

THE GEOGRAPHY OF HUNGARIAN TALENT

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About the geography of talent

The geography of talent examines the interrelationship between talent – the most important form of human capital – and the geographical environment, thereby analysing spatial inequalities and spatial mobility in the life course. Its objective is to assist in making talent a practical tool and knowledge resource for society as a whole. Talent constitutes a combination of abilities and characteristics capable of generating above-average performance. It is not an innate privilege of certain ethnic groups or social classes, but rather a set of abilities and skills unique to each individual and resulting from the combined effects of genetics and upbringing. Talent can only be interpreted as the product of a specific culture; it entails capabilities that are useful from a social point of view.

Based on the fields of ability, the following talents can be distinguished: intellectual (e.g. literary, scientific, mathematical, and technical), psychomotor (e.g. sports and the art of dance), artistic (e.g. the performing and creative arts, music) and social (e.g. educational, political, spiritual, business, managerial) talents. In the fields of geography and economics, talented people are generally considered to be those who have an elevated level of education and who work in specialized sectors of the economy (e.g. the high-tech industry, knowledge-intensive services, R&D, science and technology).

The definition of talent inevitably raises questions. Noteworthy, in the field of geography, the objective is to capture an individual's talent in its practical manifestation. That is to say, talent is evaluated solely on the basis of performance and according to criteria defined and accepted by a circle of experts. Since the action and the agent presuppose each other, this performance also characterizes the talented individual in his or her field of operation (science, sports, the arts, etc.).

Talent is rooted in an individual's genetically based ability to create culture. Yet to flourish (and be productive), talent must benefit from the appropriate social, geographical and historical conditions. Those taking part in the Hungarian conquest of the Carpathian Basin in the late ninth century arrived in Central Europe as a genetically diverse people, bringing with them a rich and innovative culture. Over the centuries, the receptiveness and tolerance of the Hungarians have facilitated the integration of other peoples and ethnic groups. The central position of the Carpathian Basin has enabled both a fortuitous mixing of genes as well as encounters between diverse cultures and a continuous exchange of information. The collective and personal talents of Hungarians reflect, therefore, an ability to create, absorb and mediate culture – even amid tempestuous historical circumstances. Much for the same reason, Hungarian talent has come to the fore across the world.

Evidently, the development of individual talent depends on where a person was born and raised and whether the person is in a position to utilize his or her abilities. The authors of the first talent maps in Hungary (Gyula Hantos [1936] and József Somogyi [1942]) made effective use of the available encyclopaedic data, establishing that the best educational opportunities were to be found in Hungary's major cities and admin-

istrative and ecclesiastical centres, where talent was also more plentiful.

Regrettably, in the mid-20th century, the geography of talent was removed from the curriculum for ideological reasons. Only in the final decade of the 20th century did it re-emerge in the wake of a 'cultural turning point' in Hungarian geography. József Tóth, an advocate of Hungarian talent geography, utilized the biographical data relating to Hungarian academics and scientists to establish spatial inequalities that cannot be explained by standard demographic factors.

Later, Ferenc Györi made use of the Hungarian Biographical Dictionary to compile and publish a monograph processing the data of 17 thousand famous people. He made a note of their abilities based on the type of talent (intellectual, artistic, psychomotor, and social), classifying each individual according to place and time of birth and place and time of death. Recently, based on his own research, Szabolcs Mátyás integrated new analytical aspects when assessing talented Hungarians in each scientific and cultural field. His focus was on the men and women who through their achievements have contributed to science and culture both in Hungary and around the world.

Talented people and their spatial distribution

Place of birth

The first maps of talent date to the late 19th and early 20th centuries. They were produced in Germany and France and included information on the places of birth of writers and musicians. Their authors concluded that excellence 'breeds' excellence, doing so through such mechanisms as the mutual interaction of intelligent and educated people. As mobility improves, so the frequency of such encounters increases. This, in turn, adds to a local accumulation of knowledge, exerting a knock-on effect on the intellectual abilities of schoolchildren in the area. A further conclusion was that talent is abundant in areas where peoples have tended to mix. With data on the places of birth of writers and poets, the first Hungarian map is tied to a work on literary history by Jenő Pintér (1928), which details the birthplaces of writers and poets. Gyula Hantos (1936) concluded that talent was particularly abundant in certain regions of the country (e.g. Szepes/Spiš, Székely Land, as well as North Transdanubia). In his view, the 'explanation' for this lay in the soul-shaping effects of the landscape and the undisturbed development of Hungarian culture in the identified regions. He also considered the impact of cities, roads and railways on talent. A map by József Somogyi (1942) included further outstanding Hungarians, highlighting their particular talents. Somogyi regarded Hungary's towns as ancient cultural centres with long-standing schools and an educated citizenry. In such places, the very spirit of the place had inspired generations of immigrants as they mixed with the 'indigenous'. He asserted that the innate factors are ineffectual where 'other circumstances, such as geographical and historical features, political conditions, economic and social status, population density, and transportation facilities' prevent a higher intellectual and spiritual life.

Thus, for geographers of talent, the place and time of birth indicate a talented person's living environment and his or her historical milieu in the life journey towards excellence. Since talent can only unfold in a social milieu, the place of birth is intricately linked with the family milieu, which 'produces' the talented child, and with the initial school environment. Evidently, the educational and financial limitations in smaller peripheral settlements restrict the learning opportunities and motivations of local children.

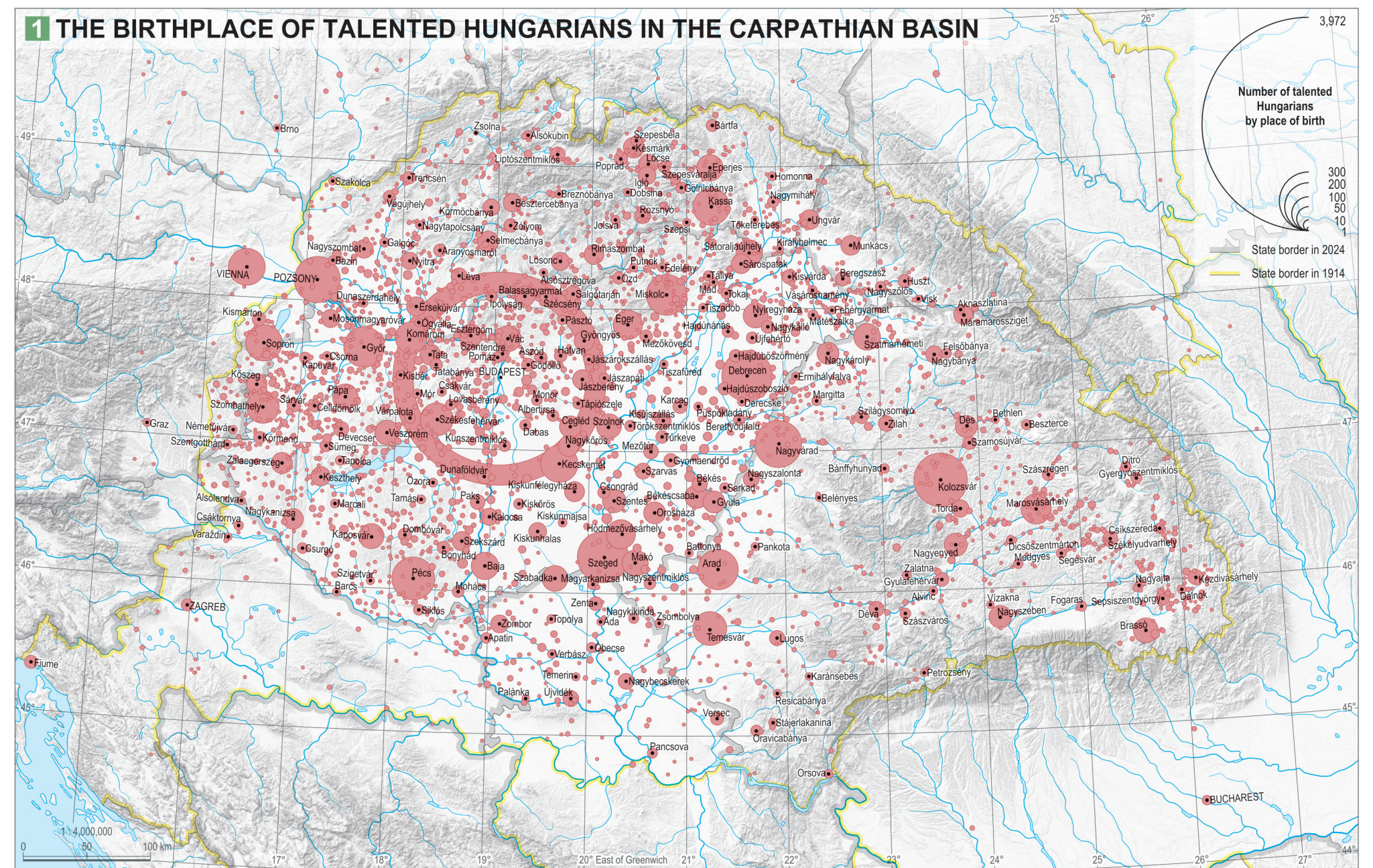
To produce our map showing the places of birth of talented Hungarians **1**, we made use of the digitized version of the Hungarian Biographical Dictionary (2004), which has more than 17,000 headings. Having confidence in the authors of the Dictionary, we assumed that the presence of a biography in the work was an indication of outstanding intellectual, artistic, sports or community achievements.

When analysing this enormous database, which contains data for thousands of individuals, the chance that someone's birthplace was coincidental can be regarded as negligible. At the same time, however, beginning in the late 19th century, an increasing number of women gave birth at a hospital, clinic or maternity home. Statistically speaking, the consequence was an increase in the urban share of births. It should be emphasized, however, that access to such health care facilities mostly corresponds with access to other urban services that might encourage the development of talent at a youthful age (e.g. secondary schools, libraries, museums, and sports clubs). All such factors could influence an individual's journey towards learning and 'becoming more'.

Concerning the gender distribution of the talented individuals recorded in the biographical dictionaries, the proportion of men exceeded that of women by 14 times. Three-quarters of those listed were talented in a single field, with the rest being talented in two or more fields. The figures for the types of talent were as follows: 69% – intellectual (e.g. scientists, engineers, physicians, teachers); 34% – artistic (e.g. fine and applied artists, musicians, actors, film and theatre directors); 20% – social (e.g. political, economic and military leaders as well as statesmen); and 3% – sports (individual and team athletes, winners of world competitions).

Examining the distribution of the absolute number of births by settlement, we find that talent was most common – after Budapest – in Kolozsvár (Cluj), Szeged, Debrecen, Nagyvárad (Oradea), and Pozsony (Bratislava). Six of the first ten towns fall within Hungary's present borders. Reflecting the country's close cultural ties to Vienna, the former imperial capital is also in the top part of the list. In Hungary's present-day territory, Szeged, Debrecen, Pécs, Miskolc, Győr and Kecskemét stand out, alongside Budapest.

People who died where they were born were termed 'retained', while those who died elsewhere were called 'emigrants'. The proportion of the former was 23%, while the latter comprised 77%. A general conclusion for all places of birth was that the ability to retain talent was low. Budapest, Debrecen, Szeged and Kolozsvár (Cluj) were the most likely to retain talent, but the proportion of emigrants increases among them in that order. Several old Hungarian cultural centres that were annexed to neighbouring countries exhibited substantial emigration (e.g. Nagyvárad [Oradea], Kassa



[Košice], Arad, Temesvár [Timișoara]). Four fifths of all 'retained' talented individuals were born and died in Budapest.

The settlement network is roughly reflected in the number of births per settlement and the distribution of places of birth. Areas with a high density of settlements tended to put forth one or two talented individuals. But the number of talents is higher in the case of the populous settlements of the Alföld.

Place of death

The spatial and temporal distribution of places of death relates to the environment in which the talented individuals spent their final years. Places that received talented individuals were (or could be) conducive to the completion of their work and results. Evidently, a talented individual's death is a variable. However, just like the birthplace, the place of death can be considered statistically relevant in the context of attracting talent.

According to the talent geography research mentioned in the foregoing, the places of death embody cultural focal points that attracted excellence in a given historical period. The openness of such receptive areas, the opportunity to encounter various cultures, the higher level of technological abilities and capabilities, and the frequent social interactions and feedback served as a favourable ground for achievements, discoveries and innovations. These, in turn, served to attract newcomers. The exact place of death is included in 93% of all entries in the Hungarian Biographical Dictionary, which covers nearly 1700 settlements in the Carpathian Basin. The places of death (receptive) within Hungary's present borders account for barely 15% of all settlements.

The absolute number of deaths per settlement includes data on those born in a given settlement who also died there (which can be termed 'retained' individuals) as well as those born elsewhere who died in the

given settlement (who can be referred to as 'immigrants'). Spatial clustering is indicated by the fact that the number of places of death is less than half of the number of places of birth. Regarding the place of death, Budapest ranks first in absolute terms, followed by Kolozsvár (Cluj), Debrecen, Szeged, Pécs, Bratislava and Sopron **2**. Indeed, more than half of the eminent persons died in Budapest, with the number of talented people dying in the city being almost two and a half times the number of talented people born there. Thus, a third of those who died in Budapest were natives (retained), while two-thirds were immigrants to the city.

Among the places of death, the popular destinations of emigrants from historical Hungary are strikingly evident. Indeed, such cities accounted for more than a quarter of all known places of death. The list is headed by Vienna, followed by New York, Paris, London, Munich, Los Angeles, Berlin and Rome. Data on people who were taken to the Nazi extermination and death camps (e.g. Auschwitz and Mauthausen) and on those who perished there are also available. We have less information, however, on the victims of communism, some of whom never returned from the detention and work camps in the Soviet Union. Among the cities within the present-day territory of Hungary, Debrecen, Szeged, Pécs, Sopron, Miskolc, Győr and Kecskemét are overrepresented, alongside Budapest.

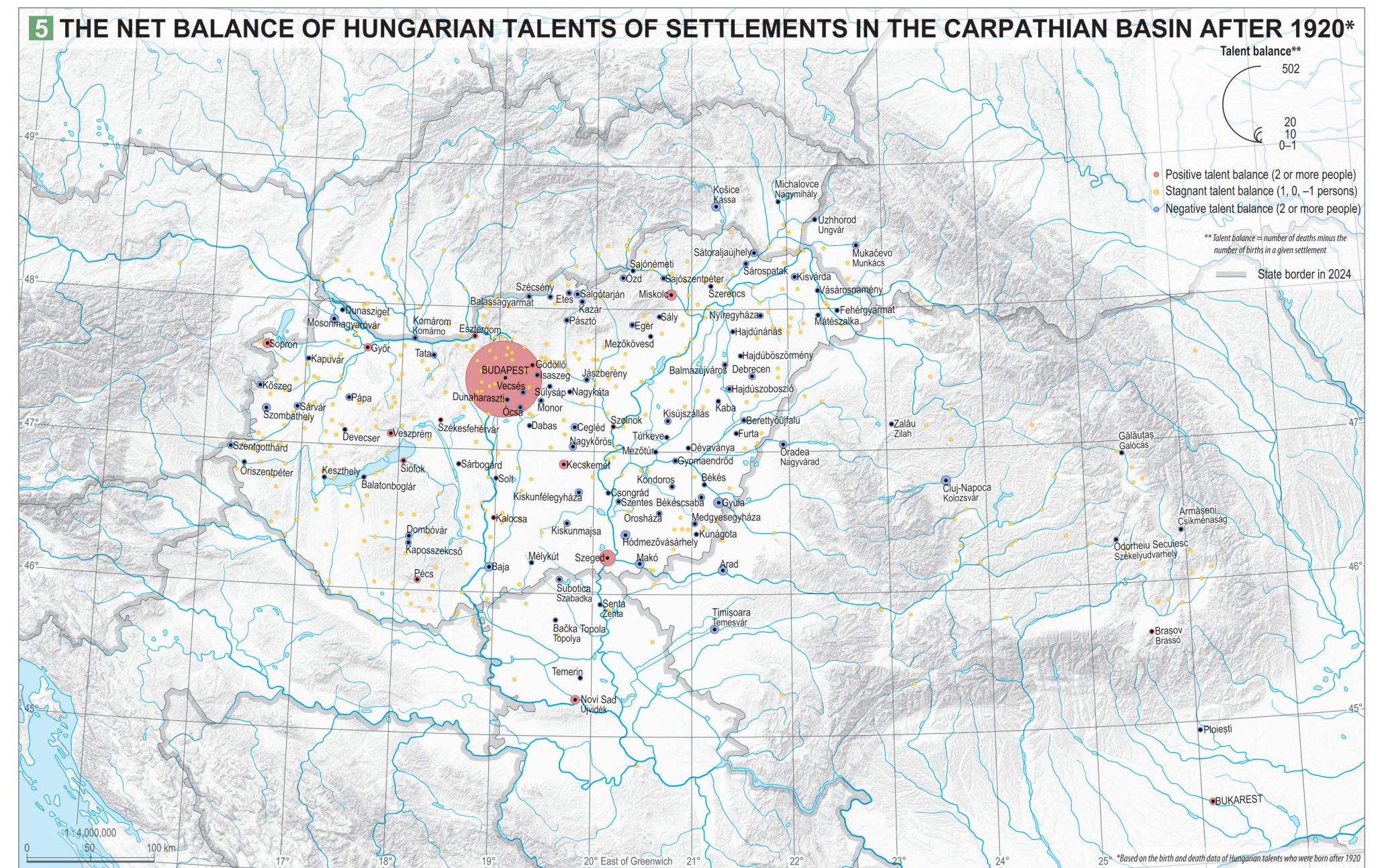
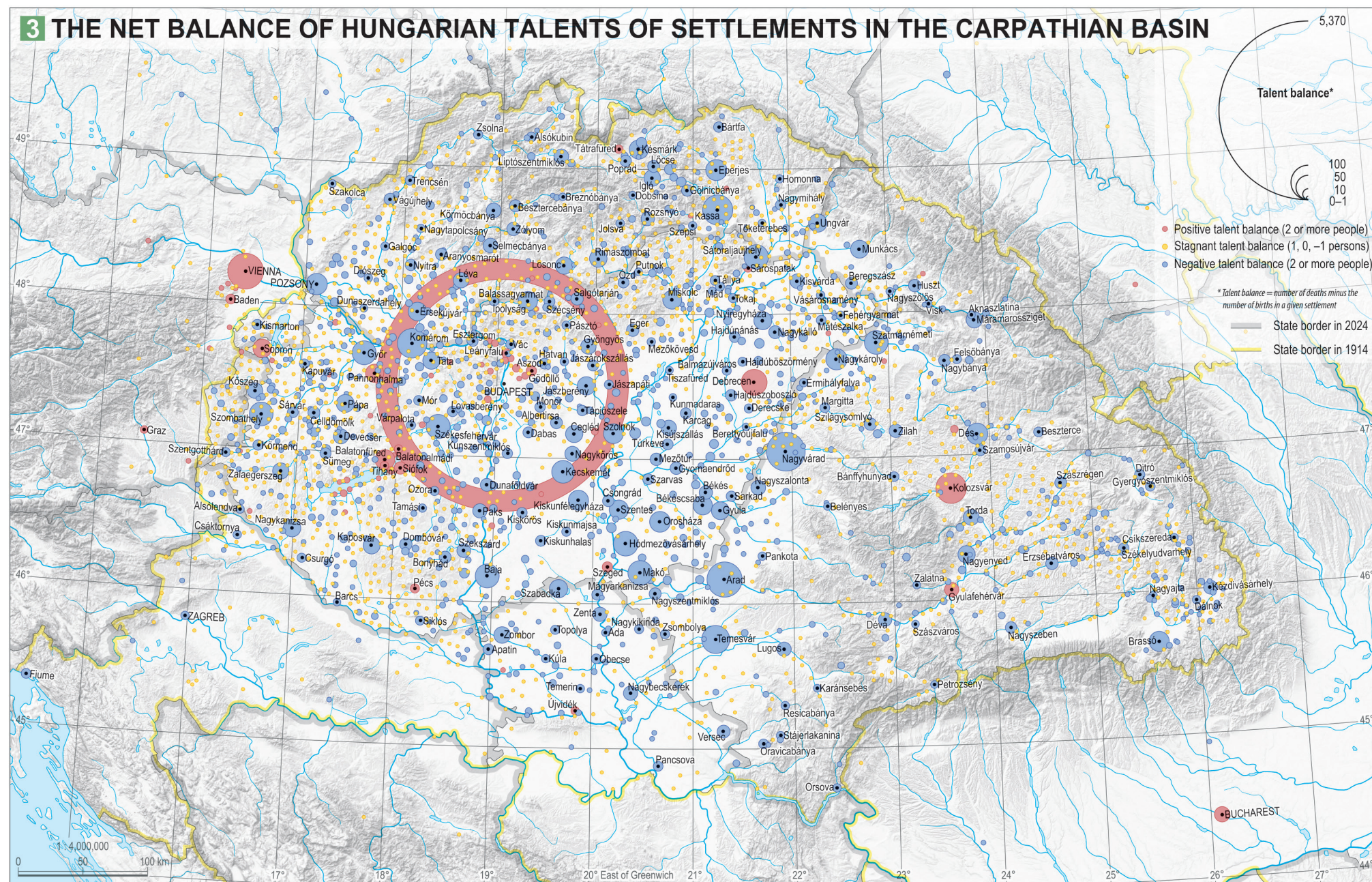
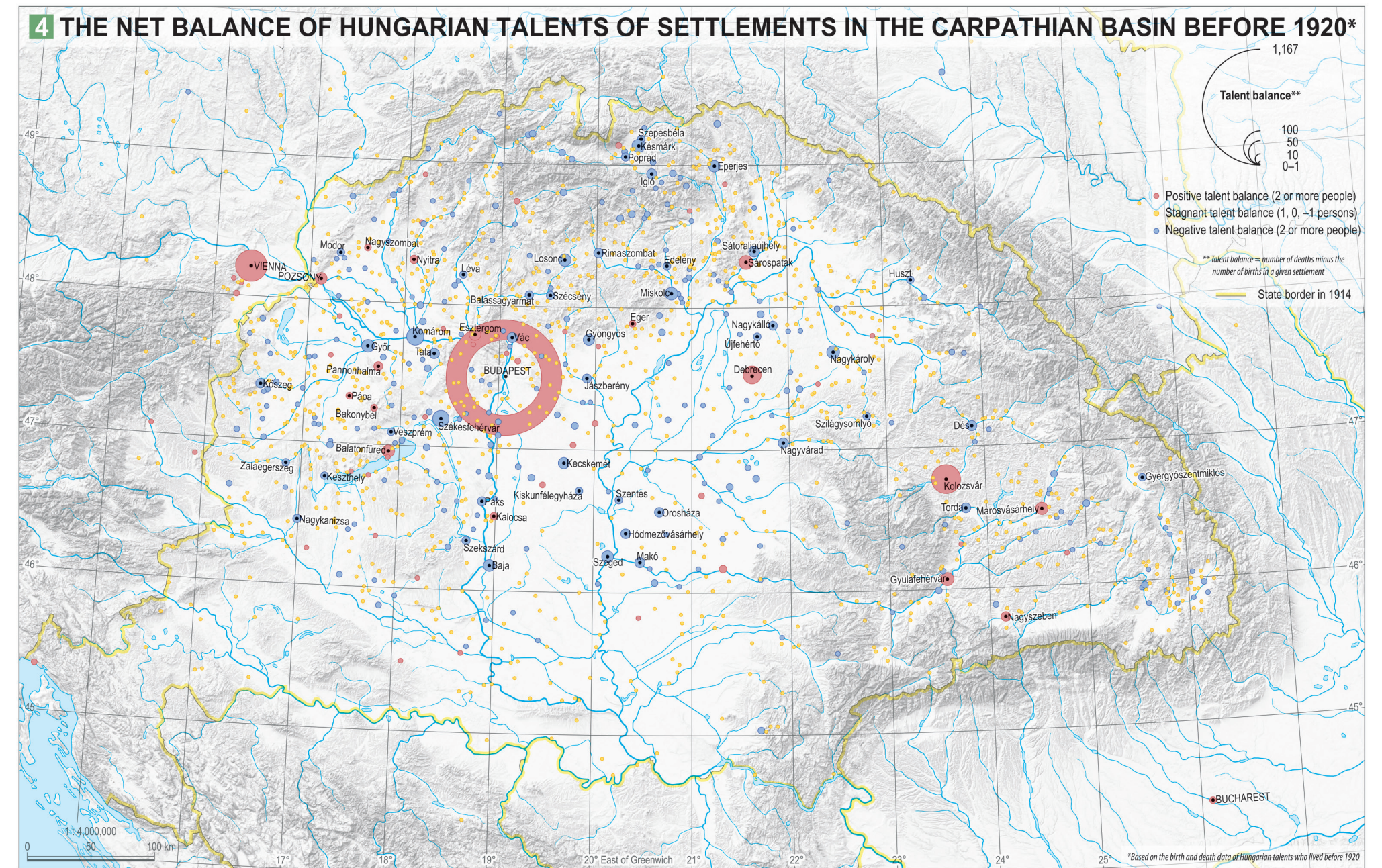
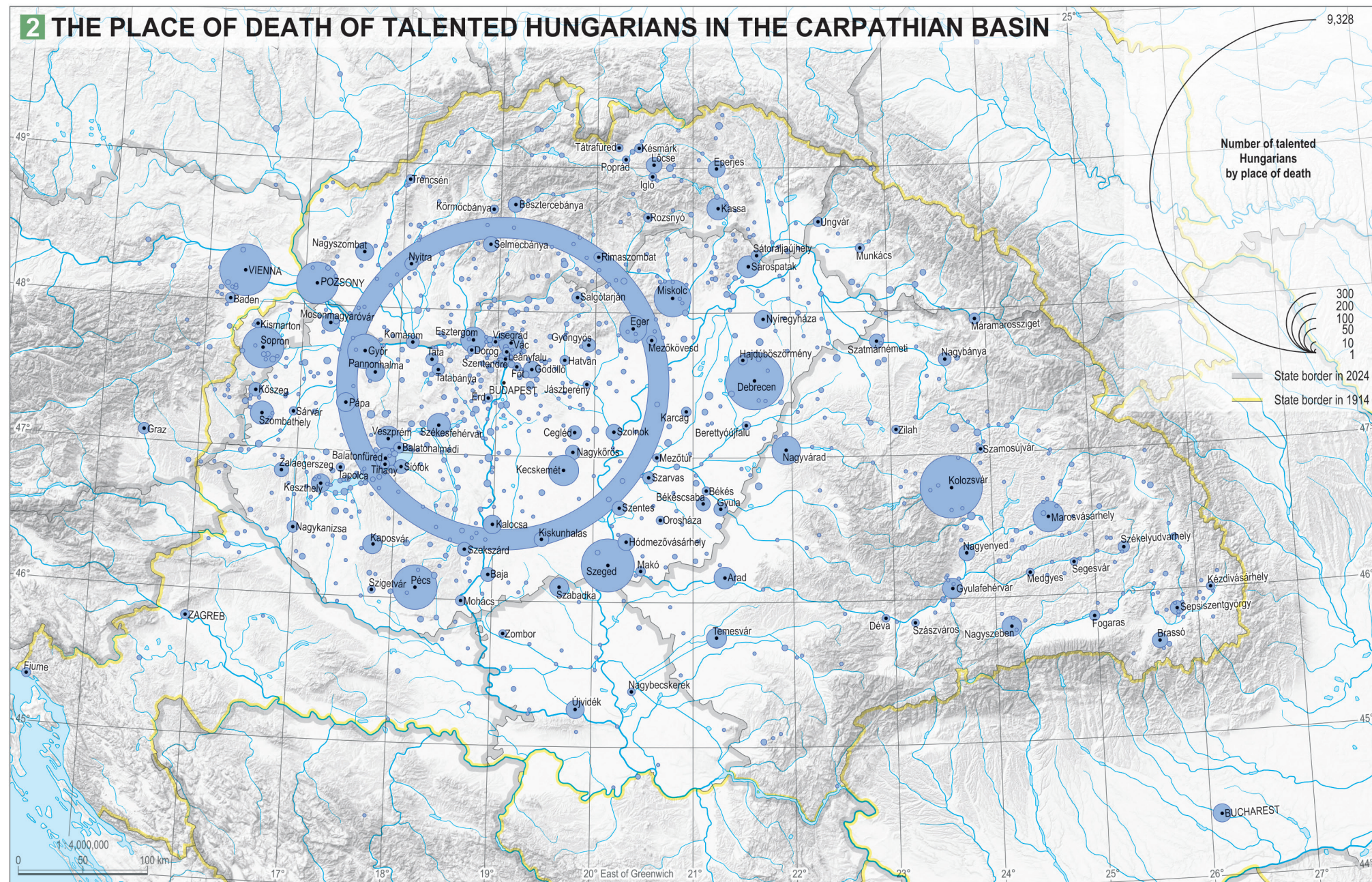
Talent production and attraction

It has long been recognized that qualified and educated people are inclined to move to richer and more developed regions and cities (i.e. they are characterized by higher mobility). Evidently, there can be multiple reasons for staying in the same place or for migrating, with the key factor being the relative attraction or repulsion of the place of residence (people seek a better quality of life, opportunities to study and work, and individual development). Since jobs and opportunities

requiring (and attributing value to) a good education and intellect have always been unequally distributed, the migration of 'grey matter' – the so-called brain-drain – has existed in some form down the centuries. 'Over and above migration on an intercontinental, international or interregional scale, even within the scope of our everyday lives, we can see the migration of talent in action; perhaps we can call it a brain drain at some level,' wrote József Tóth (2004). Economically speaking, the emigration of skilled labour and intellectual ability means that the prior investment in education will show a return elsewhere.

Of course, this applies not only to fields of talent requiring outstanding intellect. Artists, top athletes, and people on a social mission also exhibit a greater propensity to move, doing so in the hope of building a career and for greater professional recognition or improved working conditions and amenities. When it comes to attracting and retaining talent, the most decisive factors today are the presence of universities and research institutes, salary levels, the quality of local services, and social openness. The latter is particularly important because the migration of talent, which has intensified in recent years, promotes the export not only of knowledge and skills but also of the cultural elements of the donor society (e.g. customs, values, and religious beliefs). Research by Florida (2002) in the United States highlighted that talents are more strongly attracted to inclusive societies with high technological capabilities and a high degree of tolerance.

The spatiality of the production (output) and reception (intake) of talent can be modelled on the net balance of births and deaths in a given settlement **3**. Based on the biographical dictionary data, almost three-quarters (73%) of the places of birth (numbering just over 3,500) recorded a net loss, while only 23% exhibited a net gain. In the remaining settlements (4%), births and deaths were equal in number.



Alongside the major recipient settlements in Hungary, the foreign 'reception centres' – those playing a key role in universal culture – are also at the forefront of settlements with a surplus. With its strikingly positive balance, Budapest heads the list, followed by Vienna, New York and Paris. Among the more populous settlements in the Carpathian Basin, Kolozsvár (Cluj), Debrecen and Sopron are placed after Budapest.

The largest absolute loss occurred in those formerly Hungarian towns that were ceded to the adjacent countries under the Treaty of Trianon: Nagyvárad (Oradea), Arad, Kassa (Košice), Komárom (Komárno), and Temesvár (Timișoara). Yet among the ten biggest losers were Makó, Hódmezővásárhely and Sátoraljaújhely, all of which lie within Hungary's present territory. The

losses in the first group were evidently due to the movement of many people from the annexed areas to 'rump Hungary', resulting in the death of almost a third more talented people in Hungary's current territory than were born in it.

The content of the map of the (birth–death) balance of talents can be further broken down for the periods preceding and following the momentous year of 1920 (4 5). This procedure is justified by the fact that the Treaty of Trianon fundamentally altered the social, economic and political relations and the interregional connections in the Carpathian Basin. The cultural centres that were ceded to the neighbouring countries declined in significance in terms of producing and receiving talent. Meanwhile, the predominance

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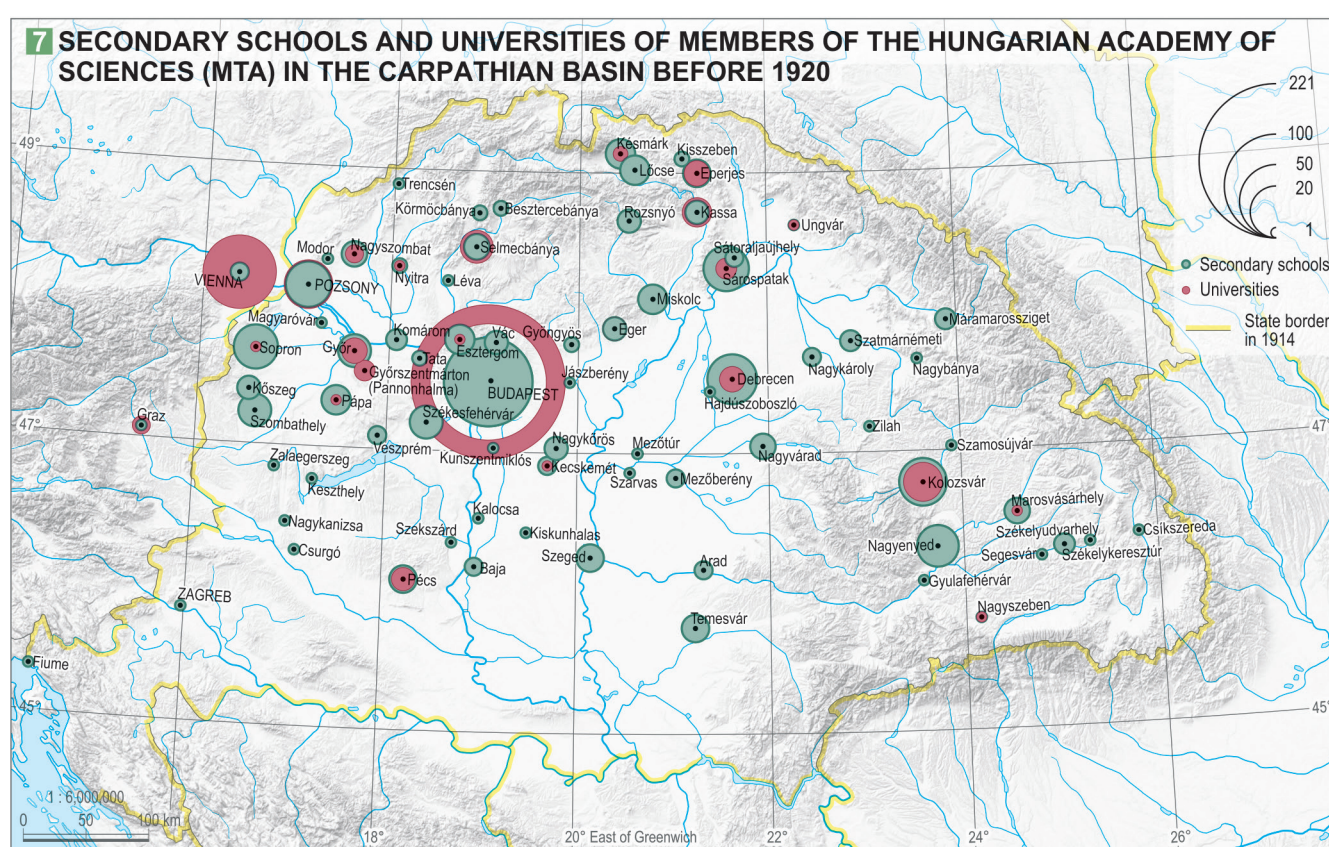
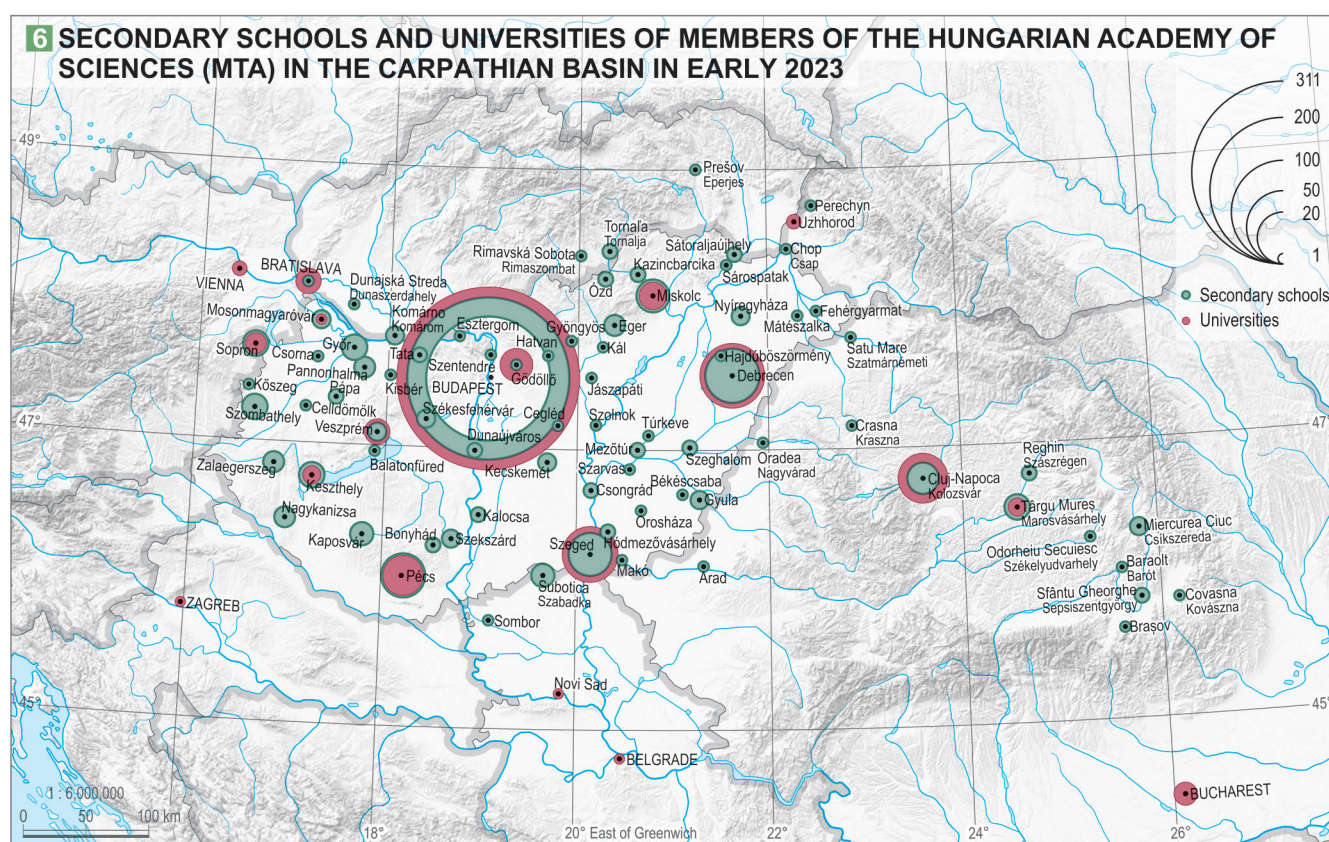
of Budapest, which was already discernible, was further enhanced.

Educational institutions

Since its foundation in 1825, the Hungarian Academy of Sciences (MTA) has elected more than 2,000 scientists to its membership [1]. A brief review of the places of education of these elite intellectuals reveals that a quarter of them were born in Budapest, a third graduated from high school in Budapest, and nearly two-thirds (63%) obtained a university degree in Budapest. The Piarist Grammar School in Budapest [2] produced the largest number of future academics, while among the universities, Eötvös Loránd University and its legal predecessors did so [3, 4]. A more nuanced picture can be gleaned by comparing the educational pathways of academicians who were alive in the pre-Trianon period (1920) with those of today's scientific elite, thereby highlighting spatial changes arising from the restructuring of the places of education.

As many as 46% of the members of the MTA alive in early 2023 (the regular, correspondent and external members of the MTA, 507 individuals in total) were born in Budapest, most of whom completed their secondary school studies there (95%). Overall, half of the academicians completed their secondary school studies in the Hungarian capital [6]. Among the remaining, the main places of their secondary school studies were Debrecen (5.6%), Pécs (3.7%), and Szeged (3.4%). Typically, those born outside Budapest did not attend high school in the Hungarian capital. Similarly to those born in Budapest, the academicians born outside Budapest predominantly attended one of the country's elite high schools. Based on the data at our disposal, in Budapest the schools typically attended by individuals who later became academicians were the following: Fazekas Mihály High School, Apáczai Csere János High School and Fáy András High School. In Pécs, the majority attended Nagy Lajos High School, while in Szeged the school most typically attended was Radnóti Miklós High School. In Debrecen, the schools typically attended by the future academicians were the Reformed Grammar School, Tóth Árpád High School and Fazekas Mihály High School. Other secondary schools attended by these elite academics and scientists in smaller towns were typically those with roots going back several centuries (e.g. Pannonhalma, Keszthely, Eger, and Sopron).

Examining the places of university education of the academicians, we find that a majority of those who graduated from universities in major cities outside Budapest (i.e. Debrecen, Szeged, Kolozsvár [Cluj] and Pécs) had chosen to study at what was for them their local university. Those born in smaller settlements tended to opt for universities in Budapest, as did those born in the capital. The elite academics and scientists born in Budapest who did not attend a university in the capital (11%) usually continued their education abroad. Overall, 7.5% of these elite academics and sci-



entists alive today obtained their university degrees outside the Carpathian Basin, having attended university in, among other places, Russia or the United States.

Budapest tops the list as the place of university education of the academicians (61%). It is followed by Debrecen (7.7%), Szeged (5.7%), Kolozsvár (Cluj) (4.5%) and Pécs (3%). Several factors explain why Kolozsvár (Cluj) still contributes significantly to Hungarian academic and scientific life. The principal reason is the presence of a university in the town, a Hungarian university having been founded there in 1872. A further factor – which applies to all academics who obtained their university degree in one of the neighbouring countries – is that the MTA grants the status of 'external member' to outstanding academics and scientists liv-

ing beyond Hungary's borders. In addition, many academics and scientists who graduated from a university in one of the adjacent countries (e.g. Kolozsvár [Cluj], Romania) subsequently chose to work in Hungary.

In the past, Kolozsvár (Cluj) was important in this respect, being ranked fourth as the place of university education of the academicians who lived before 1920 (537 individuals). However, with the exception of Budapest and Kolozsvár (Cluj), the places of university education of the academicians living before 1920 show significant differences in relation to the situation today, for in the 19th and early 20th centuries a substantial proportion of the prominent intellectual centres lay outside the present-day territory of Hungary [7]. At that time, Budapest (53%) was followed by the imperial capital Vienna (12%), and then by Pozsony (Bratislava, 5%), the aforementioned Kolozsvár (Cluj, 3%) and Selmecbánya (Banská Štiavnica, 2%). The proportion of academicians who studied at universities outside Austria-Hungary was 10%. As many as 42 different cities around the world feature in the data. Most of them are situated in Germany, Austria or Switzerland: e.g. Berlin (9), Göttingen (6), Jena (6), Heidelberg (4).

Examining the places of birth and school education of the academicians who lived a century or two ago, we find that Budapest was less dominant than it is today. Indeed, in contrast to today's figures of 46% and 50%, as few as 10% of the academicians were born in Buda-

pest (the present-day area of the city) and 17% attended secondary school in the city. The ranking outside Budapest was led by Debrecen, where the Reformed Grammar School has roots going back nearly five centuries. It was followed by the cultural capital of Transylvania, Kolozsvár (Cluj), with its Reformed Grammar School and Piarist and Unitarian high schools. Next on the list were the Lutheran grammar schools and lyceums of Western Transdanubia and Upper Hungary, located in Pozsony (Bratislava), Sopron, Késmárk (Kežmarok), Lőcse (Levoča), and Eperjes (Prešov). The Lutheran grammar schools of Pozsony (Bratislava) and Sopron were of similar importance to the Calvinist colleges of Sárospatak and Nagynyed (Aiud) and to the Catholic (e.g. Benedictine, Cistercian or Premonstratensian) high schools of Győr, Szombathely and Székesfehérvár in Transdanubia.

Life course and career path

When examining the life courses of the elite academics and scientists, we focused upon the countries and settlements where they spent longer periods of time (at least half a year) after the completion of their studies (the career stages of the various individuals surveyed were determined by combining data from several biographical sources). Analysis of the various historical periods revealed an increase in the international mobility of academics and scientists over time, coupled with the increasing attraction of the global research centres.

The propensity for mobility varies among the different academic disciplines. There are fields of science (e.g. the typically Hungarian ones) where the researchers spent most of their careers in just one or two localities (usually in Hungary). In other disciplines, however, a majority had spent time in six or more places. Mobility is also significantly influenced by the nature of the political regime. Prior to WWII, the mobility of Hungary's elite scientists was remarkably high. After 1945 (even more so after 1948), it decreased significantly, thereafter stagnating for several decades. International researcher mobility increased after the change of system (1989–90).

There are 435 settlements in the Carpathian Basin where at least half a year was spent by at least one of the elite scientists. Among these settlements, Budapest stands out by far, with its enduring ability to attract and retain talent. Indeed, 52.5% of the renowned individuals surveyed (comprising more than 80% of Hungarian lawyers, psychologists, sociologists, musicians, film actors, writers, and linguists) spent at least half a year in the city after completion of their studies [8].

Most of them lived in Budapest for decades, usually until death. This doubtless reflects the fact that the capital city has always been a key location for anyone seeking a career in Hungarian intellectual and artistic life.

Budapest is followed (at some distance) by the Carpathian Basin's other major cities, the cultural and scientific centres of Debrecen, Szeged, Kolozsvár (Cluj), Pécs, Miskolc, and Bratislava. In each of these cities, between 2% and 7% of the most famous Hungarian scientists spent a longer period.

The enduring significance of the Carpathian Basin's major cities abroad is demonstrated by the fact that their impact is still felt in many academic and scientific fields even though they have not belonged to Hungary for more than a hundred years. Aside from Budapest, the most famous Hungarian philosophers, writers, poets, ethnographers, theologians, mathematicians, and physicists spent considerable time in Kolozsvár (Cluj), whereas the painters often sojourned in Nagyvárád (Oradea). The role of such towns and cities is also of particular relevance among geographers (for whom Kolozsvár [Cluj] is in third place), fiction writers (Nagyvárád [Cluj] in second place, Bratislava in fifth place, and Nagyvárád [Oradea] in sixth place).

Hungarian scientists have visited almost every corner of the globe for shorter or longer periods. The USA exerted (and still exerts) the greatest attraction, with 10.7% of Hungarian elite scientists having spent at least half a year there. Not far behind are the classic reception countries for Hungarian intellectuals, namely Germany (9.4%) and Austria (7.5%). A significant attraction was also exerted by France (4.9%) and the United Kingdom (4.8%), although the movement of Hungarian scientists to France occurred mainly before 1945. The shares of Italy (2.4%), Switzerland (1.7%), and Russia (1.6%) are also noteworthy. In the case of Italy, it should be noted that although a sizeable number of Hungarian scientists, artists and athletes spent at least half a year there, only a small number of them chose to stay in the country permanently. The movement of Hungarian scientists active in several disciplines to Russia was particularly significant in the Soviet period (1945–1990).

Average lifespan

The lifespan of a person depends on many factors (e.g. harmful addictions, income, education, and general socio-economic status), but a particularly important one is the era in which a person lives, as this involves a whole series of factors (e.g. the occurrence of war, standard of medical care, nutrition, and environmental pollution).

Concerning average lifespan, significant differences can be observed between the various disciplines [9]. The average lifespan of individuals active in certain artistic fields (non-classical musicians, writers, and poets) was almost a decade and a half shorter than that of economists. A causal relationship between an un-

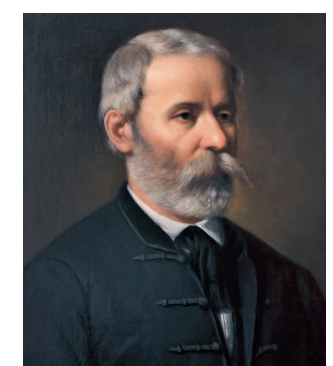
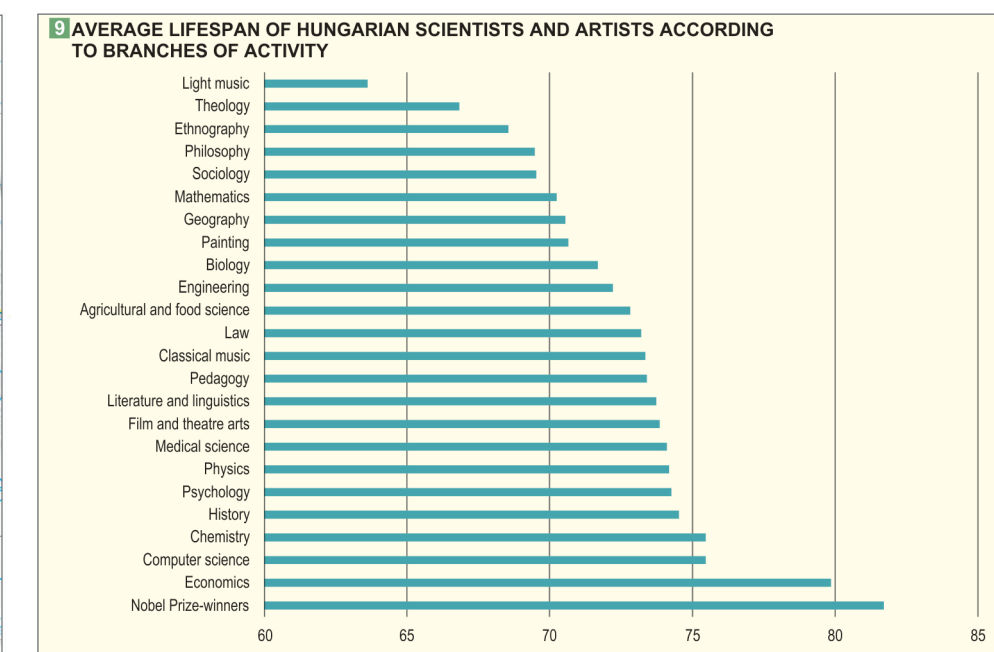
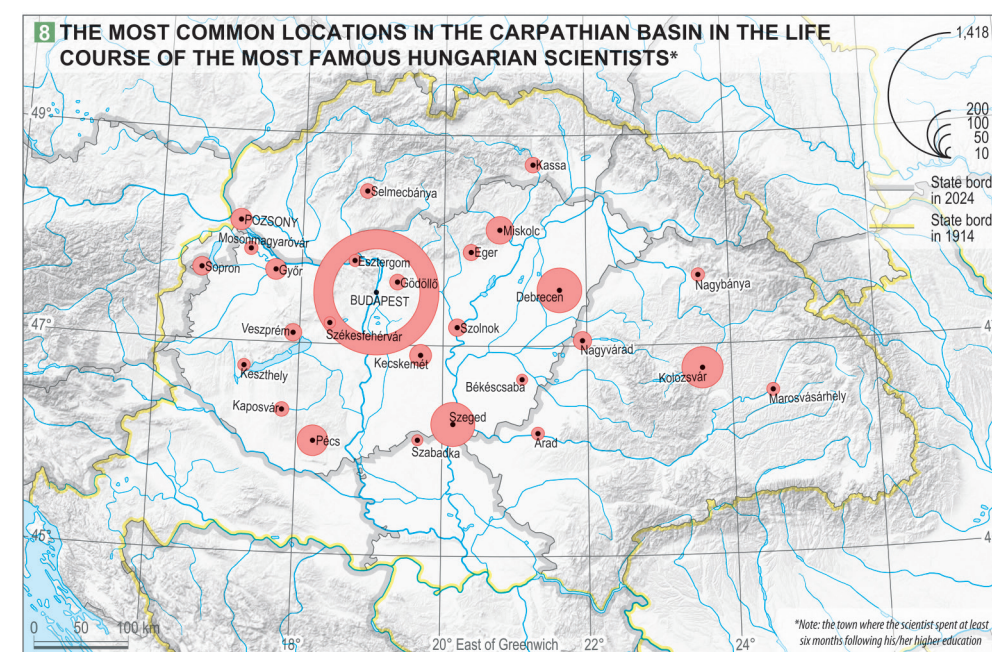
healthy lifestyle and early death has been demonstrated for many artists. Economists, computer engineers and chemists have the highest average lifespans. Treating the Hungarian Nobel Prize-winners (who belong to several fields of science) in separation, we find that they have the highest average lifespan (81.71 years). Noteworthy, there is a gap of almost ten years between the average lifespan of the Hungarian Nobel prize-winners and that of those Hungarian scientists who were nominated for, but did not win, the Nobel prize.

Hungarian talent around the world

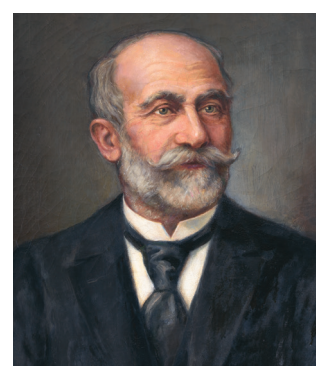
Scientists

The former status and quality of Hungarian higher education is clearly demonstrated by the fact that many Hungarian universities and colleges have performed outstandingly in international terms (e.g. the Georgikon in Keszthely was the world's first independent agricultural college [1797], while the Mining Academy in Selmecbánya (Schemnitz, Banská Štiavnica) [1735] was exemplary for institutions in several other countries). In Hungary, the political stability achieved by the Austro-Hungarian Compromise (1867) heralded a period of dynamic economic development, which in turn facilitated the funding of science and culture. All this clearly required the support of the political decision-makers (e.g. József Eötvös, Loránd Eötvös, and Mór Kármán). Their joint efforts enabled the establishment of universities and research institutes, foreign scholarships, and support for research and development in higher education. Together, these factors resulted in a minor miracle in Budapest and in Hungary, with hundreds of future world-famous scientists, artists and athletes coming onto the scene from the second half of the 19th century onwards.

The explosive growth in science and academia led to the foundation of universities of excellence. The Hungarian capital had two: the University of Budapest (today Eötvös Loránd University, ELTE) and the Royal Joseph University of Technology (today Budapest University of Technology and Economics, BME), both of which conveyed world-class knowledge in many fields. Evidence for this is the fact that all Hungary's Nobel prize-winning scientists studied at the capital's universities and began their research there. At the time of the Dual Monarchy, a significant development was the founding of three further universities in Hungary (the University of Kolozsvár [Cluj], est. 1872; the University of Debrecen, est. 1912, and the University of Pozsony [Bratislava], est. 1912). Each of these – and particularly the University of Kolozsvár (Cluj) – was to become an important centre of learning and scholarship. Indeed, the latter became a worthy



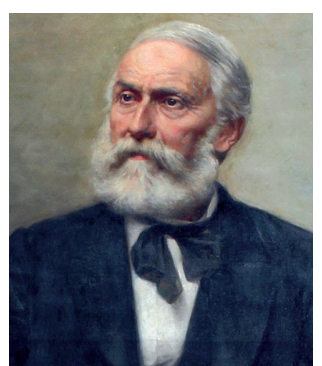
1 János Arany, Academician, Secretary General of the Academy



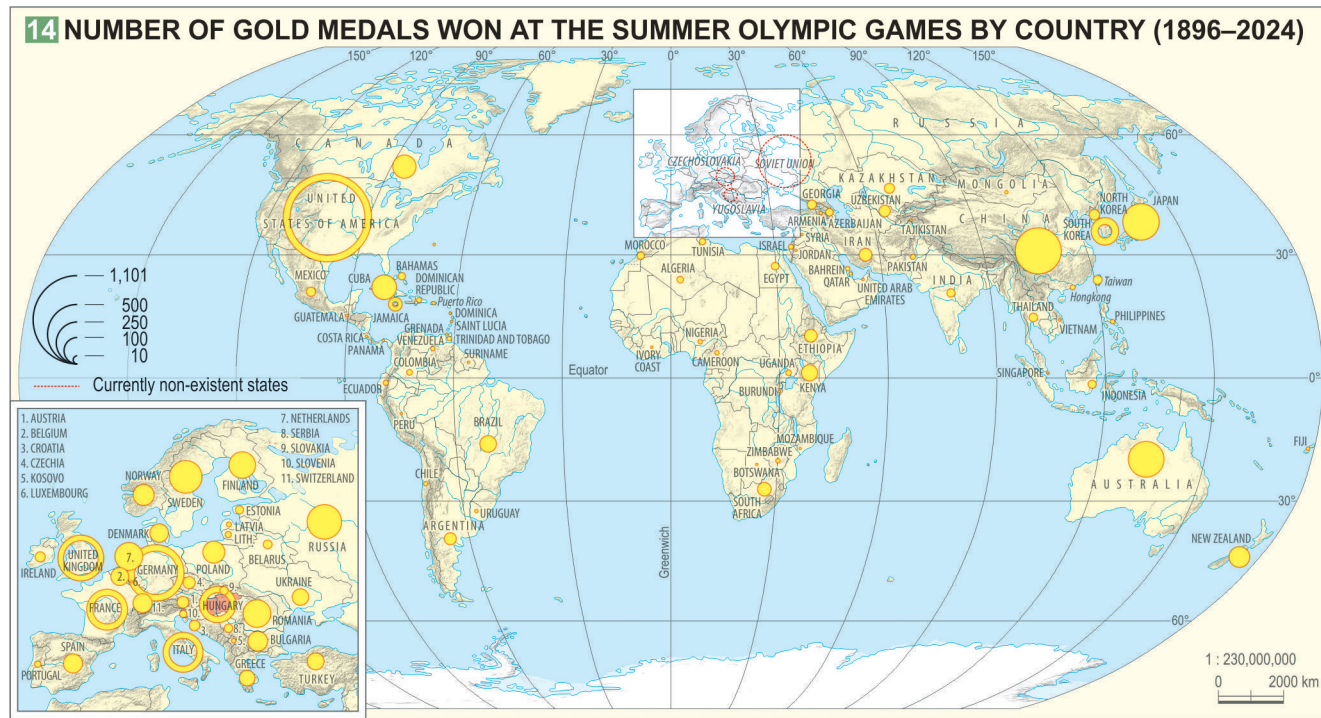
2 Kálmán Szily, Academician, Secretary General of the Academy



3 József Eötvös, Academician, Minister, President of the Academy



4 Ágoston Trefort, Academician, Minister, President of the Academy

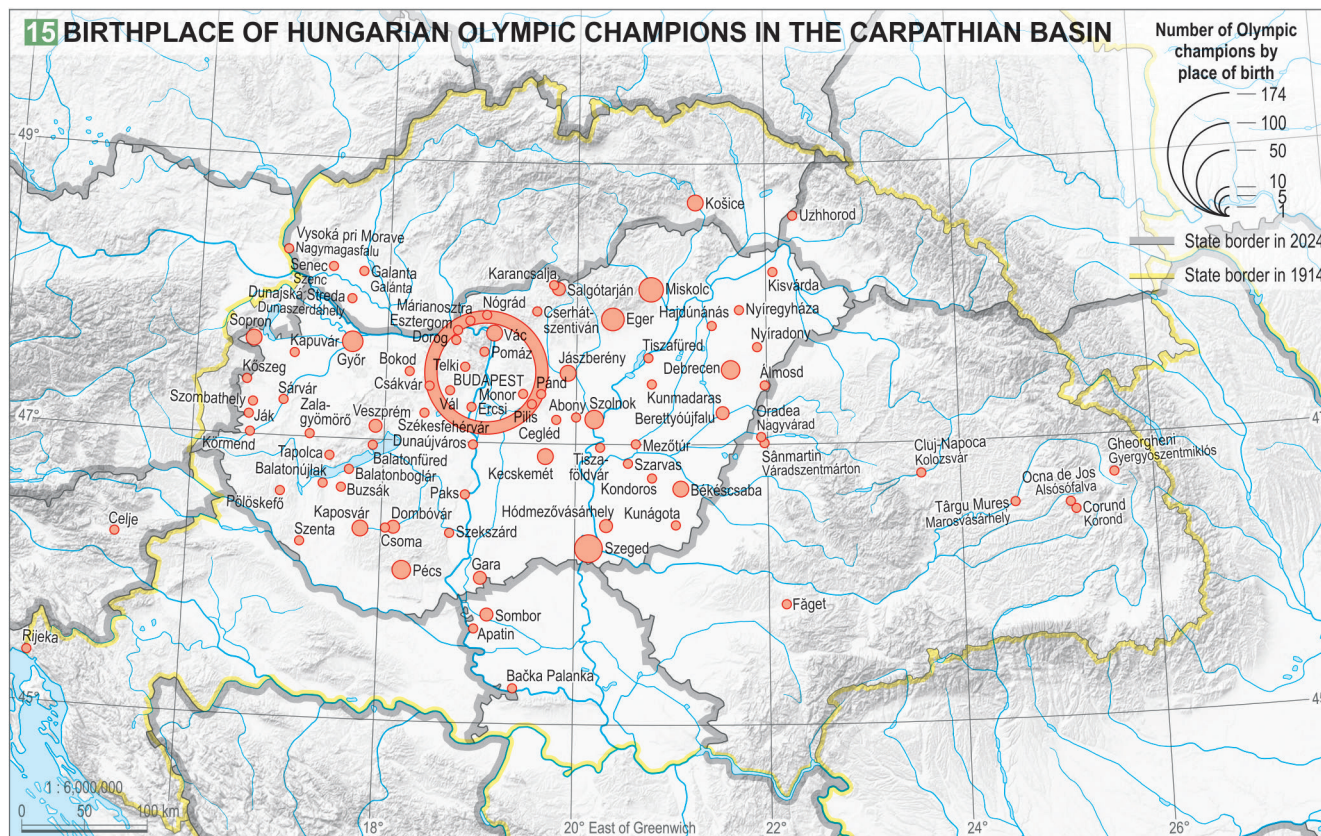


the first public athletics competition in Europe (on 6 May 1875).

When Hungarian sporting achievements are mentioned, people tend to think of the Olympic gold medals. Hungarian athletes have participated in the *Olympics* since the first modern games in 1896. Each of the summer Olympics has seen medals awarded to Hungarian athletes (the only exceptions were the games held in Antwerp and Los Angeles, which were not attended by Hungarian athletes). Between 1896 and 2024, Hungarians won in total 190 gold, 165 silver and 189 bronze medals at the Summer (and Winter) Olympics (including 2 gold, 2 silver and 6 bronze medals at the Winter Olympics). In an international comparison, Hungary's performance at the Summer Olympic Games has been outstanding **14**. In absolute terms, *Hungary* is the *9th most successful nation* with 188 Olympic gold medals (the International Olympic Committee records 187 gold medals, as it excludes the gold medal won by Ferenc Mező in the artistic category).

The raw data can be made more comparable by calculating the number of gold medals per 1 million of population. By this measure, Hungary (19.4) is the first in the world, excluding the Bahamas (19.9). This indicator is 5.3 in Germany, 4.3 in the UK, 3.6 in France, 3.2 in the USA and 2.3 in Austria.

Based on Hungary's position in the medals table, the Olympics in Berlin (1936) and Helsinki (1952) were the most successful for the Hungarian team. Hungary finished in 3rd place at both games, with Hungarian athletes winning 10 gold medals at the Berlin Olympics



9 Aladár Gerevich seven-time Olympic champion fencer



10 Danuta Kozák six-time Olympic champion kayaker

medal-winning athletes (due to team sports, this figure exceeds the actual number of Olympic gold medals) were members of one of the clubs in Budapest. Two Hungarian Olympic champions were not members of any club (Jenő Fuchs and Ferenc Mező, both of whom lived in Budapest), but all the other gold medal winners achieved their success as members of a sports club. The Hungarian sports clubs producing Olympic champions are located in 21 different settlements, with around 15% of Hungarian Olympic champions winning their gold medals as members of clubs located outside Budapest. Outside of Budapest, we find that athletes from Szolnok, Győr and Szeged won the most Olympic gold medals.

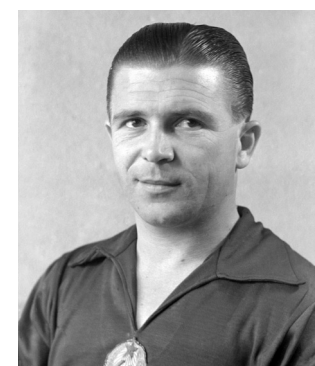
Hungary's performance at the Summer Olympics is, on its own merits, a source of immense pride for the Hungarian nation, but the sportswomen and men of Hungarian ethnic origin have in fact won even more Olympic medals than is indicated by the official (country) figures. The discrepancy is due to the fact that many ethnic Hungarian sportswomen and men living in the Carpathian Basin abroad or worldwide have also won many medals at the Olympics: in total 58 Olympic gold medals between 1920 and 2016 **16**. **11** Evidently, only some of them can be regarded (irrespective of national borders) as ethnic Hungarians (13 people). Fourteen of them are of Hungarian origin, with at least one of their ancestors having been Hungarian (or, in some cases, both parents). Having grown up abroad, most of them no longer speak the Hungarian language.

Mention should also be made of the Hungarian sportsmen and women who, although they never won Olympic medals, can be considered the founders of sports. Many disciplines with Hungarian roots have become popular worldwide, giving rise to professional associations in many countries. Such disciplines include: *jakab self-defence&fitness* (founded by Lajos Jakab); *zen bu kan kempo* (founded by Imre Harnos); *krav maga* (founded by Imre Lichtenfeld); *baranta* (reformed by Ferenc Vukics); *turul* (founded by Antal Halácsy); *teqball* (founded by Viktor Huszár and Gábor Borsányi); and *horse archery* (founded by Lajos Kassai).

Such excellent results would not have been possible without the input of sports coaches. Hungarian sport has produced hundreds of legendary coaches, many



11 József Beca, footballer, the only Hungarian Olympic champion in Zakarattia



12 Ferenc Puskás, one of the world's greatest footballers

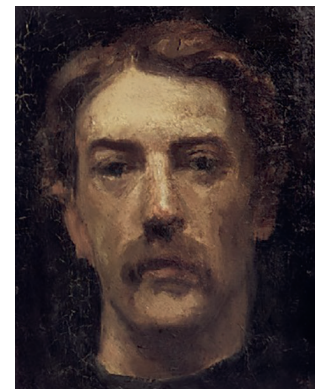
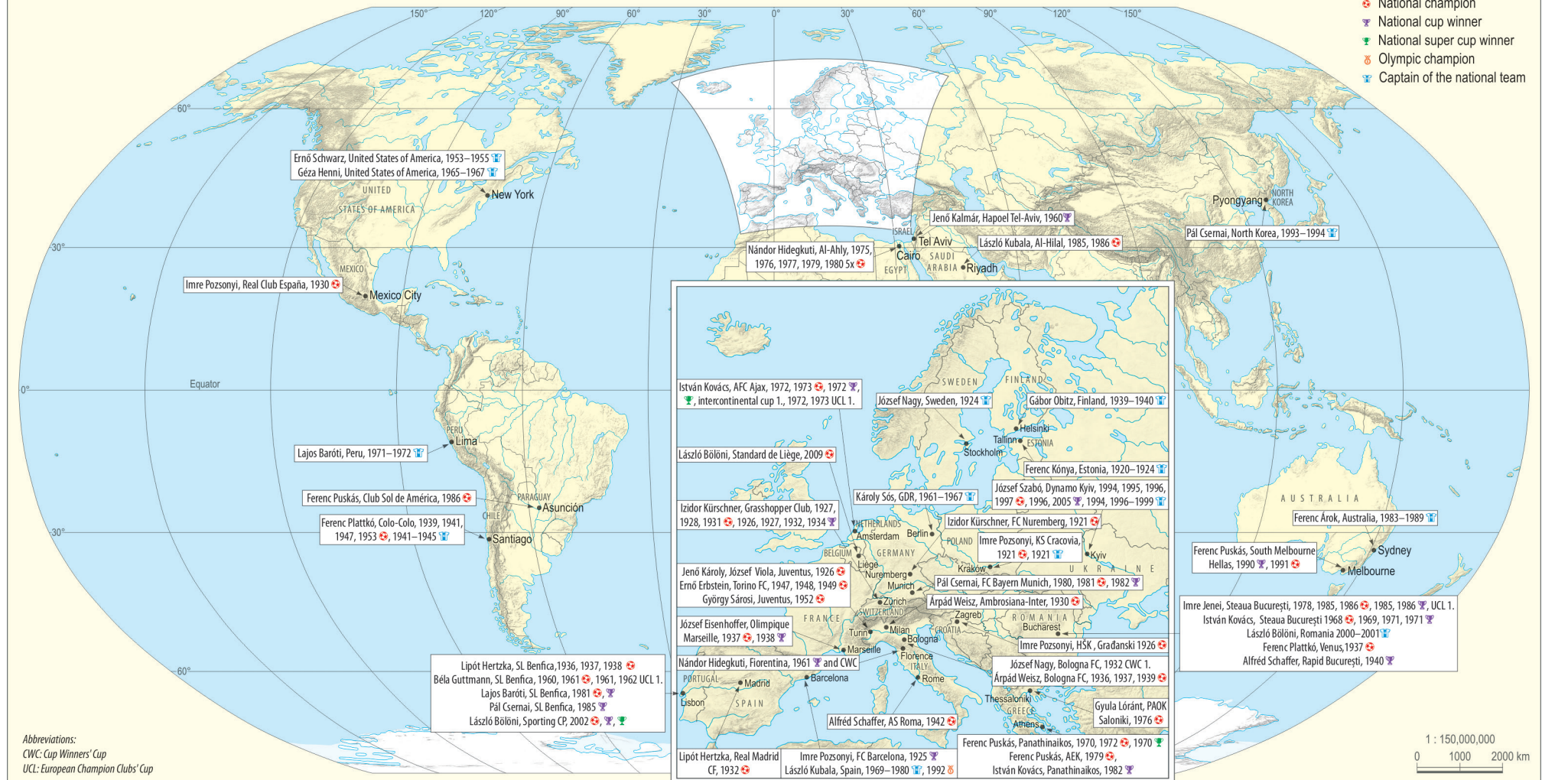
16 SPORTS PEOPLE OF HUNGARIAN ETHNICITY OR PARTLY HUNGARIAN ORIGIN WHO WON OLYMPIC GOLD MEDALS AS NON-HUNGARIAN CITIZENS

Name	Year of birth and death	Sports branch	Year of the olympics (number of gold medals)	Total number of gold medals	Citizenship	Ethnic Hungarian	Born in Hungary	At least one parent is Hungarian or was born in Hungary
Johnny Weismuller (János Weismüller)	1904–1984	swimming	1924 (3), 1928 (5)	5	USA	—	×	—
Herma Szabo (Herma Szabó Plankné)	1902–1986	figure skating	1924 (1)	1	Austrian	—	—	×
Torma II. Gyula (Július Torma)	1922–1991	boxing	1948 (1)	1	Czechoslovak	×	×	—
Isaac 'Ike' Berger	1936–2022	weightlifting	1956 (1)	1	USA	—	—	×
Franz Kapus	1909–1981	bobsleigh	1956 (1)	1	Swiss	—	—	×
József Beca	1929–2011	football	1956 (1)	1	Soviet	×	—	—
Jolán Balázs	1936–2016	high jump	1960 (1), 1964 (1)	2	Romanian	×	—	—
Róbert Zimonyi	1918–2004	rowing	1964 (1)	1	USA	×	×	—
Katalin Szabó	1968–	gymnastics	1984 (4)	4	Romanian	×	—	—
Ibolya Józsa Veresné (Ibolya Józsa)	1962–	rowing	1984 (1)	1	Romanian	×	—	—
Ilona Horváth	1958–	rowing	1984 (1)	1	Romanian	×	—	—
Charles Frederick Kiraly (Karch Kiraly)	1960–	volleyball	1984 (1), 1988 (1), 1996 (1)	3	USA	—	—	×
Zita Funkenhauser	1966–	fencing	1984 (1), 1988 (1)	2	German	×	—	—
Charles Harrison Nagy	1967–	baseball	1988 (1)	1	USA	—	—	×
Michael Jakosits	1970–	shooting	1992 (1)	1	German	—	—	×
Emese Hunyady	1966–	skating	1994 (1)	1	Austrian	×	×	—
Gabriella Szabó	1975–	athletics	2000 (1)	1	Romanian	×	—	—
Gyula Mester	1972–	volleyball	2000 (1)	1	Serbian	×	—	—
Suzanne Elspeth Balogh	1973–	shooting	2004 (1)	1	Australian	—	—	×
Adam Joseph van Koeverden	1982–	kayak	2004 (1)	1	Canadian	—	—	×
Noémi Tóth	1976–	water polo	2004 (1)	1	Italian	×	×	—
Ted Ligety	1984–	ski	2006 (1), 2014 (1)	2	USA	—	—	×
Rebecca Soni (Rebeka Sóni)	1987–	swimming	2008 (1), 2012 (2)	3	USA	×	—	×
Zsuzsa Francia	1982–	rowing	2008 (1), 2012 (1)	2	USA	×	×	—
Shannon Szabados	1986–	ice hockey	2010 (1), 2014 (1)	2	Canadian	—	—	×
Marozsán Dzsenerifer	1992–	football	2016 (1)	1	German	×	×	—

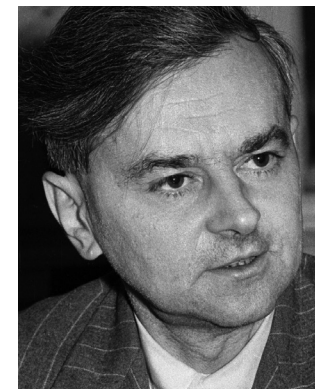
of whom have achieved success abroad. Hungarian *football coaches* have even led the national teams of other countries, while others have successfully managed clubs in national and international championships **17**. **12** Outside of football, the American swim-

mers coached by János Urbanchek (1936) won eight Olympic gold medals, while Béla Károlyi (1942), an ethnic Hungarian from Transylvania, coached the Romanian and American gymnastics teams, with his gymnasts winning in total nine Olympic gold medals.

17 SUCCESSFUL HUNGARIAN FOOTBALL COACHES IN THE WORLD



13 Károly Ferenczy, painter, one of the founders of the art colony in Nagybánya



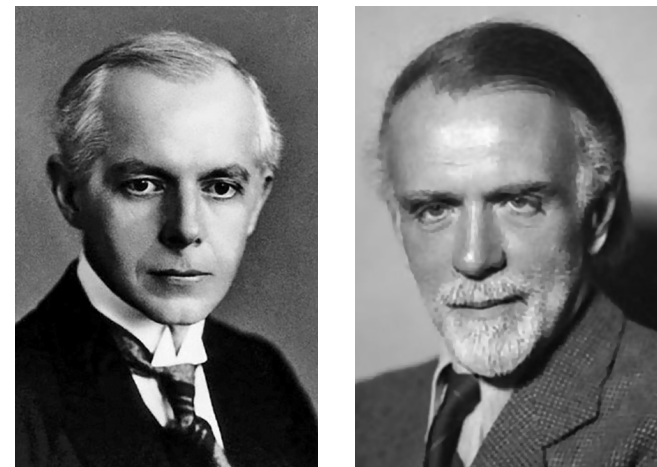
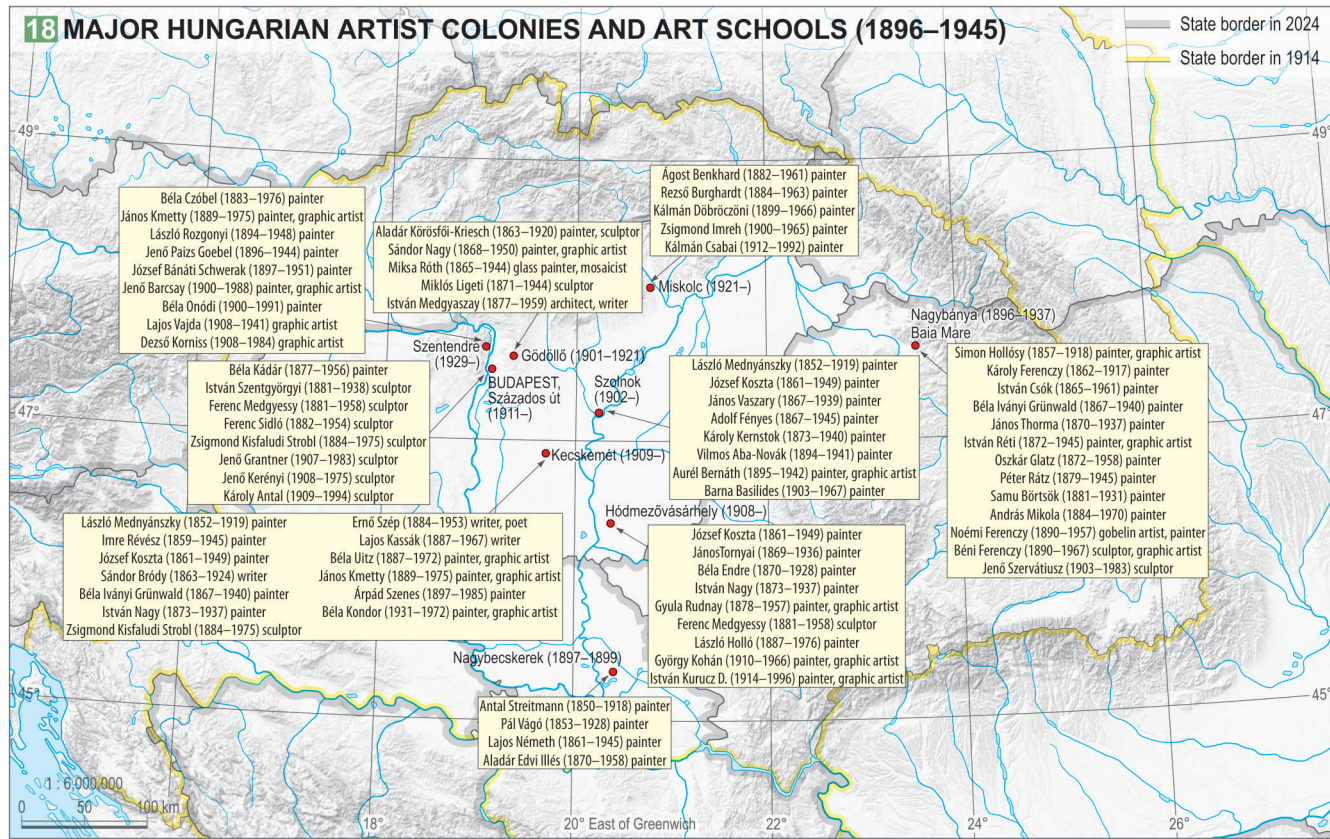
14 Sándor Weöres, writer, poet and literary translator, nominated for the Nobel Prize for Literature

Sportswomen and men in the Hungarian national team have been coached by Béla Bay (fencing), Dénes Kemény (water polo), László Kiss and Tamás Széchy (swimming), Katalin Rozsnyói (canoeing), László Polgár (chess), and Gusztáv Sebes (football). With the exception of the last two coaches, all have helped many sportswomen and men win Olympic gold medals.

Artists and musicians

When surveying and analysing talent, we encounter the difficulty of determining objective measures of value. In the case of artists, the definition of talent and quality is a delicate matter and will depend on multiple factors (e.g. the value judgements of posterity, contemporary assessments).

The rapid economic development occurring after the Austro-Hungarian Compromise (1867) was the main driving force for the development of art in Hungary. A whole series of institutions dedicated to the training of Hungarian artists, actors and musicians were opened in Budapest during this period, including the School of Drama (est. 1865), the National Royal School of Drawing (est. 1871), and the Academy of Music (est. 1875). The new institutions were located almost exclusively in the capital, thus further enhancing Budapest's pull of attraction. Indeed, the city became the principal centre of artistic life in Hungary, a status it retains to this day. At least three-quarters of Hungarian artists in all disciplines have spent a longer period of time in Budapest.



15 Béla Bartók and Zoltán Kodály, the most important Hungarian composers of the 20th century

sire for professional advancement. The number of artists who left the country permanently was still relatively low, but some of the long-term émigrés achieved fame in Hollywood (e.g. Vilmos Béla Sándorházi [William S. Darling] and Adolf Zukor) 21.

The outflow of talent accelerated amid the political and economic turbulence of the aftermath of WWI. At the time of the Hungarian Soviet Republic (1919), many artists took on political roles in the dictatorial regime (e.g. Oszkár Beregi, Béla Lugosi, and Mihály Kertész). After the fall of this regime, they had no option but to leave Hungary permanently. In the period 1919–1921, the emigration of artists was usually politically motivated. Initially, the artists sought out the calm and creative atmospheres of Vienna, Paris and the major German cities. Later on, many of them moved on to Great Britain or the USA, seeking to escape the rise of Nazism in Germany. Having arrived in their chosen new countries, the artists often made careers in film, among other things.

In the decade and a half that preceded WWII, the main destinations were the USA and France, with political and economic factors being the principal motives for emigration. During WWII and its aftermath, political factors once again led artists to emigrate. Security and a free and creative environment were the decisive factors when choosing the destination (usually the USA) (e.g. Gyula Kabos, Béla Bartók, Pál Jávor, and Katalin Karády).

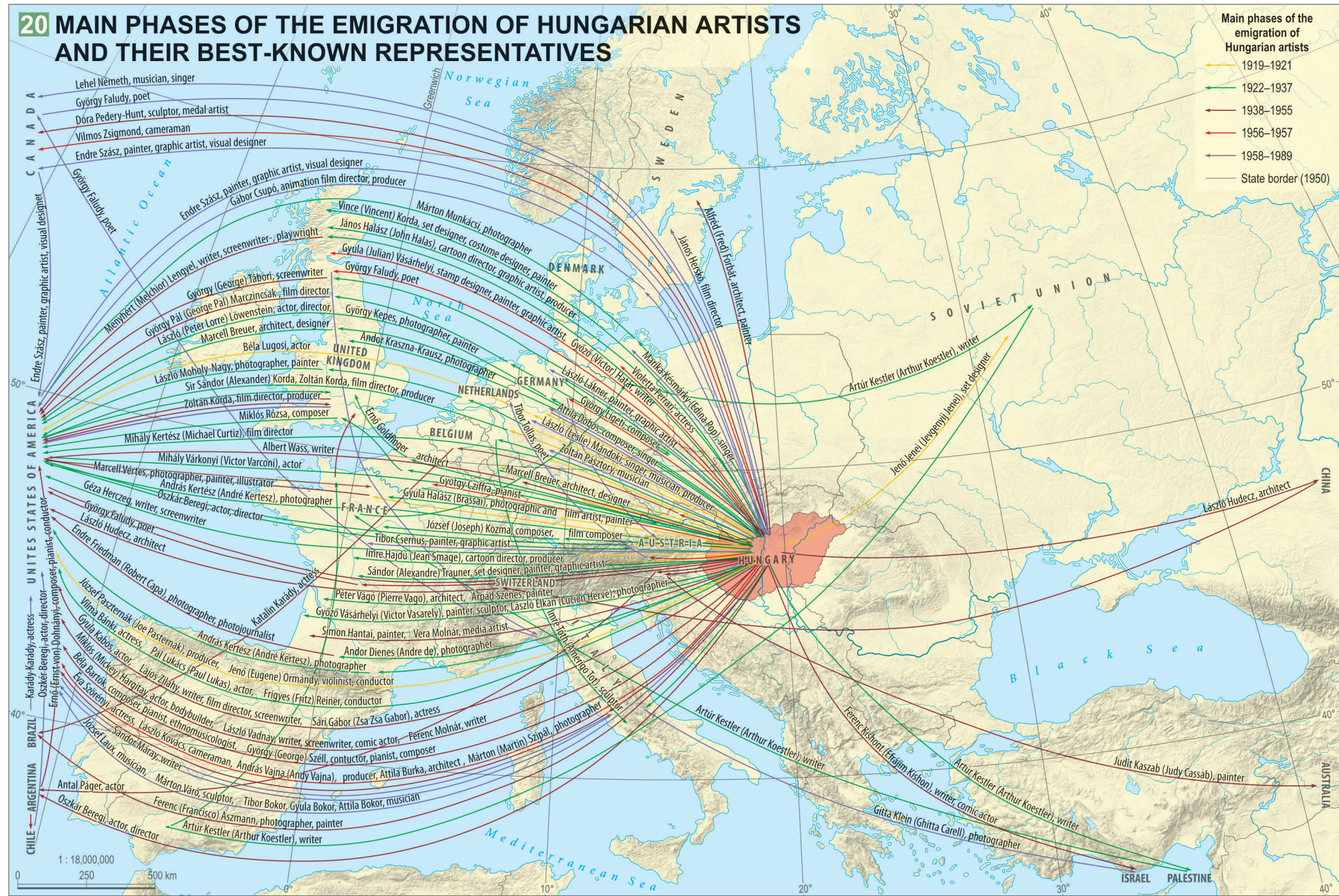
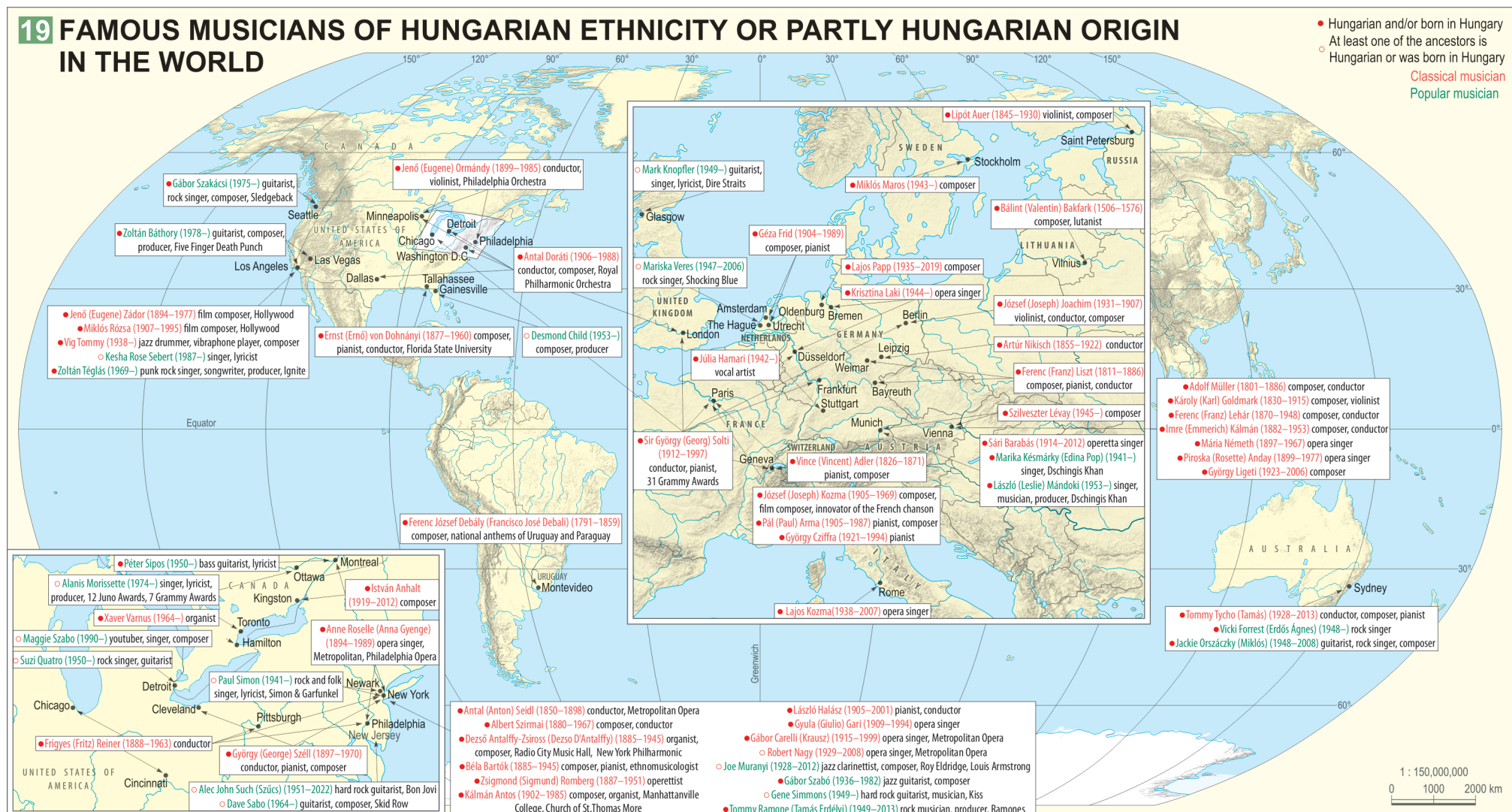
In the field of art, Hungary's other towns and cities are best regarded as playing a subordinate role to Budapest; they are places where many artists spend some of their lives. Their role has traditionally been particularly important in the field of *painting* (25%), for *artist colonies* were established in many places around the country (e.g. Nagybánya [Baia Mare], Szolnok and Kecskemét) 13. 13 The performing arts and literature are also fields where Hungary's other towns and cities have played notable roles. 14 Regional theatres have often served to bolster their share of the performing arts (e.g. Miskolc, Debrecen, Kecskemét, and Kolozsvár [Cluj]). Since activity in the field of literature is not bound to institutions, their share in this field is also significant (e.g. Kolozsvár [Cluj], Debrecen, Szeged, and Nagyvárad [Oradea]).

The former cultural significance and vigorous intellectual life of Kolozsvár are well demonstrated by the fact that, owing to the great fiction writers of the past, it is still the second largest Hungarian literary centre based on the amount of time spent there by authors in the course of their careers. A survey of life pathways

revealed *Budapest's particular predominance* in the case of *classical music* (89%) and *popular music* (91%).

Concerning the *visual artists*, a particular observation is that training in some fields was unsatisfactory in Hungary in the early years. Many artists thus chose to acquire or supplement their knowledge abroad (in Vienna, Paris or Munich), with some of them never returning to Hungary. Another influential factor leading artists to leave Hungary was the struggle to make a living. This led Hungarian artists (e.g. classical musicians, visual artists) to move to Western Europe and the USA 19. The atrocities and intimidation suffered by artists led to the emigration of hundreds of famous artists. This is linked with the fact that many of these personalities were actively participating in Hungarian public life, even assuming political roles on occasion.

In the 20th century, many Hungarian artists moved to countries outside the Carpathian Basin, and this trend continues to this day 20. Hungarian emigration occurred in several waves and was usually politically and economically motivated. Until the end of WWI, economic reasons predominated, coupled with a de-



21 OSCAR-WINNING ARTISTS OF HUNGARIAN ETHNICITY OR PARTLY HUNGARIAN ORIGIN

Name	Year of birth and death	Art occupation	Awarded work	Nat. at the time of award	Born in Hungary	Hung. ancestry*
William S. Darling (Sándorházi V. B.)	1882–1963	visual designer	Cavalcade (1933), The Song of Bernadette (1943), Anna and... (1946)	USA	x	x
Géza Herczeg	1888–1954	screenwriter	The Life of Emile Zola (1937)	Hung.–USA	x	x
Vincent Korda (Vince)	1897–1979	set designer	The Thief of Baghdad (1940)	British	x	x
John S. Toldy (János Székely)	1901–1958	screenwriter	Arise, My Love (1940)	Hung.–USA	x	x
Paul Grosse	1906–1987	art director	Pride and Prejudice (1941), The Yearling (1947), Little Women (1950)	USA	x	x
Michael Curtiz (Mihály Kertész)	1886–1962	director	Casablanca (1943)	USA	x	x
Paul Lukas (Pál Lukács)	1894–1971	actor	Watch on the Rhine (1943)	Hung.–USA	x	x
Emeric Pressburger (Imre)	1902–1988	screenwriter	4th Parallel (1943)	British	x	x
George Pal (György Pál)	1908–1980	director	Technical Award (1944)	USA	x	x
Miklós Rózsa	1907–1995	composer	Spellbound (1945), Double Life (1947), Ben Hur (1959)	USA	x	x
Adolph Zukor (Adolf)	1873–1976	director	Honorary Award (1949)	USA	x	x
Robert Pirosh	1910–1989	screenwriter	Battleground (1949)	USA	—	x
Marcel Vértés (Marcell)	1895–1961	director	Moulin Rouge (1952), 2 awards	French	x	x
Alexandre Trauner (Sándor)	1906–1993	set designer	The Apartment (1960)	French	x	x
George Cukor	1899–1983	director	My Fair Lady (1964)	USA	—	x
László (Ernő) Ernest	1898–1984	cameraman	Ship of Fools (1965)	USA	x	x
Joseph Kish	1899–1969	visual designer	Ship of Fools (1965)	USA	x	x
Ján Kádár (János Kádár)	1918–1979	director	The Shop on Main Street (1965)	Czechoslovak	x	x
Paul Newman	1925–2008	actor	The Color of Money (1986), Jean Hersholt Award (1993)	USA	—	x
Goldie Hawn	1945–	actress	Cactus Flower (1969)	USA	—	x
Vilmos Zsigmond	1930–2016	cameraman	Close Encounters of the Third Kind (1977)	Hung.–USA	x	x
Ferenc Rófusz	1946–	animator	The Fly (1980)	Hungarian	x	x
István Szabó	1938–	director	Mephisto (1981)	Hungarian	x	x
Zoltán Elk	1941–	makeup artist	Mask (1985)	Hung.–USA	x	x
Zsuzsa Bözörményi	1961–2021	director	Once Upon a Time (1992, Student's Academy Award)	Hungarian	x	x
Attila Szalay	1961–	filmmaker	Design of the SpaceCam camera system (1995) (Technical Award)	USA	x	x
Adrien Brody	1973–	actor	The Pianist (2002)	USA	—	x
Rachel Weisz	1970–	actor	The Constant Gardener (2006)	British	—	x
Márk Jászberényi, Tamás Perlaki, Gyula Priskin	1973–, 1973–, 1973–	film techniques	Technical Award (2010)	Hungarian	x	x
Tibor Magyar (Madjar), Csaba Kőhegyi and Imre Major	1966–, 1974–, 1975–	software developer	Technical Award (2013)	Hungarian	x	x
László Jeles Nemes	1977–	director	Son of Saul (2016)	Hungarian	x	x
Anna Udvardy	1949–2019	producer	Sing (2017)	Hungarian	x	x
Kristóf Deák	1982–	director	Sing (2017)	Hungarian	x	x
Elizabeth Chai Vasarhelyi	1977–	documentary filmmaker	Free Solo (2019)	USA	—	x
Zsuzsanna Sípós	1985–	set designer	Dune (2022)	Hungarian	x	x
Jamie Lee Curtis	1958–	actor	Everything Everywhere All at Once (2023)	USA	—	x
Zsuzsa Mihalek	1966–	set designer	Poor Things (2024)	Hungarian	x	x

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