Search Engines as "Globalizing Machines": International News Flow Through Google During the 2020 Belarusian Presidential Election

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News is increasingly consumed via search engines. Yet, there is little research on foreign news consumption through search engines. This study thus focuses on the presence of foreign news in political search results in a peripheral country that is at the focal point of the international conflict between Russia and the West. For that, I conducted an algorithm audit of Google's Web search results in Belarus to queries on the 2020 Belarusian presidential election. An analysis of 50,400 search results collected daily over 4 months surrounding the election from google.by revealed that Google in Belarus overwhelmingly favored foreign news outlets (mostly Western and Russian; 63%) over domestic Belarusian ones (37%). While the presence of Western news outlets (28.5%) may be argued to contribute to the democratization of the Belarusian public sphere, websites affiliated with Russia's ruling elites (23%) most likely linked in favor of the ruling dictator Lukashenko. These findings advance the classic news flow research by demonstrating that international news flows are unbalanced toward a hierarchical core-periphery structure also when mediated through search engines.

Keywords: search engines, Russia, international news flow, elections, Google, Belarus, localness

Since the early 2000s, search engines have evolved into one of the most important mediators of news and political information in the digital age (Nielsen & Ganter, 2018; Puschmann, 2019). Created to help users navigate today's complex and diverse information environment, search engines have become pivotal gatekeepers that select, rank, and redistribute political information for their users (Steiner, Magin, Stark, & Geiß, 2022; Wallace, 2018). By doing so, search engines essentially shape what users know about politics (Granka, 2010) and determine how their political opinions and, subsequently, voting intentions are formed (Diakopoulos, Trielli, Stark, & Mussenden, 2018; Epstein & Robertson, 2015; Unkel & Haim, 2019). Considering this, it is no surprise that political powers—including foreign ones—may seek to target search engines to promote and advance certain political opinions over others, particularly during elections. Against this backdrop, a growing body of research in the realm of political communication has investigated how the news flows through search engines during elections and with what political consequences (Puschmann, 2019; Trielli & Diakopoulos, 2019; Unkel & Haim, 2019; Urman, Makhortykh, & Ulloa, 2022). Hereby the existing research often focuses on the extent to which search engines provide their users with diverse political information since information diversity

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is considered to be a precondition for a healthy democratic society, especially during elections (Napoli, 1999). Prior studies have, for instance, examined the composition of search results regarding the diversity of information sources (e.g., Makhortykh, Urman, & Ulloa, 2020; Puschmann, 2019; Trielli & Diakopoulos, 2019; Unkel & Haim, 2019; Urman et al., 2022), ideologies (Trielli & Diakopoulos, 2019), political opinions (Hu, Jiang, Robertson, & Wilson, 2019; Metaxa, Park, Landay, & Hancock, 2019), or issues and speakers (Steiner et al., 2022). However, the presence (or absence) of foreign news outlets—in particular, those affiliated with foreign ruling elites—in search results and its potential political consequences for distorting, manipulating, or destabilizing foreign information environments have not yet been considered. In other words, international news flows through Web search results and, therefore, the potential role of search engines as intermediaries not only between news organizations and their publics (see Puschmann, 2019) but also between foreign ruling elites (represented in search results by foreign government-sponsored news websites) and their target audiences abroad have been neglected in the literature before.

Working toward closing this research gap, I examined the flow of foreign news to Belarus through the dominant search engine in Belarus, Google (78% market share; StatCounter, 2020), during the 2020 Belarusian presidential election. The case of Belarus is used in this study as a single "revelatory case" (Yin, 2014, p. 52) illustrating the flow of international news through search engines in a peripheral country that is the focal point of the international conflict between Russia and the West. That is, while Russia's ruling elites in Belarus are known to support the incumbent dictator Alexander Lukashenko, the West tends to support the repressed opposition (Navumau, 2020). Furthermore, the selected country case is also especially interesting considering the lack of scholarly research on the use of search engines in Eastern Europe (for notable exceptions, consider Kravets & Toepfl, 2021; Kravets, Ryzhova, Toepfl, & Beseler, 2023; Makhortykh et al., 2020; Wijermars, 2021). That is despite the region being at the center of conflict for some years now, culminating in Russia's full-scale invasion of Ukraine on February 24, 2022. This study thus aims to broaden the scope of extant research on the role of search engines in disseminating international news and, more specifically, Russia's and the West's foreign informational influence on the states in Russia's immediate neighborhood. The case of Belarus is also particularly relevant given the current close political ties between Russia's and Belarus' ruling elites and Belarus's multifaceted support of Russia's war against Ukraine. As of mid-2023, it was still unclear whether Belarus would get actively involved in the military actions in Ukraine, an outcome that Russia's authorities reportedly desired but Belarusian ruler Lukashenko had managed to avoid (Sauer, 2022). It is therefore essential to continue investigating Russia's informational influence in Belarus and other Eastern European and Eurasian countries.

From this backdrop, using a data set of 50,400 top 10 search results for 42 unique queries about the election and its main candidates, collected daily from google.by during the two months before and two months following the election, this study raises two overarching research questions: (1) How present were foreign news websites in Google's search results during the 2020 Belarusian presidential election campaign? (2) Where did the foreign news websites originate from?

This article begins by introducing existing research on search engines, international news flow, and Russian news flow to Belarus. The case of the 2020 Belarusian presidential election is then presented. Then, after an elaboration on the study's methodology, the findings are presented and discussed, as well as the limitations. The findings of this study vividly demonstrate that particularly for peripheral countries, international news flows are unbalanced in relation to local news sources when mediated through Google

Web search. Specifically, during the 2020 Belarusian presidential election, Google's search algorithms in Belarus favored foreign news outlets over local Belarusian sources, regardless of whether the queries were in Russian (63%) or Belarusian (54%). The most influential foreign websites in Google's search results were the websites of Western (28.5%) and Russian (15.5%) news providers, which combined outnumbered Belarusian sources. Additionally, a substantial number of the search results linked to websites affiliated with Russia's ruling elites (e.g., 23% for Russian-language queries). While the presence of Western news sources in Google's search results may be argued to contribute to the democratization of the Belarusian public sphere, the presence of Russian state-affiliated sources is most likely linked in favor of the ruling dictator Lukashenko. My findings thus highlight the importance of Google's search engine as a gateway to regime-critical news information in Belarus and contribute to the normative discussions about what search results should be included or excluded from Google's search results. These findings contribute to the existing research on search engines as digital intermediaries as well as the literature on international news flows.

Conceptual Framework

How Search Engines Reconstruct (International) News Flow Patterns

The rise of digital intermediaries, such as search engines, has significantly altered traditional news flow patterns (Wallace, 2018), reshaping how people consume news (Fletcher & Nielsen, 2018). For instance, a survey conducted by the Reuters Institute in 2021 revealed that 25% of the respondents named search engines as their main way of coming across news online (Newman et al., 2021). Search engines thus have grown to be a significant source of traffic for news websites. An increasing number of news websites report that the majority (62%) of their external traffic comes from search engines (Parse.ly, 2021). Based on a survey in seven Western countries, 80% of Internet users use search engines for political information seeking, and about 68% admitted that search engines have influenced their past election choices (Dutton, Reisdorf, Dubois, & Blank, 2017).

A growing number of studies have investigated how search engines reshape news flow patterns (see, e.g., Fischer, Jaidka, & Lelkes, 2020; Fletcher & Nielsen, 2018). However, little work has been done specifically on how search engines reconstruct the flow of *international* news and with what political consequences. Over the past two decades, digitalization has significantly decreased the boundaries for the production and distribution of news, facilitating the diffusion of information around the world (Guo & Vargo, 2017). This blurred the boundaries among national public spheres and contributed to the emergence of a "global public sphere" (Volkmer, 2014, p. 7). In this global public sphere, domestic media outlets must compete for audiences with foreign news providers that are easily accessible on the Internet (Taneja & Webster, 2016). One prominent scholarly attempt to predict news flow from one country to another is based on Wallerstein's (1974) world system theory (WST). According to WST, news typically flows from larger, more powerful core countries to smaller, peripheral ones (Chang, 1998; Golan & Himelboim, 2016). Thereby, news originating from and diffused by news organizations in core countries determines the international news flow (Chang, 1998; Segev, 2016), suggesting that core nations have an informational advantage in the global public sphere (Golan & Himelboim, 2016). This advantage was confirmed to persist in the modern online news ecology (Guo & Vargo, 2017; Segev & Blondheim, 2013). In addition, a small number of international news broadcasters (e.g., British Broadcasting Corporation [BBC], Al Jazeera, and Russia Today [RT]) now play a pivotal role in the flow of global news (Golan & Himelboim, 2016).

However, little research has been done on the role search engines play in the modern international news flow. Do they act as "globalizing machine[s]" (Rogers, 2013, p. 101), as suggested by some? Given the wide spectrum of news available on the Internet, search algorithms' core functionality is to curate audiences' attention (Trielli & Diakopoulos, 2019). Hereby search engines do not limit themselves to national borders. According to search algorithm audits, search engines indeed orient themselves on the geographical proximity between the user and the result (see Kliman-Silver, Hannack, Lazer, Wilson, & Mislove, 2015), but not exclusively. On a national level, research on the geography of search results has found that search engines privilege geographically broader, nationwide news websites over local ones (Fischer et al., 2020). On an international level, in an explorative analysis, Rogers (2013) analyzed country-specific differences in the localness of Google's search results by querying the term "diversity" in 18 Spanish-speaking Latin American countries and Spain. He found that Google in Latin America regularly returned sources from Spain, whereas Latin American sources did not appear at all in the Spanish search results, suggesting that search results in some countries are more local than in others. Similarly, Ballatore, Graham, and Sen (2017) examined Google's search results in 144 countries by searching for the countries' capitals and found that "wealthy and well-connected" (p. 1211) countries had more localized search results than those that were "poor and poorly connected" (p. 1211). These studies, however, either did not consider unbalanced news flows on an international level or considered these without regard to political news. By contrast, this study is the first to focus on the presence of foreign news websites in Web search results for political queries and reflect on its political consequences.

Considering the initial exploratory evidence of biased digital geography in search results, this study suggested that Google's search results in relatively small, peripheral Belarus would be skewed in favor of foreign news outlets, even for such a local-interest topic as a national presidential election. To investigate this further, I formulated the following research question:

RQ1:   *How visible were foreign news websites in Google's search results during the 2020 Belarusian presidential election in Belarus?*

Geographical Constitution of Search Results

Mass media are critical for providing populations with diverse political information, particularly during elections (Napoli, 1999). Considering how publics rely on search engines to curate their news consumption (Trielli & Diakopoulos, 2019), many researchers argue that search engines act as pivotal gatekeepers of Internet information diversity and engage in discussions on the quality of search results to evaluate their performance (e.g., Haim, Graefe, & Brosius, 2018; Makhortykh et al., 2020; Puschmann, 2019; Steiner et al., 2022; Urman et al., 2022). According to Napoli (1999), news diversity can be understood as source (i.e., diversity of news sources), content (i.e., diversity of political opinions and viewpoints), and exposure diversity (i.e., diversity of content consumed). Focusing on source diversity in search results, prior research has investigated the number of different websites (Haim et al., 2018; Trielli & Diakopoulos, 2019) and categories of websites (Puschmann, 2019; Unkel & Haim, 2019) present in search results. These studies found that search algorithms have substantial dependence on a small number of elite mainstream news sources (e.g., Kulshrestha et al., 2019). However, little work has been done to examine

the geographical constitution (or diversity) of search results' sources (i.e., to gauge the international news flows through search engine results).

As an exception, Fischer and colleagues (2020) examined the national geographical composition of search results. They found that search engines prioritize nationwide websites over regional and local ones. However, the geographical diversity depends on the query: Queries about general topics return more geographically diverse results than locally oriented queries (Fischer et al., 2020). In a similar study, Ballatore and colleagues (2017) found that a country's socioeconomic indicators (e.g., GDP, Internet penetration) and scientific production (e.g., number of scientific publications, citations) predict the geographical diversity in search results, with search results in less socioeconomically and scientifically powerful countries showing more diversity. In an exploratory study of COVID-19-related image search results for English-language queries on Google in Great Britain, Germany, Italy, and Spain, Paramita, Orphanou, Christoforou, Otterbacher, and Hopfgartner (2021) found that the localness of search results varied across countries, with Great Britain demonstrating the highest rates of localization. They found that the overall rate of local websites in the top 30 search results was relatively low across all countries, ranging from 42% in Great Britain to 11% in Italy. In contrast, when searching in local languages, the localization rates rose to 72% in Spain, 79% in Germany, and 93% in Italy (Paramita et al., 2021). They thus suggested that the localization rates were query- and language-dependent: Some queries were more localized than others, and queries in the country's official language retrieved more local search results than queries in foreign languages (Paramita et al., 2021). Similarly, research has found that search results are "biased towards the language used to query the system" (Magno, Araújo, Meira, & Almeida, 2016, p. 1), suggesting that search results to queries in languages used by multiple countries have a higher probability of being more geographically diverse.

Relevance of International News Flows via Search Engines

Setting a normative benchmark for the level of international news flows in search results is challenging, as is often the case with diversity research (see Möller, van de Velde, Merten, & Puschmann, 2020; Steiner et al., 2022). Unlike the diversity of traditional news (see Napoli, 1999), which is deeply rooted within national public spheres, the geographical diversity of search results blurs the boundaries between national and transnational public spheres and might not be desirable at all. This is particularly true in the context of national politics and elections, which raises normative questions such as the following: Which actors should participate in the public sphere of national elections? Should foreign actors participate at all? Should national actors be prioritized? An overabundance of search results from foreign sources may compromise the integrity of national public spheres, facilitating the distortion of information spaces by foreign actors and potentially contributing to foreign election meddling. However, traditional research on news diversity is deeply embedded in the context of democratic public spheres. In authoritarian states such as Belarus, where access to diverse information is generally restricted, the presence of Western news outlets in search results, with their critical coverage of the country's autocratic regime, can be argued to benefit the nascent democracy. In contrast, search results from countries supporting the autocrat, such as Russia, may benefit the autocratic regime.

The presence of foreign news websites in search results is closely tied to international political influence. Governments around the world rely on "media communications to inform and influence foreign publics" (Guo & Vargo, 2017, p. 504) and compete to promote their agenda abroad. To do so, many governments operate their own communication channels (i.e., international government–sponsored news broadcasters), aiming to share their agenda with foreign audiences (Golan & Himelboim, 2016) and communicate their perspectives on the world (Guo & Vargo, 2017). This study argues that the international news flows through search engines to a large extent can reveal how effective a country is in setting other countries' news agendas and thus what potential the country has to influence foreign publics. Arguably, the presence of foreign news websites in search results—especially those affiliated with foreign governments—grants them a certain degree of political influence over their target countries' communicative spaces. As Puschmann (2019) puts it in the context of national elections, "It seems appropriate to infer political influence from the differences in how parties and candidates are presented through search results, without overstating this influence" (p. 840). From this perspective, search engines can serve as an influential force in shaping the opinion of foreign publics.

Russian News Flow to Belarus

According to WST, core countries such as the United States, the United Kingdom, and Russia have an advantage in the international distribution of information (Golan & Himelboim, 2016; Guo & Vargo, 2017). Among the indicators that determine the prominence of a foreign country in the news are national traits (e.g., a country's size, economy, and military power), relatedness (e.g., geographic, cultural, and historic proximity), events (e.g., natural disasters and wars), and operation of international news broadcasters (for an overview, see Segev, 2016). In addition, there exist some regional trends, where smaller countries such as Belarus depend on their more powerful neighbors (e.g., Russia) and thus are expected to be more "interested" (see Tanikawa, 2019) in consuming their news.

In the past decade, Russia's ruling elites have invested generously in their foreign communication efforts (Szostek, 2020). Together with several international broadcasters (e.g., RT) directed toward Western states, a series of media outlets targeting the countries of Eastern Europe and Eurasia has emerged in recent years (e.g., Sputnik, NTV Mir, Baltic news; Szostek, 2020). Some even produce content in Belarusian (e.g., Sputnik Belarus). In Belarus, the fluency of Belarusians in Russian facilitates the news flow between Russia and Belarus. As a result, many domestic Russian news outlets—often Kremlin-affiliated—are popular among Belarusians (Navumau, 2020). According to a representative survey from 2018, 24% of Belarusians consider Russian news outlets their most trusted source of political information, with the first place being taken by the Belarusian state-owned media at 29% (Thinktanks.by, 2018).

Several studies have examined the impact of Russian news flow to Belarus. Szostek (2015), for instance, analyzed Russian influence on traditional news media in Belarus during an "information war" that broke out between Moscow and Minsk in 2010. After analyzing the content of Russian-aligned media in Belarus during the conflict and conducting interviews with media professionals to study their rationale for publishing that content, Szostek (2015) concludes that "pro-Kremlin news providers are undoubtedly a tool in Moscow's relations with Minsk" (p. 123). Furthermore, Russia regularly launches media campaigns that intervene in Belarusian politics (Szostek, 2015). Similarly, Navumau (2020) investigated the role Russian

media played during the 2018–2019 negotiations concerning Belarus' "further integration" (p. 461) into Russia. Navumau (2020) concludes that, during that time, "Russian media used deceptive news articles to put forward their agenda and interpellate support among Belarusian citizens" (p. 461). Furthermore, Navumau (2020) argues that since 2017, Russia has operated a special media network in Belarus that can be instrumentalized at any time. Likewise, Saari (2014) concludes that Russia frequently undertakes media campaigns in post-Soviet states to achieve its foreign influence ventures. As this overview of the literature illustrates, Belarus is an important target country for Russia's foreign communication (for similar arguments, see also Kravets et al., 2023).

Considering the existing power dynamics between Russia and Belarus in the context of WST and the studies on Russian news flow to Belarus, I expected Google's search results in Belarus to include a substantial number of Kremlin-affiliated websites. Unable to make a specific prediction, I formulated the following research question:

RQ2:   *How visible were websites affiliated with Russia's ruling elites in Google's search results during the 2020 Belarusian presidential election?*

Furthermore, research has found that countries speaking the same language tend to share search results in the common language (Magno et al., 2016). Against this backdrop, I formulated the following research question:

RQ3:   *During the 2020 Belarusian election, were Russian state-affiliated websites more visible for queries in the Russian language than for queries in Belarusian?*

Context: The 2020 Belarusian Presidential Election

On August 9, 2020, Belarus's autocrat Alexander Lukashenko faced his sixth presidential election. Democratically elected in 1994, Lukashenko has managed to stay in power for 30 years now by gradually decreasing the freedom of the press, imposing massive repressions, and eliminating his political opponents. While Lukashenko has regularly held elections, like many other autocratic rulers around the world, massive electoral fraud and a lack of real alternative candidates have disillusioned common Belarusians for years. The 2020 presidential campaign was different for several reasons. The campaign took place during the COVID-19 pandemic, which Lukashenko was a known denier of, infamously telling Belarusians to drink vodka, use saunas, and drive tractors against the virus (BBC, 2020). The public discontent with Lukashenko's handling of this emergency mobilized Belarusian civil society. Indeed, even some of Lukashenko's political elites openly split from him, with the alternative 2020 candidates being known Belarusian political actors: Until recently, Viktor Babariko headed the National Bank of Belarus, and Valeriy Tsepkalo was the founder of the Belarusian Silicon Valley. While both were eventually rejected for candidacy, with Babariko being arrested and Tsepkalo fleeing into exile, Svetlana Tichanovskaya—the wife of the oppositional blogger Sergey Tichanovskaya, who was barred from participating in the election—was allowed to compete. Tsepkalo's wife and Babariko's campaign manager eventually joined Tichanovskaya's presidential campaign, uniting the opposition against Lukashenko (BBC, 2020).

Despite this, on August 10, Lukashenko was announced as the president, winning 80% of the votes, with Tichanovskaya officially receiving only 10% (BBC, 2020). Lukashenko's disputed reelection sparked mass protests on an unprecedented scale throughout Belarus, which were ongoing at the time of this research, but were eventually brutally suppressed. In support of Lukashenko's regime, Vladimir Putin publicly declared having created special police forces to intervene in Belarus if necessary (Rainsford, 2020). Putin also provided Lukashenko with a loan of US$1.5 billion and, as a part of Russia's media assistance, sent out TV experts to take over the Belarusian state media channels (Rainsford, 2020).

Methodology

Data Set

I collected data by scraping the top 10 organic Web search results from the Belarusian version of Google, google.by, for 42 search terms (21 terms repeated in Russian and Belarusian), all related to the 2020 Belarusian presidential election. I included both Russian- and Belarusian-language terms to account for the two main languages spoken in Belarus. According to a population census from 2019, 71% of Belarusians use Russian as their main means of communication, while 28% use Belarusian (National Statistical Committee of the Republic of Belarus, 2020). For each search, I adjusted the language of the Web interface according to the language of the search. To reduce the influence of input bias (i.e., bias caused by our choice of queries; see Kulshrestha et al., 2019), I included not one but a range of search terms grouped under "election-general" and "candidate-related" (see Table 1). For election-general search terms, I chose the top five election-related search terms in Belarus according to Google Trends (2020) in the week preceding data collection. For candidate-related terms, I searched for the last names of the main candidates in the presidential run—Lukashenko, Tichanovskaya, Tsepkalo, and Babariko—and combinations of these last names and selected election-related terms.

Identical queries were repeated daily (at 18:00 and in random order) for 120 days from June 9 to October 9, 2020, which was the hot phase of the election. Repeating queries was done to mitigate (as much as possible) the influence of search randomization, which was shown to significantly influence the search result composition (Makhortykh et al., 2020) and reduce the influence of "temporal bias" (Ballatore et al., 2017, p. 1199), that is the day when the search results were collected. Due to the shutdown of the Belarusian Internet on the days following the election (August 9–11, 2020), which prevented common Belarusians from searching for information on Google, I did not include those days in the analysis. The data scraping was implemented in Python and was automatically executed on an Ubuntu virtual machine by a Cron's job scheduler using commercially purchased Belarusian proxy Internet protocol (IP) addresses (purchased at https://proxy-seller.com/) and non-personalized browsers (i.e., browsers with no cookies and no browser history that were not logged in). I used rotating IPs from multiple Belarusian locations to ensure that the data were descriptive of Belarus in general, as opposed to being applicable to a single location only. For a discussion of both the validity of using non-personalized browsers in search engine research and the ethical considerations behind the scraping efforts, see the online supplementary file.[1] As a result, the obtained data set consisted of 50,400 search results (~3,500 unique).

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[1] https://osf.io/4bn5d/

Table 1. Overview of Search Terms Used.

Election–General (*N* = 10)	Candidate-Specific (*N* = 32)
election candidates Belarus	[last name]
election Belarus	[last name] election
election of the president of Belarus	[last name] candidate
presidential election in Belarus	[last name] for president
2020 election Belarus candidates	

Note. For the exact search terms used in Russian and Belarusian, see the dataset available at https://osf.io/4bn5d/

Data Analysis

Coding Geographical Origin and Political Affiliation

To assess the presence of Russian state-affiliated websites in Google's search results at the time of this research, I worked with another independent coder, both of us having Russian as our native language and familiar with Russian and Belarusian media landscapes. We manually checked each of the unique host-level (e.g., bbc.com) websites present in the data set (*N* = 295) and, in the first step, allocated these as either (1) domestic or (2) foreign (Krippendorff's α= .98). In the next step, in a manual content analysis, we allocated all the unique websites according to their political affiliation among the following categories:

1. Russian state-affiliated (e.g., lenta.ru; *n* = 47)
2. Belarusian state-affiliated (e.g., tvr.by; *n* = 98)
3. Western foreign broadcasters (e.g., dw.com; *n* = 22)
4. Russian foreign broadcasters (e.g., rt.com; *n* = 6)
5. Belarusian independent (e.g., tut.by; *n* = 89)
6. Russian independent (e.g., novayagazeta.ru; *n* = 17)
7. Western independent (e.g., websites of Ukrainian independent news outlets; *n* = 9)
8. Other (e.g., Wikipedia; *n* = 7)

The decisions concerning websites' countries of origin were based on the focus of each website's coverage, regardless of its editorial's geographical location. For example, we coded the popular Russian media outlet meduza.io as Russian despite its editorial office being located in Riga, Latvia. The only exceptions were media outlets that openly received financial support from foreign governments. For example, a popular Russian news outlet Nastoyashcheye Vremya—currenttime.tv—was coded as (3) Western foreign broadcaster since it is a satellite media outlet of Radio Liberty and Voice of America, both U.S.-sponsored media outlets. Furthermore, Russia-sponsored satellite media outlets in Belarus, such as the Belarusian versions of *Komsomol'skaya Pravda* (kp.by) or Interfax (interfax.by), were treated as (1) Russian state affiliated. As a sign of state affiliation, we considered direct or indirect state ownership and

ownership by regime-friendly media moguls or their (ex-)spouses (Krippendorff's α= .952). The full list of websites per category can be found in the data set available in the supplementary file.[2]

Findings

Foreign Websites Dominated Google's Search Results

To gauge the presence of foreign websites in Google's search results, I first calculated the proportions of domestic and foreign websites for each search term on each day. I then computed the means of these proportions across the 42 search terms and the 120 search rounds for Russian- and Belarusian-language queries. The results are visualized in Figure 1. As Figure 1 demonstrates, the majority of Google's search results for both Russian (63%) and Belarusian (54%) queries came from foreign news websites. More specifically, an additional exploratory analysis (see Figure 2) revealed that the highest proportion of foreign search results came from Russian news outlets. Overall, Western news outlets (a combination of Western foreign broadcasters and Western independent outlets) in Google's search results accounted for 28.5% of the total results, while Russian news outlets were represented in 15.5% of all search results.
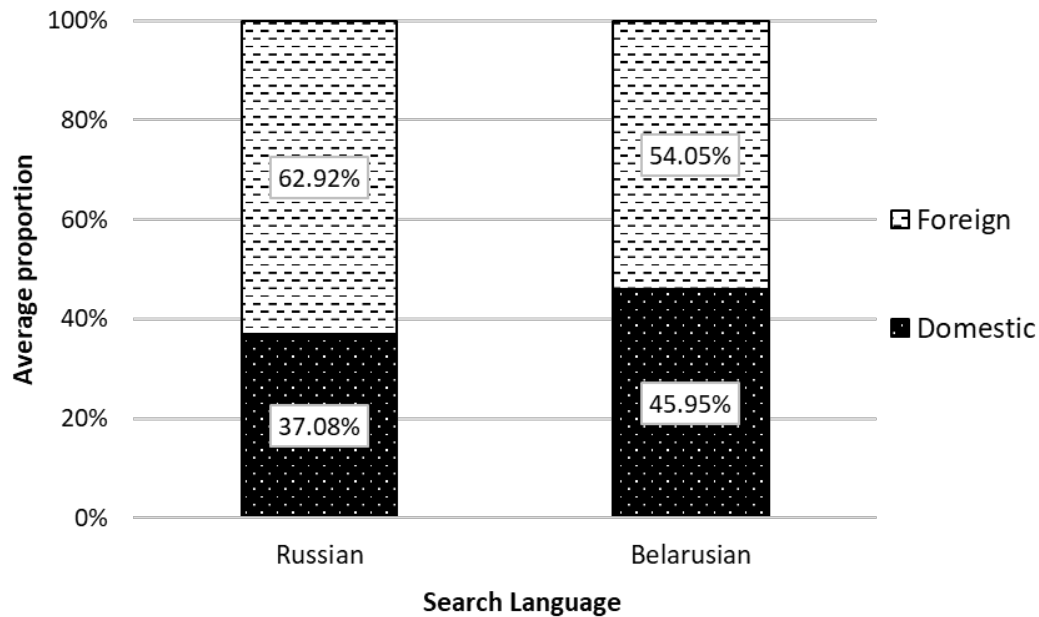

Figure 1. Proportions of domestic and foreign websites in Google's search results by search language (N = 25,200 per search language).
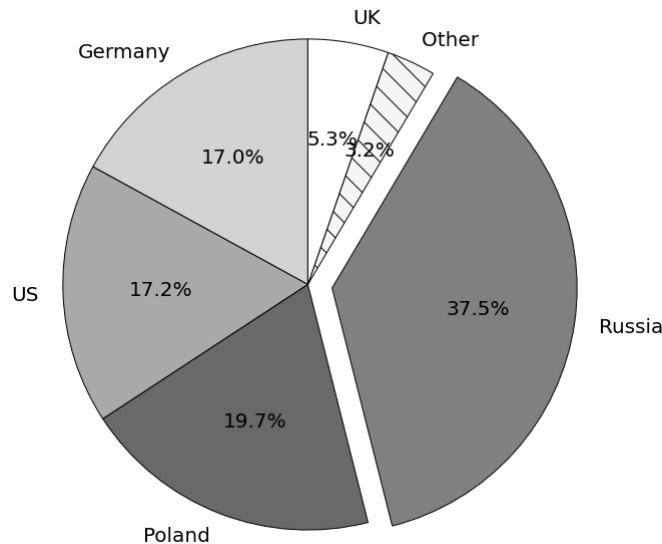
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[2] https://osf.io/4bn5d/

Figure 2. Geographical origin of foreign websites in Google's search results (N = 22,187).
Note. The category "Other" consists of links to websites from the European Union (e.g., osce.org) and Ukraine. Links to Wikipedia were excluded from this analysis.

A Substantial Number of Search Results Linked to Websites Affiliated With Russia's Ruling Elites

Next, I gauged the visibility of websites affiliated with Russia's ruling elites in Google's search results. I found that of 50,400 search results across both languages, 1,666 (3.3%) came from Russian foreign broadcasters and 5,233 (10.4%) from Russian state-affiliated websites. This resulted in altogether 6,899 (13.7%) search results that came from websites affiliated with Russia's ruling elites. The most frequent websites in this category in the data set were Sputnik (sputnik.by), RBC (rbc.ru), and RIA Novosti (ria.ru). Belarusian state-affiliated websites were present in the search results to a similar extent, as such sites accounted for 13.3% (6,728) of the results. The two largest categories of websites, however, came from Belarusian independent news websites (14,183; 28%) and Western foreign broadcasters (14,110; 28%). Table B1 in the supplementary file provides an overview of the most frequent websites per category by search language.

An additional exploratory analysis (see Figure 3) revealed that websites affiliated with Russia's ruling elites were more present for candidate-specific searches (M = 15.48%, SD = 4.02%) than for election-general searches (M = 7.95%, SD = 2.06%), $t(238)$ = 18.27, p < .001. More specifically, Kremlin-affiliated websites were more visible in the results for search queries on Lukashenko (M = 23.3%, SD = 19.56%) than on opposition election candidates (M = 12.87%, SD = 14.91%), $t(3838)$ = 15.12, p < .001. Similarly, Belarusian state-affiliated websites were present among candidate-specific results almost exclusively for search terms regarding Lukashenko. This finding is most likely explained by the fact that Belarusian state-affiliated media outlets in this study sample barely reported on opposition candidates—only 0.2% of search results on opposition candidates came from Belarusian state-affiliated sources—while most search results on opposition candidates came from Belarusian independent websites (38%) and Western foreign broadcasters (34%).
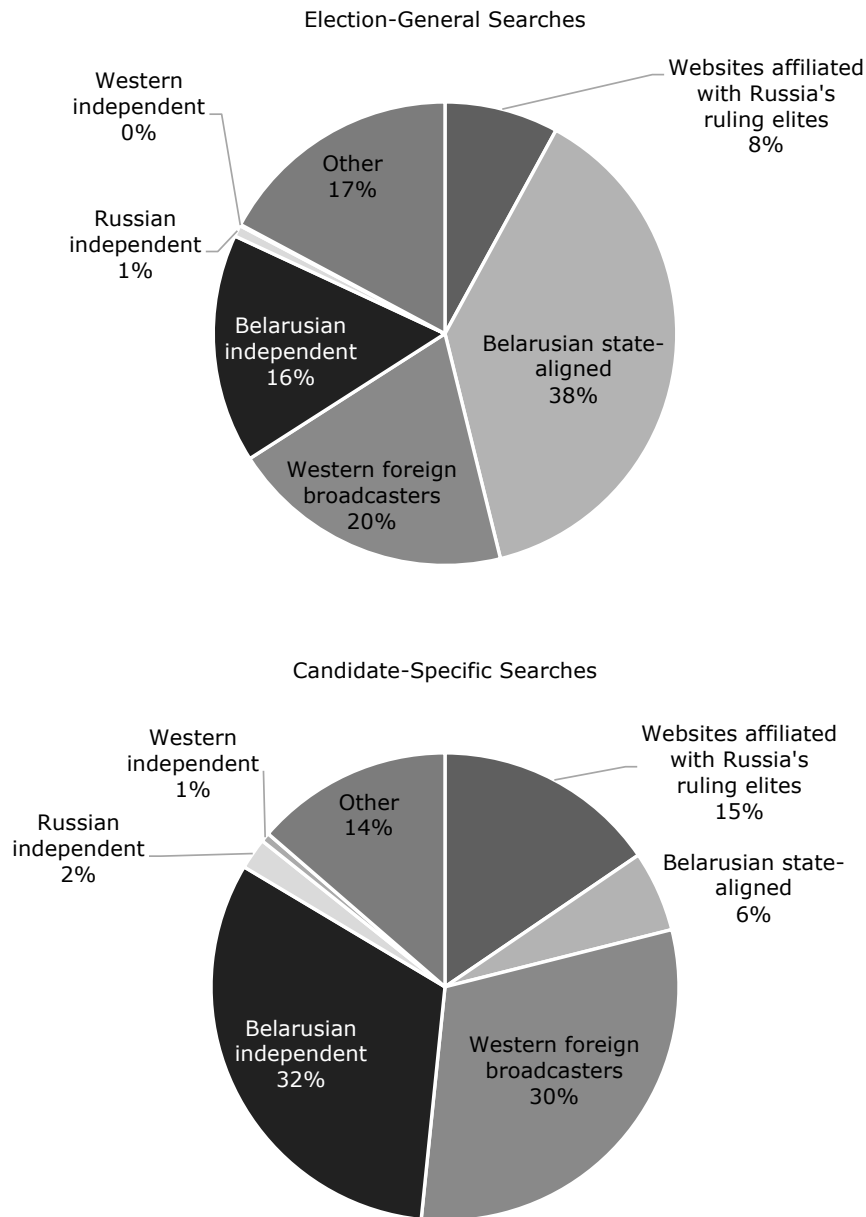
Election-General Searches

Candidate-Specific Searches

Figure 3. Visibility of websites affiliated with Russia's ruling elites grouped under election-general and candidate-specific searches.

Note. Websites affiliated with Russia's ruling elites include Russian state-affiliated websites and the websites of Russian foreign broadcasters.

Russian-Language Searches Linked More to Websites Affiliated with Russia's Ruling Elites

To compare the visibility of websites affiliated with Russia's ruling elites in Google's search results between Russian- and Belarusian-language queries, I first calculated the proportions of website categories present in the search results for each search term for each day. I then computed means of these proportions across all search terms and search rounds for Russian- and Belarusian-language queries. As Figure 4 demonstrates, results for searches in Russian were more likely to feature websites affiliated with Russia's ruling elites (18.46% Russian state-affiliated and 4.45% Russian foreign broadcasters) than results for searches in Belarusian (altogether 4.25%). To test these results, I ran a chi-square test and found that the tendency to feature websites affiliated with Russia's ruling elites varied significantly between searches in Russian and Belarusian, $\chi^2(2, N = 6,845) = 482,52, p < .001$. Interestingly, the language of the search results' content was mostly consistent with the query language both for Russian- and Belarusian-language queries.
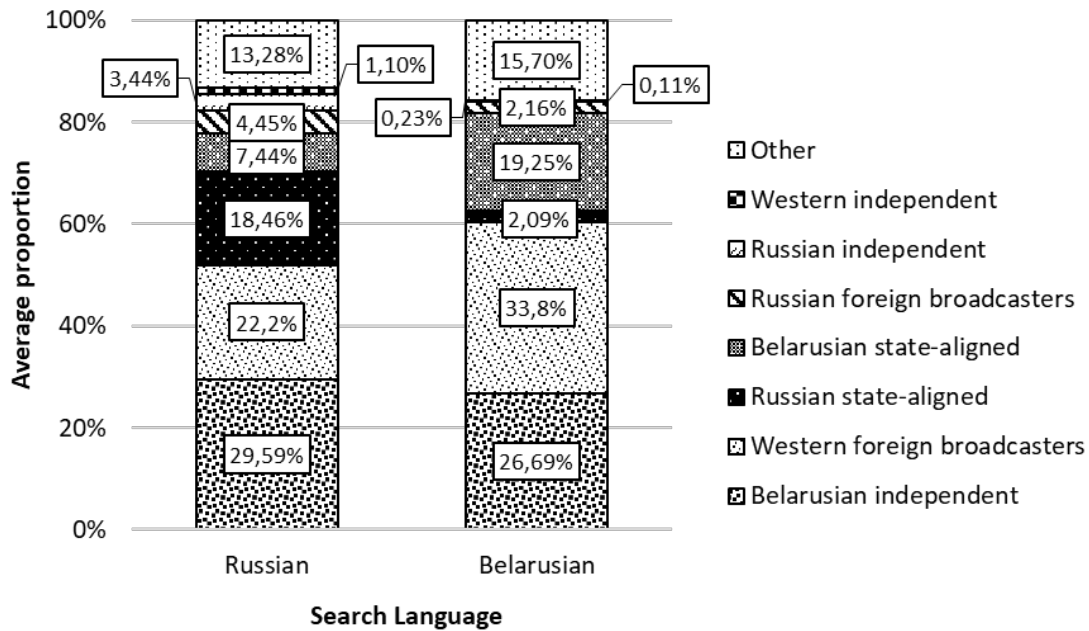

Figure 4. Political affiliation of websites in Google's search results by search language.

Discussion

Search engines are reshaping how people consume news and inform themselves about political candidates (Diakopoulos et al., 2018; Fischer et al., 2020; Fletcher & Nielsen, 2018). Yet, despite search engines' political relevance, their role as mediators of international news flows has been largely neglected in the literature. To close this gap, this study has been among the first to examine the international news flows through search engines in the context of a peripheral country that is the focus of the international

conflict between Russia and the West. Adopting a "revelatory case study" (Yin, 2014, p. 52) design, this study scrutinizes Google's search results in Belarus during the 2020 Belarusian presidential election. Using data from 50,400 search results to election-related queries collected from google.by two months before and two months following the election, I found that Google's Web search algorithms in Belarus overwhelmingly favored foreign news outlets (mostly Western and Russian) over domestic Belarusian ones both for Russian-(63%) and Belarusian-language (54%) queries in its search results (see RQ1). That is, Google's search results in relatively small, peripheral Belarus were skewed in favor of foreign news outlets from core countries. As a result, Google in Belarus did not challenge the core-periphery information flow structure even for such a local interest topic as national elections. These findings vividly illustrate how international news flows are unbalanced toward a hierarchical core-periphery structure according to WST (Chang, 1998, Golan & Himelboim, 2016; Wallerstein, 1974) when mediated through search engines.

The results of this study demonstrate that the findings of prior research on Russian news flow to Belarus for traditional media (Navumau, 2020; Szostek, 2015) are also valid for Google's Web search results. Specifically, it was found that Russian news outlets were among the most influential websites in the scrutinized search results (see Figure 2). Furthermore, a substantial proportion was affiliated with Russia's ruling elites (14% of all studied search results and 23% of Russian-language searches; see RQ2 and RQ3). However, against my expectations, Russian news outlets did not dominate the search results exclusively. Western foreign communication outlets from Germany (e.g., dw.com), Poland (e.g., bestat.eu, racyja.com), the United States (e.g., svaboda.org), and the United Kingdom (e.g., bbc.com) combined were the most present foreign news websites in Google's search results. In total, 28% of all the search results were linked to Western foreign communication outlets. At the same time, remarkably, Belarusian state-affiliated news websites and, therefore, the Belarusian government had little presence in the scrutinized search results. For Russian-language searches (and most Belarusians are likely to search in Russian; see Google Trends, 2020), the Belarusian government was even hardly present (7% of the search results, see RQ3). Due to the secrecy of Google's search algorithms, it is not possible to definitively state why foreign news websites were more present in Google's search results than local Belarusian ones. However, one possible explanation may be that the Russian and Western news websites scrutinized, with their generous funding, may simply have more resources available to them. This may translate into greater efforts put into search engine optimization or maintaining more technically advanced websites, such as those with faster page load speeds, which Google is known to prioritize (Southern, 2022). For instance, Kovalev (2021) describes news editors and journalists in Russia as being skilled in search engine optimization and regularly engaging in it to gain more traffic. Another explanation may be that, similar to the findings of Fischer and colleagues (2020), Google prioritizes geographically broader news websites over local ones. This may be related to the peculiarities of Google's popularity-based algorithms, where popularity is calculated by the number and quality of in- and outcoming links (Granka, 2010). Geographically broader websites, such as those of international news broadcasters, cater to a larger audience and are therefore more likely to have more in- and outcoming links.

The observations of this study have several implications. First, in the context of this research, Google's algorithms functioned as intermediaries that transferred foreign news content to Belarusian audiences for both Russia's ruling elites and Western foreign broadcasters. However, while Russia's presence in the search results were most likely linked in favor of the incumbent president Lukashenko, toward whom Putin has declared his support, the presence of Western foreign communication outlets can be argued to be beneficial in terms of

democratizing and strengthening the repressed opposition in Belarus. In this study's sample, for example, more Western foreign broadcasters were present (34%) for searches targeting opposition candidates than Russian state-affiliated news websites (13%; see RQ2). At the same time, more Kremlin-affiliated websites were present for queries on Lukashenko (e.g., in 32% of the search results for Russian-language queries), than Western foreign broadcasters (20%). These findings suggest that Google in Belarus provided its users with a portrayal of opposition candidates as it was presented by Western broadcasters, which most likely was positive. On the contrary, for queries on Lukashenko, the perspective of Kremlin-affiliated websites outnumbered the critical perspective provided by Western foreign broadcasters.

Moreover, the prominent role of Western news outlets in Google's search results in an otherwise restrictive Belarusian media system highlights the importance of Google's search algorithms for mediating regime-critical information in Belarus. Compared with rigidly censored traditional media (Navumau, 2020; Szostek, 2015, 2018), Google in Belarus created a parallel information ecosystem for its users where regime-critical information was highly visible. This finding is especially relevant in light of Russia's recent full-scale invasion of Ukraine, in which as of mid-May 2023 Belarus was providing support to Russian forces yet not actively participating in military actions, and in light of recent allegations of Russia's officials restricting access to Google's services (Hern, 2022), which Belarusian authorities might follow. The findings of this study vividly illustrate that if Google were to be blocked in Belarus, the Belarusian public would lose an important gateway to news information from Western news broadcasters. Going back to Roger's (2013) notion of search engines as "globalizing machine[s]" (p. 101), this study demonstrates that in authoritarian states like Belarus, Google acts as a *democratizing machine*. Moreover, this study found that the Belarusian government had little control over the news information flows in Google's search results, especially for search queries in Russian, as it was hardly present in the scrutinized search results. This once again highlights the importance of Google's search algorithms in mediating regime-critical information in Belarus. Furthermore, it illustrates the dependence of Lukashenko's regime on propaganda support from Russia's ruling elites when news is mediated through search engines.

My findings also demonstrate that despite previous proclamations by Google to de-rank Russian foreign communication channels such as RT and Sputnik in its search results (Hern, 2017), they remained quite visible. Given Russia's brutal military aggression against its neighboring states and its ambitious mis- and disinformation campaigns abroad (e.g., Kravets et al., 2023), it can be argued that in an effort to contain the impact of Russia's informational warfare on foreign audiences, it may be normatively desirable to completely refrain from including Kremlin-affiliated websites in Google's search results. Thus, in this case study of Belarus, from a normative democratic perspective, the ideal search results would not include any links to websites affiliated with Russia's highly repressive authoritarian regime, whose attack on Ukraine has provided evidence of its neo-imperial ambitions in the post-Soviet region (Kuzio, 2023). Instead, an increased presence of Belarusian independent and Western foreign broadcasters in Google's search results may be argued to be beneficial in terms of democratizing the Belarusian public sphere and enhancing Google's democratizing influence in Belarus.

Finally, in my case study of Belarus, Russian-language searches featured more Kremlin-affiliated websites (23%) compared with Belarusian-language searches (4%, see RQ3). This confirms the important role of the Russian language as a facilitator of Russia's foreign communication ventures

in Belarus (for similar findings, see Szostek, 2018). This finding is significant because it confirms language as a valuable soft power asset when news is mediated by search algorithms. As my audit demonstrates, Google's search algorithms prioritize the query language over geographic proximity to the user, returning search results almost exclusively in the language of the query (for similar findings, see Magno et al., 2016; Paramita et al., 2021). In terms of political influence through search engines, this means that to appear in the search results of a foreign country over which influence is attempted, political powers must either share a common language with that country (as is the case for many countries such as Russia and Belarus, Germany and Austria, Spain and Latin America, etc.) or explicitly produce content in the language (e.g., by operating international news broadcasters or regional proxy media outlets) of that country. For instance, the Russian state-controlled broadcaster RT publishes content in English, German, French, Russian, Spanish and Arabic and may therefore appear among search engine results in countries where these languages are spoken.

As to the limitations of this study, I believe that the results presented above may be broadly generalizable to other countries in Russia's immediate neighborhood, where Russian is widely spoken and Russian news outlets are popular. However, since contextual differences matter a great deal, more scholarly research is needed to confirm the arguments made herein. Future research might complement my findings regarding the unbalanced international news flows through search engines, for example, by including other countries with common languages and histories along the WST core-periphery structure (e.g., countries of Latin America and Spain, the United States and Canada, Germany and Switzerland), by testing for issues beyond election campaigns, and by including authoritarian states, as well as democracies. Moreover, future research should engage in a theoretical discussion of normative benchmarks for the flows of international news through search engines. To achieve this, additional studies can be pursued that audit how search algorithms affect the news flows in peripheral, as well as in semi-peripheral and core countries.

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