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Exploring early (before 1900) Hungarian newspaper maps using modern digital technologies

Keywords: newspaper maps, mass media maps, neural network.

Summary: In the past, the thorough research and exploration of the early newspaper maps was made very difficult by the fact that a systematic review of the newspapers of the period would be a labor-intensive task. In Hungary, Arcanum has now scanned and made available on its website nearly 90 million pages of newspapers. This has made it much easier to browse through the newspapers of the period in detail, and to explore the early newspaper maps.
The 19th century newspapers were essentially text-based, graphic content was very rare, and the wider use of advertising slowly paved the way for the use of maps. The earliest Hungarian newspaper maps were produced in the late 18th century. Reviewing hundreds of thousands of contemporary newspaper pages as digital files can only be done efficiently using artificial intelligence, machine learning. Even checking thumbnail images, these technologies pre-select pages that might have maps on them, and then the researcher only needs to examine those pages in detail.

Introduction

I like to present papers on relatively unusual topics at Cartoheritage conferences. I have long been interested in journal maps (by which I mean mainly maps published in daily newspapers), but three-four decades ago researching them was much more time-consuming than it is today. If we look at the cartographic literature and conferences, we can see that in the Anglo-Saxon area (USA, Great Britain) it is a well-researched and multifaceted field (especially the journalistic cartography of the 20th century). There was also a short period of research in Germany, Prof. Wolfgang Scharfe organized conferences and workshops on this subject in the 1990s (Scharfe, 1993, 1997). It is also interesting that in the Anglo-Saxon literature the term newspaper or journal maps was more widely used, whereas in the German research (at least in the conferences organized by Scharfe) the term mass media maps were more commonly used (partly referring to the fact that by the second half of the 1990s the role of computer media (CD-ROM, web) had become very important. European studies of press maps in the 21st century have often adopted American terminology: journalistic cartography (Schiewe, 2017).
Surprisingly few papers on media maps have been presented at major international cartographic conferences. In Canada, conferences on this subject were already held in the 1970s and 1980s, with the participation of cartographers and journalists (Gauthier, 1988).
In the digital era, such research has become much easier because more and more early press products are available digitally. In Hungary there are two such databases (there are other smaller databases, but their importance is not comparable to those listed):

- the **Arcanum** paid service (recently 5667 titles, more than 90 million scanned pages): https://adt.arcanum.com/en/discover/

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- and the **Hungaricana Library** project of the public sector (with about 21 million scanned pages): https://library.hungaricana.hu/en/.

Newspaper, journal, magazine: a historical overview

The evolution of the press has been a significant aspect of societal development. In the Middle Ages, the only form of newspaper was the manuscript newspaper, serving a narrow circle of people. The invention of the printing press by Johannes Gutenberg around 1453 revolutionized this, increasing the scope of publicity and leading to the emergence of printed newspaper letters.

These newspaper letters, originating in Italy, spread across Europe and were often concerned with the Turkish wars. The advent of the first weekly newspapers marked a turning point in the development of the periodical press. The rhythm of regular publication began in the 17th century, facilitated by the development of postal routes and the entrepreneurial spirit of publishers.

In Germany and throughout Europe, the periodical press was launched in 1609, offering news and domestic reports. However, the development of the periodical press was hindered by absolutist rulers who imposed restrictions through censorship and publishing privileges. Despite these restrictions, progressive ideas spread, particularly in France.

In England, the press was more militant and involved in political struggles. The English Revolution saw the birth of the first type of militant, revolutionary newspaper. The 18th century became the century of the periodical, with significant changes in newspaper literature brought about by periodicals.

Newspapers and periodicals, both born in the 17th century, developed significantly in the 18th century. They shared common features such as periodicity, continuity, publicity, and variety of content. However, they differed in their frequency of publication and the nature of their topicality. Newspapers focused on the speed and freshness of news services, while periodicals focused on phenomena and problems in scientific, literary, economic, and social life.

The success of periodicals in England was unprecedented, with the most popular selling 14,000 copies. Between 1714 and 1800, 786 moral periodicals were published in European countries, with Germany having the largest following. These journals resonated with the middle classes throughout Europe, expressing their desires and aspirations.

The press, intended to inform the middle classes, moved closer to the political sphere as newspapers began to discuss and criticize administrative failures. This intensified during the North American War of Independence. The French Revolution led to the creation of a revolutionary press on the continent, with more than 300 newspapers launched within a year in a country where there had previously been only one. This summarizes the evolution of the press from the Middle Ages to the French Revolution.

The development of the press in Central and Eastern European countries lagged that of the Western press. In the early 18th century, while daily newspapers and new periodicals were already established in England, regular newspaper publishing was just beginning in these regions.

In the Habsburg empire, like the French and English absolute monarchies, the growth of newspaper and magazine literature was slow due to strict censorship. Austrian periodical literature developed in the late 1920s, following the model of moral weekly newspapers, and faced less censorship resistance than newspapers. Joseph II's censorship regulations led to a significant increase in the periodical press.

Poland was the first Eastern European country to introduce national language journalism. In Hungary, book printing began as early as 1472, but the workshop in Buda was short-lived. The Turkish

invasion and destruction delayed the development of the Hungarian printing industry and periodical press. The first printed newspaper in Hungary, known from the end of the 16th century, mainly reported on the war against the Turks.

After the Turkish rule, Buda and Pest developed slowly. Bratislava, due to its advantageous location and proximity to Vienna, had a livelier intellectual and political life than the war-torn capital. The periodical press was first launched in Bratislava in 1764 with the German-language newspaper, *Pressburger Zeitung*. This marked the beginning of the Enlightenment press boom and led to the launch of Hungarian-language newspaper and magazine literature.

The *Magyar Hírmondó*, the first Hungarian-language newspaper, was published in Bratislava in 1780. It published scientific articles, especially statistical and economic ones, in addition to daily events, and was published twice a week until 1788. (Szabolcsi, 1979)

Early journal maps

It is not the purpose of this study to reveal when the very first newspaper maps were made, nor do I want to take a position on the question of which of them can be considered the first Hungarian newspaper maps. I would like to summarize the factors that influenced the production of the first such maps.

Incidentally, the literature is not uniform on the question of which was the first map published in a daily newspaper, and not surprisingly, the Anglo-Saxon press basically only discusses Anglo-American press products.

In the History of cartography Volume 6 (Monmonier, 2015), Susan Schulten, the author of the Journalistic cartography essay, is concerned only with journalistic cartography in the US and Western Europe. But in her essay, she does not even attempt to take a position on which can be considered the first such newspaper map. That said, of course, the essay makes many points about journalistic cartography that are certainly true of similar newspaper maps of other areas:

"One of the ironies of journalistic cartography is the degree to which it developed independent of professional cartography. In part this was due to the type of maps demanded by journalism: straightforward, relatively simple, and serving a particular story. These qualities explain why much journalistic cartography was influenced by graphic artists employed by the news media, who were themselves trained in art, architecture, and graphic design. Furthermore, journalistic cartography developed in an industry beholden to different limitations than those of professional cartographers, such as more frequent and shorter deadlines, wider circulation, and different audiences with different expectations."

In 1806 *The Times* of London newspaper published its first illustration (a distinctive woodcut). This was one of the earliest illustrations in a newspaper according to most of the Anglo-Saxon references (Monmonier, 1989).

As far as the first Hungarian newspaper map is concerned, it is not easy to make a definite statement, because the newspapers of the early period and the newspapers of today differed in appearance and format.

There are several milestones in the history of the development of Hungarian cartography, one of which is the *Hungarian Atlas [Magyar Átlás]* of the turn of the 18th and 19th centuries. We owe this work primarily to **Demeter Görög** and **Sámuel Kerekes**, but obviously it was also due to them that the work of many other specialists (surveyors, engineers) was needed to produce the maps (Figure 1).

Görög was born in 1760. His parents came from a noble family, so their son received a good education, although they were not among the most prosperous families. He moved to Vienna in 1783 and studied law at the university there until 1787, after which he worked as a tutor for wealthy families, travelling to 15 counties during this period. He had already conceived the Hungarian Atlas plan. He then became the tutor of a prince (who later became a minister to the king himself). The contract stipulated that the young prince should be accompanied on his travels so that Görög could continue her research. Later, Görög was promoted to court tutor as Prince Joseph's tutor.

In addition to his duties as tutor, Görög was already designing the atlas and collecting data for it. Alongside cartography, Görög had another passion: journalism. Since the cost of starting a newspaper was far below the cost of making maps, they started a joint newspaper with Kerekes with the aim of publishing their maps of Hungary as an appendix to the newspaper. They founded the Hungarian-language journal *Hadi és Más Nevezetes Történetek [War and Other Noteworthy Stories]*, the first issue of which appeared in 1789.

Emperor Joseph II accepted the plan for the first newspaper in the knowledge that the new paper would inform the Hungarian readership about the Turkish battles that had started in 1788. Thus, was born the curiously named *Hadi és Más Nevezetes Történetek*, the third newspaper to be published in Hungarian and the first to include illustrations. The first edition was published on 3 July 1789. Initially, the paper was published once a week, but from November onwards, thanks to the great interest in the paper, it was sent out twice a week.

From the very beginning, 800 subscribers were attracted to support the newspaper. This grew to 1,300 in a few months, thanks not only to the excellent work and interesting articles, but also to the fact that they sent the paper free of charge to Hungarian teachers and even to some excellent students in the country, and that new subscribers only had to pay postage for six months.

The newspaper was published in 16 pages. In keeping with the imperial licence, the first pages of the paper were always devoted to the war. This section usually contained maps of the European theatre of war and pictures of the Hungarian armies fighting (Figure 2).

Until 1801, 20 hand-coloured copperplate maps of continents, countries and 9 cities were published as supplements to their newspaper. These were the first maps in Hungarian language. Görög's commitment as an educator is also shown by the fact that he employed skilled engravers and encouraged young people of Hungarian origin to study at the Academy of Fine Arts in Vienna, thus enabling the development of Hungarian engraving. In doing so, he raised Hungarian mapmaking to a higher level.

The making of maps was a planned process. The work was carried out in the institute established by Görög and the proofs of the county maps, corrected by local engineers, were sent here. Görög sent all his maps for checking and correction to the Court War Council, where the maps were completed based on the First Military Survey, and to the engineering offices of the Hungarian counties. The final big plan was to draw up a map of Hungary's counties, but the first thing they did in his workshop was to draw a map of Europe, because the maps were more appropriate to the subject of their first newspaper, which covered the European theatre of war in the Turkish wars.

In his nationally distributed newspapers Görög tried to promote the Hungarian language, Hungarian dance and Hungarian dress, he was the first to publish maps of Hungary that were up to the standard of the time, and he also tried to stimulate agriculture with his instructive descriptions and articles. This work certainly played an important role in the Hungarian Enlightenment and in the preparation of the Age of Reform.

Figure 1.: Demeter Görög (1760–1833). Source: Painting in our institute.

Two and a half volumes of *Hadi és Más Nevezetes Történetek* were published, totalling 4137 pages (Figure 3). With the end of the Turkish wars, the title had lost its relevance, so Görög and Kerekes decided to continue the paper under a new title, *Magyar Hírmondó [Hungarian Herald]*.
The publication of the county maps was also delayed by the publication of the so-called *Lipszky Map*[1], which was published soon after Görög's service at court and for whose maps Görög's atlas was used. Görög then became disillusioned with the idea of publishing his own map and entrusted the whole work to his pupil, who published all the maps until 1811.

Figure 2.: The first map published in the newspaper *Hadi és Más Nevezetes Történetek.* Volume 1789/1. The translated title of the map: Depicting the site of the battle near Martinjest. Source: Arcanum Newspaper Collection.

[1] János Lipszky was a military officer, cartographer and scholar (1766-1826), presented Hungary at the beginning of the 19th century on a detailed map.

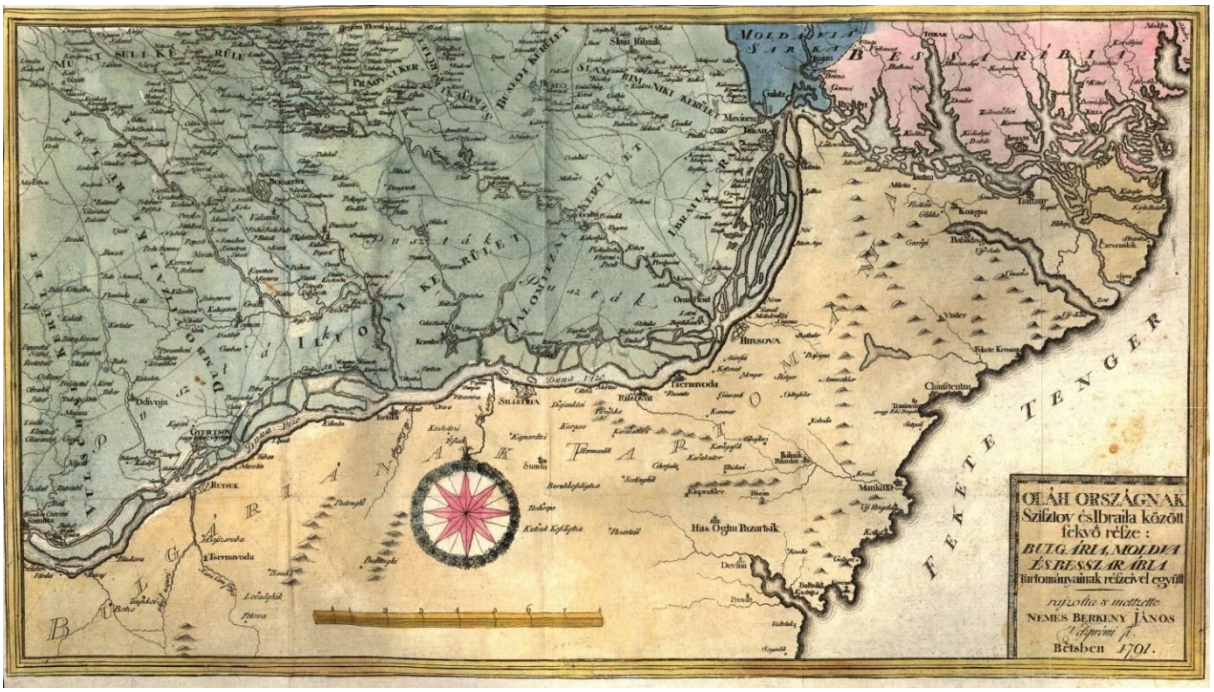


Figure 3.: A hand-colored map published in the newspaper *Hadi és Más Nevezetes Történetek.* Volume 1791/5. The area around the Danube estuary on the border between present-day Romania and Bulgaria. Source: Arcanum Newspaper Collection.

These maps were annexes to the newspapers, not part of the newspaper pages. And, of course, the basic aim of the maps was also to produce an atlas. How far ahead of their time these newspaper maps were also shown by the fact that the next Hungarian newspaper maps will have to wait decades, and it is only in the second half of the 19th century that we find such newspaper maps again.

The term 'map' in the Hungarian language and the Hungarian language reform

As mentioned earlier, the more than 100 million pages digitised in Hungary can be searched as a database, so it would be logical to find the first map with a simple search on the term 'map' (in Hungarian *térkép*), but the situation is unfortunately more complicated than that, because the word *térkép* is a product of the Hungarian language reform.

The beginning of the Hungarian language reform is usually counted from 1811. The struggle between the orthologists and neologists went beyond the language debate: it was a struggle between the traditional and the innovations of civilisation. The language innovators believed that a modern language was needed to convey modern thought.

The battle was a public one, and the debate also involved territoriality, linguistic philosophy and religion. The debate was not without its extremes and led to much resentment, but in 1819 the most important Hungarian figure in the language reform (Ferenc Kazinczy) broke with the extremes of the language reform and raised the possibility of a compromise: *"He writes well and beautifully who is both a fiery orthologist and a fiery neologist and is in agreement and in opposition with himself."*

The language renewal struggle has enriched our language with more than ten thousand words. Several ways of creating new words have been adopted. Some obsolete or vernacular words were revived, foreign words were translated, new formulas were used, new words were formed by putting words together.

In many countries of Europe, Latin and German were still the languages of science at the beginning of the 19th century, and this explains why in some of the languages Latin was still the vocabulary, while in others Greek words of Latin and German origin, spread through Latin and German mediation, were rooted on the map. The simplification of the Latin *mappa mundi* ('tablecloth of the world') thus became the basis for the word *mappa* in many languages.

Variants of the original Greek *hartis* (*carta* in medieval Latin) can be found in many more languages. Interestingly, some of them belong to the Latin family (e.g. French, Italian, Portuguese, Romanian, Spanish). Others have become part of the vocabulary of other Indo-European languages (e.g. Afrikaans, English, Bulgarian, Croatian, Danish, Dutch, English, Estonian, German, Norwegian, Russian, Swedish, Modern Greek). Some very distant languages have also adopted it in a barely distorted form (e.g. Amharic, Arabic, Azeri, Finnish, Malay, Turkish). Since the word could have had other meanings over the centuries, it was often prefixed with the word for land for clarity (e.g. German *Landkarte* from the 17th century) - just as the Hungarian language added the word for land (*földabrosz*) to the word *abrosz* at the end of the 18th century.

The Latin and Greek words refer only to the form or material of the map and do not reflect at all what the map contains. Therefore, these terms are far less descriptive than the Hungarian word combination ***térkép***, which clearly and concisely expresses the meaning of the word, i.e. the visual representation of space. (Gercsák, 2015)

As far as we know, the word "térkép" was first used in print in 1832, at the time of the language reform, and since then it has been in common use in Hungarian in both colloquial and technical language.

The word appears twice in an article in the 4 November 1832 issue of the *Társalkodó* newspaper *[The Companion Chronicle]*, written by László Vörös, a renowned hydraulic engineer of the time, who uses the term without giving any explanation, so it is likely that it may have been used earlier. The *Társalkodó* was a supplement to a political newspaper launched in 1832, published twice a week.

The technological limitations of the early period

The oldest and simplest reproduction process is woodblock printing. Wooden printing blocks were first used to print on textiles in China, and after the invention of paper, the same technique was used to print on the new material. In Europe, the first woodblock prints appeared in the late 14th century, but the technique did not really take off until the 15th century.

It was a long way from Gutenberg's invention of printing press alone to the color newspapers of today, and even to the early daily newspapers. There are of course social aspects (literacy, social needs), financial aspects (printing papers, cost of technology), but in this chapter we will focus on the technical factors that led from the invention of printing to the advent of newspapers. It was Gutenberg who pioneered the printing of books with movable and interchangeable types, who first used printing ink made from oil, who developed rag paper, who developed the type-casting process, the typesetting technique and who made a wooden printing press. The printing press rapidly spread across Europe, leading up to the Renaissance.

In 1796, Alois Senefelder invented lithography, a graphic process based on the principle of planographic printing. This graphic process was used especially at the end of the 19th century, mainly for the reproduction of multi-color drawings and maps. For the first time, it allowed printing in large quantities and in color (chromolithography).

In 1812, Friedrich Koenig invented the printing press, which revolutionized book printing. Thousands of sheets could be printed daily, on both sides of the paper. In 1843, the rotary printing press was invented in America, which could produce millions of copies a day, making it technically feasible to reproduce newspapers and dailies, and the big publishing houses were born.
Engraving techniques have played a significant role in the development of journal and map printing. Engraving originated independently in the Rhine valley in Germany and in northern Italy around the middle of the 15th century.
Intaglio techniques, like engraving, and etching, involve cutting lines or textures into a metal plate and putting ink in the spaces left behind. Planographic methods like lithography and monotypes use chemicals and flat surfaces to make images. Engraving remained a common method for printmaking through the end of the eighteenth century.
The development of wax engraving in the 1830s, with the new technology of electrochemical deposition, was an important American map-printing technique from the mid-19th to the mid-20th century.
Engraving techniques have evolved over time and have significantly influenced the development of journal and map printing. From the invention of engraving in the 15th century to the development of wax engraving in the 19th century, these techniques have shaped the style and dissemination of printed materials (Monmonier, 1989).
In the nineteenth century, newspaper editors and publishers could not really bear the extra costs of producing and reproducing a map. Only when the news required maps, either as illustrations or explanations, did they take on the extra costs, and this was mainly the case in the event of various wars and regional conflicts. Technological advances have made the production of newspaper maps increasingly possible, but the deciding factor has often been the attitude of editors and the demands of the news (Monmonier, 1984).
With the establishment of efficient techniques, such as the invention of lithography and the subsequent evolvement of the offset printing press at a much later stage, printing techniques have been available since the 19th and 20th century, which has made it possible for maps to be produced much more quickly, cheaper and most notably in color (Schweikart and Domnick, 2013).
In theory, the graphic and cartographic symbolization systems available for use in journalistic maps are the same as for other types of maps. In practice, however, the range of alternatives is restricted due to several factors. Newspaper maps usually are designed for black-and-white reproduction because of the extra expense and time needed to produce a color map. Printing methods and poor-quality paper limit the size and subtlety of symbols. For newspapers, the small dimensions of most of their maps control symbol sizes and patterns (Gilmartin, 1986).

More 19th century Hungarian newspaper maps

Although not too many Hungarian articles have been written on journal maps, a few studies have provided a rough time frame for the period of the 19th century (the century of periodical) when it is worth looking for media maps. In this respect, the media maps of the late 18th century Görög-Kerekes newspaper maps mentioned earlier are in fact exceptional.
Understandably, illustrations were very rare in newspapers of the early 19th century (as it would have been too complicated or expensive to reproduce them), so online systems for viewing scanned newspaper pages allow you to quickly browse through the image thumbnails. This can be automated to some extent with a little computer programming skills, and the artificial intelligence can even be

given the task of selecting those image thumbnails that are worth a closer look to see if they contain a map.

It is interesting to note that the main reason why text-only newspaper pages started to include graphical information is that, as advertisements became more widespread, advertisers wanted to draw readers' attention to the product or service advertised, and the fee charged for the advertisement covered the cost of producing the graphical information (Figure 4).

Nevertheless, it is surprising that even after thorough research, it was only decades later that a map was found in a 19th century Hungarian newspaper, at a time when photography was already part of the technological toolbox for graphic illustration.


butorozott szobákat jutányos áron kaphatni.

Duna- gőzhajózás.

Az alulirt igazgatóság ismételve felszólitja azon t. cz. részvényes uraknt, kik az uj alapszabályok nyomán a' legközelebbi septemberi hó első felében tartandó közgyülésen ülés- és szavazatjogot birni kivánnak, mikép a' részvényük netalán szükséges átirását Bécsben a' duna-gőzhajózási hivatalban haladék nélkül megtétetni méltóztassanak.

Bécs april 15-kén 1846.

Az első cs. kir. szab. duna-gőzhajózási társaság igazgatósága.

(440) (1, 3)

(433) **Olaj-festékek.** (1)

Alulirt minden, méltóságos 's tek. uraknak, ugy szintén minden épitő-mestereknek tisztelettel jelenti, hogy nála egészen készen jól megtörve, mindenféle szinü olajos festékek, kisebb vagy nagyobb mértékben, a' legjutányosabb áron találtatnak; melyeknek valódi jóságukról az alulirt biztositásul kezeskedve jót áll. Lakása van Debreczenben Szent-Anna-utczán 2266. sz. alatti házban.

Fazekas István szoba-festő.

Angol nyelv-tanitás.

Egy ifju, ki az angol nyelvben több idő óta jó sikerrel oktatást ad, ajánlkozik a' budapesti t. cz. lakosainak és kivánná néhány szabad óráit oktatásadással betölteni; — melly iránt értesülhetni Pesten: Kilian és társa könyvárus uraknál és Budán: országház-utcza 93dik szám alatt Klette herczegi udvari festő urnál. (439) (1, 2)

A' magyarhoni ágost. hitv. evangelikusok oskolai rendszere ujabban kinyomatván, 10 krajczárért kapható Illés Adám urnál Pesten országuton 640dik szám alatt. (434) (2, 3)

(438) **Szölő árverés.** (1)

Az 1846dik évi majus 3kán délelőtti 11 orakor a' szadai hegyeken 14 fertályból álló 2 préshazzal és egy aszalóval ellátott szőllők szabad kezből árverelteinek. Venni kivánók kéretnek az árverési napon t. cz. Bránik János ur helybeli hites jegyzőnél megjelenni. — Pest april 18kán 1846.

Heksch G. fogorvos,

kinek műtétei a' főrangu nemesség és a' t. cz. közönség előtt évek óta leghasznosabbaknak ismerttettek, ajánlja magát ujolag a' műfogak és egész sorfogak betételére a legujabb javitások és módszerek szerint; 's mellynél fogva biztosit mindenkit, hogy a' műfogakra nézve legtökéletesebben meg lesz elégedve.

Lakik mint több évek óta, kis hid-utczai Szinaféle ház 1só emeletében az „angol királynőhöz" czimzett vendégló mellett. (405) (3, 3)

Pfeiffer Lipót.

(425) **Birka-eladás.** (1, 3)

Fehér megyei alsó-sz.-iványi pusztán Duna-Földvártól másfél órányira több ezerből álló tőkejuh-nyáj egészben vagy részletekben szabad kézből eladó a tulajdonos **Koller testvéreknél.**

Bruder Rudolf

pozsoni első magyar selyem- és finom gyapjudivatáru-gyárának raktára

Hudecz Jánosnál Pesten harminczad-utczai Lika-féle házban van. (344) (5—0)

Eladó schweitzi tehenek.

Három darab igen jeles faju schweitzi tehén, mindegyik 4 éves és második borjuval vemhes, naponként látható és eladandó Pesten Ferenczvárosban angyal- és florián-utczai 261dik számu szegletházban. (418) (2, 3)

(437) **Árlejtés.** (1, 3)

Szabad kir. Szeged városa számára megkivántató 500 köböl mész beszállitása iránt az ottani polgármesteri hivatalban e' f. évi majus hó 9kén közárlejtés fog tartatni, a' mire a' szállitani kivánók 100 p. ftnyi bánatpénz 's vagyonaik miségéröli bizonyitványok előmutatása mellett meghivatnak.

Költ Szegeden april 14kén 1846.

Ponevácz Sándor

polg. asztalosmester

tisztelettel jelenti a' t. cz. közönségnek, hogy ő Pesten az aldunasoron a' gőzhajózási kikötőhelylyel átellenben létező 49. számu Kasselik-féle házban egy, tulajdon készitményeivel jól rendezett, uj butor-raktárt nyitott meg, hol minden nemü asztalosmunkák, és kárpitos szobabutorok teszés szerinti választékban kaphatók; — elfogadtatnak szinte megrendelések is ugy asztalos- valamint kárpitos-munkákra, mellyeknek jóságáért kezeskedik; és mint-hogy egyedüli ügyekezete abban alapszik, hogy a' t. cz. közönségnek, szilárd 's száraz fából, a' legizletesb uj rajzok szerint, keszitett tartós munkákkal szolgáljon, annál fogva reményli, hogy számos látogatással fog szerencséltetni. — Az árak igen jutányosra vannak állapitva.

Pest, aprilisben 1846. (427) (2, 2)

Az 1838dik év óta ismert cs. kir. szabad.

juh- és gyapju-mosó-szer,

és minden nemü gyapju-zsákok a' legjutányosb áron kaphatók Pesten zrinyi- és bálvány- utcza szegletén Brunszvick-féle házban. Körülményesbben értesülhetni ugyanott a' házmesternél. (435) (2, 12)

(372) **Figyelmeztetés.** (3, 8)

Egy hiteles férfi az annyira alkalmatlan és undorodást okozó fekete bogaraknak (Schwaben) egyes lakok- vagy egész épületekből rövid idő alatti kiirtására, igen jutányos ár mellett és minden előfizetés nélkül ajánlkozik. — Közelebbi értesitést vehetni Pesten az uj-piaczon, Marokkaihoz czimzett ház 2dik emeletében 4dik sz. alatt.

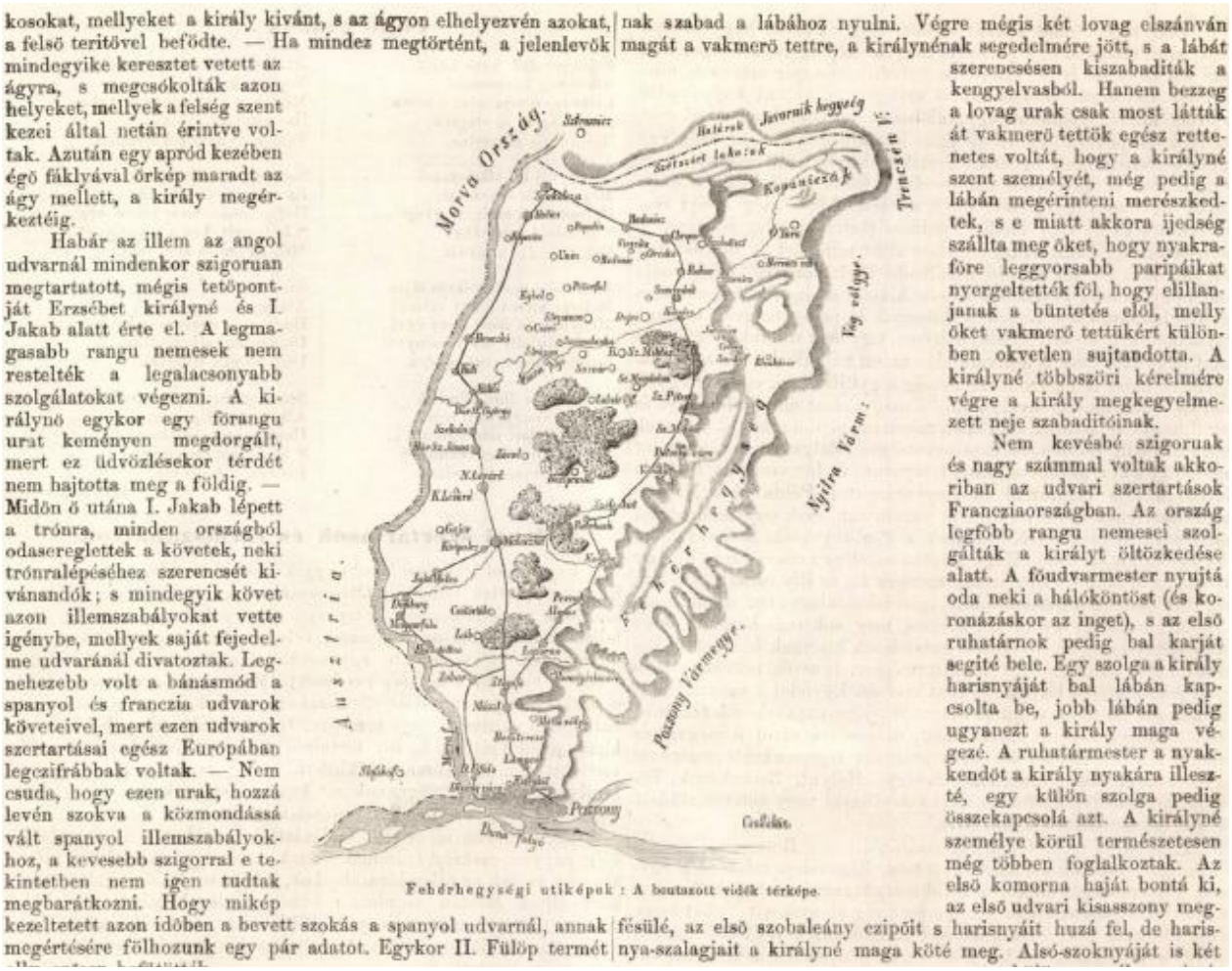
Kiadja Landerer Lajos.

Figure 4.: Detail of a newspaper page with advertisements, already graphically busy (Pesti Hírlap, 1846/4.) Source: Arcanum Newspaper Collection.

The next newspaper map that I found was published in the *Vasárnapi Újság [Sunday Newspaper]* in 1859, and there were regular maps in this newspaper in later years (Figure 5). The Vasárnapi Újság was a weekly illustrated, educational newspaper published between 1854 and 1921. It was a Hungarian folk newspaper, which aimed to cultivate the national spirit, to educate the Hungarian language and to publish all kinds of useful public information.

However, most of the maps published in the newspapers of the period are related to the military events and wars of the period, as this is presumably what readers were most interested in.

It is certainly worth mentioning that, in addition to the earlier small-scale military maps (which were according to their scale rather geographic maps), large-scale sketches, probably derived from cadastral maps (e.g. a site drawing of an exhibition or a park, forest, castle), were often published in this newspaper.



kosokat, mellyeket a király kivánt, s az ágyon elhelyezvén azokat, a felsö teritövel befödte. — Ha mindez megtörtént, a jelenlevök mindegyike keresztet vetett az ágyra, s megcsókolták azon helyeket, mellyek a felség szent kezei által netán érintve voltak. Azután egy apród kezében égö fáklyával örkép maradt az ágy mellett, a király megérkeztéig.

Habár az illem az angol udvarnál mindenkor szigoruan megtartatott, mégis tetöpontját Erzsébet királyné és I. Jakab alatt érte el. A legmagasabb rangu nemesek nem restelték a legalacsonyabb szolgálatokat végezni. A királynö egykor egy förangu urat keményen megdorgált, mert ez üdvözlésekor térdét nem hajtotta meg a földig. — Midön ö utána I. Jakab lépett a trónra, minden országból odasereglettek a követek, neki trónralépéséhez szerencsét kivánandók; s mindegyik követ azon illemszabályokat vette igénybe, mellyek saját fejedelme udvaránál divatoztak. Legnehezebb volt a bánásmód a spanyol és franczia udvarok követeivel, mert ezen udvarok szertartásai egész Európában legczifrábbak voltak. — Nem csuda, hogy ezen urak, hozzá levén szokva a közmondássá vált spanyol illemszabályokhoz, a kevesebb szigorral e tekintetben nem igen tudtak megbarátkozni. Hogy mikép kezeltetett azon időben a bevett szokás a spanyol udvarnál, annak megértésére fölhozunk egy pár adatot. Egykor II. Fülöp termét nak szabad a lábához nyulni. Végre mégis két lovag elszánván magát a vakmerö tettre, a királynénak segedelmére jött, s a lábát szerencsésen kiszabaditák a kengyelvasból. Hanem bezzeg a lovag urak csak most látták át vakmerö tettök egész rettenetes voltát, hogy a királyné szent személyét, még pedig a lábán megérinteni merészkedtek, s e miatt akkora ijedség szállta meg öket, hogy nyakraföre leggyorsabb paripáikat nyergeltették föl, hogy elillanjanak a büntetés elöl, melly öket vakmerö tettükért különben okvetlen sujtandotta. A királyné többszöri kérelmére végre a király megkegyelmezett neje szabaditóinak.

Nem kevésbé szigoruak és nagy számmal voltak akkoriban az udvari szertartások Franczia országban. Az ország legföbb rangu nemesei szolgálták a királyt öltözkedése alatt. A föudvarmester nyujtá oda neki a hálóköntöst (és koronázáskor az inget), s az első ruhatárnok pedig bal karját segité bele. Egy szolga a király harisnyáját bal lábán kapcsolta be, jobb lábán pedig ugyanezt a király maga végezé. A ruhatármester a nyakkendöt a király nyakára illeszté, egy külön szolga pedig összekapcsolá azt. A királyné személye körül természetesen még többen foglalkoztak. Az első komorna haját bontá ki, az első udvari kisasszony megfésülé, az első szobaleány czipöit s harisnyáit huzá fel, de harisnya-szalagjait a királyné maga köté meg. Alsó-szoknyáját is két

Fehérhegységi utiképek: A boutazott vidék térképe.

Figure 5.: A newspaper map in the *Vasárnapi Újság* of 4 September 1859 as part of a long, multi-part Danube travelogue. Source: Arcanum Newspaper Collection.

I found the first coloured (two-colour) map in the political daily *Ellenőr [The Controller]*, published between 1870 and 1882, which suggests that the competition in publishing at the time was a way for publishers to make their own newspapers more popular or unique (Figure 6).

This was also the period when the cost of printing colour maps was decreasing with the increasing use of chromolithography (Figure 7), and when colour maps for school education (county maps, country maps, wall maps) were also being produced. In the case of the school maps, of course, the state, the Ministry of Education, was the customer, and the large number of copies meant that the cost per copy was reduced, but at that time the schools and pupils certainly had access to these maps for free.

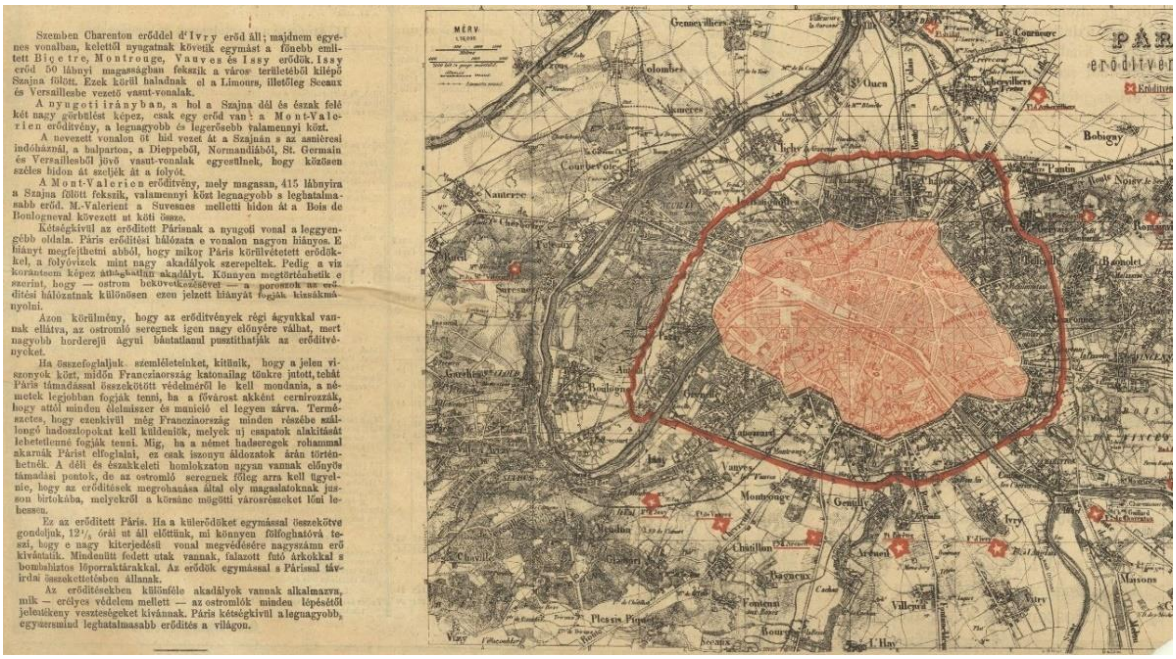


Figure 6.: A color map of the military defense zone around Paris in the 16 September 1870 issue of the *Ellenőr [The Controller]*. Source: Arcanum Newspaper Collection.

Figure 7.: A map of Battle of Sighisoara (31 July 1849) in the 31 July 1879 issue of the *Pesti Hírlap*. Source: Arcanum Newspaper Collection.

Digital methods for pre-processing

19th-century newspapers contain relatively few graphics, so page-level triage can be automated with a computer program, using low-resolution thumbnails.
The user interface of frameworks providing digital newspaper sites is relatively uniform. As can be seen in Figure 8, the left panel of the interface offers a choice between the table of contents of a given newspaper (usually 500-2000 scanned pages of documents are handled per batch, so depending on the number of pages and the frequency of publication of the newspaper, either a whole year's or a month's worth of material will be handled per batch) and the viewer images of scanned newspaper pages.
The thumbnails are 125-160 x 200 pixels (height fixed at 200 pixels, width may vary depending on the size of the newspaper), and in JPG format they are a few kB in size. Thumbnails are well suited, because I wanted to use an AI model, which is computationally efficient for training and inference, and this requires smaller image sizes.

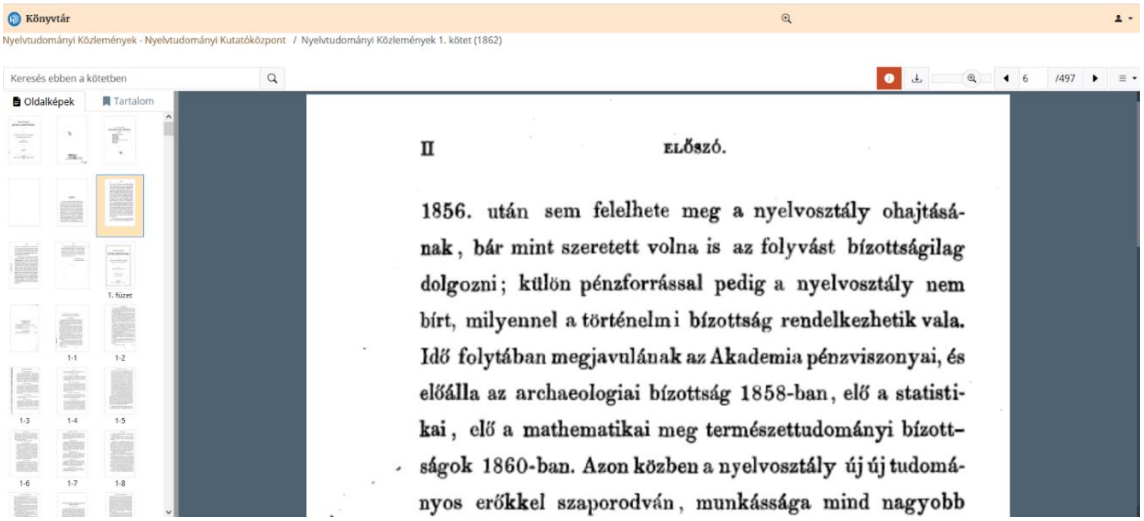


Figure 8.: A user interface of Hungaricana Collection. In the main window the users can see the scanned page, in the left pane the user can select the content based on the thumbnails or the table of content.

I chose the pre-trained ResNet50 convolutional neural network (CNN) as a base to do the image classification (binary: whether it contains a map or map-like figure), and applied fine-tuning on it with my own training dataset: I manually pre-selected around 1500 newspaper page thumbnails out of the few million scanned ones that contained a map and prepared them with OpenCV to normalize their dimensions and colors (many old newspapers were turned yellow during the years).
Also selected around ~2000 negatives (~1500 without maps and ~500 containing diagrams or other figure-like elements).
Evaluated on a held-out test set (n≈200). It achieved around 65% false-positive rate (thumbnail contained a figure, which wasn't a map), and below 5% false-negative rate (missed maps; typically, small maps embedded in text).
This false-positive rate is far from perfect, but it was sufficient enough to really speed up the manual selection of pages. This method worked quite effectively for 19th-century newspaper maps, but it would probably not be suitable (without further training) for 20th-century newspapers, as they contain many more graphic illustrations.

Conclusions

Media maps are undoubtedly a very specific type of map. Some of their characteristics (technical limitations, size) are easy to grasp, but it is equally important to take into account the user's perspective, the viewpoint of the newspaper reader, which is not easy to define. Nowadays, the decline of the printed press is having an impact on press maps, but maps are also gaining ground in the Internet press, where they are becoming more and more important.

While cartographic knowledge and practice can certainly be useful a journalistic cartographer or or graphic designer, but the essence and success of this type of map is also that the designer has a wide range of graphic/artistic freedom in the design greater than in the case of most traditional paper mapmaking. Often abstract graphics are required, to get the message of the author or cartographer across to the newspaper reader as effectively as possible (Green, 1999). Of course, the 19th century newspaper maps, this freedom was still limited. technical constraints, but some of his initiatives have been more and more successful. maps.

Press maps do not really have a prominent place in the timeline of traditional cartography. From ancient worldviews to medieval maps, from Renaissance maps to modern cartography, the timeline focuses on turning points and ignores the continuity and recurrence of cartographic practices over time. By reflecting on popular maps, some scholars have created a link between the timeline critique of the history of cartography and the work of historians of science (Vujakovic, 1999).

Perhaps the most important lesson to be learned from tracing the history of maps in the press is that there is no cartographic genre that can be understood in isolation or as a stand-alone genre. The history of maps in the press cannot be limited to the history of maps produced by the press, which consequently requires a study of the interactions between different cartographic modes. Academic cartography is a very important reference for maps in newspapers, as several innovations in the visual languages, practices and techniques created and used by academic scientists have allowed for a more intensive and systematic development of these cartographic images in the press. Academic cartography, however, has never been the main framework for newspaper cartography, which shares a common basis in its communicative capacity. The maps in newspapers are an important element in the promotion of the authority and privileges of the 'map' (Novaes, 2019).

Machine learning and artificial intelligence are playing an increasingly important role in the latest publications on cartographic heritage. With the help of these methods, many previous manual processes can be automated and solved (Gede, 2025).

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