# Historical Population Database of Transylvania: Methodology Employed in the Selection of Settlements and Micro Zones of Interest

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**Abstract**: The present paper elaborates on the way in which the first sample of settlements whose historical population previous to 1918 will be included in the Historical Population Database of Transylvania has been selected. The selection was made so as to meet certain requirements related to the quality of existing sources, to ensure balanced ethnic-denominational representation, unity and homogeneity of the micro zones comprising the selected settlements. The twelve selected micro zones incorporate a sample covering almost 7% of the historical population of Transylvania, making possible a long- and medium-term research.

Keywords: HPDT, Transylvania, micro zones, sample, population databases.

#### 1. Introduction

Building databases of past population is an almost half century long tradition. Historians and other researchers in the field of humanities and social sciences have collected data available in the archives (church and tax records, population censuses and registers) and stored them in databases. Technological progress has made possible the inclusion of datasets from wider geographical areas as well as the improvement of the analytical insight into primarily individual information. Thus, several attempts at creating local or national population longitudinal data infrastructures for scholarly circles have been initiated so as to supply the researchers with pieces of information concerning different stages in the life of people.

Even though the merits of longitudinal databases have been universally acknowledged, the access to these historical pieces of information is quite limited and the databases are difficult to build, requiring time and financial resources. Many such databases have been the outcome of various research projects, either limited in scope or chiefly focused on genealogical reconstructions for the benefit of the few interested.

The most elaborate and comprehensive databases have been built in Northern Europe, in countries with a long-standing tradition of accurately recording data on their population: *The Demographic Database* (DDB) in Sweden, *The Norwegian Historical Data Centre* in Norway, and the *Historical Sample of Netherlands* (HSN) in the Netherlands. Other extremely accurate, albeit local demographic databases, have been created in several European countries, and they are constantly updating, becoming more complex year by year. An overall picture of the current European initiatives of this kind can be found on the EHPS-Net website, whose aim is to bring together these scientific resources<sup>1</sup>.

On the other hand, in Eastern Europe, there are no databases containing longitudinal pieces of information on the historical population that can provide answers to a wide range of questions related to demographic, sociological, and medical aspects. Therefore, it is critically important to create such databases, chiefly as they are an indispensable foundation for quality research.

A remarkable opportunity for the research on the population in the past of Transylvania was the EEA Financial Mechanism 2009-2014, The Romanian-EEA Research Program - "Research within priority sectors". The Centre for Population Studies, Babeş-Bolyai University, participated in the competition for the grant and, in partnership with the Norwegian Historical Data Center, University of Tromsø, received a 34 months funding for the project Historical Population Database of Transylvania 1850-1914 (henceforth HPDT).

The main goal of the *HPDT* project is to create the first historical database of Transylvania's population, which will primarily encompass the period 1850-1914. The database aims at including 5-10% of the Transylvanian population in the period under investigation (c. 5.4 million births), that is providing between 350.000 and 500.000 individual IDS entries<sup>2</sup>.

## 2. General aspects concerning the methodology of sampling

The present study elaborates on the way in which the first sample of settlements whose historical population previous to 1918 will be included in the HPDT has been selected.

For reasons detailed bellow, simple random sampling – apparently more statistically accurate – was not feasible in this case. In order to have a most statistically relevant sample at the same time taking into account historical realities, it was necessary to include a wide range of aspects such as local

<sup>&</sup>lt;sup>1</sup> http://www.ehps-net.eu/databases.

<sup>&</sup>lt;sup>2</sup> http://hpdt.granturi.ubbcluj.ro/about/project/.

ethnic-denominational diversity and the not always complete preservation of sources, side by side with the need to develop a strategy for medium- and long-term research to ensure continuity of the project<sup>3</sup>.

During the modern age, Transylvania<sup>4</sup>, as a province of the Habsburg Empire, part of Dualist Hungary afterwards, was inhabited by an ethnically and religiously diverse population. There always was a Romanian majority, denominationally divided into Orthodox and Greek-Catholic. The Hungarian population consisted of two ethic groups – Hungarians and Szeklers - denominationally divided into Calvinist, Unitarian, and Roman-Catholic. The Transylvanian Saxons, a German-speaking population, were mostly Lutheran, and a few Roman-Catholic. Side by side with the four major ethnic groups, there were Jews (with their own religion), Gypsies (in most censuses divided among the Romanian- and Hungarian-speaking population), Armenians (chiefly Catholic), and other small ethnic groups in different stages of acculturation.

The patchwork population structure is also mirrored in the sources of the research. Taking into consideration the fact that the primary data of the 1850 and 1910 censuses (census forms) were preserved in few cases and for limited geographical areas<sup>5</sup>, any attempt at reconstructing the picture of the historical population in Transylvania must inevitably start from parish records. Actually until 1894, church records played the part of official civil documents, being the only source that can provide information on the main demographic events and behaviour of the people in the past of Transylvania.

A preliminary assessment indicates the presence of roughly 15.000 archive items of the aforementioned type in the Transylvanian County Record Offices of the National Archives of Romania, but their typology (baptisms, marriages, deaths, etc), chronological distribution and geographical division is uneven. In many cases, the church records from the beginning of the 20th century and later are still kept in the local parishes. Not in few cases, the Transylvanian Saxon communities that immigrated to Germany also took their church records with them.

<sup>&</sup>lt;sup>3</sup> For a similar approach to sample selection methods see Knodel 1988: 31-32.

<sup>&</sup>lt;sup>4</sup> Transylvania in the accurate historical meaning of the term, including the area of the Great Principality as well (including *Partium*).

<sup>&</sup>lt;sup>5</sup> The forms of the 1869 census taken in Năsăud and Telciu have been found in the archives of Bistrița-Năsăud and published (Bolovan, Onofreiu, Rus 2010; Onofreiu, Bolovan, Chira 2015). Several primary data collected in the census taken in Transylvania in 1869 have been digitized within the project MOSAIC, for instance, data collected in Braşov and Târgu-Mureş, in 39 villages from the former Sălaj County, and in 100 villages from Mureş-Turda County (Őri, Pakot 2012).

While before 1894, the Church and her priests recorded and sanctioned the vital events in people's life, the documents issued by these authorities lost their official character after the respective year and from then on had only a strictly denominational role (Bolovan 1999: 67).

Article XXXIII of the third "political-ecclesiastical" law of 1894 dealt with civil registration issues. Its importance consisted in the fact that responsibility to keeping civil records was transferred to state administration; from then on registration was supposed to be carried out by government employees (Bolovan, Covaci, Deteşan, Eppel, Holom 2009: 94).

The official civil records kept after 1894 were sparsely preserved because not all the County Record Offices of the National Archives collected them, the majority being still kept in town halls<sup>6</sup> or, in best cases, in County Civil Registration Offices. Relatively complete collections are preserved only in the County Offices of the National Archives of Alba, Hunedoara, Braşov, and Bistriţa, and some disparate items in Sibiu.

It is plain clear that simple random sampling, even if it had covered the entire province geographically, would have inevitably included many settlements where the sources were incomplete and whose ethnic and religious structure might have not been representative for the whole province. To select randomly a sample from the group of settlements preserving complete archive sources would have still raised the question of ethnic-denominational representativeness, involving further decisions that would have ruined sample randomness. Not in the least, in order to be statistically relevant the random sample size would have exceeded the short-term data processing capacity and the partial results would have been less scientifically accurate (for example, it would have been more difficult to survey local migration between neighbouring settlements). These aspects would have led in time to a discrepancy between the data entry flow and the yielded scientific results with potential negative impact on the funding required for carrying on the research.

Starting from the aforementioned aspects, the sample selection approach was tuned to the strategy of building and developing the HPDT with the view to include data on an ethnic and denominational spectrum as diverse as possible and at the same time representative for the entire province. It also took into consideration the need for available and complete sources, for yielding valuable short-, medium-, and long-term scientific results in order to ensure the funding flow required for carrying on the research. The initial sample under investigation was designed not only for the period during which

<sup>&</sup>lt;sup>6</sup> For instance, the civil records of Budeşti after 1895 are preserved in the Town Hall archive (Crăciun 2013: 56).

the research project laying at the foundation of the HPDT construction was implemented, but for at least a decade of activity. The underlying principles of selection were not only statistical, but also historical, closely connected to the state of the art and historiographical interest in certain research topics or historical-geographical entities.

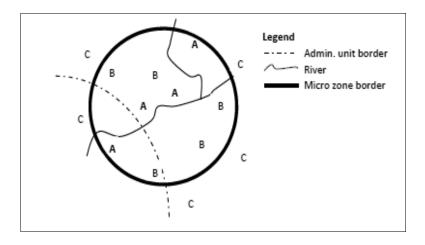
In order to pinpoint the aforementioned ethnic-denominational diversity and the patchwork geographical distribution of the population as well as the economic, ethno-cultural and administrative-historical differences between various Transylvanian regions, we selected several micro zones. Three types of settlements were identified within every micro zone (see figure 1):

A. Settlements included in a first subset, ethnically and denominationally representative for the entire province. This category exclusively consists of settlements that have complete collections of parish records for at least 50 years and up to 1894 in order to facilitate future activity/allow further comparison with the official civil records. At the same time, in most cases, at least one urban/semi-urban centre with integrative role can be found among these settlements. Type A settlements are not of necessity statistically representative for the micro zone they are located in, but they incorporate qualitative features that are defining for it.

B. The other settlements in the micro zone area for which the available data will be fully processed irrespective of year. In this way, even though not all settlements have complete collections of sources, we will still be able to sketch an overall picture of the micro zone and the demographic processes that underlie local population dynamics. Theoretically, by processing data supplied by type A and B settlements we will be able to make up a statistically significant sample for every micro zone.

C. Settlements initially outside the micro zone, which will be included in the research with the progression of data processing so that the original micro zone area expanded constantly. In practice, data provided by type C settlements will be processed only in special circumstances: either when all the micro zones are thoroughly investigated or when required by local specificity or the need to broaden the scope of comparison.

Figure 1. Typology of a microzone



## 3. Description of selected micro zones

In the following pages, we are providing a description of the micro zones and the main reasons why they have been selected:

- 1. Valea Bârgăului. The eight type A settlements selected to be part of this micro zone (Livezile, Dorolea, Josenii Bârgăului, Susenii Bârgăului, Rusu Bârgăului, Tiha Bârgăului, Bistrița Bârgăului, Mureșenii Bârgăului) are located along the valley bearing the same name, in the north-eastern part of Transylvania, along one of the main roads linking the province with Moldavia. Six were formerly included in the area belonging to the 2nd Border Regiment (Onofreiu, Bolovan 2006: 59-60). Two marketplaces were set up here in the past: Bistrița Bârgăului and Prundu Bârgăului (Irimescu-Andruș 1982-1983: 393, 402). Inhabited by a compact Romanian population, the development of the area was also due to its forest resources; the construction of Bistrița-Prundu Bârgăului railroad in 1898 facilitated transportation of both people and goods (Gidó 2013: 96).
- 2. The junction of Arieş and Mureş rivers. The ten settlements selected to be part of this micro zone are situated along the two rivers, in central Transylvania (Unirea I, Unirea II, Războieni-Cetate, Rimetea, Călăraşi, Ocna Mureş, Cisteiu de Mureş, Noşlac, Lopadea Veche, Decea). Before 1876, they belonged to the Szekler Seat of Arieş and Alba de Jos County. The most important urban center was Turda town, but there also were Vinţul de Sus market town (Unirea I), which maintained its status and urban privileges for a long time, and Ocna Mureş borough (Irimescu-Andruş 1982-1983: 401, 405, 406). Inhabited by a mixed population of Romanians, Hungarians, and

Szeklers, the area was economically dependent on the salt mines, at the same time being an important trading post for goods from the Apuseni Mountains. Of crucial significance was also the opening of the rail line between Cluj-Napoca and Războieni in 1873 (Gidó 2013: 55).

- 3. Gurghiu valley and Reghin area. The five settlements chosen to be part of this micro zone (Gurghiu, Caşva, Orşova, Glăjărie, Reghin) are located along the valley of the river bearing the same name, close to the Călimani Mountains, in the eastern part of Transylvania. A marketplace was set up in Reghin in the past (Irimescu-Andruş 1982-1983:402). Economically speaking, the area was focused on the timber trade that got a boost from the development of the railroad infrastructure. In 1886, the rail line between Târgu Mureş and Reghin was opened, followed by Reghin-Deda (1905) and, two years later, Deda-Gheorgheni lines (Pál 1999: 282).
- 4. Gheorgheni town area (Gheorgheni, Lăzarea, Voşlobeni). Due to the demographic particularity of its villages, whose relatively large population would have upset the balance of the sample, it is an area with few type A settlements. Its location on the border between Transylvania and Moldavia as well as the presence of the 1st Szekler Border Infantry Regiment in the area endows it with special features. The Armenians settled here as early as the 17th century also contributed to the economic development of Gheorgheni, which gained town status at the beginning of the 20th century. The opening of the rail line Deda-Gheorgheni in 1907 and Gheorgheni-Ciceu in 1909 likewise had a positive impact (Pál 1999: 117-118, 282). Not in the least, the limit of compact Romanian settlements in the region (represented by Voşlobeni in the sample) is also located here.
- 5. Sfântu Gheorghe town area. It consists of seven settlements (Sfântu Gheorghe, Chilieni, Arcuş, Sâncraiu, Ghidfalău, Coşeni, Ozun) gathered around the former seat of Trei Scaune County. The location at the crossroads of several trade routes between Transylvania and the Romanian Principalities, the presence of the 2nd Szekler Border Infantry Regiment in the area, and not in the least the fact that the capital town of the micro zone had unceasingly maintained its status of administrative seat have determined specific demographic processes that provide further justification for the inclusion of these settlements in the sample. Of special significance for the development of the area was the opening of the Braşov-Sfântu Gheorghe-Târgu Secuiesc rail line in 1891, followed by Sfântu Gheorghe-Miercurea Ciuc line in 1897 (Pál 1999: 282). Sfântu Gheorghe was formerly a market town (Irimescu-Andruş 1982-1983: 403).

- 6. Land of the Moţi. It is also a micro zone with few A type settlements (Abrud, Câmpeni, and Ponorel), located in the upper basin of Arieş and Crişul Alb rivers, in the mountain area of western Transylvania. In the past, marketplaces were set up in Abrud (enjoying urban status) and Câmpeni (Irimescu-Andruş 1982-1983: 391, 395). The area was chiefly famous for gold mining. A significant part was played by the opening of the narrow-gauge rail line between Alba Iulia and Zlatna in 1895 and, in 1910–1912, between Turda, Câmpeni, and Abrud (Gidó 2013: 174). In this particular case, more interesting results are anticipated after expanding the research to type B settlements, against the background of specific demographic movements generated by the convergence of the traditional lifestyle and the gold mining activities<sup>7</sup>.
- 7. Crasna County. The ten constitutive settlements of this micro zone are located in the drainage basin of Crasna river, in the north-western part of Transylvania (Şimleu Silvaniei, Pericei, Cehei, Bădăcin, Uileacu Şimleului, Nuşfalău, Huseni, Ratin, Giurtelecu Şimleului, Ilişua). In the past, a marketplace was set up in Şimleu Silvaniei (Irimescu-Andruş 1982-1983: 404). Another feature of the area was the presence of a Jewish population in large numbers and compact communities<sup>8</sup>.
- 8. Land of Făgăraş. The fifteen settlements of this micro zone are located along the lower course of the river Olt, in south-eastern Transylvania (Mândra, Ohaba, Şercaia, Veneţia de Jos, Pârâu, Săsciori, Dejani, Hârseni, Recea, Hurez, Beclean, Şona, Felmer, Şoarş). Marketplaces were formerly set up in Făgăraş, Veneţia de Jos, and Beclean (Irimescu-Andruş 1982-1983: 392, 396, 405). It was an area with compact Romanian communities and the seat of the Greek-Catholic vicarage of Făgăraş. One of the main reasons for its selection was the special attention Țara Făgăraşului received from Dimitrie Gusti's sociological school in the interwar period, which might open helpful comparative perspectives.
- 9. Land of Năsăud. The ten settlements of this micro zone are situated in north-eastern Transylvania (Năsăud, Liviu Rebreanu, Parva, Rebra Mare, Rebrișoara, Feldru, Nepos, Salva, Sângeorz-Băi, Maieru). In the area, there was a marketplace in Năsăud in the past (Irimescu-Andruş 1982-1983: 400). Nine

<sup>&</sup>lt;sup>7</sup> We should mention that Roşia Montană, where there is one of the most important gold mines in Transylvania, is also among type B settlements (Balog 2007: 199).

<sup>&</sup>lt;sup>8</sup> Sălaj County, established in 1876 and including Crasna County among other administrative units, was in the top Transylvanian administrative units with the highest rate of Jewish population (4,3%) in 1900, surpassed only by Solnoc-Dăbâca and Năsăud district. At the same time, at the beginning of the 20th century, Sălaj had the highest number of Jewish elementary schools in historical Transylvania (Gyémánt 2004: 94, 98).

of these settlements were among the 44 former border villages that belonged to the 2nd Romanian Border Regiment area between 1762 and 1851 and, after the later was mustered out of service, they became part of the Romanian District of Năsăud in 1861-1876 (Lupşan, Onofreiu 2003: 25, 32). Together with the settlements of Valea Bârgăului micro zone, they cover one third of the settlements of the former border regiment, which turns them into an extremely valuable sample for population studies in this military-administrative unit. Sociological inquiries have been conducted here too at the end of the interwar age<sup>9</sup>. Not in the least, the preservation of primary census records in some of the settlements offers a valuable auxiliary in the endeavour to reconstruct local families and households.

- 10. Dej area. The eight settlements belonging to this micro zone are located along the course of Someşul Mare and Someşul Mic rivers, in northern Transylvania (Dej, Ocna Dejului, Nima, Buneşti, Orman, Pintic, Nireş, Unguraş). A marketplace was formerly set up in Dej (Irimescu-Andruş 1982-1983: 396). The area was located along the road connecting the central part of Transylvania (Cluj town) with the north-western parts and witnessed a significant impetus chiefly due to the construction of several rail lines. Thus, Dej–Ocna Dejului rail line was inaugurated in 1882, Dej–Bistriţa in 1886, and in 1890 the rail line linking Dej with Zalău (Gidó 2013: 96).
- 11. Sebeş area. The eight settlements of this micro zone are located along the river Sebeş, in central-west Transylvania, in the area of the former Transylvanian Saxon Seat of Sebeş (Sebeş, Petreşti, Pianu de Jos, Pianu de Sus, Lancrăm, Săsciori, Răhău, Câlnic). The special features of the area stem from the economic and administrative impact of the German ethnic group on a Romanian population gradually becoming a demographic majority without being able to take over political power. The marketplace in Sebeş town was a commercial landmark in the epoch (Irimescu-Andruş 1982-1983: 403). Since 1897, Sebeş has been connected to the railway system following the construction of the Vinţu de Jos–Sebeş line.
- 12. Orăștie area. The eighteen settlements in this micro zone are located south of the river Mureș, in south-western Transylvania, in the area of the former Transylvanian Saxon Seat of Orăștie and Hunedoara County (Orăștie, Romos, Romoșel, Rapoltu Mare, Cărpiniș, Uroi, Spini, Totia, Băcia, Sântămăria de Piatră, Beriu, Orăștioara de Jos, Orăștioara de Sus, Bucium, Cugir, Vinerea, Şibot). In the past, there were marketplaces in Orăștie,

<sup>&</sup>lt;sup>9</sup> Two of the settlements in the sample, Rebrişoara and Nepos, were part of the 60 settlements selected by the student teams led by Anton Golopenția for the sociological inquiry carried on throughout the country in 1938 (60 sate românești: 1941-1942).

Geoagiu, Băcia, Vinerea, and Şibot (Irimescu-Andruş 1982-1983: 392, 397, 401, 404, 406). In the dualist period, the area witnessed a remarkable economic growth due to agricultural production and development of trade routes.

## 4. Sample representativeness

Statistically speaking, the type A settlements included approximately 6.16-6.84% of Transylvania's population between 1850 and 1910 (Table 1). The slightly higher percentage in 1910 than in 1850 indicates the fact that the sample rather consists of settlements witnessing a demographic growth over the average of the province and of fewer settlements that have witnessed a slower increase or even regression. Taking into consideration the large number of boroughs and towns that make up the sample, the situation is quite normal.

Table 1. Ethnic composition of the sample

Year	Region	Romanians	Hungarians	Germans	Others		`	Total
1850	Transylvania	1225619	536843	192270	106913	15606	78884	2061645
1850	Sample	75053	32804	12269	6816	563	4646	126942
1850	Sample %	6.12	6.11	6.38	6.38	3.61	5.89	6.16
1910	Transylvania	1608108	1005529	234901	59969	-	-	2908507
1910	Sample	107199	73146	15514	3182	-	-	199041
1910	Sample %	6.67	7.27	6.60	5.31	-	-	6.84%

Sources: Bolovan 2000: 197, 215; Magyar Statisztikai Közlemények 1912: 36.

Ethnically speaking, the circumstances of under and over representation in relation to the sample mean are ranged between -0.27%-+0.25% in 1850, except for the Jewish communities, whose scattering and poor preservation of parish records trigger substantial differences. Unfortunately, the same holds true for the entire province of Transylvania and the situation cannot be rectified in the absence of contemporary sources. On the contrary, the relatively even distribution of the Gypsies and the fact that they are recorded in the documents of all ethnic groups and denominations naturally led to a more balanced representation in the sample. The slight over representation of the Hungarians (+0.43%) in 1910 is a consequence of the same demographic phenomenon witnessed above, namely the preferential progress of urban and

semi-urban settlements developed by absorbing the flow of internal Hungarian migration by the end of the 19th century, settlements well-represented in the HPDT sample.

As far as denomination is concerned (Table 2), sample standard deviations are more substantial, chiefly in the case of denominations with lower demographic representation such as Lutherans and Unitarians. On the contrary, the Jewish community witnessed an out of the ordinary statistic situation (a massive increase from 3.61% to 11.26%), on the one hand generated by the demographic boom of Jewish population in certain areas of Transylvania<sup>10</sup>, and, on the other, by the prevalence of settlements with urban or semi-urban status in the sample, which became more and more open and attractive for the Transylvanian Jews in the second half of the 19<sup>th</sup> century.

Table 2. Denominational composition of the sample

Year	Region	Orthodoxies	Greek-Catholics	Catholics	Calvinists	Luterans	Unitarians	Mosaics	Others	Total
1850	Transylvania	621852	664154	219536	297129	197359	46016	15599	0	2061645
1850	Sample	37771	40778	14889	18493	11405	3043	563	0	126942
1850	Sample%	6.07	6.14	6.78	6.22	5.78	6.61	3.61	0	6.16
1910	Transylvania	802293	882145	390894	460622	229814	67826	73923	990	2908507
1910	Sample	50100	62206	29975	32358	12723	3320	8326	0	199041
1910	Sample%	6.24	7.05	7.67	7.02	5.54	4.89	11.26	0	6.84%

Sources: Bolovan 2000: 215.

#### 5. Conclusions

The research sample laying at the foundation of the HPDT construction was selected so as not only to cover the three years during which the project was carried on, but having in view a long-term perspective. The settlements included in the micro zones were selected according to criteria that took into

<sup>&</sup>lt;sup>10</sup> We should mention here in the first place the former northeastern border area included in our sample, which witnessed one of the most significant increase in Jewish population after 1869 (Gyémánt 2004: 93).

consideration the presence of as complete as possible collections of parish documents for all three types of records related to marriage, baptism, and death (at least for 50 years), kept until the year 1894 in order to be able to compensate for potential missing data as well as to compare them with the official civil records. Another selection criterion was related to the presence of an urban/semi-urban centre that played an integrative part in the area. At the same time, the selection method paid attention to the geographic, ethnocultural, and historical unity/homogeneity of the micro zone.

The 12 selected micro zones make up a sample that is quite faithful to the real circumstances in Transylvania, to her ethnic and denominational diversity. At the same time, the sample covers a significant percentage of about 7% of the historical population of Transylvania.

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