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CRITICAL FORUM: POETRY AND AESTHETICS IN A TIME OF WAR

Archive of the Contemporary: Ukrainian Poetry and Digital Solidarity on Facebook

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Abstract

Since the 2014 Revolution of Dignity, contemporary Ukrainian poets have increasingly used Facebook as a forum for sharing their work. Unlike poets in the United States, where copyright law discourages writers from self-publishing their work, including on social media, Ukrainian poets use Facebook not only to share work in progress, but also to comment and even translate one another's poems. We argue that by using the "distant reading" method of applying statistical tools to a large archive of contemporary poetry, scholars become better close readers. Having created an archive of a large sample of recent Ukrainian poetry posted to Facebook, our article models data-driven tools that help scholars to understand how poetry, written and shared to social media in a time of war, has changed between 2014 and 2022. This novel use of Facebook as a literary tool clearly shows how poetic language changes in a time of war. It also points to ways that the large community of readers on social media has influenced what poets write.

Amid the profound dislocations and human tragedies caused by Russia's full-scale invasion of Ukraine in February 2022, the war has accelerated a shift in the center of gravity in Ukrainian literature. Two weeks after the start of the invasion, the poet Iya Kiva posted a Ukrainian poem to her Facebook page. She commented, "I'm not sure how to write when it's loud. I'm trying to learn . . ." The poem opens with a stanza that remaps the meaning of home in a time of war:

вісім років казати: в мене вдома війна	eight years of saying: back home there's a war.
щоб нарешті прийняти: мій дім—це війна	so I finally accept it: my home is a war
її потяг повільний зі сходу на захід країни	it's a slow train cross-country, east to west
у якому смерть життя перевозить	where death transports life

Iya Kiva, Facebook post, March 13, 2022 (https://www.facebook.com/iya.kiva/posts/pfbid02x8qKxkFy5mJGo4P5cEDFfdDEDgwnX8Efag ApZ2z5Co5rppbi52ksc2Dci3HZna5gl). Iya Kiva, *Silence Dressed in Cyrillic Letters, Trans.* Amelia Glaser and Yuliya Ilchuk(Cambridge, Mass., Forthcoming 2025).

Note on Transliteration: In our transliteration of names and toponyms from Cyrillic into Latin characters for both Ukrainian and Russian, we have generally used the modified Library of Congress system. However, where an author has specified a preferred spelling of their name in their Facebook profile, we have used this spelling.
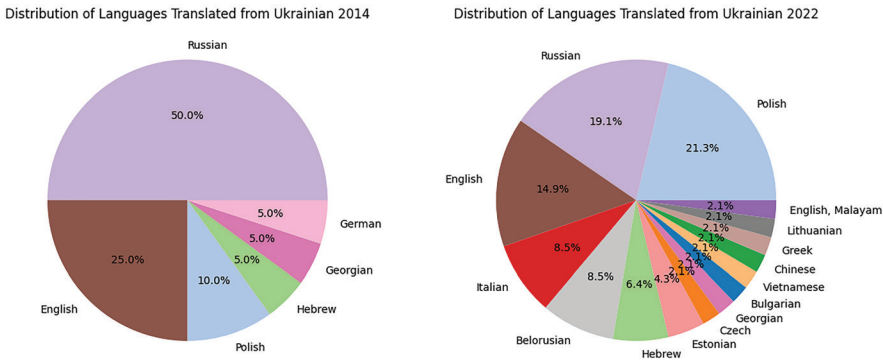
Distribution of Languages Translated from Ukrainian 2014

Distribution of Languages Translated from Ukrainian 2022

Figure 1. These pie charts show the languages that Ukrainian language poems were translated into in 2014 and in 2022. The number of languages of translation more than doubled from 2014 to 2022 while the number of poems is roughly consistent (500 poems from 2014 and 525 poems from 2022).

Kiva, who began writing poems in her native Russian, fled her home in Donetsk for Kyiv as a refugee when the Donbas war broke out in 2014. Soon after, she began publishing poems in Ukrainian. Kiva is one of several poets who came of age during or after Ukraine's independence and have garnered an international following on social media. Within days of Kiva's posting "Eight years," it was translated into several languages. Julia Musakovska of Lviv and Ravi Shankar of Kerala posted their translations, into English and Malayalam respectively, directly in the comment thread. Anna Verschik shared her Estonian translation and Julia Cimafiejeva her Belarusian variant. Alessandro Achilli published a link to his Italian translation. Kiva's post, along with the rich multilingual exchanges it provoked, reveals a fertile cultural space taking shape on Ukrainian poets' social media pages. Despite Facebook's many shortcomings, including the ethical quandaries of centralized corporate data, opaque political advertising, and misinformation, Ukrainian poets' practice of sharing new work on social media has closed a gap between writers and readers.[1] This literary interaction on social media is changing the way poetry is written, and scholars must also become readers of this digital platform.

Unlike poets in the United States, where journals frequently exclude work already shared to social media, in eastern Europe, Facebook is an accepted forum for sharing, discussing, and even translating work in real time. The relative dearth of designated poetry journals in Ukraine has led many poets to fill this gap by posting publicly online before collecting their work in published volumes. Yet, this generative space may elude scholarly investigation because of the novel medium where it appears. To address this gap, we created an extensible database of Facebook posts by and in conversation with Ukrainian poets, focusing on the years from 2014 to 2022. Our analysis of this archive reveals a shift in the center of gravity in Ukrainian poetry. The language and themes predominating among Ukrainian poets changed in this time period, in parallel with an equally marked shift in the extent to which Ukrainian poetry is shared and amplified in other languages. Whereas in 2014 a majority of Ukrainian poems in translation appeared in Russian, by 2022, Ukrainian poetry was being translated into a much larger selection of world languages. (Figure 1).

What new insights can scholars of east European poetry gain from observing social media practices? The rapid, broad circulation of poems on digital platforms like Facebook and Telegram allows for a symbiosis of close reading with quantitative analysis, or, as Franco Moretti has called it, "distant reading."[2] As we shall demonstrate, tools developed for data-driven textual analysis can help to isolate nuanced literary phenomena, like how war changes

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[1] For a brief discussion of poetry and social media in eastern Europe, see Amelia Glaser, "There's No There There: Political Poetry from Eastern Europe on Facebook," *Times Literary Supplement* 6127 (September 4, 2020): 26.

[2] Franco Moretti, "Conjectures on World Literature and More Conjectures (2000/2003)," in *World Literature: A Reader*, eds. Theo D'Haen, César Domínguez, and Mads Rosendahl Thomsen (London, 2013), 161–70.

language, as well as to visualize trends and networks of interaction and influence among writers. Our study of poems shared on Facebook during a time of political upheaval allows us to observe how war affects language, themes, and readers' responses. The availability of metadata on social media, such as comments, likes, and shares, expands the scope of literary and cultural analysis. Unlike a historical literary archive, our database reflects the instantaneous and ongoing forms of communication afforded by a large social network. This has opened the door for a new and powerful approach to the analysis of an evolving literary culture.

Although Facebook offers poets the immediacy of instant engagement, the platform is not designed specifically for poetry. It can be difficult for readers outside the inner circle of these poets' direct contacts to follow them by name, or identify their translators. Moreover, the ephemeral nature of social media poses the risk of losing cultural production to the whims of the corporate world. In response, we have created an interactive archival tool, called the Contemporary Ukrainian Poetry Archive (CUPA), made up of poems shared publicly to social media. Our archive allows users to search poems by name, language, theme, view recent translations. Ultimately, we hope to grow a large dataset that will also reveal some ways that poetic language reflects contemporary events.[3] Beyond organizing and cataloging contemporary Ukrainian poetry, this archive has facilitated a study of changes in language and themes at a crucial historical moment.

In the following pages, we share tools that we have created to analyze and search over a thousand poems posted by a core group of over 100 Ukrainian poets, as well as some of their close contacts, during eight years of political upheaval and war, beginning in early 2014. We begin by exploring how Facebook has emerged as a forum and archive for contemporary Ukrainian poets since 2014. We then present our methods for cataloging poems shared publicly to Facebook, logging their metadata, and visualizing them as a dataset. Finally, we explore the ways that large-data methods for cataloging and interpreting poems can revolutionize the way scholars identify texts for close reading. Although not all Ukrainian poets post regularly to Facebook, the large number of poets who are active on this social media platform gives scholars and translators a unique window into the themes and forms that appear in Ukrainian poetry, the languages used, and the conversations it sparks.

Our study provides a model for reconciling the worlds of digital humanities and literary scholarship more broadly. Franco Moretti provoked the literary establishment by suggesting that rather than reading books, scholars of world literature should apply quantitative methods to "the great unread." Digital and data-driven analysis unlock insights from the mass of novels across languages that, once mapped according to themes and characters, can help scholars define literary trends and challenge national canons. Close reading, Moretti maintained in 2000, is "a theological exercise."[4] The response of humanities scholars was a mixture of curiosity and skepticism."[5] More recently, scholars like Michael Hancher have called attention to the importance of digital humanities in the creation of searchable databases with the goal of better close reading: "The new ability to access and organize minute particulars can do more than inform our understanding of an isolated text (though it can do that), and it can generate new knowledge, not merely sustain old prejudices."[6] The Ukrainian poet and scholar Olena Haleta has pointed out that during the 2013–14 Revolution of Dignity, "lyrical poems distributed

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[3] Users can access the Contemporary Ukrainian Poetry Archive directly at https://ukrpoetry.org/ (accessed August 7, 2024)

[4] Moretti, "Conjectures on World Literature," 163.

[5] Todd Kontje, for example, reminds us that literature should, at least in part, "introduce the Shibboleth of a close reading that plunges into the hermeneutic depths rather than remaining on the surface or at a distance…" Todd Kontje, "The Case for Close Reading after the Descriptive Turn," in eds. Matt Erlin and Lynne Tatlock, *Distant Readings: Topologies of German Culture in the Long Nineteenth Century* (Rochester, 2014), 133–52, 138.

[6] Michael Hancher, "Re: Search and Close Reading," in eds. Matthew K. Gold and Lauren E. Klein, *Debates in the Digital Humanities 2016*, (Minneapolis, 2016), 118–38, 128. Poets and translators have increasingly turned to new media as a way of understanding their art. Take, for example, the collection by Alexandra Juhasz, ed., *My Phone Lies to Me: Fake News Poetry Workshops as Radical Digital Media Literacy Given the Facts of Fake News* (Goleta, CA, 2022).

through social media were created and broadcast in real time and thus became an integral part of the events themselves."[7] The emergence of Facebook as a forum for poetry in Ukraine has changed the way not only poets, but also scholars and translators approach their work.

Literary scholars eager to employ statistical analysis should look to disciplines outside the humanities, from linguistics to computer science, where researchers have developed tools for computational modeling. Tools such as natural language processing, sentiment analysis, and topic modeling, for example, help us to better understand changes in language over time. Some social scientists have turned their attention to the study of poetry, and the use of large datasets to explore authors' syntax and changes in style can offer new insight into interpersonal psychology, culture, and politics. James Pennebaker and Molly Ireland, pioneers in the field of sentiment analysis, have developed tools for analyzing authors' speech and psychological patterns, as well as to identify authorship. Using the enormous language data available through Google Books, they argue, "We will get a sense of how cultural events such as war, disease, and famine shape the thinking of large groups of people over time."[8] Ekaterina Shutova, Srini Narayanan, and their collaborators have worked in the machine learning field of topic modeling to understand how conceptual metaphors are constructed in English, Russian, and Spanish.[9] However, these techniques have been applied primarily in fields like linguistics, computer science, data science and psychology, rather than in literature, and these practitioners do not apply the kind of deep contextual knowledge that literary theorists practice to explain poetic images and allusions. Our aim, in combining data analysis with close readings of poetry, is to suggest possible ways that the field of Slavic literature—in particular the study of Ukrainian poetry—can benefit from integrating quantitative tools with close analysis of poetry.

Facebook, Poetry, and Ukraine's Revolution of Dignity

Ukraine's 2013–14 Revolution of Dignity started with a Facebook post and a tweet. In November 2013, under pressure from the Kremlin, Ukraine's then-president Viktor Yanukovych reversed his plans to sign a European Union Association agreement, which would have facilitated trade and travel, opting instead to join the Eurasian Economic Union with Kazakhstan, Belarus, and Russia. On November 21, 2013, the journalist Mustafa Nayyem posted an invitation to Facebook: "OK, let's get serious. Who is ready to go out on the Maidan before midnight tonight? Likes don't count. Only comments below this post with the words 'I'm ready.' As soon as we pass a thousand, we'll organize it."[10] The following day, around two thousand people met on

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[7] Olena Haleta, "Mined Words: An Un-Imaginable Reality and the Search for a New Language in the Poetry of Maidan," in eds. Alessandro Achilli, Serhy Yekelchyk, and Dmytro Yesypenko, *Cossacks in Jamaica, Ukraine at the Antipodes: Essays in Honor of Marko Pavlyshyn* (Boston, 2020), 618–38, 618.

[8] James W. Pennebaker and Molly E. Ireland, "Using Literature to Understand Authors: The Case for Computerized Text Analysis," *Scientific Study of Literature* 1, no. 1 (2011): 34–48, 46. Pennebaker and Ireland have used language style matching (LSM), to observe that poets who are couples tend to be "stylistically in sync during happier and more peaceful periods of their lives together," ibid., 44; and Ekaterina Shutova, Lin Sun, Elkin Darío Gutiérrez, Patricia Lichtenstein, and Srini Narayanan, "Multilingual Metaphor Processing: Experiments with Semi-Supervised and Unsupervised Learning," *Computational Linguistics* 43, no. 1 (2017): 71–123, at direct.mit. edu/coli/article/43/1/71/1565/Multilingual-Metaphor-Processing-Experiments-with (accessed August 7, 2024); see also Molly E. Ireland and James W. Pennebaker, "Language Style Matching in Writing: Synchrony in Essays, Correspondence, and Poetry," *Journal of Personality and Social Psychology* 99, no. 3 (2010): 549–71.

[9] Shutova, Sun, Darío Gutiérrez, Lichtenstein, Narayanan, "Multilingual Metaphor Processing," 71–123.

[10] Mustafa Nayyem, "Ladno, davaite ser′ezno. Vot kto segodnia do polunochi gotov vyiti na Maidan? Laiki ne schitaiutsia. Tol′ko kommentarii pod etim postom so slovami 'Ia gotov.' Kak tol′ko naberetsia bol′she tysiachi, budem organizovyvat′sia," Facebook post, November 21, 2013, at www.facebook.com/Mustafanayyem/posts/pfbid02U19 cNzezUe6SZ8X9GEfX11HZUG7xkCc1jNZePkocSDakyuLqPsEAbihch3mfwUq2l (accessed on August 7, 2024). Arsenii Iatseniuk, who would later become the provisional president of Ukraine, also tweeted, in Ukrainian, "Everyone to the #Euromaidan! Yanukovych doesn't understand any language, other than the Maidan. We also have to show that WE are in power!" Arsenii Iatseniuk, "Usi na #Ievromaidan! Ianukovych ne rozumiie inshoi movy, okrim Maidanu. Tozh maiemo pokazaty, shcho vlada—tse MY!" X (formerly known as Twitter) post, November 21, 2013, 4:22 a.m., at x.com/Yatsenyuk_AP/status/403453433648148481 (accessed on August 7, 2024).

Kyiv's central square to protest Yanukovych's adherence to the Kremlin's demands and to show their support for European integration. By the end of the week, this number had grown to over fifty thousand. The protest movement was initially called the "Euromaidan," a name that combined the desire for European integration with the central square in Kyiv where the movement began. But it gradually came to be called the "Revolution of Dignity" (Revoliutsiia hidnosti), a title that Iurii Syrotiuk coined in hopes of avoiding the fate of recent color revolutions.[11] By then Facebook had established itself as a forum for political activism in Ukraine, as well as among many Russians and Belarusians, particularly those voicing opposition to the Kremlin and its allies. As Andrei Soldatov and Irina Borogan have observed, even in Russia, around the time of the Bolotnaia Square protests, Facebook "became a central clearinghouse for collecting information related to the protests."[12] Facebook would remain the preferred platform for relaying information during the Revolution of Dignity. Following an attack on protesters at the end of November 2013, organizers used the platform to create a "Euromaidan SOS," which immediately garnered over 10 thousand followers.[13]

This kind of social media engagement in a political protest was not new. As Armando Salvatore has written, during the Arab Spring, which some called the revolution of "the youth of Facebook, virtual and public spaces came into a mutual synergy and produced a formidable potential for mobilizing a broad variety of actors."[14] Although scholars agree that Facebook's role in radicalizing politics during the Arab Spring has probably been exaggerated, the platform supplemented personal and mass forms of media to compel people to join the protests in the squares.[15] The platform's political use throughout the 2010s combined with its burgeoning role as a space for sharing poetry to increase Facebook's prestige for many east European writers. As Soldatov and Borogan note, many people already viewed Facebook as elite because, unlike the Russian platforms VKontakte and Odnoklassniki, Facebook put east European users in touch with users abroad.[16] When Ukrainians shared their experiences of the Euromaidan on Facebook and posted poems, sympathetic contacts from neighboring countries responded with translations or with their own poems in solidarity.

In the US publishers often explicitly refuse to republish poems already shared on social media. By contrast, in eastern Europe there are fewer thick journals that publish poetry, and those that do generally do not consider social media posts a violation of copyright. As a result, poets across eastern Europe often cultivate wide audiences on Facebook, Telegram, and VKontakte, who are shown poems that have not yet been printed in a book or journal.[17] In the same way that Facebook supplements political protest by adding a virtual element to

[11] Ievhen Rudenko and El'dar Sarakhman, "Kul'turnyi kod Maidanu. Khto prydumav 'Nebesnu Sotniu,' 'Revoliutsiiu Hidnosti,' i iak 'Plyne kacha' stala druhym himnom," in *Ukrainska Pravda*, February 21, 2020, at www.pravda.com.ua/articles/2020/02/21/7241172/ (accessed on August 7, 2024).

[12] Andrei Soldatov and Irina Borogan, *The Red Web: The Struggle between Russia's Digital Dictators and the New Online Revolutionaries* (New York, 2015), 153.

[13] Ibid., 276.

[14] Armando Salvatore notes that the Arab Spring's many monikers included the revolution of the "street," and the revolution of al-Jazeera. Armando Salvatore, "Before (and after) the 'Arab Spring': From Connectedness to Mobilization in the Public Sphere," *Oriente Moderno*, Nuova serie, Anno 91, Nr. 1, *Between Everyday Life and Political Revolution: The Social Web in the Middle East* (2011): 5–12, here 5, 11.

[15] Pippa Norris cautions readers against the assumption that social media is a radicalizing tool in the Middle East, noting that it plays very different roles in different countries, and that studies have not concluded that social media users are generally not radical in their politics. Pippa Norris, "Political Mobilization and Social Networks: The Example of the Arab Spring," in ed. Norbert Kersting, *Electronic Democracy* (Opladen, Leverkusen, Germany, 2012), 55–76, 73.

[16] Soldatov and Borogan, *The Red Web,* 153.

[17] Josephine von Zitzewitz, in an interview with Ksenia Zheludova, notes that "In the Russophone literary world, self-publication is no impediment to publishing the same text again in online journals or in print... The recent flurry of new international editions by feminist poets who publish prolifically on social media, like Oksana Vasyakina, Lida Yusupova, and Galina Rymbu, corroborates this thesis." Olga Zilberbourg, "Publishing Poetry on Social Media: Interview with Ksenia Zheludova by Josephine von Zitzewitz," *Punctured Lines: Post-Soviet Literature in and Outside the Former Soviet Union*, March 31, 2021, at (https://puncturedlines.wordpress.com/2021/03/31/

in-person gatherings, social media supplements literary activities, offering a virtual forum to poets who also meet at festivals, readings, and through publication projects. As the Maidan mobilized a generation of politically active social-media users in Ukraine, poetry became a way of amplifying the cultural values behind the protest movement. Poets and translators outside Ukraine used the platform to express solidarity across borders and languages.

The protracted conflict in Ukraine's Donbas region led to official cultural distancing between Ukraine and Russia. In addition to removing Ukrainian television channels in occupied Crimea and labeling several news and media platforms "terrorist," Russia criminalized writers viewed as allied with Kyiv. High-profile writers were arrested or banned from traveling to Russia and Russian-allied territories. The Donetsk writer Stanislav Aseiev was imprisoned for 2.5 years in Donbas; his primary offense was publishing the words "Donetsk People's Republic" in quotation marks. Oleh Sentsov, a Crimean filmmaker, was arrested for an unsubstantiated terrorist plot and spent five years in prison. The Ukrainian poet Serhiy Zhadan was detained at the Belarusian border in 2017 when he attempted to attend a poetry festival, and learned later that he had been blacklisted for "involvement in terrorism." Kyiv responded by limiting Russian media's reach in Ukraine. In March of 2014, immediately after the annexation of Crimea, Ukraine banned several Russian television channels and artists deemed a threat to national security, and later extended the ban to Kremlin-linked television channels in 2021.[18]

Social media platforms have also been censored. In response to the Maidan and other protest movements, Russia imposed new laws policing social media. In 2015, Russia began requiring companies to store personal information about Russian citizens on servers located in Russia.[19] These laws increased in subsequent years, as the Russian government, which already strictly monitored television and radio, attempted to control the relatively free space of social media. These have included amendments that facilitate government access to user data, including rulings on forced user data retention, prohibiting access to banned websites, and prohibiting media that explicitly criticizes the Kremlin (the laws formally term this criticism "fake news" and "disrespect" of the state).[20] A law imposed in January 2021 threatened companies with fines for failing to block content deemed illegal.[21] According to Andrei Soldatov, the Kremlin has been successful in its efforts to manage social media, attracting representatives from Twitter,

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publishing-poetry-on-social-media-interview-with-ksenia-zheludova-by-josephine-von-zitzewitz/ (accessed August 7, 2024).

[18] Reuters, "Ukraine bans Russian TV channels for airing war 'propaganda,'" *Reuters*, August 19, 2024, at www.reuters.com/article/us-ukraine-crisis-television/ukraine-bans-russian-tv-channels-for-airing-war-propaganda-idUSKBN0GJ1QM20140819 (accessed on August 7, 2024); Peter Dickinson, "Analysis: Ukraine bans Kremlin-linked TV channels," *Atlantic Council*, February 5, 2021, at www.atlanticcouncil.org/blogs/ukrainealert/analysis-ukraine-bans-kremlin-linked-tv-channels/ (accessed on August 7, 2024); and Carly Olson, "Ukraine bans some Russian music and books," *New York Times*, June 19, 2022, at www.nytimes.com/2022/06/19/world/europe/ukraine-bans-russian-music-books.html (accessed August 7, 2024, behind paywall).

[19] See Sarah Steffen, "Russia tightens Internet controls," *DW*, February 9, 2024, at www.dw.com/en/russia-tightens-internet-controls-makes-it-easier-to-spy-on-citizens-critics-say/a-18690498 (accessed on August 7, 2024).

[20] See "Russia: Growing Internet Isolation, Control, Censorship," *Human Rights Watch*, June 18, 2020, at www.hrw.org/news/2020/06/18/russia-growing-internet-isolation-control-censorship (accessed on August 7, 2024); "Federal′nyi zakon ot 29 iiulia 2017 goda No. 276-FZ 'O vnesenii izmenenii v Federal′nyi zakon 'Ob informatsii, informatsionnykh tekhnologiiakh i o zashchite informatsii,'" *Rossiiskaia Gazeta*, July 30, 2017, at rg.ru/2017/07/30/fz276-site-dok.html (accessed on August 7, 2024); "Federal′nyi zakon ot 29.07.2017 N. 241-FZ 'O vnesenii izmenenii v stat′-i 10–1 i 15–4 Federal-nogo zakona 'Ob informatsii, informatsionnykh tekhnologiiax i o zashchite informatsii,'" *Portal Obespecheniia gradostroitel′noi deiatel′nosti g. Kemerovo*, at https://mgis42.ru/node/8375 (accessed on August 7, 2024); "Putin Signs 'Fake News,' 'Internet Insults' Bills Into Law," *The Moscow Times*, March 18, 2019, at www.themoscowtimes.com/2019/03/18/putin-signs-fake-news-internet-insults-bills-into-law-a64850 (accessed on August 7, 2024); and "Putin podpisal zakony o feikn′ius i neuvazhenii k vlasti," *Vedomosti*, March 18, 2019, at www.vedomosti.ru/politics/news/2019/03/18/796652-putin-feiknyus-neuvazhenii (accessed on August 7, 2024).

[21] A *Human Rights Watch* report views these laws as a means of suppressing protests, noting that the law includes "calls for youth to participate in unsanctioned protests, exaggerating the number of protesters, and spreading false information about police violence at these gatherings." See "Russia: Social Media Pressured to Censor Posts," *Human Rights Watch*, February 5, 2021, at www.hrw.org/news/2021/02/05/russia-social-media-pressured-censor-posts# (accessed on August 7, 2024); and a Freedom House report categorized the Russian internet as "not free." See

Facebook, and Google to Moscow "for secret talks with the Kremlin."[22] Whereas Russian social media sites like VKontakte have been pressured to share user data, Facebook has remained a space for activists to gather virtually. Before the 2022 full-scale invasion of Ukraine, Russian courts fined Twitter and Facebook for refusing to share Russian users' data.[23] Meta, Facebook's parent organization, has continued to assure users it will not comply with the Kremlin's requests, and in March 2022, the Kremlin formally declared Meta an "extremist organization." The antagonism between Meta and the Kremlin, combined with the immediacy of social media, has reinforced Facebook's role as a forum for poetry and translation among poets from former Soviet countries who oppose Moscow neo-imperialism. Facebook has, moreover, increasingly become a platform where Ukrainian poets describe the war to a concerned international community of readers. This is reflected not only in the wide array of languages of translation, but in the themes of the poems themselves. In a poem posted to Facebook in October 2022, Halyna Kruk writes about the discontinuity of a social media newsfeed.

наша стрічка новин—галерея утрат	our newsfeed is a gallery of loss
батько/мати, син/донька, сестра або брат	father/mother, son/daughter, sister or brother
з принагідними фото з родинних застіль	the odd photo of a family feast
із розкриленим поглядом, де не про біль,	open faces, where it's not about pain
не про смерть, а про довге щасливе життя. . . [24]	where it's not about death, but long happy lives. . .

Kruk's meta-commentary about a newsfeed highlights both the possibilities and shortcomings of Facebook as a medium of communication for Ukrainians. Amidst personal updates from everyday life, there are fundraisers for relief efforts, news of war casualties and refugees forced from their homes in eastern or central Ukraine. The poem, which mimics the form of a rapidly scrolled newsfeed, is about life marked by contradictory forms of waiting:

де закроєно на. . ., розплановано до. . .	where the pattern's cut. . ., where plans are made. . .
де чекають удвох чи дітей, чи Годо,	where a couple's expecting a kid, or Godot,
чи доставку ранкової піци, однак	or the morning pizza delivery, though
не чекають, що світ обірветься отак	they don't expect the world to end like this
на півслові обіцянки "ще до зими"[25]	with the half-promise "by winter,"

Lives are chronicled through plans and news. The verb "чекати" (to expect/anticipate) is used for both the positive and negative markers of life. Babies are expected; war is expected to kill. Nonetheless, these ominous expectations of the worst do not interfere with the flow of a peace-time life-cycle as reflected in a collectively authored social media feed. Kruk's exponentially growing community of readers are part of the everyday reality of Ukrainians' experience of war. The seventy-seven contacts who shared the poem on their own Facebook pages include words about their collective loss. One writes, as a preface to sharing the poem, that a friend

"Russia: Freedom on the Net 2020 Country Report," *Freedom House*, at freedomhouse.org/country/russia/freedom-net/2020 (accessed on August 7, 2024).

[22] Steffen, "Russia tightens Internet controls."

[23] Digital Forensic Research Lab, "Russian War Report: Meta officially declared 'extremist organization' in Russia," *Atlantic Council*, March 21, 2022, at www.atlanticcouncil.org/blogs/new-atlanticist/russian-war-report-meta-officially-declared-extremist-organization-in-russia/ (accessed on August 7, 2024). Russian courts had already fined Facebook and Twitter for non-compliance in 2020 and 2021. "Russian court fines Twitter and Facebook 62,840 dollars each for refusing to localize user data," *Meduza*, February 13, 2020, at https://meduza.io/en/news/2020/02/13/russian-court-fines-twitter-62-840-dollars-for-refusing-to-localize-user-data (accessed on August 7, 2024); and "Sotsial'nye Seti Facebook, WhatsApp i Twitter obzhalovali shtrafy na desiatki millionov rublei," *Ekho Moskvy*, Sept. 24, 2021, at echo.msk.ru/news/2909064-echo.html.

[24] Halyna Kruk, "nasha strichka novyn," (our newsfeed), Facebook post, October 23, 2022, at www.facebook.com/halyna.kruk/posts/pfbid02mgRRS5qPZywftdbAa3xhMdwpbH2xVUfYBYcrSgUFfuJvjejgECWT7o93A11G-mewfl (accessed on August 7, 2024). Original and English translation in Kruk, *A Crash Course in Molotov Cocktails*, eds. and trans., Amelia Glaser and Yuliya Ilchuk (Medford, 2023), 32–33.

[25] Ibid.

has just lost her husband. Another writes, "Про нас сьогодні…8 місяців повномасштабної війни за свободу." (About us today…8 months of full scale war for freedom).[26]

What is clear from browsing Ukrainian poets' Facebook posts between the 2014 Maidan Revolution and the outbreak of full-scale war in 2022, is that amidst these personal and political updates, the platform has hosted a discussion about the power of language and translation in a time of political upheaval. Ukrainian poets' Facebook posts from, in particular, 2014 and 2022 offer a sample of the common themes and figurative terms that have changed the way Ukrainians talk about themselves. But the body of text posted to social media also facilitates large-scale language and data analysis. Engaging in quantitative analysis of Facebook poems alongside qualitative observation, we have isolated several tools that reveal how and when these changes take place. We have also observed significant changes to language, such as a widespread shift from writing in Russian towards writing in Ukrainian. As poets in Ukraine have increasingly chosen Ukrainian over Russian to comment on one another's work and in many cases, as their primary creative language, poets writing in Belarus, Poland, Estonia, and Latvia have increasingly posted translations of Ukrainian poems. Facebook, as an archive of recent poetry, provides a model for making concrete observations about the impact of Ukrainian poetry, both within and beyond the country's borders.

Methods in Analyzing Contemporary Ukrainian Facebook Poems

While remaining mindful of the ethics of corporate social media platforms, we have found myriad compelling reasons to use Facebook as a research tool for understanding contemporary poetry in Ukraine. Most obviously, the platform has emerged as a place for activism in a decade of political turmoil. Beyond Facebook's design, which contains years of poetry and readers' responses to it, as well as the aforementioned publishing practice that allows Ukrainian poets to post to social media without endangering future publications, the sheer quantity of active Facebook users allows us to read and analyze large numbers of poems soon after they are written. For example, of the forty-six poets listed as formal members of the writers' organization PEN Ukraine when we began our study in early 2022, only eight did not use Facebook, or had temporarily locked their accounts. Nonetheless, treating Facebook as a literary archive in the midst of an ongoing war has involved important ethical and methodological considerations. Social media use is correlated with mental health concerns, including depression, addiction, and cyber-bullying.[27] These risks are heightened at a time of war due to the proliferation of content.[28] Social media also poses security risks. Facebook was at the center of the Cambridge Analytica scandal, wherein a private firm had weaponized user data to sway the 2016 US presidential election.[29] Meta, Facebook's parent corporation, subsequently limited access to user data, discouraging automated scraping—a prudent decision that has made it more difficult to gather data.

Given these limitations, as well as the ongoing risks involved with social media, we have taken precautions in curating a database of Facebook poetry. Rather than attempting to scrape Facebook feeds, we have manually collected poems posted to Facebook in key periods of political unrest. We have limited this archive to posts shared publicly, and have created

[26] Natalia Tykholoz, "Pro nas s'ohodni…" Facebook post, October 23, 2022, at www.facebook.com/permalink.php?story_fbid=pfbid02fu38qh3WYhFRjQWfGWKZBPmSoTo5SqkdXUUadqaDDd8xFwMv1hvJfWgUiRSYzTsxl&id=100010685056067 (accessed on August 7, 2024).

[27] In 2022, the Center for Countering Digital Hate released a report linking mental illness to social media use. See Imran Ahmed, "Deadly by Design: TikTok pushes harmful content promoting eating disorders and self-harm into users' feeds," *Center for Countering Digital Hate (CCDH)*, December 15, 2022, at counterhate.com/research/deadly-by-design/ (accessed on August 7, 2024).

[28] See, for example, Douglas Yeung, "Terror and the Secondary Trauma of Social Media," *The Rand Blog*, November 4, 2023, at www.rand.org/pubs/commentary/2023/11/terror-and-the-secondary-trauma-of-social-media.html (accessed on August 7, 2024).

[29] Matthew Rosenberg, Nicholas Confessore, and Carole Cadwalladr, "How Trump Consultants Exploited the Facebook Data of Millions," *New York Times*, March 17, 2018, at www.nytimes.com/2018/03/17/us/politics/cambridge-analytica-trump-campaign.html (accessed on August 7, 2024, behind paywall).

an external advisory committee to consult with us about building the site with the goal of making it available to scholars and translators. At this writing, a beta-version of the archive is available to readers, and continues to grow. Although we have gathered secondary information about the poems (including likes, shares, and comments) for our own research, we have not included these data in the public-facing archive, nor have we included biographical information beyond the poets' names. We have included metadata identifying the poems by language and showing a set of hand-curated themes. Our stored text of the poems allows us to make our database searchable by keyword. A questionnaire linked to the archive of poems allows users to submit new poems to the archive. While the archive is currently made up entirely of poems posted to Facebook, the interface allows the archive to potentially expand to other websites and platforms, such as Telegram, Twitter, and poetry blogs. This searchable archive of recent Ukrainian poems facilitates scholars' engagement with texts that have yet to stand the "test of time" and become part of a literary canon. The information gathered in the database allows us to track ongoing trends in form, content, and even reception.

Our initial case study included roughly one thousand five hundred poems posted to Facebook by about 150 poets between the years 2014 and 2022. We focused, for the sake of comparison, on poems posted in 2014 and 2022. One question that arose when we began collecting these poems was how to create a level of objectivity in our selection of poets. We began by consulting several poets and translators who worked closely with Ukrainian presses. In addition, we initially included the work of the forty-five poets who were (in 2022) members of the Ukrainian branch of the international PEN club who actively posted their work to Facebook. Identifying writers affiliated with PEN offered a more objective criterion for Ukrainian poets than, for example, those poets who happen to have connections via social media to American scholars. In addition, we gathered posts by poets who are either Facebook contacts of these initial forty-five PEN club poets or who were recognized widely by Ukrainian poets and publishers.[30] We have continued to update this list of poets as PEN Ukraine has expanded. (Figure 2).
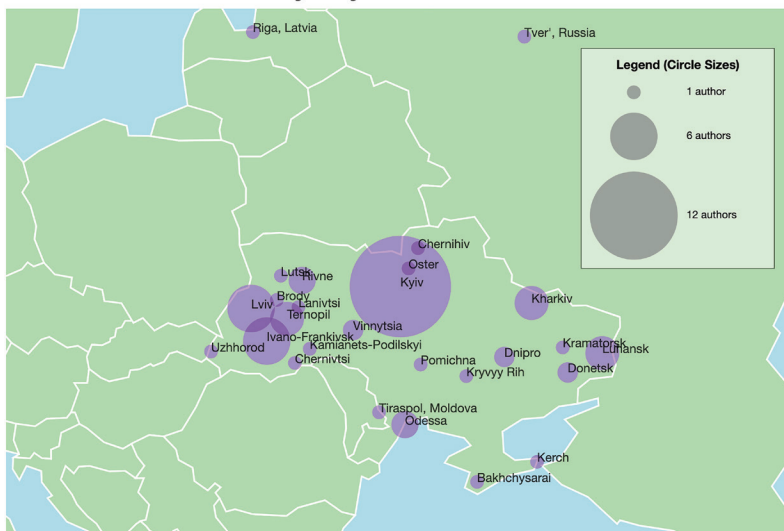

Figure 2. The map shows the spread of birthplaces among the poets and translators currently in the archive. The purple dots are sized according to the number of poets from each city. This map shows only the location of poets and translators within geographical proximity to Ukraine. The archive also includes poets and translators located in other areas, such as Central Asia, southern Europe, and North America. Not every author is reflected on this map due to difficulty obtaining information about place of origin.

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[30] The analyses in this article are limited to roughly 1500 poems sampled from PEN's early 2024 membership and their close contacts.

The poets included in our dataset were either born in Ukraine or emigrated to Ukraine before 2014. We have also included poems by Ukrainian poets, translated into other languages. The primary languages we have recorded are Ukrainian and Russian. Although Ukrainian poets occasionally work in other languages, including Hebrew, Polish, and English, most of the other languages in the database represent translations from Ukrainian or Russian. In the interest of controlling our dataset for confounding variables, we have developed visualizations that can be viewed based on the entire set of poems, and based on only the more objective group of Ukrainian poets identified as PEN Ukraine members.

We have gathered the poems in our corpus with a team of student researchers who manually copied poems and comments, and have recorded additional metadata on the posts. Using a Google form, which conveys their responses to a spreadsheet, these researchers have entered the following attributes about poems posted to Facebook. Although the current archive contains poems written between 2014 and 2024, we have focused on the years 2014 and 2022, which has afforded us two large sets of poems to give us a sense of changes to language, themes, and responses over an eight-year period:

Author of post

Author of poem

Themes (researchers are asked to list 2–5 keywords that describe the poem, and are provided with a list of the top 20 themes)

Language of poem

Original language (if post is a translation)

Date posted

URL of facebook post

Additional URL (if the post links to an external poem or original facebook post)

Poem's full text (copy and paste)

Comments (copy and paste)

Poem(s) in the comment field? (yes/no)

Criticism in the comment field? (yes/no)

Number of likes

Number of comments

Number of shares

Other notes

Although we have gathered information about engagements (likes, shares, comments), as well as information about the comment fields, we have focused our current study on the language used in the poems themselves. The themes, as well as the information about language, authorship, and responses, can be translated into metadata that makes our large database more navigable. We created drop-down lists that allow us to sort poems by theme and author. (A separate drop-down menu allows us to show all themes identified or only those themes that appear in at least five poems.) Poems' dates of posting, authors, and first lines are then shown in a list color-coded by language. The title of each poem can be clicked to be read in full, and is linked to its original public Facebook post. (Figure 3). This interactive

Figure 3. A screenshot of the interactive online poetry archive. There are features for filtering by language, author, and theme, as well as search. Each poem has a link back to the original social media post.

catalog offers a simple tool for searching and sorting large numbers of poems thematically, and for viewing, at a glance, the languages and themes of the archived poems. On the theme of "plants," for example, we have several Ukrainian poems, as well as some poems shared in Russian, and a Polish translation of a Ukrainian poem. The color-coded list of poems can be used to explore and study the archive. A scholar interested in closely reading recent Ukrainian poems about plants can use this as a first step in identifying contributions to this theme, as well as sorting poems based on theme, language, and author. The search tool allows scholars to search the entire corpus of poems for specific words or phrases.

The code behind the tool transforms the data from raw spreadsheet form to a clickable website, which is color-coded, sorted, and annotated based on the metadata. Like Facebook, our website shows more recent poems closer to the top, and our oldest poems are at the bottom so that users can scroll chronologically. Each poem in the list is specified by its post date on Facebook, the author's name, and a preview of the poem text. Our archive brings together an extensive, disparate collection of poems from numerous Facebook pages into one location, which provides structure to a previously minimally structured large dataset. Our goal in creating this tool is to provide an accessible interface that automatically presents the archive along different dimensions of the metadata. Our team is currently working to further build this archive, and our expectation is that it will grow and become more broadly representative of poets, themes, and translations over time.

"History's Losing Its Meaning": Between Close and Distant Reading

One compelling reason to integrate data-driven approaches into a study of contemporary poetry is to find a replacement for the notorious "test of time" argument. Horace (in Alexander Pope's loose rendition) asserted that "Who lasts a century can have no flaw."[31] If contemporary writers, themes, and forms have yet to find their place in literary history's long-durée, a large dataset helps us to displace this historically-centered literary hierarchy with a present-focused measure of reach. Ultimately, reading texts distantly could also help to revisit past canon-formation that has been based on social injustices. Patricia Waugh has discussed the problems with historical arguments, which are sometimes used to

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[31] Alexander Pope, "The First Epistle of the Second Book of Horace, Imitated," in John Everett Butt, ed., *The Twickenham Edition of the Poems of Alexander Pope* (London, 1954), line 55, IV 199; cited in Richard Terry, *Poetry and the Making of the English Literary Past, 1660–1781* (Oxford, 2001), 306.

justify cultural and political authority. "Test of time arguments are . . . circular: this text is valuable because it has passed the test of time, but it has passed the test of time because it is valuable."[32] The comparison of a large catalog of contemporary poems, while imperfect, offers alternative methods of evaluation to tradition.

A quantitative study of poetry requires that the text be translated into numbers. Advances in natural language processing (NLP), a branch of computer science and linguistics that programs computers to process and analyze large amounts of natural language data, have brought about increasingly complex and innovative modes of quantitative text analysis. Tools in NLP make extensive use of neural networks and machine learning to "teach" computers language through examples and interaction. However, even simple counting methods can provide new insights to language data sources by considering the number of symbols, words, or phrases occurring in one text or across a body of texts. Words are the most basic unit of analysis, and they are the building blocks from which more complicated devices, such as figurative language and alliteration, are constructed. By counting words across our corpus of Ukrainian poetry from 2014 to 2022, we have detected trends in word usage across time which have helped us to better focus our close readings of these poems.

The chart below shows the amplification and reduction of words used in 2014 and 2022. These metrics begin to provide a picture of how words are used in general and how the use changes over time. (Figure 4, 4b). A range of words, both in Ukrainian and Russian, are amplified in 2022 in comparison to 2014—these are the words above the diagonal line. Unsurprisingly, the word "war" (війна) is clearly amplified in 2022, whereas "Maidan" (майдан) is amplified in 2014, during the Revolution of Dignity. Other amplified words are more surprising: "стіл" (table) and "лице" (face) reflect quotidian experiences that may not be obviously associated with war, but both occur in significantly higher proportions in 2022 than in 2014.

Combining this scatterplot of word frequencies with our searchable archive allows us to return to the poems to look more closely at how these words are used. The word "стіл" (table) appears in several poems in Ukrainian from 2022. A poem from March of 2022 by Pavlo Korobchuk begins, "це міг бути ти це міг бути я (it could have been you it could have been me.)" Korobchuk goes on to describe an image of a home hit by a missile:

светрики брудні квіти з підвіконь	dirty sweaters flowers off the windowsill
у волоссі пил і гіпсокартон	hair full of dust and plasterboard
всіх накрив вогонь і спалив вогонь	everyone covered in fire and consumed by fire
і накритий стіл на кількох персон[33]	the table too laid for several people

The table is a metonymy for everyday normalcy, for familial comfort and nourishment. The exposed table in a war photo signifies civilian loss. The rhyme in the first two lines above between підвіконь (pidvikonʹ, windowsill) and гіпсокартон (hipsokarton, plasterboard) create a dislocation between a finished and broken down domestic space. Similarly, Korobchuk's repeated sounds in the third and fourth lines above, накрив/накритий (nakryv/nakrytyi, covered/laid) phonetically connect the fire that covers everyone and the table that is laid for dinner. The image described is familiar to those familiar with the kind of photojournalism documenting shelled buildings in eastern and central Ukraine. In Korobchuk's poem we find an ekphrasis of destruction.

The increased use of certain quotidian words throughout the war is consistent with Olena Haleta's hypothesis that lyric poetry changed following the 2014 Revolution

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[32] Patricia Waugh, "Value: Criticism, Canons, and Evaluation" in Patricia Waugh, ed., *Literary Theory and Criticism: An Oxford Guide* (Oxford, 2006), 70–81, 75.

[33] Pavlo Korobchuk, "Tse mih buty ty tse mih buty ia," Facebook post, March 9, 2022, at www.facebook.com/korobchuk/posts/pfbid0VzVjYHctiwcDJveLvoufmhNHufzbxmdrwgJXdQrnNQEHkpXNhGt9E61VnB6jB2VWl (accessed on August 7, 2024).
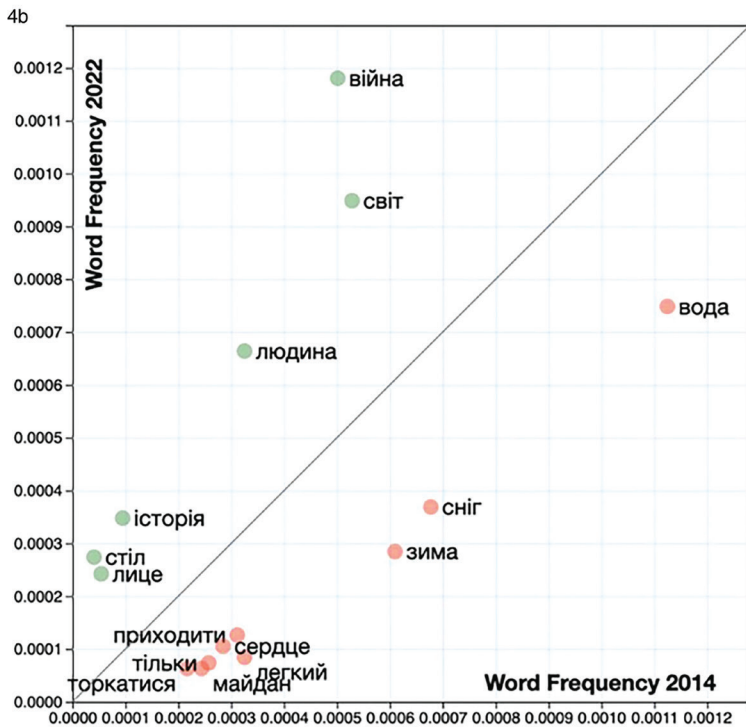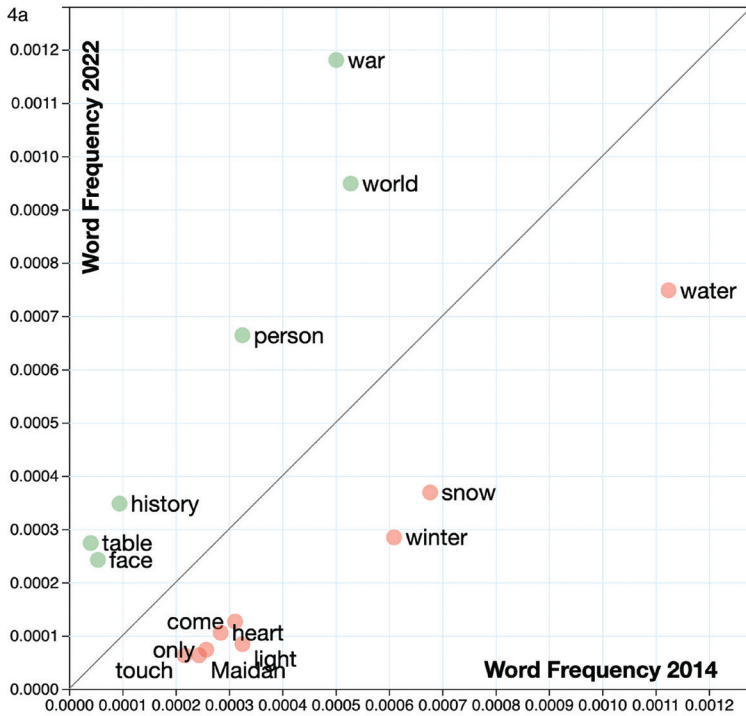
Figure 4 and 4b. Scatterplot showing the words in Ukrainian and Russian (including cognates with the same spelling) with the greatest increase or decrease in frequency in 2014 (x-axis) vs. 2022 (y-axis). Words with significant changes of frequency were calculated using Fisher's exact test, then applying a false discovery rate (FDR) correction, with an adjusted threshold of 0.15. The diagonal line shows where words would have equal frequencies in 2014 and 2022. This plot reflects approximately 1000 poems recorded in 2022–23.

of Dignity and subsequent outbreak of the war in Donbas. Citing Cathy Caruth, Haleta argues that Literature presents a case study in the changes to language in a time of crisis: "Literature learns to speak again and to '*figure* what it cannot *think*,' returning to the first acts of deadly violence."[34] Haleta observes that authors who are more closely touched by violence during 2014 focus on literal facts and individual experiences in their poetry: "Writers often simply note facts, describing individual events that are transformed through texts into general cultural experience. They reject figurative speech; they are looking for a direct connection between the word and the thing, the conceptual core for successful naming."[35] Haleta cites, by way of example, Vasyl Makhno, who declared in a poem from February 2014:

нині муза—оця медсестра	now the muse is the nurse
із пораненням в шию	with the wound in her neck
на майданівських зимних вітрах[36]	in the Maidan's winter winds

The well-known image of the nurse wounded by snipers is immortalized in this poem, which Makhno posted to his Facebook page a day after a mass sniper attack killed over 100 protesters in Kyiv on February 20, 2014. Mass violence demands no adornment: mundane words, framed loosely by a poetic form, are evocative by referencing a collective experience of tragedy. Large data tools are useful for distilling the way a major political event changes language. The documentary impulse of poetry in a time of war is a case in point. Our search for amplified words across texts guide us toward words and poems that we might have missed.

Certain abstract terms, including the word "istoriia" (history or story in both Ukrainian and Russian) are also significantly amplified in 2022 in our dataset (based on an equally sized random sample of texts from 2014 and 2022), appearing in four poems in 2014 and seventeen poems in 2022. Notably, as early as 2014, the word "istoriia" generally references the ongoing Donbas war in eastern Ukraine. For example, on August 9, 2014, Serhiy Zhadan posted his poem "Needle" to Facebook, describing a young tattoo artist who joins the protests and is shot at a security checkpoint. Zhadan writes, "Коли все це почалось, багато говорив про / політику та історію, почав ходити на мітинги, / пересварився з друзями" (When it all started, there was a lot of talk about / politics and history, going to rallies, / quarreling with friends).[37] History is always political, but in discussions of statehood, beginning around the time of the Maidan, it became deeply urgent, a flashpoint in social circles.

The word "istoriia" appears not only with greater frequency in 2022, but turning to the poems themselves, we observe that it often appears with the language of negation. In a poem addressed to the great Ukrainian writer Lesya Ukrainka Kosach (1871–1913), Boris Khersonsky asserts that "Втрачає сенс історія, країна сумління втрачає / Святкуємо втрати людей та территорій" (History's losing its meaning, the country's losing its conscience / We mark the occasion of losing people and land). History, ironically, is moving in reverse: in a country that Kosach only dreamed of seeing actualized, time is now marked by loss. Poems from 2014 and 2022 reveal an awareness of cataclysmic historical change.[38] By 2022, history and the stories that comprise it are under attack. In a poem from March 2022 by Kateryna Kalytko, history has been irrevocably altered. The poem begins, "Ніколи уже

[34] Olena Haleta, "Mines Words," 622. Haleta cites Cathy Caruth, *Literature in the Ashes of History* (Baltimore, 2013), 88.

[35] Olena Haleta, "Mined Words," 634.

[36] Vasyl Makhno, "Liutova elehiia," (February elegy), Facebook post, February 21, 2014, at www.facebook.com/vasyl.makhno/posts/pfbid0GMhtfkA71RcT2TfYnJQhGJ6ayQs7VKwhj7aSukQVCsQtnc69jXSALfWMd4gicvz7l (accessed August 7, 2024). A version is cited in Olena Haleta, "Mined Words," 634.

[37] Serhiy Zhadan, "Holka," Facebook post, August 9, 2014, at www.facebook.com/serhiy.zhadan/posts/pfbid02j8D1s38jWLLbM5DNAaWVd7SJffQ9soTAfvL3ugfZMnF5aAwCT6CV1cX2LwfCTXfzl (accessed on August 7, 2024).

[38] Boris Khersonsky, "Akh, Lesen'ko," Facebook post, February 25, 2022, at www.facebook.com/borkhers/posts/5269703036397813 (accessed on August 7, 2024).

не буде тихо і темно / по тому, як тут ночами горіла Європа" (It will never again be quiet and dark / for Europe burned here by night). All of Europe, she suggests, is implicated in this war, and the proximity of Ukraine to western Europe merges the histories of both regions. In the process, Kalytko suggests that the empirical facts of history have lost their weight.

Фактологія виснажена і, ніби хмиз, суха.	Factology's exhausted, dry as kindling.
Довгі пояснення і надмірні, і марні,	Long explanations gratuitous and pointless,
поки згустки пекла викашлює Марік,	while Marik coughs up clots of hell,
поки нічний вогонь розшматовує Харків.[39]	while the night fire tears Kharkiv to shreds.

The message of these lines—that fact has lost its meaning amidst the urgency of survival—unfolds in alliterative connections. The similar sounds in "надмірні" (gratuitous), "марні" (pointless), the diminutive name Marik, and the city Kharkiv create their own phonetic truth value, which mirrors the disappearance of sense alongside the bombs that obliterate justice, thwarting international law. At the end of the poem, Kalytko contrasts the "Досвітні сирени історії" (Twilight sirens of history).

Досвітні сирени історії.	The twilight sirens of history.
Але між нами значно	But there's much more between us.
більше. Я хочу встигнути, і промовляю	I want to make it in time, and I speak
вголос, оголено, серед людської зграї.	aloud, bare among the human throng.
Визнаючи любов.	Confessing love.
Визнаючи призначеність.[40]	Acknowledging fate.

History, like sirens, is time-sensitive. To live, love, and write poetry during war is to utter words (including vulnerable declarations of love) before the rocket hits. Lesyk Panasiuk, a poet from Bucha, similarly evokes history alongside the linguistic breakdowns and shifts during wartime. In a March 2022 poem that begins "Літери йдуть на війну" (Letters go to war), Panasiuk's "istoriia" applies to both history and stories: "речення підриваються на мінах / історії обстрілюють системами залпового вогню" (sentences are blown up on landmines / histories are shelled by volley fire (MLR) systems).[41] For Panasiuk, history and the stories people tell are fragmented and rendered impotent during war.

A combination of distant and close literary analysis allows us to view the poetry corpus from a vantage point which reveals inter-textual patterns and is less biased by our expectations of what the poems in our archive should contain. Our corpus contains poems of diverse themes and styles, but all poems were posted to Facebook by authors operating in overlapping Ukrainian literary circles during a similar time period. The authors' common context is grounds for studying their poems as interrelated parts of a literary sphere. In this kind of distant analysis, the corpus becomes more like a landscape where unique texts can create interrelated images in a common environment.

Using Word Co-occurrence Networks to Understand Metaphor

In poetry, metaphors operate between the desire to make something clearer, and the desire to compare something to what it is not. Paul Recouer has discussed metaphors as figures of speech that possess both a rhetorical and an artistic mimetic function.[42]

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[39] Kateryna Kalytko, "Nikoly uzhe ne bude tykho i temno," Facebook post, March 15, 2022, at www.facebook.com/kateryna.kalytko/posts/pfbid02qLq3TkCXew5xD6XFKcqVMyKWWCcNBSVtnGKRDmMwB7JdntJfozJcNDFD-NWdq1uKbl (accessed on August 7, 2024).

[40] Ibid.

[41] Lesyk Panasiuk, "Abetka iak palata dlia poranenykh," Facebook post, March 16, 2022, at www.facebook.com/lesyk.panasiuk/posts/5399862896704904 (accessed on August 7, 2024).

[42] Paul Ricouer, *The Rule of Metaphor: The Creation of Meaning in Language* (London, 1986), 13.

Metaphors (and related symbolic poetic tropes, including similes) occur frequently in Ukrainian poetry, allowing poets to employ a pair of concepts that work together to create meaning. A digital corpus of poems allows us to use word co-occurrence networks to highlight metaphorical language, as discussed later in this section. Considering the entire corpus of poems as one large text, we can observe that words comprising metaphorical phrases often occur close together. This is obvious when we read poems closely. For example, in a 2014 poem by Liudmila Khersonskaia, "Страна как лужа лежит на военной карте . . ." (The country lies like a puddle on a military map).[43] This comparison emphasizes the aggressors' view of Ukraine as two-dimensional, vulnerable, and insignificant. Serhiy Zhadan, in a 2022 poem, compares refugees from eastern Ukraine to snails, and the border to a pine needle:

Чекають вечора люди, схожі на равликів,	People who look like snails are waiting for evening.
так гірко сплять на вокзалах, так глибоко.	They sleep so bitterly at train stations, so deeply.
Ламана лінія кордону, мов соснова гілка. Дорога	The border's broken like a pine needle.
важка, коли несеш на спині свій дім і своє минуле.[44]	The road's tough when you carry your home and your past on your back.

Home, for refugees, is no longer a fixed place. It can be picked up, and carried. The comparison to snails reinforces this, as well as the slowness of the westward migration. If metaphor forces readers to see two things at once, then what is the other thing that must be seen while watching Zhadan's refugees? Snails are both transient creatures and minute reminders of nature, perhaps entering one's peripheral vision, along with the pine needles that crack underfoot.

Observing the kinds of metaphorical language used in poetry helps us to better understand the language used in prose. Zhadan, who in addition to his writing is the front man in a ska band, "Zhadan and the Dogs," has had the privilege of occasionally leaving the country to perform in concerts since 2022, despite martial law. In a more prosaic Facebook post of around the same time, Zhadan describes refugees he meets outside Ukraine: "Ukrainians today are like birds swirling in the sky of Europe, sitting down to rest and again plunging ahead. When my path crosses an acquaintance, for a moment it's like a shard from a broken mirror, and the reflection is a shared past, a shared memory."[45] Zhadan, between these two posts, appears to be groping for the right metaphor. What is it like to leave one's home? Is it like a snail? Or a bird? What is Ukrainians' common memory? Is it like a shard of glass? Like Khersonskaia's puddle-shaped map of Ukraine, Zhadan's metaphors for refugees frame the field of vision, creating possibilities for comparison while calling attention to the landscape. While it is impossible, and perhaps pointless, to deeply read poetry through statistics alone, a large sample of poems posted in a relatively short time helps us to see the way that language, including metaphorical language, can change in a time of political crisis.

As the Ukrainian poet and literature scholar Ostap Slyvynsky has observed, "war changes language." Beginning shortly after the 2022 invasion, Slyvynsky ceased to write poetry and began instead to record accounts told by refugees arriving in Lviv from those cities under direct assault. Collecting these short anecdotes allowed Slyvynsky to observe the way words took on new meanings, whether straightforward or figurative. In an episode titled "Bath,"

[43] Ludmila Khersonskaia, "Strana kak luzha," Facebook post, March 2, 2022 at www.facebook.com/permalink.php?story_fbid=5320987374602573&id=100000740888997 (accessed on August 7, 2024).

[44] Serhiy Zhadan, "Chakaiut vechora liudy," Facebook post, August 9, 2022, at www.facebook.com/serhiy.zhadan/posts/pfbid02GKxym1QGuYQDkZFenwFA17XGEL4MZpkFJQaaXwzifrbRXycophL5ZPRQAmgRSCEil (accessed on August 7, 2024).

[45] Serhiy Zhadan, "Tak nezvichno i priemno," Facebook post, August 29, 2022, at www.facebook.com/serhiy.zhadan/posts/pfbid0cppXBymQE2ARxoV9ZbD2ZWSYhS2Gp66UaKVFaoDzSeaCL8Ju5bgvdAPGiQaRvwkwl (accessed on August 7, 2024)

for example, Maryna of Kharkiv tells the story of how her bathtub saved her from a missile strike that blew all of the windows out of their frames. "I could never have survived anywhere else." In an episode labeled "Star," we find, "When the windows are taped to prevent glass from shattering during explosions, they are like stars. . . . Whenever the sun is out, you can see shadows from the tape on the walls, like stars moving slowly." Romanna of Kyiv, who tells this story, adds, "I would like this to be my only memory of the war."[46] These stories are not presented as poems, but as pieces of a collective record of war. They are straightforward narrations of everyday life that eschew obvious metaphorical language. They are, however, edited into soliloquies akin to prose poems. An entry's title rarely prepares the reader for the wartime episode described in the passage, but rather reveals how a peacetime vocabulary has been infiltrated by violent episodes. Everyday words, Slyvynsky observes, have become inextricably linked to the war. Not surprisingly, Slyvynsky's war lexicon describes many of the same experiences we find in poetry written during the war. "I'm not blaming you, i'm just taping" writes Halyna Kruk in 2020, "over the panes in our large European windows, / in our bright European cities, crosswise and around the perimeter." What is an everyday practice for most Ukrainians is, in Kruk's poem, a pointed metaphor for the border between Ukraine and the rest of Europe.

How can a researcher, particularly across languages and cultures, keep up with the rate at which new metaphors are spreading in a community? Beyond close reading, visualizing poetic language as data can indicate how commonly certain linguistic pairs appear. Highlighting pairs of words that appear close together in our large corpus of poems (word co-occurrence), offers us the possibility of quantitative data to explore figurative language. Word co-occurrence refers to instances where word w_1 and word w_2 appear together in a text (within a certain window of words). In NLP, co-occurrence is often used to identify relationships between words and shed light on how these relationships contribute to the meaning of the text. We may expect to see certain pairs of words occur together when they have a known semantic relationship, like "небо" (sky / heaven) and "земля" (land / earth), "любов" (love) and "серце" (heart), or "мова" (language) and "слово" (word). Looking at relative co-occurrence counts can confirm known relationships, uncover unexpected word pairs, and show changing word contexts over time.

Co-occurrence can be calculated differently depending on how one defines "words appearing together." A researcher may choose to look at words which occur together in a 5-word window, which means that words co-occur if they appear together in any consecutive string of five words across the entire text (or corpus). In our case, we defined our "window" as a pair of lines, rather than specifying a particular word count, since lines are a salient structural mechanism within a poem, and line size will vary from poem to poem and author to author. We say that word w_1 and word w_2 co-occur if they are both found (in no particular order) in the same two line span. For example, "небо" (sky) and "земля" (earth) co-occur in this pair of lines by Borys Humeniuk from 2014:

Зграя чорних круків з боку сонця скривавлених з криком здійнялася в небо Хоча можливо то так кричало ошмаття зоряної вибухами *землі*.[47]	A flock of black ravens against the sun, bloodied by a scream, rose to the *sky*. Although maybe the screams were from the devastated *earth*, plowed by explosions.

[46] Ostap Slyvynsky, "A War Vocabulary: Displaced Ukrainians share fragmented stories of loss, trauma, and absurdity," *Document*, June 9, 2022, at www.documentjournal.com/2022/06/a-war-vocabulary-aaron-hicklin-ukraine-lviv-kyiv-ostap-slyvynsky/ (accessed on August 7, 2024). See also, Ostap Slyvynsky, *Slovnyk viiny* (Kharkiv, 2023).

[47] Borys Humeniuk, "Stara shovkovytsia pid Mariupolem" (An old mulberry outside Mariupol´), Facebook post, June 28, 2014, at www.facebook.com/borys.humenyuk/posts/pfbid02Bqntp4PX3vKNKQphurB2ESjk3Po9Eri1yXZ-D4zRKxTfc8dWgH9Q6usuoMUhtfabjl (accessed on August 7, 2024).

The proximity and juxtaposition of sky and earth in subsequent lines offers both a landscape for the events described in the poem, and an analogy for the human emotion. Words also co-occur in the same line, like in this excerpt of a poem by Julia Musakovska:

|	
Каже ось він мамо живий але така втома ніби несе вагу всього світу *неба* й *землі*[48]	He says look Mom he's alive but tired as though carrying all the weight of the world *heaven* and *earth*

To derive frequently co-occurring words, we consider all pairs of words possible in the corpus (around 50,000 possible pairs at this writing) and tally their co-occurrences. We can plot this as a network graph where each node represents a word and each link represents their co-occurrence.

When examining word co-occurrence, it is helpful to represent the relationship between commonly occurring words across our large database as a network. The network visualization we have created allows us to change the threshold for co-occurrence, showing us links that occur most frequently. A search of the word "siren" (spelled сирена, in both Ukrainian and Russian) for example, shows that the word is connected in more than two poems to both "alarm" and "people." A search for the word "земля" (earth) reveals a more complex network, showing connections to relatively expected words like "небо" (sky), "зелений" (green), "чорний" (black), "лежати" (to lie down), "трава" (grass), "поле" (field), and "ріка" (river), as well as more metaphorical pairings, such as "нога" (foot), "горло" (throat), and "кров" (blood). We have included metadata about the poets who use this combination of words, which is revealed by hovering over a link in the network. Thus, for example, we can quickly see that in 2014 and 2022, the words "earth" and "blood" were used together in poems by Kateryna Kalytko, Lesyk Panasiuk, Iryna Vikyrchak, Julia Musakovska, Vasyl Makhno, Anna Gruver, and Iryna Tsilyk. (Figures 5 and 5b).

These links have several attributes, including total co-occurrence count, co-occurrence count by time period, and number of authors represented. The co-occurrence count by time period allows us to look at how the "neighborhood" of words surrounding a word changes from year to year. It is also revealing to look at which authors use which word pairs. If there is one author who consistently uses a pair of words together, that may indicate a motif or topos in their writing. If many authors use the same pair of words together, that may represent a well-known semantic relationship or a common expression used among authors. Among the many topics for future exploration is the possibility of using AI models to extract themes from the database, which would create a more objective set of terms than our hand-curated labels provide. As Ekaterina Shutova and co-authors have discussed, by tracking clustering patterns that combine seemingly mismatched areas of language, machines have the potential to help to identify common uses of metaphor. They observed that "concrete concepts (such as *water*, *coffee*, *beer*, *liquid*) tend to be clustered together when they have similar meanings." However, they observe that, significantly, "abstract concepts (marriage, *democracy*, *cooperation*) tend to be clustered together when they are metaphorically associated with the same source domain(s) (both *marriage* and *democracy* can be viewed as *mechanisms* or *games*)."[49] They apply hierarchical graph factorization clustering to create a network between the source and target nouns. Sets of metaphorical mappings between clusters can be derived from the weights and patterns from this associative network of words. This principle offers a compelling way to use

[48] Julia Musakovska, "Vona pryvodyt′ ioho za ruku dodomu," (She's leading him home by the hand), Facebook post, April 24, 2022, at www.facebook.com/jmusakovska/posts/10159920345479493 (accessed on August 7, 2024). (The emphasis is ours.)

[49] Shutova, Sun, Darío Gutiérrez, Lichtenstein, Narayanan, "Multilingual Metaphor Processing," 71–123. Shutova et al cite Michael Mohler, David Bracewell, Marc Tomlinson, and David Hinote, "Semantic Signatures for Example-based Linguistic Metaphor Detection," in eds. Ekaterina Shutova, Beata Beigman Klebanov, Joel Tetreault, Zornitsa Kozareva, *Proceedings of the First Workshop on Metaphor in NLP*, (Atlanta, 2013), 27–35; and Dirk Hovy, Shashank Shrivastava, Sujay Kumar Jauhar, Mrinmaya Sachan, Kartik Goyal, Huiying Li, Whitney Sanders, and Eduard Hovy, "Identifying Metaphorical Word Use with Tree Kernels," in *Proceedings of the First Workshop on Metaphor in NLP*, 52–57.
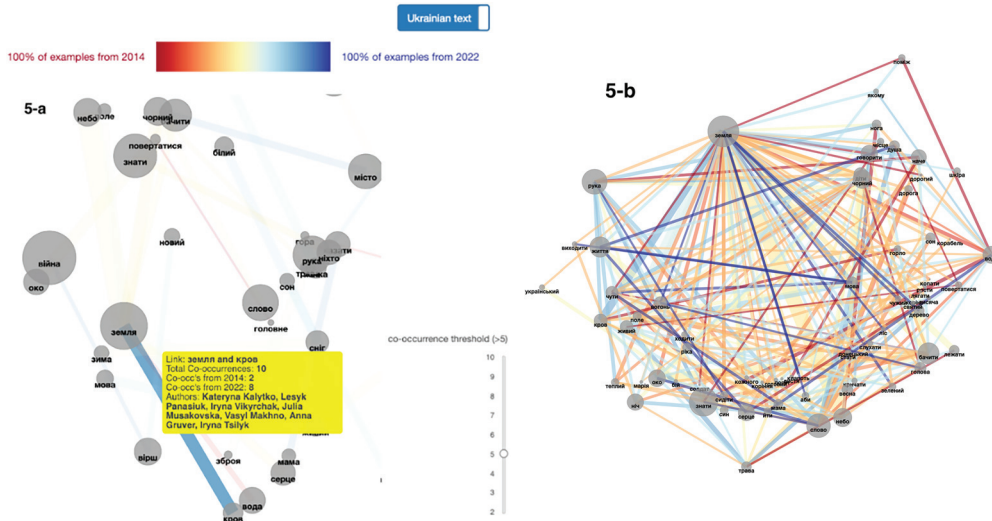
Figures 5 and 5b. The word co-occurrence network is composed of nodes (words) and edges (representing a co-occurrence of two words in the same 2-line section of poetry). For example, as of 2023, the words земля (earth) and кров (blood) occurred in the same 2-line window ten times in our corpus of poems, two times in 2014 and eight times in 2022. This chart can be toggled to show Ukrainian or Russian texts. A sliding scale allows us to change the threshold of co-occurrences needed between a word pair to display or hide the edges of the graph. Figure 5-a image uses a threshold of >5 co-occurrences and 5-b uses a threshold of >2 co-occurrences.

clustering through unsupervised machine learning to assist the analysis of poetry. Future studies could use machine learning to determine associative relationships between clusters of words as a way of revealing unexpected metaphors to the scholar.

In Conclusion: Following a Changing Conversation

Poetry is not written in a vacuum. The poetic conversations we have followed suggest that shifts and trends can be attributed not only to current events, but to these very conversations. Facebook's comment field offers fertile ground for understanding how language around poetry changes. Our archive contains metadata on the comment section of each poem, and we analyzed the languages of these comments. Whereas in 2014 close to half the comments on Ukrainian poets' posts were in Russian, by 2022 this figure had dropped to 19.5%. (Figure 6). As this graph shows, relative to the total numbers of comments per time period, Ukrainian comments became more frequent and Russian comments were much less frequent. Languages other than Ukrainian and Russian, such as English, also became more common in the comment field. likely due to changes in language dynamics and Facebook audiences. In addition to the shift from Russian to Ukrainian responses, we see a small increase in other languages in the comment fields. Some of the linguistic shift can be attributed to the fluctuating language dynamics among Facebook users. But in Ukraine, individuals have also shifted their own language of public engagement. Following the 2022 full-scale invasion of Ukraine, several writers shifted from Russian to Ukrainian, and many of their readers have followed suit. Moreover, fewer Russians are engaging with Ukrainians on Facebook, due in part to the distancing of individuals following the invasion, and in part due to Russia's official banning of the platform. But the proportional increases in both Polish and English, as well as the representation of more languages, points to an ever-expanding community of readers. The change in language, as well as the increase in translations from Ukrainian to other world languages, shows that Ukrainian poetry is taking on an international role that it did not play before the 2013–14 Euromaidan, or even in the early years of the Donbas war.
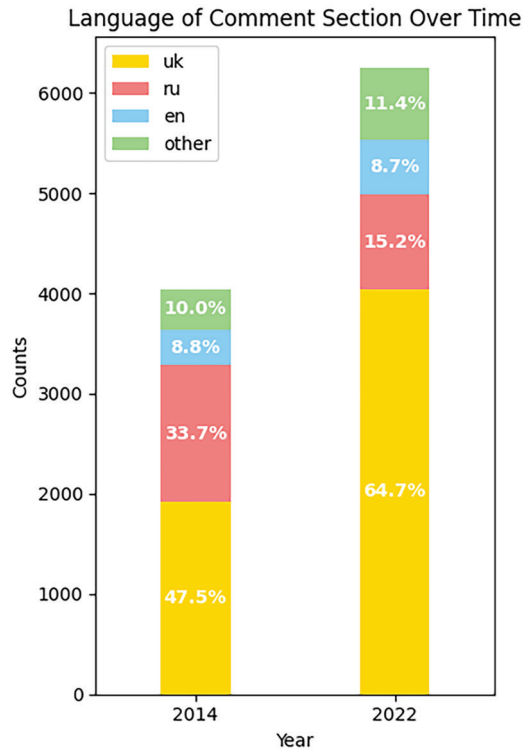
Language of Comment Section Over Time

Figure 6. Language Distribution of Comment Section from 2014 to 2022. These graphs show the languages of comments to poems collected in our archive, as detected by the *langdetect* Python library. Comments are counted on a comment-by-comment basis (one poem may have several comments). The average number of comments per poem increased from 8.5 comments per poem in 2014 to 11.2 comments per poem in 2022.

A side-by-side view of the poetry archive's translation networks gives a quick glance at the proximity of other world languages to Ukrainian poets. (Figure 7). A sample of the languages of translation in our network indicates that translators from a large number of world languages are working from Ukrainian, in particular. Many of these translations are shared by the original poets.

Another way of understanding the change Ukrainian writers have experienced is by observing the changing references to place names in poems. In 2014, the poems in our database reference twenty-three unique toponyms outside Ukraine, including cities, countries, and continents. (Figures 8). By 2022, although Russia had waged a full-scale war on Ukraine, many poets appear to be looking elsewhere. Europe appears in a large number of poems as Ukraine's primary interlocutor. In a May 2022 poem by Halyna Kruk, for example, we find a direct address to Europe:

ця тривога вже в твоєму повітрі, Європо,	this alarm is already in your air, Europe,
не забудь про газ і світло	Don't forget the gas and the lights
приймай нас, як погані новини,	Take us in, like bad news,
приймай нас, як неприємні ліки	Take us, like medicine
приймай нас, як несвоєчасні пологи.[50]	Take us in, like premature births.

    [50] Halyna Kruk, "Staryty vid novyn..." Facebook post, March 19, 2022, at www.facebook.com/halyna.kruk/posts/pfbid02uhxhPoEKq5E6ENUMt2XvjzPSuJP1Aj9x9WPaBAQMYDTX7QVJTWCbMHYhTqNgBoLJl (accessed on August 7, 2024). Poem appears as "z Evroppoiu v tli" (with Europe in the background) in Kruk, *A Crash Course in Molotov Cocktails*, 60–61.

Figure 7. The translation network above represents the source and target languages of translated poems. Nodes are languages and edges represent a poem translated from node language 1 to node language 2. The source languages are on the left and the target languages are on the right. The thicker the line, the more poems in that source-target language pair.

In the comment field, the Estonian translator Anna Vershchik shares her Estonian translation. Another contact writes, "there should be an English translation." These discussions suggest that as poets describe new locations, they address new audiences and demand translations into these languages.

Quantitative analysis and the metadata that organize it cannot replace qualitative methods of literary analysis. Moreover, not all poets in Ukraine post their work to Facebook, nor do all poems posted to Facebook later appear in poetry journals, books, or in translation. However, viewing contemporary poetry at a distance with the help of statistical tools allows us to consider a rapidly changing poetic landscape, even while these changes are in process. In building a usable archive of Ukrainian Facebook poetry, we have attempted to explore tools that ultimately assist scholars in sharpening our close readings of original poetic content.

This project has posed more questions than it has answered. At this point in our research, we have focused on Ukrainian poets and their close contacts, but we recognize that expanding this research to include other geographical networks of poets would reveal similarities and differences between networks of writers. Future scholarship on poetry and social media should take into account the opportunities and limitations of extrapolating trends among poets who remain offline from poetry posted to Facebook. At a moment when artificial intelligence threatens to replace human creativity, we hope to instead find ways of employing
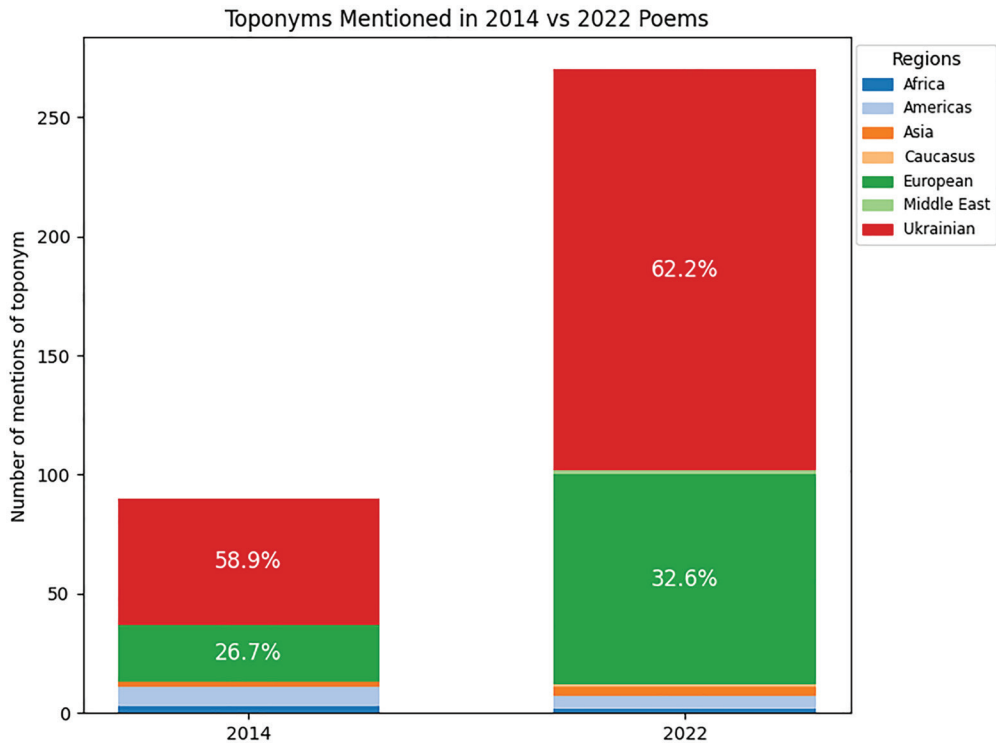
Figure 8. Graph displaying toponyms mentioned in 2014 vs. 2022. The proportion of mentions of Ukraine and Ukrainian cities remained roughly the same, while mentions of Europe, European countries, and European cities grew slightly. Despite similar numbers in our database from 2014 and 2022, the number of toponyms in overall usage grew, where 11% of 2014 poems contained at least one toponym, and 19% of 2022 poems contained at least one toponym.

statistical and machine approaches to language to make us better readers. A broad context for the poetic conversation taking place on social media helps to guide us to the themes, forms, and vocabulary that sum up the spirit of a moment, even as it is unfolding.

Supplementary material

The supplementary material for this article can be found at https://doi.org/10.1017/slr.2024.499

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