Journal of Computational Literary Studies

Conference Reader

4th Annual Conference of Computational Literary Studies **CCLS2025 Kraków** July 3-4, 2025

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Local Organizer	Jagiellonian Centre for Digital Humanities Jan Rybicki
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Conference Programme

Thursday | July 3, 2025

9:15 a.m. to 9:30 a.m. | Opening

9:30 a.m. to 10:30 a.m. | Session 1

- Fotis Jannidis, Rabea Kleymann, Julian Schröter, Heike Zinsmeister: Do Large Language Models Understand Literature? Case Studies and Probing Experiments on German Poetry
- Keli Du, Uygar Navruz, Nazan Sınır, Julian Valline, Christof Schöch, Sarah Ackerschewski: Reconstructing Shuffled Text. Bad Results for NLP, but Good News for Using In-Copyright Text

11:00 a.m to 12:30 a.m. | Session 2

- Maria Levchenko: Computational Analysis of Literary Communities: Event-Based
 Social Network Study of St. Petersburg 1999-2019
- Gilad Aviel Jacobson, Yael Dekel, Itay Marienberg-Milikowsky: From Readers to
 Data. Uncertainty in Computational Literary Citizen Science
- Julia Neugarten: A Powerful Hades is an Unpopular Dude: Dynamics of Power and Agency in Hades/Persephone Fanfiction

1:30 p.m to 3:00 p.m. | Session 3

- Daniil Skorinkin, Boris Orekhov: The Outward Turn: Geocoding the Expansion of Fictional Space in Russian 19th Century Literature
- Svenja Guhr, Jessica Monaco, Alexander J. Sherman, Matt Warner, Mark Algee-Hewitt: Making BERT Feel at Home. Modelling Domestic Space in 19th-Century British and Irish Fiction
- Eva Eglāja-Kristsone, Anda Baklāne, Valdis Saulespurēns: Urban Transportation in the Latvian Early Novels or "Why do you use a 19th-century horse-drawn cab when you have a 20th-century taxi?"

3:30 p.m to 4:30 p.m. | Session 4

- Rongqian Ma, Keli Du, Yiwen Zheng: Verse within Prose. Annotating and Classifying Narrative Functions of Embedded Poems in Chinese Qing (1644–1912) Vernacular Fiction
- Natalie M. Houston: Rhymefindr: An Historical Poetics Method for Identifying
 Rhymes in Nineteenth-Century English Poetry

5:00 p.m. to 6:00 p.m. | Keynote

Maciej Eder: Text Analysis Made Simple (Kind of), or Ten Years of Style

7:00 p.m. | Conference Dinner

Friday | July 4, 2025

9:15 a.m. to 10:45 a.m. | Session 5

- Katrin Rohrbacher: Opening Worlds: Narrative Beginnings and the Role of Setting
- Noa Visser Solissa, Andreas van Cranenburgh, Federico Pianzola: Event Detection between Literary Studies and NLP. A Survey, a Narratological Reflection, and a Case Study
- Andrew Piper: Towards a Moral History of the Novel Using Large Language
 Models

11:15 a.m. to 12:45 p.m. | Session 6

- Julia Havrylash, Christof Schöch: Exploring Measures of Distinctiveness. An Evaluation Using Synthetic Texts
- Allison Keith, Antonio Rojas Castro, Hanno Ehrlicher, Kerstin Jung, Sebastian Padó:
 A Computation Analysis of Character Archetypes in the Works of Calderón de la Barca
- Yuri Bizzoni, Pascale Feldkamp, Kristoffer L. Nielbo: Encoding Imagism? Measuring Literary Imageability, Visuality and Concreteness via Multimodal Word Embeddings

12:45 p.m. to 1:00 p.m. | Closing



Daniil Skorinkin and Boris

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The Outward Turn: Geocoding the Expansion of Fictional Space in Russian 19th Century Literature

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Abstract.

We examine the large-scale geospatial dynamics of Russian prose literature in the 19th century. Specifically, we analyze how the distribution of location mentions shifts from the early 19th-century romantic era to the late 19th-century realist period. We demonstrate how realist literature, with its emphasis on portraying 'typical characters in typical settings', moves away from the historical (and often heavily mythologized) landscapes of Russia, Poland, Ukraine, and the Baltics. Instead, it increasingly focuses on the then-new capital, Saint Petersburg, as well as Western Europe and the expanding eastern and southern peripheries of Russia, reflecting the country's ongoing military and economic expansion.

1. Introduction

Of all 'distant reading' methods, geocoding is the one that most tangibly embodies the 'distance' metaphor. With maps, one can literally zoom in and out of vast research material, possibly consisting of thousands of texts, all laid out on a geographic projection of the Earth, and produce conclusions, generalizations, and interpretations on a grand scale.

This does not mean that every geocoding of literature is always meaningful - as Döring 7 (Döring 2013) put it, 'the benefit of any map of literature has to be that it visualizes 8 things that would otherwise remain invisible' and for some literary maps, "[t]here 9 seems to be hardly any analytical value in" them. Literature reduced to dots, lines, and 10 polygons (the basic units of any map) loses most of its inner complexity, and there is 11 always the danger of throwing the baby out with the bathwater. But at the same time, 12 reduction is exactly what gives strength to any modelling attempt in research: only by 13 reducing the complexity and detail, we can see the large drifts of literary movements 14 and the long dynamics of cultural development that is not inferable from close reading 15 of a selection of 'significant' texts. 16

In our work, we apply mapping and geocoding to study the large-scale geospatial 17 dynamics of Russian prosaic literature over the course of the 19th century, a time when a 18 Russian novel became a global cultural phenomenon through the works of Gogol, Tolstoy, 19

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44

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1

Turgenev, Dostoevsky and other authors. We analyse the changes in the distribution of 20 mentions of geotaggable toponyms between the two extremely important periods of 21 Russian literature: the early 19th-century romantic era and the late 19th-century realist 22 period. We show how realist literature with its tendency to depict 'typical' characters in 23 'typical' settings (Fridlender 1971, 105) and not shy away from 'ordinary' and 'average', 24 turns from the mythologized landscapes of historical Russia, Ukraine, Poland and the 25 Baltics, to Western Europe, the then-new northern capital and trading outpost of Saint-26 Petersburg, and the 'new' eastern and southern peripheries of Russia as the country 27 continues its military, cultural and economic expansion in all directions. 28

2. Corpus and research design

As members of the PyZeta team put it in the description of their project, "[t]he methodological and epistemological paradigm of comparison is deeply rooted in the Humanities" (Du et al. 2025). In our experience, a research endeavour in computational literary studies typically benefits from having a clear two-sided comparison. Even if such comparison comes at a price of some simplification. Therefore we chose to structure our research around the comparison between the prosaic works of Russian 19th-century realism and the Russian romantic prose that preceded it.

The problem of defining realism in literature is a long-standing one. As Fanger (Fanger 37 1998, 3) put it, "few literary terms have suggested more and signaled less than 'realism'". 38 Realism often seems too broad a term, combining too many things that lack a common 39 denominator. To quote Molly Brunson (Brunson 2016, 2), "this monolithic presence of 40 realism more often than not splinters into equivocation or endless classification. It is 41 little wonder, given the dizzying array of objects that must crowd beneath this singular 42 term". And for scholars of Russian literature, this was additionally complicated by the 43 ideologically charged understanding of realism in the Soviet era, which led to a strong 44 aversion to the term in the post-Soviet times (see e.g. Vdovin et al. 2020). However, 45 Vdovin et al. (Vdovin et al. 2020) also show that removing the term completely, while 46 continuing to talk about romanticism, classicism and other traditionally labeled literary 47 movements, does not seem feasible either. It is therefore reasonable to keep using it, 48 acknowledging the ambiguity and inner contradictions of the term. 49

Luckily, in this particular academic endeavour we neither intended nor needed to 50 answer the 'what is realism' question. For us, it was enough to adopt a functional 51 definition that would allow us to make a split in a collection of Russian prose (without 52 any prior genre or literary movement markup) and obtain a 'realistic enough' corpus 53 for computational analysis. We therefore followed the chronological approach. In many 54 cases Russian literary realism is defined as something that started in the 1840es with 55 the projects of the so-called Natural School (Brunson 2016) or more specifically mid-56 1840es (Bowers 2022, 2). 1845 was the year of the publication of the 'The Physiology 57 of Saint-Petersburg' (Физиология Петербурга), the first artistic manifesto of the Nat-58 ural School, compiled by Nikolai Nekrasov. In 1846 the second one, 'The Petersburg 59 Collection' (Петербургский сборник) was published by Nekrasov. The first one was a 60 compendium of short 'physiological sketches' by Vissarion Belinskiy, Nikolai Nekrasov, 61 Dmitry Grigorovich, Vladimir Dal, and the Ukrainian writer Yevhen Hrebinka. The

second, bigger volume contained the first large novel by Fyodor Dostoevsky ('The Poor 63
Folk'), as well as texts by Ivan Turgenev, Alexander Herzen, Ivan Panayev, Apollon 64
Maikov and Vladimir Odoevsky. Also in 1846 Belinsky, the most prominent Russian 65
critic of the era, called for new literature that "dealt with life and reality in their true 66
light". We chose to adopt the year 1845 as the 'starting date' of the realist period in our 67
corpus. 68

As the end of the clearly realist period we selected 1890. This year is frequently named as the starting point of modernism in Russian literature (Douglas Clayton 2016, Ioffe 2009). 70 Of course, there were many realistic works created after that date too (realism never really 'stopped' the same way e.g. classicism did), but without any reliable metadata we had to rely on temporal borders and chose to stop at 1890 to keep modernism out of our corpora. 74

In the end, having consulted with a number of specialists in Russian 19th-century prose, 75 we received their blessing to consider for the purposes of our quantitative investigation 76 everything written between the years 1845–1890 to belong to realism and everything that 77 fell into the period between 1800 and 1840 to belong to romanticism. We are aware, of 78 course, of how imprecise this division is. However, as Algee-Hewitt et al. (Algee-Hewitt 79 et al. 2018) put it, "[d]irty hands are better than empty," so we continued our research, 80 hoping that the size of the corpus would rectify the lack of quality in our crude criterion 81 for the split. 82

To compose a corpus of Russian 19th-century prose for our study, we used two main 83 sources of texts. One of them was the 'Corpus of Russian narrative prose' by Oleg 84 Sobchuk, published in the Open Repository on Russian Literature and Folklore (Sobchuk 85 and Lekarevich 2025). Another source, also published in the same repository, was the 86 corpus of the 'Forgotten novels of Russian writers from the collections of the Pushkin 87 House (1857–1917)' by Elena Kazakova (Kazakova 2024). We then filtered out every-88 thing that was written outside of the periods we were interested in (1800-1841 and 89 1845-1890). Our resulting corpus consists of 506 texts between the years 1800 and 1890, 90 of which 96 belong to the romantic subcorpus and 421 – to the realist subcorpus. The 91 list of all texts and their dates of publication is available here.¹ 92

While this corpus is far from being a comprehensive source of Russian 19th-century 93 literary heritage, it contains prosaic work by all the well-known authors of the period 94 (Pushkin, Lermontov, Gogol, Turgenev, Goncharov, Dostoevsky, Tolstoy), as well as a 95 large number of lesser known writers. The total number of word tokens in the corpus is 96 46.4 mln. 97

3. Methods

Geocoding literary texts to explore the relationship between literature and geography 99 has a long tradition that spans more than a century. As early as 1910s (Bartholomew 100 1914) one can find numerous literary maps based on the works of Balzac, Dickens, Du- 101 mas, George Eliot, and other authors. In the field of Digital Humanities, the application 102 of geocoding in literary studies has been notably championed by Franco Moretti in his 103

1. https://github.com/DanilSko/mapping_russian_prose

book 'The Atlas of the European Novel' (Moretti 1999). He stated that "geography is 104 not an inert container, is not a box where cultural history 'happens', but an active force 105 that pervades the literary field and shapes it in depth." Mapping literature, according to 106 Moretti, makes visible "the connection between geography and literature" and reveals 107 "significant relationships that have so far escaped" scholarly attention. Through a series 108 of case studies, he examined the geographical dimensions of 19th-century European 109 literature, highlighting the prominence of Paris in French novels, contrasting depictions 110 of urban and rural environments in English literature, and analyzing representations of 111 the Russian landscape in the works of authors such as Dostoevsky and Tolstoy. Since 112 Moretti's work, there has been, as Döring described it, "a small boom in maps of litera- 113 ture" (Döring 2013). In Bodenhamer et al. 2010 the emergence of the Spatial Humanities 114 was proclaimed, stating that by 2010, there had been "wide application" of Geographic 115 Information Systems (GIS) to "historical and cultural questions." Multiple scholars have 116 contributed to this growing field. To cite just a few examples, Döring (Döring 2013) 117 examined the toponymy of Berlin in German literature after 1989; Kuzmenko and Orke- 118 hov (Kuzmenko and Orekhov 2016) geocoded the Russian national poetic corpus and 119 analyzed the frequency of references to countries and cities; and Barbaresi (Barbaresi 120 2018) mapped the satirical literary magazine Die Fackel. More recent example is the paper by Wilkins et al. (Wilkens et al. 2024), who mapped the geographies of American 122 fictional books and compared them to those found in non-fiction texts. 123

In all those recent cases, NER tools were used to extract topomyms. We followed these 124 footsteps and for the initial location extraction we utilized Natasha(*natasha/natasha* 125 2024), a natural language processing library for the Russian language with NER toolkit. 126 We extracted approximately 12,000 unique locations from our corpus, which were then 127 manually filtered to eliminate evident homonyms. Specifically, we excluded toponyms 128 frequently used as surnames in our corpus (e.g., 'Rostov', which in 90% of the cases was 129 the surname of one of the member of the Rostov family in War and peace) and those 130 typically employed metaphorically (e.g., 'Babylonian').

The filtered toponyms were subsequently geocoded using the 'wikipedia' Python pack- 132 age. Geocoding helped us remove duplicates: different spellings and word forms of 133 the same city (e.g. Saint-Petersburg can be spelled in at least 6 different variants in our 134 corpus), country, or river were merged based on the matching coordinates. Thus, the 135 pair of latitude and longitude became the primary ID of each location that we analysed. 136 Extracted and geocoded locations are available here.² 137

We then produced symbol maps that overlay frequencies in the texts onto geographical 138 locations. We analysed the raw frequencies of locations and their relative increase or 139 decrease in frequency between the periods of romanticism and realism. 140

It is important to note that our analysis of geographical material focused not on where 141 events take place but on all mentions of place names. This highlights the writers' and 142 Russian society's attention to these parts of the world. 143

Additionally, to compare contexts of the same toponyms in the two periods we used 144 word2vec (Mikolov et al. 2013). With this we attempted to detect the contextual change 145 for some of the most frequent locations that were found in both corpora. 146

2. https://github.com/DanilSko/mapping_russian_prose



Figure 1: A heatmap depicting location frequencies in romantic (left) and realist (right) texts, visualized through surface occupied and color intensity. Focused on Eurasia.



Figure 2: Top 20 locations by relative frequency in romantic (left) and realist (right) texts.

4. Results

A comparison of the geographical distribution of locations in the romanticist and re- 148 alist corpora reveals a discernible shift. Figure 1 shows two heatmaps reflecting the 149 frequencies of geotagged locations in both corpora. 150

This visualisation already demonstrates certain key differences, such as relatively more 151 attention to Western Europe in the realist period, as well as a bigger relative presence of 152 Saint Petersburg. However, it is hard to analyze such heatmaps in detail. Figure 2 contains 153 a more traditional bar plot diagram with the top 20 locations by relative frequency in 154 each of the two subcorpora, providing a more detailed zoom into their differences. 155

Although Moscow is the most frequently mentioned location in both corpora, its dominance significantly diminishes in the realist texts. In the romanticist corpus, Moscow's mentions surpass those of Saint Petersburg by a factor of 2.5, whereas in the realist corpus, Saint Petersburg's mentions are only 20% fewer than Moscow's. 159

The emergence of Saint Petersburg as a prominent location is unsurprising; it serves 160 as a primary setting for many significant Russian novels of the realist period. Dostoevsky's 'Crime and Punishment' and other works, Goncharov's 'An Ordinary Story' 162 and 'Oblomov,' as well as Tolstoy's 'Anna Karenina' and 'War and Peace', are set in Saint Petersburg. Additionally, many lesser-known works of Russian realism are set there. Russian literary tradition often attributes to realism a focus on depicting 'typical' 165 characters in 'typical' settings, and these characters were frequently situated in the then-capital and administrative hub of Saint Petersburg. 167

Mapping Russian 19th Century Literature



Figure 3: Top 20 biggest relative loss (left) and relative gain (right) from romanticism to realism.

A second significant shift in the realist corpus is the diminished prominence of Kyiv and 168 other Ukrainian locations. While Kyiv ranked fifth in the romantic corpus, it declines to 169 twelfth place in the realist texts, being surpassed not only by Western capitals such as 170 Paris and Rome but also by peripheral Russian locations, including Kazan, the Volga 171 River, and Siberia. Similarly, other Ukrainian locations, such as the Dnipro River and 172 Poltava, exhibit a noticeable decrease in relative frequency. 173

To systematically capture these changes and emphasize the locations that underwent the 174 most substantial shifts, we calculated the relative overall change in location frequencies 175 and ranked them accordingly. This approach enables a clear visualization of the locations that experienced the most pronounced relative increase or decrease in the realist 177 subcorpus compared to the romantic corpus. The corresponding ranking is presented 178 in Figure 3. 179

Among the locations that experienced the most significant decline in frequency during 180 the transition from the romantic to the realist period (Figure 3, right), a distinct group 181 comprises Ukrainian toponyms, including Kyiv, Dnipro, Poltava, Baturin, and Zaporizhzhia. This category can be further extended to include neighboring Polish and Baltic 183 locations (Poland, Narva). These Ukrainian, Polish, and Baltic territories — historically 184 contested regions of Eastern Europe — played a crucial role in the literary landscape of 185 Russian historical fiction. 186

Key historical events, such as the Time of Troubles (Smuta), the Polish–Russian War 187 of 1605–1618, the Cossack uprisings against Polish and Russian rule, and the Great 188 Northern War of 1700–1721 (which accounts for the inclusion of Poltava and Narva), 189 unfolded largely within the territories of present-day Ukraine and the Baltic states. 190 These events provided a rich source of inspiration for numerous Russian-language 191 authors of the romantic era, including Alexander Pushkin, Nikolai Polevoy, Mikhail 192 Zagoskin, Faddey Bulgarin, and Fyodor Glinka. Within their works, these contested 193 lands of Eastern Europe function similarly to Scotland in the novels of Walter Scott, 194 serving as a backdrop for narratives of conflict, heroism, and national identity. 195

Another significant group of locations prominent during the romantic era but less 196 favored during the realist period includes historical cities of Central Russia, such as 197 Novgorod (the capital of the Novgorod Republic and a popular 'unrealized alternative' 198 to monarchical centralized Moscow), Uglich (known for the death of Tsarevich Dmitry, 199



Figure 4: Top-20 locations with the biggest loss (blue) and the top 20 locations with the biggest gain (red) in the realist subcorpus as compared to the romanticist one.

a pivotal event in Russian history), and Moscow itself. Both Moscow and Kyiv, which 200 were among the most frequently depicted locations during the romantic period, lost 201 their literary prominence to Saint Petersburg as Russian literature shifted its focus from 202 a romanticized past to the contemporary present. 203

Realist literature, oriented towards the present, also shifted its geographical focus west-204 wards — away from the historically contested lands of Eastern Europe and the Baltics, 205 towards the Western European capitals (Paris, Rome, Berlin, Vienna) and countries 206 (France, England, Austria, Switzerland). The characters of realist novels no longer 207 engage in battles in Poland, Lithuania, or Ukraine; instead, they travel to and from 208 France, Italy, or Switzerland, often by train, much like the protagonist of Dostoyevsky's 209 'The Idiot' or characters of Tolstoy's 'Anna Karenina'. 210

Concurrently with the westward shift, there was an eastward expansion in literature. In 211 the 19th-century, Russia was actively colonising territories in the Volga region, the Urals, 212 and beyond into Siberia. Notably, "Siberia" exhibits the third largest relative increase in 213 frequency within the realist subcorpus, following only Paris and Saint Petersburg. Other 214 prominent locations in this context include the Volga, the Urals, Kazan, Ufa, and Saratov. 215 While some of these locations possess historical significance, during the realist period 216 they were primarily associated with new economic development. At the same time, 217 these remote places play a bigger role in the ever-growing wave of literature dealing 218 with the topics of prison, penal labour system (katorga) and penal exile of political 219 prisoners, typically members of revolutionary movements. 220

In Figure 4 we mapped the 20 locations that saw the biggest loss (blue) and biggest gain 221 (red) in their relative frequency in transition from romanticism to realism. 222

Figure 4 demonstrates that the overall picture is clearly that of an expansion. With 223 the advent of realism, Russian literature transitions from its historical roots in East 224

	Romanticism	Realism
Saint Petersburg	Moscow (Москва) a village (деревня) a city/town (город) Simbirsk (Симбирск) Kabarda (Кабарда) service (as in army service, government service) (служба) a capital (столица) Kursk (курск) Siberia (Сибирь) to practice (упражняться)	Moscow (Москва) a university (университет) Paris (Париж) a province (провинция) a village (деревня) a grammar school (гимназия) a city/town (город) a capital (столица) Germany (Германия) Kyiv (Киев)
Moscow	Petersburg (Петербург) a city/town (город) a village (деревня) Simbirsk (Симбирск) empty (obsolete) (порожний) an army (армия) kursk (Курск) Kabarda (Кабарда) to practice (упражняться) a tavern (трактир)	Petersburg (Петербург) a city/town (город) a village (деревня) Paris (Париж) Kyiv (Киев) a capital (столица) Petersburg (colloquial) (питер) a monastery (монастырь) Russia (Россия) a university (университет)
Kyiv	an army (армия) Paris (Париж) Smolensk (Смоленск) a fortress (крепость) a monastery (монастырь) a neighborhood (соседство) resurrection (воскресение) a tavern (корчма) a gang (шайка) a province (губерния)	Astrakhan (Астрахань) Kazan (Казань) Berlin (Берлин) Paris (Париж) Vienna (Вена) a horde (typically the Golden Horde) (орда) Germany (Германия) Petersburg (colloquial) (Питер) Ryazan (Рязань) Siberia (Сибирь)

Figure 5: Top 10 contextual neighbours for Saint Petersburg, Moscow, and Kyiv in romanticist (left) and the realist (right) corpora.

Slavic civilization (Novgorod, Kyiv, Moscow) to a focus on contemporary life in Saint 225 Petersburg. This shift also facilitates connections with Western Europe (England, France, 226 Italy, Germany) and provides insights into developments at new trading outposts and 227 ports of the Empire, such as Astrakhan, Kazan, Crimea, and Siberia. As the nation 228 undergoes economic and military expansion, new territories are also being explored by 229 its literature. 230

Of course, there are limitations to what one can find out looking at frequency changes 231 only. Not only do frequencies of toponyms change, but also the contexts in which they 232 are used. To look into the differences we trained two word2vec models on our corpora. 233 We then compared the contextual semantic neighbours (i.e. words with the closest 234 vectors in the model) for the three most prominent capital cities in our corpus: Kyiv, 235 Moscow, and Saint Petersburg. Figure 5 lists the top 10 most similar words for each of 236 the three cities in both the romanticist and the realist corpora. 237

Comparing the sets of contextual neighbors for these three cities in two models, we can 238 see that in the case of Saint Petersburg there is a very obvious modernisation of contexts. 239

While the closest word is Moscow in both models (which is totally understandable given 240 the nature of word2vec mechanics: the two capitals appear in very similar functional 241 positions in texts), the second is a village in the romanticist corpus and a university 242 in the realist corpus. Other realist connotation in the list of contextual neighbors is 243 a grammar school (гимназия) — none of those modern education-related words are 244 present in the romanticist contexts. Notable is also the generally more 'western' selection 245 of locations that appear most similar: Germany, Paris. 246

In the case of Moscow, such modernisation of contexts is much less visible. A village 247 remains as the third closest contextual neighbour, while a university is only on the 248 10th position, below both the word monastery as well. This highlights Moscow-s more 249 traditional and non-modern connotations, which likely contribute to its relative decline 250 in frequency that we reported in Figure 3. 251

As for Kyiv, we likely see the total change of its function in the texts. Its contextual 252 neighbors in the romanticist corpus suggest Kyiv being the centre of historical action: 253 the mentions of armies, taverns, gangs... In the realist corpus (where, as we remember, 254 there is much less Kyiv, so this should be taken with a grain of salt), on the other hand, 255 Kyiv becomes just one item in the list of many locations, which in our view is an indicator 256 of the city losing its function as the setting of literary plots. 257

5. Conclusion and discussion

Our research is an early attempt at modeling the spatial component of Russian 19th-259 century prose through geocoding and mapping. Our approach obviously lacks many 260 important nuances. For one, we do not differentiate between different functions of 261 toponyms inside the texts, be it a random mention of a place or a location important for 262 the development of the plot. But what we were interested in was primarily the expansion 263 of 'mental' geography of Russian writers and readers. Regardless of whether a certain 264 city or country was just 'mentioned' or actually was part of the plot, its appearance in 265 the text is a clear sign that it entered the mental map of Russian literate society. Secondly, 266 and maybe more importantly, we did not normalize locations in proportion to the size 267 of work. A lengthy novel set in Moscow can contain hundreds of mentions of the city 268 and will inevitably skew the whole map towards it. We intend to handle this issue in 269 the next iterations of this work. 270

Despite these and other caveats, we believe that our results demonstrate the utility of 271 the method as a tool to track large scale literary changes on relatively big corpora in 272 the paradigm of distant reading. Most of the novels we worked with belong to the 273 'great unread' of Russian 19th-century literature. The ability to derive conclusions 274 regarding the evolution of literature in relation to the economic, political, and cultural 275 developments of the Russian Empire — without the necessity of reading hundreds 276 of individual texts — presents a promising research perspective. The detection of an 277 expansion in geographic boundaries during the second half of the 19th century through 278 quantitative analysis further demonstrates that methods of distant reading can yield 279 meaningful insights into literary corpora. 280

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Da ee,	ta can be found here: https://github.com/DanilSko/mapping_russian_prose/tr /main/geodata
7.	Software Availability
Sof tre	tware can be found here: https://github.com/DanilSko/mapping_russian_prose/ ee/main/code
8.	Author Contributions
Da edi	niil Skorinkin: Project administration, Writing – original draft, Writing – review ting, Visualization
Bo	ris Orekhov: Conceptualization, Formal Analysis, Data curation, Investigation
Re	eferences
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