

The New Order of Criticism. Explorations of Book Reviews Between the Interpretative and Algorithmic

Jonas Ingvarsson¹, Daniel Brodén¹, Lina Samuelsson², Victor Wählstrand Skärström¹, and Niklas Zechner³

¹ Gothenburg University, The Centre for Digital Humanities (CDH), Department of Literature, History of Ideas, and Religion (LIR), Box 100, SE-405 30 Gothenburg, Sweden

² Mälardalen University, School of Education, Culture and Communication, Division of Language and Literature, Box 883, SE-721 23 Västerås, Sweden

³ Gothenburg University, Språkbanken Text, Department of Swedish, Multilingualism, Language Technology, Box 200, SE-405 30 Gothenburg, Sweden

Abstract

The *New Order of Criticism* (2020–2024) is a mixed-methods project combining algorithmic and interpretative approaches to the study of literary criticism. The project expands on a prior study of Swedish book reviews from the years 1906, 1956 and 2006 ('The Order of Criticism', Samuelsson 2013), re-examining and re-evaluating the original results through the use of computational tools, language technology and big data. The aim of the present paper is to discuss early experiences and results from the interdisciplinary approach utilized by the current project, a collaborative process where interpreter and programmer are in dialogue, and where methodologies, and their instantiation in tools, are reflexively discussed from an epistemological point of view. In our analysis we ask: *How can insights from working with digital methodologies and tools inform traditional scholarship on literary criticism? How can interpretative approaches and results inform digital methods?*

Keywords

Literary criticism, machine learning, discourse analysis, big data, network analysis, close reading

1. Introduction

The project 'The New Order of Criticism: A Mixed-Methods Study of 150 Years of Book Reviews' (2020–2024, funded by Riksbankens Jubileumsfond) compares and evaluates the results of interpretative and computational methodological approaches to the analysis of literary criticism in Swedish newspapers and periodicals.

The project takes as a starting point Lina Samuelsson's study *The Order of Criticism: A Study of Book Reviews in Sweden in 1906, 1956, 2006* (*Kritikens ordning: Svenska bokrecensioner 1906, 1956, 2006*) from 2013 [1]. We compare the results of Samuelsson's comparative literature (and 'manual') analysis with the results emanating from language technology (LT) analysis and other data-driven methods. The material in focus consists of transcripts of the reviews originally studied by her but also the totality of book reviews in the newspaper database of the National Library of Sweden (*Kungliga biblioteket*, KB) as well as additional digitised periodicals.

By combining analogue (or 'traditional') and computational methods, 'The New Order of Criticism' seeks to develop a mixed-methods approach to large-scale studies of literary criticism and text mining

The 6th Digital Humanities in the Nordic and Baltic Countries Conference (DHNB 2022), Uppsala, Sweden, March 15-18, 2022.

EMAIL: jonas.ingvarsson@lir.gu.se (J Ingvarsson); daniel.broden@lir.gu.se (D Brodén); lina.samuelsson@mdu.se (L Samuelsson);

victor.wahlstrand.skarstrom@lir.gu.se (V Wählstrand Skärström); niklas.zechner@gu.se (N Zechner)

ORCID: 0000-0002-4600-1178 (J Ingvarsson); 0000-0002-5914-1516 (D Brodén); 0000-0002-0904-3408 (L Samuelsson); 0000-0001-6569-120X (V Wählstrand Skärström); 0000-0001-6669-0698 (N Zechner)

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CEUR Workshop Proceedings (CEUR-WS.org)

analysis of argumentative, critical text corpora. On a more abstract level, one project goal is to explore the possible synthesis between what may be perceived as two epistemological stands (traditional and digital text analysis). This ambition echoes the positions taken by, among others, Liu [2] and Ingvarsson [3], who claim that the role of digitisation within the humanities is not only a matter of tools or gadgets, databases and digital objects, but also a concern for the organisation, production and dissemination of knowledge [4, 5].

Albeit most projects that engage in distant reading practises owe some debt to the pioneering works of Franco Moretti and Matthew Jockers [6, 7], the epistemological claims and mixed-methods approach utilised here, leans more to the positions taken by for example Katherine Bode [8, 9], who, on the one hand, affirms the methodological achievements of distant reading, while, on the other, subscribes to the criticism that Moretti and Jockers transform the complex notion of ‘literature’ to merely ‘data.’ However, as Bode concludes, ‘distant reading and close reading are not opposites’ [9]. Another mixed-methods stance is taken by Paul Saint-Amour [10] who advocates a ‘meso-analysis’ strategy, deliberately choosing the very ‘middle road’ that Moretti rejects as ‘not leading to Rome.’

The aim of the present paper is to discuss the project and its core focus points, drawing on some initial findings. The overall goals and ambitions of the project could be stated as follows:

- A re-examination of the manual transcriptions in Samuelsson’s prior study (approx. 700 book reviews), through a mixed-methods application of language technology and other research tools.
- An exploration of all available literary criticism in KB’s newspaper database from the years 1906, 1956, 2006 (the same years as in Samuelsson’s study) in order to compare the analytical results with the original study, but also to train algorithms for identifying literary criticism in large text corpora (this part of the project will be further elaborated into a LT-study of all years from 1870–2020).
- An epistemological reflection on differences, similarities and synergies between interpretative and computational methods.
- An overview of literary criticism from 2016, in the vein of Samuelsson’s approach, drawing on the digital tools the project has utilised and generated, in order to further study and evaluate the possible synergies between traditional interpretation, network analysis, and LT-driven approaches.

In the following, we will focus on the first of these four challenges and also break down the project’s interdisciplinary and comparative approach to discuss our methodological and technical points of departure. We introduce early results from the collaborative process, where digital and traditional methods and approaches to both digitised and printed material are set in a continuing dialogue, and where methodologies and their utilisation in tools are reflexively discussed [11]. The presentation follows the goals stated above and discusses some of the tasks and challenges that we are confronted with.

2. Data – transcripts of book reviews

Samuelsson’s original study [1] investigates the field of literary criticism in Sweden from three years (1906, 1956 and 2006), each year studied from two distinct perspectives. The first perspective focuses on the sociology of the landscape of literary criticism – the publications and critics involved, including, for example, the role of gender and ideology. The second perspective concerns the discourse of book reviews, where the texts in focus are read as a collective voice of the critics at the time [12]. This approach includes the study of the norms and generic traits of literary criticism by identifying key attributes of the texts in the form of recurring themes, criteria of evaluation as well as the critics’ approaches towards the literary works and the writers. The combination of discourse analysis and sociology of literature also serves as a guiding framework for the different tasks carried out with the tools of language technology and network analysis in the project.

The material in the prior study consists of book reviews from what could be regarded as the most culturally significant publications of each period (as well as from radio in 1956 and 2006, and television in 2006). The printed material for each year was assembled from 12 newspapers and 2–3 periodicals, in total 200–300 book reviews per year. The reviews were manually identified using microfilm copies of newspapers and transcribed by hand into a digital format. For each year the material was sorted out in a database and categorised with metadata, for instance the name of the critic and the author, their gender, the title of the book reviewed, the source, article length (word count), the date of publication, and literary genre. This material constitutes Samuelsson’s original corpus.

3. Preliminary Results

In our initial exploration of the book reviews previously studied by Samuelsson, we have pursued the actual difference in the language of criticism in her corpora for the years 1906, 1956 and 2006. We have made preliminary computational studies in terms of word frequencies, document embeddings and visual analysis, comparing the results of Samuelsson’s study [1] (the words and phrases that were part of the discourse analysis) with the actual text data in her transcribed material.

3.1. *The Order of Criticism* – some topics and words from the original study

In the discourse analysis sections of her study, Samuelsson [1] noted that for each year examined, a few topics and themes emerged from the material. Together, these words and topics formed a tentative mapping of the critical discourse 1906, 1956, and 2006. For the case of this paper, we present a sample of the topics in the original study which form a point for departure for the computational analyses described further below.

1906:

Utveckling; mognad; äkta; levande; själ; författare; skald; diktare; personlig; personlighet; känsla; land; nation; fosterland; talang; konst; konstnär; nordisk
[*Progress; maturity; authentic; living; soul; author; poet; poet; personal; personality; feeling; country; nation; motherland; talent; art; artist; Nordic*]

1956:

Tolkning; obegriplig; läsaren; verk; verket; klar; klart; klarhet; genre; enkelhet; tydlighet; enkelt; människa; mänsklig; mänskligt; psykologi
[*Interpretation; incomprehensible; the reader; (literary) work; the (literary) work; clear; clearly; clarity; genre; simplicity; clarity; human (noun); human (adj); humanly; psychology*]

2006:

Själv; mig; originalitet; författare; bok; boken; komplexitet; kön; kropp; språk; äkthet; politisk; politiskt
[*Self; me; originality; author; book; the book; complexity; sex (gender); body; language; authenticity; political; politically*]

3.2 Statistical analysis of topics using word frequencies

To test these prior results computationally, we looked for each of these words (from all three years) in Samuelsson’s material, which resulted in some interesting observations. Some of the findings may at first glance in part challenge the original study, but we must keep in mind that the discourse analysis of Samuelsson’s corpus is not quantitative but qualitative – that is, the traditional analysis focus on the *value* or *importance* the text gives to the different topics. Nevertheless, our findings call for further

analysis, in the form of a re-reading of Samuelsson’s study, but also of the ‘totality’ of the material from the individual years when we access the larger corpora.

For each period, we combine all the available data. For each word, we then find the relative frequency for each period. As an example, the word ‘äkta’ makes up approximately 300 per million words in 1906, but only 150 per million in 1956, and 50 per million in 2006. By considering the change in frequency, we can get a picture of the changes in discourse over time.

In 1906, the topic of national identity is strong in the manual analysis, and we verify it here: the words ‘land’, ‘fosterland’, and ‘nordisk’ are all prominent. Words related to the development of the author, such as ‘mognad’ and ‘utveckling’ are partly verified, but less clearly so.

Another hypothesis about 1906 was that we would find words qualitatively related to the author, such as ‘personlighet’, ‘personlig’, ‘levande’, and ‘diktare’. These are not found to be common in 1906, but instead seem to have increased in 1956. ‘Skald’ is more common in 1906, but it may be that the word has become obsolete by 1956.

In 1956, we expected to find the topic of humanity, as evidenced by ‘människa’, ‘mänsklig’ and ‘mänskligt’, which is verified by the statistical analysis. The topic of clarity was also expected in 1956, but the result is not clear; we find that while ‘klarhet’ is at its most common in 1906, ‘klar’ reaches its peak in 1956, and ‘klart’ in 2006. For the related concept of simplicity, exemplified by for example ‘tydlighet’ and ‘enkelhet’, we do not find sufficient data to draw any conclusions.

Words about the relationship between book and reader, such as ‘läsaren’ and ‘genre’, which we hypothesised to find in 1956, are in fact more prominent in 2006. In 2006, we also expect a greater focus on the reviewer, which is partly verified, with ‘själv’ but not ‘mig’ increasing. Mentions of the book in the form of ‘verk’ or ‘verket’ were predicted in 1956, but seem to be relatively stable over time, whereas ‘bok’ and ‘boken’ increase over time.

Moreover, topics of gender and identity were expected to be prominent in 2006, which is partly verified. We see an increase in ‘kön’ and ‘språk’, and tentatively in ‘kropp’, whereas ‘politisk’ and ‘politiskt’ are inconclusive.

The manual analysis revealed that the number of female reviewers and authors varies over time, showing a decrease in 1956 compared to 1906 and 2006. In the computational analysis we also find that ‘hon’ (*she*) actually decreases in 1956, but increases in 2006, while ‘han’ (*he*) shows the opposite pattern. Following the hypothesis of increased focus on individualism and subjectivity, we might expect ‘jag’ (*I*) to increase overall, but it follows the same pattern as ‘hon’, decreasing in 1956 and increasing in 2006. This is in line with the original study, where Samuelsson argues that this may be an effect of a trend in New Criticism to focus not on the self, but rather on ‘the reader’ or ‘one’s perception.’

3.3 Embedding and visualisation

As previously mentioned, Samuelsson’s corpus is richly annotated with metadata. Besides the date of publication, the metadata includes details on the gender of the author and critic, the publication, or forum, of the review as well as the literary genre of the work. For Samuelsson, this data contained valuable information regarding the sociological aspects of the original study.

In order to create an effective and approachable visualisation of the individual reviews, the texts are projected into a numerical embedding space. An *embedding* is an information extraction technique which characterises a set of data in terms of only a few features, e.g. as coordinates on a plane. Part of this process is the reduction of noise in the data. In our case, the text variability is reduced by extracting only the uninflected word lemmas of the text, as well as significant filtering. As suggested by for example Martin and Johnson [13], an important part of this filtering is the extraction of only certain parts-of-speech, e.g. nouns. The resulting embedding can be seen in Figure 1, where each review is a point on the plane, in total 694 texts. The points are here scaled in terms of the size of their vocabulary and labelled by year of publication, indicating clear language divides across the years. Interestingly, this visual method of analysis seems to replicate the findings of the distance measures, namely a clear difference in language between the years.

The raw text from the 694 reviews is extracted manually and preprocessed by means of the Språkbanken Sparv tool [14], with lemmatisation and part-of-speech categories. The reviews are filtered

with respect to nouns, verbs, adjectives and, importantly, also the words in title of the reviewed text. The filtered corpus is transformed into a documentation-term matrix from term frequency-inverse document frequencies, a word frequency-based method which penalises words that exist in all reviews, and emphasises unique terms. Finally, the data is visualized in a 2D chart by means of dimensionality reduction. Since the objective of this procedure is visualization, the choice of algorithm is based on qualitative measures. However, care should be taken to use non-linear transformations, which aim to preserve the highly non-linear relationships between terms. Figure 1 and Figure 2 were generated using the UMAP algorithm (using 50 neighbours, a minimal distance of 0.1, and 10,000 epochs), which usually outperforms alternatives in terms of speed and qualitative performance on textual data [15].

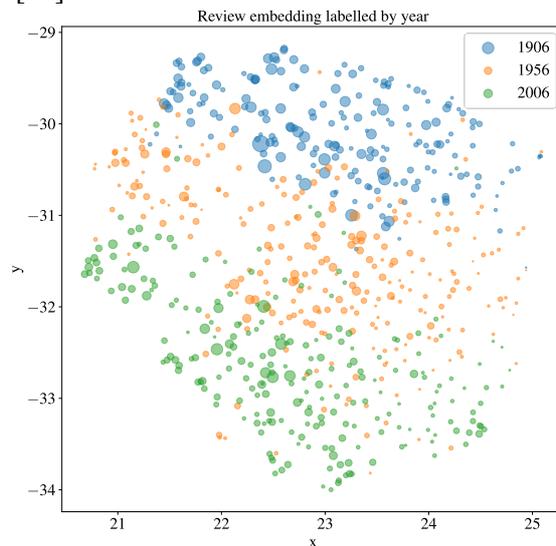


Figure 1: Reviews from Samuelsson’s corpus, embedded by means of UMAP and labelled by year of publication, indicating clear divides between years.

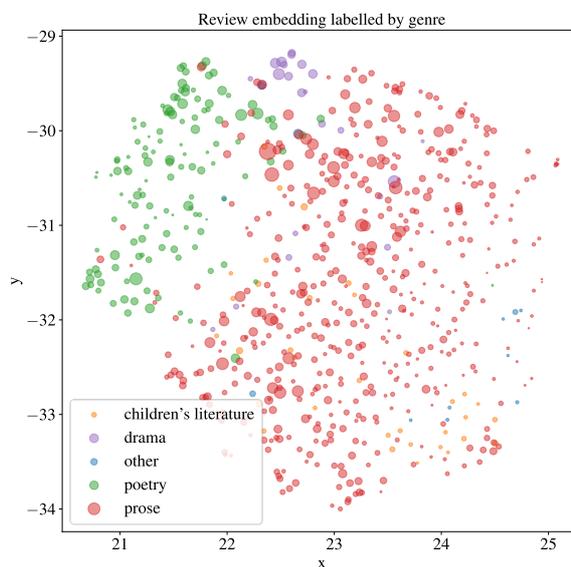


Figure 2: Reviews from Samuelsson’s corpus, embedded by means of UMAP and labelled by genre of the reviewed work. Although prose makes up the largest and most diverse set of reviews, there are clusters of varying coherence corresponding to for example poetry, drama and children.

The method reveals other relationships as well: labelling the reviews by literary genre also indicates a separation and constellations of reviews, see Figure 2. While prose is the largest and most diverse of the genres in the set of reviews, both poetry and drama form distinct clusters, indicating a degree of

genre-based commonality. Interestingly, even though the work titles are filtered from the texts, to stop certain unique words from dominating, closer inspection reveals that many smaller clusters consist of either a) reviews of the same work of literature, or b) reviews by the same critic – for example, *Örnsjö-tjuren* (Axel Klinckowström, 1906), *Gravidchock! Reporter erkänner* (Belinda Olsson, 2006), and *Gästen* (Niklas Rådström, 2006), each forming clusters of no less than 7 reviews. The driving force behind these clusters is an overlap in language use, but a close reading does not reveal that they are immediately similar.

For example, *Gästen* is a novel about a meeting between the two authors H. C. Andersen and Charles Dickens, but since their personal names are not part of the digital analysis, this fact can not account for the numerical similarity of the reviews. From a traditional close reading perspective, the reviews are not particularly similar, nor do they use the same quotes, and the critics have fairly different angles in their readings. However, the digital tool calls on us to invest this more deeply, pointing at a special discourse being at work within the reception of each title.

Our mixed-methods approach allows digitally-oriented and traditional scholars to collaborate on the analysis of the material. From a close-reading perspective, an interactive version of this embedding visualisation allows selection and inspection of individual reviews, and their relative position in the projected space. In practice, not only the clusters are interesting features of the embedding, but also the outliers, for example some 1956 reviews firmly positioned in 2006 space. Although this visualisation is a powerful illustration, it also serves as a critical tool for the researcher to question established themes in a large material.

4. Concluding reflections

The use of tools for text mining in many digital humanities contexts, have in a way created a new version of C.P. Snow's 'two cultures' [16], this time as a divide within the humanities itself, between, on the one hand, those who rely on traditional forms of text analysis (close reading, historical contextualisation, etc.) and, on the other hand, those who through big data and distant reading practices claim to have found a way to finally make humanities research quantifiable and 'scientific' [3, 9, 10].

Many arguments have been made that ideas of scientific validity cannot easily be adapted for the humanities, not least since the practice of interpretation runs the risk of being reduced to what can be modelled. At the same time, strong arguments are made that quantitative practices nevertheless can enrich and contribute to the methodological development in the field of literary study. [5] To insist on a dialogical relation between the digital tools (including machine learning and text mining) and the more traditional approaches (in the present project mainly represented by discourse analysis), thus seems to be of critical interest for further methodological and epistemological discussions within the humanities.

While the symbiosis of Foucauldian discourse analysis and text mining is not well explored, there is a growing interest in the merging of digital tools for text mining and traditional text analysis, including its methodological implications, and, recently, there have been studies where questions traditionally applied to comparative literature have been productively approached using distant reading tools and practices [17, 18].

Beside subscribing to positions taken by Bode and Saint-Amour above [8, 9, 10], our project follows what Rockwell and Sinclair [11] call a 'dialogical practice' resulting in a so-called Agile Hermeneutics (AH) by which they mean a collaborative process where data scientists and humanities scholars are in a dialogical relationship: 'Whereas traditional programmers aim to have complete specifications, and scholars attempt to theorise their work largely beforehand, AH is pragmatic. Small experiments generate hermeneutical theories as the products of interpretation: texts and tools. Code is quickly hacked to test an idea. Methods, and their instantiation in tools, are discussed reflexively throughout the experiment. Above all, [...] AH is about talking with another person who has complementary skills and summarising those conversations in various ways' [11]. As our project digs deeper into the intersections of computational and interpretative analysis, we will further pursue an epistemological interest in the dialectical and dialogical tensions of this very process.

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