Communication Landscapes of the 19th Century: The Speed, Geographical Coverage and Content of News in the Rigasche Zeitung

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Introduction

Before modern communication networks, the source of each piece of information was given explicit emphasis. Pre-20th century newspapers were essentially a chain of messages, each one accompanied by its date and place of origin (Slauter 2012). These pieces of information which I call **place-date headings**, served as both a structuring element and an indication of trustworthiness, allowing readers to contextualize information that may have passed through many ports and towns before reaching them.

Although the circulation of news is a rapidly growing area of interest in historical research, existing methods mainly rely on text reuse detection. [1] While this method is useful for analysing the long-term circulation and spread of textual motifs, it also has its limitations. Firstly, it requires high computational resources, and secondly, there is currently no easy way to apply text reuse across language borders. Although place-date headings can offer solutions to both problems and some studies have used them (Castellanos et al. 2020, Oiva et al. 2020, Ryan 2018), there is still significant potential for further exploration and systematization. This presentation aims to use a large corpus of German-language newspapers to map the 19th-century European communication network as seen from the Baltic provinces of the Russian Empire, showcasing the value of this approach (Kruusmaa & Vanamölder 2023).

Data and methods

The corpus consists of 18,499 issues of the German-language newspaper *Rigasche Zeitung* published between 1802-1888. [2] Published in Riga, one of the principal economic centres of the Baltic Sea, it was arguably the most important daily periodical in the Baltic provinces of the Russian empire. It primarily catered to the German-speaking elites of the region but also strongly influenced the emerging local press in Estonian and Latvian languages.

Because of their relatively standardized nature, place-date headings in the corpus can be captured with regular expressions. They require attention to OCR and spelling variations but do not need training data and are easily adjustable to eliminate false positives. This is a considerable advantage compared to NER, which can require requires a large amount of annotations and can still yield un-

satisfactory results due to OCR errors and the difficulties of training a model to fit historical text.

Using regular expressions, I detected over 200 000 place-date pairs in the corpus. I verified all the place names that occur at least 20 times (350 different locations) and linked them to coordinates. I then compared the dates to the newspaper's publication dates to calculate the time it took for a given news item to reach Riga. The resulting data allows us to examine, for example, how the average time for news from New York or Istanbul to reach Riga gradually decreased during the century (see Fig. 1). I also applied a recent method, top2vec (Angelov 2020), to model the underlying topics of the sections that follow the place names and dates.
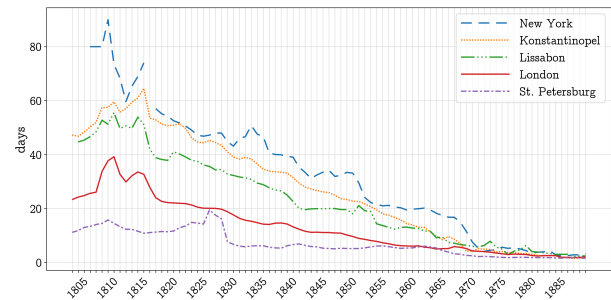

Figure 1: News speed from given locations (shown with a rolling average of 3 years)

The analysis reveals long-term changes in the history of communications. Firstly, the geographical distribution of the news and their speed reflects Riga's close connection to the German cultural and economic sphere. The travel time of news can be visualized intuitively with map transformations that stretch distance based on the average speed of news (see Fig. 2). The most frequently mentioned places of origin are found in German areas, while locations in the Russian empire are mostly limited to St. Petersburg, the imperial capital, and some other Russian cities trailing far behind. News from European overseas colonies, the United States and Asia also make up a reasonable part of the news.

Long-term analysis also makes it possible to observe the impact that the introduction of railway transport and telegraph networks had on Riga in the early 1860s. This is reflected in the speed of news which drops to just a few days for many distant locations. It also affects the geographic distribution of news, as commerce and communication become increasingly centred on a small number of interconnected metropolises. In 1870-1890 for example, half of the information in the newspaper comes only from four places: Paris, London, St. Petersburg and Vienna.

Applications to historical research

While place-date headings provide insight into long-term changes, they also allow us to examine specific historical events by providing an overview of the source of news. In a case study on the Crimean War (1853-1856), I demonstrate their potential when combined with topic modelling. Among the 385 topics identified in the corpus, four have a direct connection to the war, labeled as *war events*, *navy*, *recruitment*, and *reinforcement*. The temporal distribution of these topics closely matches developments in the war.
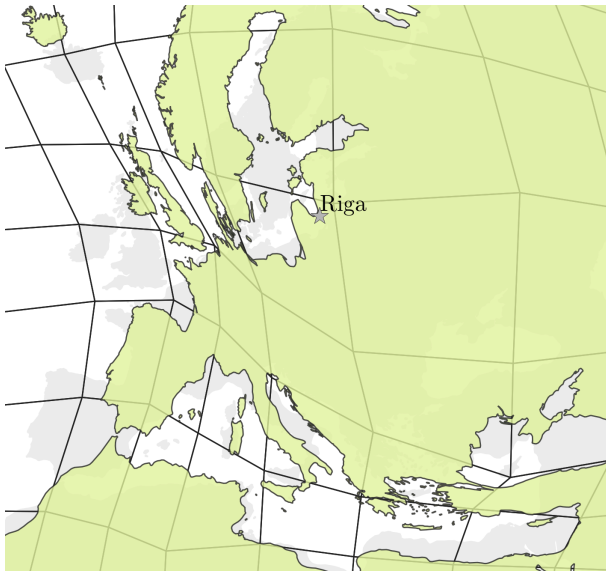
Figure 2: Spatial visualiszation of time for news to reach Riga, in the pre-industrial period, 1802–1859

Examining the place-date headings of news in these topics reveals that residents of Riga relied mainly on sources from Western Europe for information about the war. Paris and London, the capitals of Russia's rival powers in the war, were the main sources of significant news. Throughout the conflict, England and France invested heavily in communication with the war zone and had greater press freedom than Russia, which struggled with slow connections to its borderlands and attempted to censor any war news in the domestic press. Readers in Riga were aware of their reliance on their adversaries' information sphere, as Western news about the war were occasionally accompanied by editorial comments attempting to refute the information.

Place-date headings provide a straightforward and effective means of studying news circulation. They are an integral part of a newspaper's structure, enabling analysis with minimal computational costs and across languages. They are useful for uncovering both long-term changes in the communication networks used by the press and for studying the circulation dynamics of specific events.

Notes

1. See the bibliography for several recent research projects on this topic.
2. *Rigasche Zeitung* was actually published in 1778-1889 and 1907-1915, but only the issues from 1802-1888 have been digitized and made available by the National Library of Latvia.

Bibliography

Angelov, Dimo (2020): "Top2Vec: Distributed Representations of Topics". arXiv. https://doi.org/10.48550/arXiv.2008.09470

Castellanos Rueda, Rocío / **Priani Saisó, Ernesto** / **Martínez Domínguez, Laura** (2020): ""Si los telegramas no mienten". Origen y circulación de las noticias de la explosión del Maine en la prensa mexicana, febrero 1898", in: *Revista de Historia de América* 159, 255–287.

Kruusmaa, Krister / **Vanamölder, Kaarel** (2023): "Positioning Riga in the 19th century news network. Tracing international news flows in the *Rigasche Zeitung* newspaper, 1802–1888", in: *Acta Historica Tallinnensia* 29, 1. Source code: https://github.com/krkryger/rigasche-zeitung

Oiva, Mila / **Nivala, Asko** / **Salmi, Hannu** / **Latva, Otto** / **Jalava, Marja** / **Keck, Jana** / **Martínez Domínguez, Laura** / **Parker, James** (2020): "Spreading News in 1904. The Media Coverage of Nikolay Bobrikov's Shooting", in: *Media History* 26, 4: 391–407.

Ryan, Yann Ciarán (2018): ""More Difficult from Dublin than from Dieppe": Ireland and Britain in a European Network of Communication", in *Media History* 24, 3–4: 458–476.

Slauter, Will (2012): "The paragraph as information technology. How news traveled in the eighteenth-century Atlantic world", in: *Annales. Histoire, Sciences Sociales* 67, 2: 253–278.

Computational History and the Transformation of Public Discourse in Finland, 1640–1910 (http://comhis.fi/clusters/info/about)

Information Flows across the Baltic Sea: Swedish-language press as a cultural mediator, 1771–1918 (https://textreuse.sls.fi/)

Oceanic Exchanges (https://oceanicexchanges.org/)

Viral Texts (https://viraltexts.org/)