győri, *Magyar városhálózat*.

broadly representative. With this shift, 1,634 settlements were recorded in the database, which was found to be a sufficient number compared to the total of 3,422 settlements<sup>36</sup> (48 percent). Thus, the first step consisted of recording the names of the settlements and their populations.

For the next step, I used the 86<sup>th</sup> edition of the New Series of Hungarian Statistical Publications, which provided a large amount of data for my research. I recorded the number of inhabitants and the employment structure of the inlot of each settlement using the data from this volume. I also used this volume to record the abovementioned indicators at the administrative level. As I had used the data concerning the main employment groups, it was possible to determine the proportion of non-agricultural earners mathematically. This was important, because along with tertiarization, the proportion of the secondary sector<sup>37</sup> was also an important factor in the evolution of a more urban existence. In addition, the use of the significance of surplus services formula has made it possible to establish the “rural part” of services. This method is one of the decisive methodological elements of Beluszky’s “inventory process,” which is based on the fact that the city is a rural provider. Consequently, the central role is based on the “surplus” service provided to the countryside. The aforementioned Walter Christaller also used this method in his research in southern Germany. The popularity of the theory notwithstanding, it is worth mentioning that the method itself may lead to distortions in certain cases, so we have to use it with caution. On the basis of the formula<sup>38</sup> of the theory, we can conclude that the population belonging to the settlement is part of the agglomeration, like the area outside the administrative boundaries. Consequently, we must use this method together with methods which consider the population of the settlement or area. If this value is negative for a given settlement (see table), this means that the settlement cannot provide for its own population in the services sector. However, if it is

36 On the capital city, see Hajdú 2005, 150. Cf. Latest 1992, 187.

37 The particular branches included in the Statistical Bulletin have been classified into the basic economic sectors accepted by the reviewed geography following the methodology below. The primary sector contains the primary producers, who were mining and metallurgical workers, while the secondary sector was composed of the industry workers and day-labourers. The tertiary sector was the most extensive, including the workers involved in commerce and credit; transport; civil service and liberal professions; armed forces; house seekers, and, finally, the fourth, the so-called other group, the retired; other and unknown employees. Szilágyi 2012, 111.

38 Significance of surplus services formula (K):  $K = Fv - Lv \cdot Fm / Lm$ ; Fv: the commercial turnover of the studied settlement; Fm: commercial turnover of the studied area; Lv: number of population in the studied settlement; Lm: number of population in the studied area.

positive, it will supply potential users beyond its own population. There was a plan to use a financial indicator, but the construction of the variable failed due to methodological problems. Between the two world wars, during the “fiókosítási program,”<sup>39</sup> deposit data concerning “smaller sub-offices” (*alfiókok*) in certain settlements appeared in the central account censuses. This makes it practically impossible to record the settlements’ deposits.

In summary, the two databases contained six variables, three in the inlot and three in the total area database. The average of the variables gave the complex value which determined the hierarchy. Accordingly, the following variables are included in the two databases:

• Inlot population	• Total area population
• Inlot proportion of non-agricultural earners	• Total area proportion of non-agricultural earners
• Inlot significance of surplus services	• Total area significance of surplus services

Since there are different types of variables (population, ratio, etc.), I have unified the variables using a mathematical method. The method used was the formula for normalization,<sup>40</sup> which prevented the creation of negative numbers and allowed the variables to be unified.

For this time-horizon, according to the present state of the research, we do not have the quantity and quality of inlot data sets to increase the complexity of this study. I could mention the financial indicator as an example. It is also important to note that the so-called total area database is made only for a representative purpose in order to examine the hierarchy of the two areas based on the same methodology and variables. However, this database is not properly complex, as the number of the indicators shows. Nevertheless, in this case, this function is not primary.

Finally, after the creation of the two databases and the two hierarchies, the positions were compared. Thus, I have constructed a brand new hierarchy for the inlot area at settlement-level, for which there was no example in Hungary in former researches. The two hierarchies make it possible to compare the differences and similarities between the inlot and the administrative positions in the period between the two world wars.

39 Several smaller sub-offices which belonged to the central sub-office in the interwar period.

40 Normalization formula:  $ni = (xi - xmin) / (xmax - xi)$ ; ni: normalized variable; xi: variable of the dataset; xmax: maximum of datas; xmin: minimum of datas.

I would like to emphasize that I have created only one possible context in which to study the inlot area’s hierarchy with this methodological model. Understandably, there are as many methodological approaches as there are results.<sup>41</sup>

### Placing Results in Context

More and more research has been done on this subject, and it has been necessary to isolate the external areas in the urban hierarchy. I am thinking of the work of Lajos Timár<sup>42</sup> and Zsolt Szilágyi.<sup>43</sup> However, the research that was done was only partial, as it only concerned settlements which were cities in legal terms.

In this inquiry, I open a new perspective on the issue, because I have completed the separation of inlot and outskirts on nearly 1,600 municipalities at the settlement level.

According to my *a priori* assumption, the separation of the external area adversely affects the position of these country towns of the Great Hungarian Plain. The results will be explained on two levels: on the one hand per se, and the on the other, the overall ranking of the inlot results. During the investigation, I omitted Budapest, since studies of Budapest in the year in question (1930) have already been done.

As can clearly be seen from the ranking table (Table 2), the internal hierarchy study confirmed the leading position of Debrecen after Budapest between the two world wars. I had arrived at this conclusion in the course of my previous examination as well. One of the concerns about this result was the role/prestige of the inhabitants of the city and the function of the city. The importance of the city grew in 1920, when the city of Oradea was made part of Romania in accordance with the Treaty of Trianon. The regional centers of Miskolc, Győr, Szeged, and Pécs were also included in my comparison.

Territorially, as can be seen on the map (Map 1), the leading settlements cover up the regions of Hungary, so we can say that the contrived hierarchy study in the field is more evenly distributed. The relativity is manifested as long as there is a regional center (Győr) and two county centers (Szombathely and Sopron) in the northwestern part of the country, with a distance of nearly 100 km separating them. But the area between the Danube River and the Tisza

41 Bán, “Magyarország városhierarchia-vizsgálatának módszertani kérdései,” 9.

42 Timár, *Az alföldi és dunántúli városok*, 45.

43 Szilágyi, *Város tanya kapcsolata*, 10.

has no regional centers. This may be due to the development of a dynamic agglomeration zone to the west and northwest in response to economic and political developments. This area lies towards Vienna, and it reaches the border of the state. In addition, the city of Sopron got into the top ten settlements in this region (in my urban hierarchy).<sup>44</sup> Furthermore, the advance of Budapest's agglomeration is observable. In this case, the first twenty settlements included Újpest, Rákospalota, and Budafok. The positions of these cities are also well reflected in the aura of the capital and its outstanding role within the domestic settlement network (Map 1).

I have highlighted ten former country towns from the inlot ranking.<sup>45</sup> Taking into account the positions of these cities, we can conclude that four of them rank among the first 15. In the case of these five settlements (Debrecen, Szeged, Kecskemét, Szolnok, Nyíregyháza), it is not clear that the unplugging of the external area would have affected them drastically. Using the same methodology, I also made an administrative (“total area”) ranking. This makes it possible to reconstruct the differences between the inlot and the total area hierarchies. It is important to mention that a significant position change was observable in the field of the vanguard (top10). Only in the case of two settlements, Debrecen and Szeged, remained the rankings the same (Table 1). Regarding the differences in the two urban hierarchies, the position of the inlot in the ten investigated cities was proven to be stronger, with the exception of Debrecen and Szeged. The conclusion is that in these predominantly agricultural-minded cities, the importance of the external area is insignificant in this time horizon. Moreover, the periphery is significantly weakened by the hierarchy position of former country towns. However, it is also noticeable that the scale of these derogations is highly variable. There are certain country towns with appreciable or moderate position changes (compare it to Kecskemét with 15, Gyula with 51 and Orosháza with 81 position changes etc.). Further anomalies can be observed in the table of rankings (Table 1). In particular, if one compares the first twenty settlements in the two lists of rankings, one observes that the significant increase, can only be detected in the agglomeration of the capital. Comparing the two rankings, I have found that the settlements in the vicinity of Budapest can be described by the increase in their overall area rankings. Yet at the beginning of the twentieth century, Hungarian industry, which was focused in Budapest, was characterized

by a high degree of territorial concentration. At that time, Budapest had emerged as the country's largest economic center, and the growth of the agglomeration was fast paced (Map 1).<sup>46</sup>

Finally, to offer answers to the questions raised in the introduction, it can be stated that the (hierarchic) ranking of an urban settlement is greatly influenced by the data of the peripheral areas (outskirts, farms), and not only in the settlements of the Great Plain. In this study, we can conclude that the periphery is not an integral (functional) part of the settlement. It was found that in all cases when this is possible, data on inlots should be calculated and used in hierarchic investigations in order to avoid distortions caused by different patterns of urban development.

### *Outlook*

Overall, we can conclude that the city hierarchy of Hungary between the two world wars is an extremely complex field of research which creates an interdisciplinary space between historical science and geography. This complexity determines the methodology, though the result of this kind of research is also significantly influenced by the use or exclusion of certain methods. Furthermore, the domestic aspect of the subject itself is diverse and reflects on a number of areas that point in new directions which have not yet been pursued in the secondary literature. I am thinking, for instance, of research into quality of life, for which the necessary data are available, or studies on development, for which the HDI<sup>47</sup> has to be adjusted. However, in my opinion, it would be more important to involve this indicator at the lower hierarchy levels, as the introduction of this new variable would not be sufficiently desirable for the higher-ranking settlements. The abovementioned methodological problem is difficult to comprehend in a domestic context between the two world wars, but research done according to this method would help further our understanding of a number of economic and social processes in villages.

With regard to the whole database, there are three important aspects missing from the related research. One would be a financial / economic dimension, which would place local interest rates in the center of the study at settlement level. This way, there should be two relevant financial indicators ready for the

44 Győri, “Bécs kapujában,” 231–51; Tóth, *Tér- és időbeli sajátosságok*.

45 Debrecen, Szeged, Kecskemét, Szolnok, Békéscsaba, Gyula, Hódmezővásárhely, Kiskunfélegyháza, Nyíregyháza, Cegléd.

46 Győri and Mikle, *A fejlettség területi különbségeinek változása*, 151.

47 Human Development Index, created by the UN.

database. Also, while doing my research, I had the idea of adding data concerning literacy rates to the database, as this kind of data is often used in modernization studies (HDI, for example). However, in this case, it would make more sense to use this indicator at the lower hierarchy levels in my opinion, as the introduction of this new variable would not result in sufficient dispersion-deviation within settlements of higher rank. There is no doubt, however, that it provides a partial solution to the aforementioned methodological problem, and it would facilitate drawing distinctions at lower hierarchy levels.

I believe this study on modernization would be relevant to our understanding of small town and near-small settlements. Additionally, the so-called dispersion (Std. Deviation) value could turn out to be an important tool in determining the “scoring” variables of institutions, lawyers, and doctors.<sup>48</sup> This would allow us to assign institutions hierarchy levels.

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<sup>48</sup> Beluszky, “Adalékok a magyar településhierarchia változásaihoz,” 331.

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### Annex

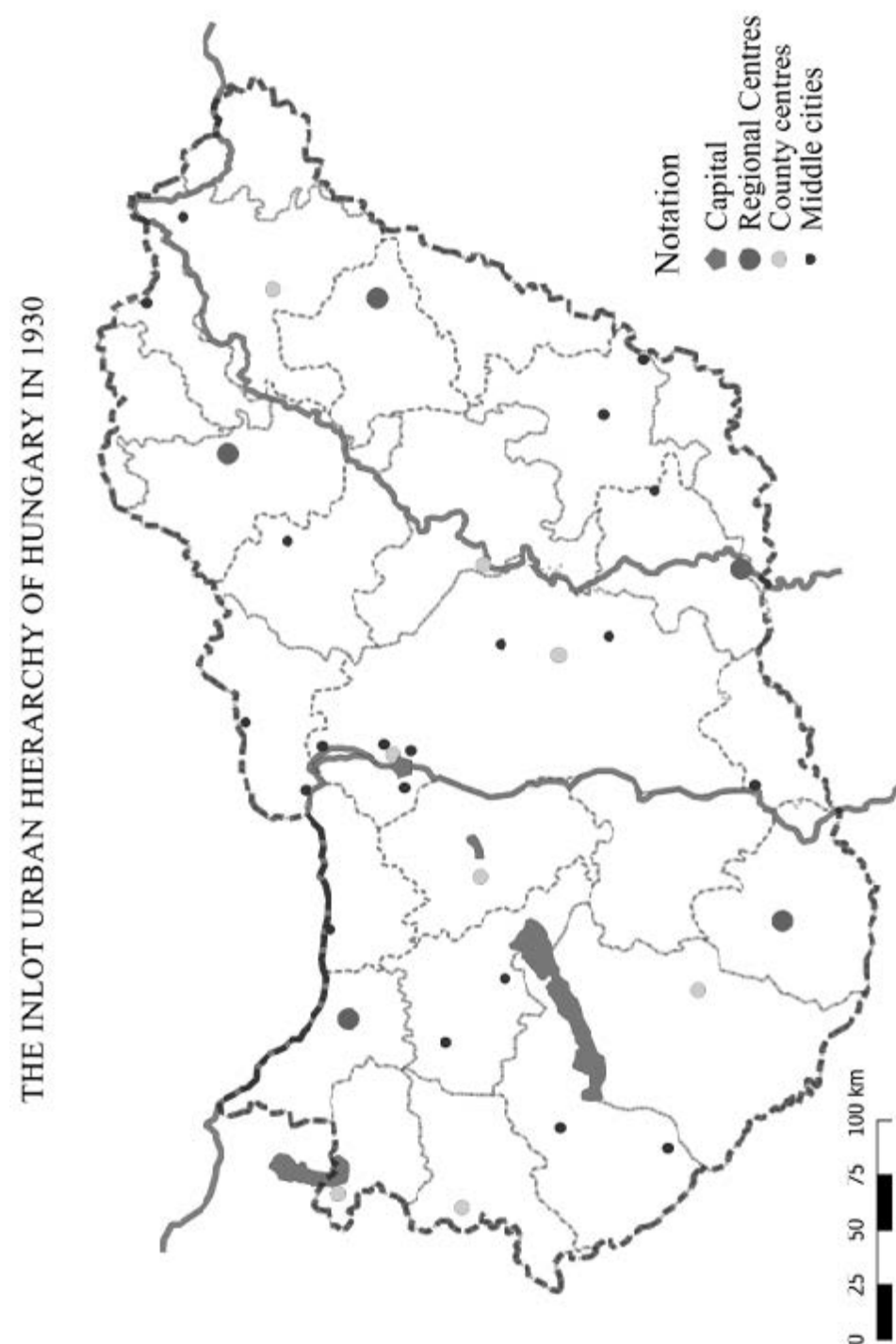


Table 1  
Hierarchical rank differences between the two territorial units surveyed in 1930

Ranking (inlot)	Name	1930	Name	Ranking (based on total area)
1	Debrecen	←→	Debrecen	1
2	Szeged	←→	Szeged	2
3	Miskolc	←→	Újpest	3
4	Pécs	←→	Pesterzsébet	4
5	Győr	←→	Kispest	5
6	Nyíregyháza	←→	Miskolc	6
7	Szombathely	←→	Győr	7
8	Kecskemét	←→	Pécs	8
9	Sopron	←→	Rákospalota	9
10	Újpest	←→	Szombathely	10
11	Szolnok	←→	Pestszentlőrinc	11
12	Székesfehérvár	←→	Csepel	12
13	Kaposvár	←→	Budafok	13
14	Nagykanizsa	←→	Sopron	14
15	Rákospalota	←→	Székesfehérvár	15
16	Sátoraljaújhely	←→	Szolnok	16
17	Békéscsaba	←→	Kaposvár	17
18	Veszprém	←→	Pestújhely	18
19	Baja	←→	Sashalom	19
20	Budafok	←→	Nyíregyháza	20

Table 2  
The inlot urban hierarchy of Hungary in 1930

Rank	Name of settlement	v1	v2	v3	IUHI
		Internal population (1930)	The proportion of non-agricultural earners in the area (1930) %	Significance of surplus services (person)	Inlot urban hierarchy complex indicator (based on normalized values)
<b>I. REGIONAL CENTRES</b>					
1	Debrecen	66,834	78.85	52127.49	0.587
2	Szeged	89,621	77.13	40851.87	0.526
3	Miskolc	60,032	80.93	35836.29	0.490
4	Pécs	50,019	74.24	28861.28	0.439
5	Győr	49,886	86.83	25664.00	0.432
<b>II. COUNTY CENTRES</b>					
6	Nyíregyháza	31,237	81.51	23837.13	0.410
7	Szombathely	34,945	83.27	23141.97	0.409
8	Kecskemét	34,788	69.43	18681.42	0.368
9	Sopron	32,441	72.39	17908.18	0.366
10	Újpest	66,541	91.96	11769.44	0.360
11	Szolnok	34,050	78.54	15583.35	0.359
12	Székesfehérvár	33,291	73.09	16419.22	0.358
13	Kaposvár	29,845	76.43	14669.71	0.350
<b>III. MIDDLE CITIES</b>					
14	Nagykanizsa	30,389	69.66	12352.06	0.329
15	Rákospalota	42,278	83.56	8734.62	0.325
16	Sátoraljaújhely	17,585	78.89	9652.38	0.318
17	Békéscsaba	37,647	65.53	9696.77	0.312
18	Veszprém	17,792	78.34	8587.06	0.311
19	Baja	25,370	74.99	8569.74	0.310
20	Budafok	19,543	90.58	5341.70	0.305
21	Komárom	6,911	87.72	5968.79	0.301
22	Zalaegerszeg	12,157	76.66	6878.64	0.298
23	Vác	19,361	78.71	6007.52	0.297
24	Pápa	19,774	77.58	5667.48	0.294
25	Balassagyarmat	11,120	74.47	6440.84	0.292

Rank	Name of settlement	v1	v2	v3	IUHI
		Internal population (1930)	The proportion of non-agricultural earners in the area (1930) %	Significance of surplus services (person)	Inlot urban hierarchy complex indicator (based on normalized values)
26	Eger	30,196	57.55	7959.48	0.291
27	Gyula	17,030	68.06	6129.54	0.286
28	Szob	3,394	82.24	4449.25	0.286
29	Kisvárd	13,304	73.69	4457.07	0.281
30	Kiskunfélegyháza	20,271	64.20	5366.48	0.279
31	Orosháza	14,291	62.01	4987.72	0.278
32	Cegléd	25,521	55.45	5396.34	0.278
IV. SMALL TOWNS					
33	Szentendre	5,418	74.17	3342.72	0.272
34	Keszthely	9,841	70.31	3635.68	0.271
35	Esztergom	15,549	59.12	5141.56	0.271
36	Celldömök	5,961	74.50	2994.22	0.270
37	Gyöngyös	18,232	54.14	5587.58	0.269
38	Kőszeg	8,075	73.60	2850.33	0.269
39	Salgótarján	15,254	72.39	2621.44	0.269
40	Hatvan	14,333	64.64	3959.48	0.269
41	Kalocsa	11,323	64.71	4050.69	0.268
42	Mátészalka	9,125	70.80	3064.34	0.268
43	Szentes	21,540	60.08	4161.60	0.268
44	Szentgotthárd	3,152	83.23	1123.93	0.267
45	Magyaróvár	7,351	77.45	1819.62	0.267
46	Újdombóvár	2,125	82.50	1163.19	0.266
47	Tóváros	5,012	76.45	1930.32	0.265
48	Nagytétény	4,006	83.44	716.38	0.265
49	Hajmáskér	2,040	74.77	2265.81	0.265
50	Hódmezővásárhely	36,783	53.57	3621.20	0.263

Hungarian urban hierarchy in 1930  
(Internal variables to a total area)

Rank	Name of settlement	v1	v2	v3	UHI
		Population (1930)	The proportion of non-agricultural earners in the area (1930) %	Significance of surplus services (person)	Urban hierarchy complex indicator (based on normalized values)
1	Debrecen	117,275	67.84	43891.61	1.640
2	Szeged	135,071	54.15	22044.90	1.591
3	Újpest	67,400	91.84	11495.09	1.497
4	Pesterzsébet	67,907	91.02	12595.49	1.493
5	Kispest	64,512	88.64	17849.12	1.448
6	Miskolc	61,559	80.39	35525.01	1.356
7	Győr	50,881	86.54	25355.36	1.332
8	Pécs	61,663	74.77	28089.62	1.284
9	Rákospalota	42,949	83.39	8560.27	1.217
10	Szombathely	35,758	83.07	23040.50	1.178
11	Pestszentlőrinc	30,611	87.61	8861.56	1.173
12	Csepel	22,901	93.98	-3526.41	1.171
13	Budafok	19,691	90.54	5300.55	1.120
14	Sopron	35,895	73.45	18334.76	1.066
15	Székesfehérvár	40,714	70.33	15931.96	1.064
16	Szolnok	38,764	71.54	14156.68	1.060
17	Kaposvár	32,715	74.36	14169.78	1.047
18	Pestújhely	11,340	89.26	3819.58	1.042
19	Sashalom	11,792	88.09	2573.99	1.031
20	Nyíregyháza	51,308	58.03	17377.52	1.006
21	Albertfalva	3,331	91.12	1327.42	1.000
22	Rákosszentmihály	14,083	83.18	4375.46	0.995
23	Kecskemét	79,467	38.54	2680.42	0.979
24	Nagykanizsa	30,869	69.09	12192.30	0.972
25	Vác	20,960	75.68	5572.05	0.964
26	Veszprém	17,792	77.43	8389.54	0.963
27	Sátoraljaújhely	18,431	76.58	9437.81	0.960
28	Pápa	21,356	75.07	5092.84	0.959
29	Békásmegyér	8,447	83.72	464.11	0.954

Rank	Name of settlement	v1	v2	v3	UHI
		Population (1930)	The proportion of non-agricultural earners in the area (1930) %	Significance of surplus services (person)	Urban hierarchy complex indicator (based on normalized values)
30	Baja	27,935	69.89	7677.48	0.953
31	Komárom	7,562	83.54	5818.30	0.952
32	Nagytétény	7,160	82.07	62.33	0.926
33	Soroksár	14,387	77.32	-848.84	0.925
34	Békéscsaba	49,374	53.05	4798.41	0.920
35	Felsőgöd	3,024	83.87	1080.51	0.916
36	Diósgyőr	20,854	71.95	-1822.17	0.912
37	Rákoshegy	4,198	82.30	1552.36	0.908
38	Salgótarján	16,980	73.45	2353.60	0.905
39	Szob	3,486	81.75	4428.18	0.900
40	Szentgotthárd	3,258	82.13	1098.86	0.899
41	Magyaróvár	8,584	76.70	1514.63	0.878
42	Zalaegerszeg	13,072	72.48	6541.74	0.870
43	Pesthidegkút	6,030	77.70	1237.74	0.870
44	Piszke	1,436	80.82	-101.36	0.869
45	Kámon	2,143	80.00	891.59	0.866
45	Budakeszi	6,099	77.33	480.21	0.865
47	Ózd	7,322	76.24	9.18	0.861
48	Balassagyarmat	11,551	72.56	6291.08	0.860
49	Kisvárd	14,133	70.33	4217.64	0.851
50	Rákosc	8,189	73.77	1629.64	0.842