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Editors’ Preface

As the general editors of the DH Benelux Journal, we are proud to present our trilateral Digital Humanities research community with the third volume of this Open Access journal. As in previous years, authors of accepted conference abstracts were invited to submit full versions of their papers, which were then subjected to a stringent peer reviewing process. The resulting volume includes research presented at the seventh DH Benelux conference, which, due to the Covid-19 crisis, took place online on 3-5 June 2020. The theme of the conference was ‘Digital Humanities Online,’ and as you will see in the papers presented here, an exciting diversity of topics and teams were represented. In the preface by this year’s guest editors, Antske Fokkens and Christian Olesen, the theme and the contributions are described in more detail.

Like we did in our previous preface, and like the guest editors do in theirs, we would like to take the opportunity to stress here again how grateful we are to everyone who made DH Benelux 2020 such an astounding success. In many ways it was an impromptu conference, with its full weight carried by the fervent dedication of our trailblazing community members. Because while the 2020 conference may have been the first edition of DH Benelux to go online, it surely wasn’t the last. The 2021 edition in Leiden ended up needing to take place online as well; and we are sure that in the years to come, the community will reap the benefits of all the lessons that were learned from this rapid reimagining of our beloved conference, in a completely new format, without compromising on quality whatsoever.

As we are currently receiving and processing submissions for the fourth volume of our Journal (based on the presentations of the 2021 conference in Leiden), and look forward to our next (hopefully in-person!) gathering in Luxembourg, we hope you enjoy reading this volume’s enthralling contributions – and that they may inspire lively academic discussion in the DH Benelux community, and beyond!

October 11, 2021
Antwerp and Amsterdam

Wout Dillen
Marijn Koolen
Marieke van Erp
Introduction

Antske Fokkens\textsuperscript{1} and Christian Olesen\textsuperscript{2}

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The seventh edition of DHBenelux was an unusual conference in many ways. The day after the submission deadline, the first restrictive measures for dealing with the Covid-19 crisis were announced in the Netherlands, the conference’s host country. This slowly led to the realization that the conference could not take place in Leiden in a responsible manner, and as a consequence DHBenelux 2020 was postponed. Shortly after the original decision to postpone the Leiden conference to 2021,\textsuperscript{1} however, we discussed the option of organizing an online alternative in the interim. Encouraged by the DHBenelux steering committee, we started up a new review process for an online edition of DHBenelux to take place in 2020. With little time, even less experience with organizing an online conference, and new education duties due to Covid-19 to boot, organizing this online edition turned out to be quite a challenge. We are therefore extremely grateful that multiple steering committee members stepped in to support us; without them the 2020 online edition (as well as this issue of the DH Benelux Journal) would not have materialized. Thanks to Sally Chambers, Andrea Scharnhorst, Joris van Zundert and Mike Kestemont, DHBenelux2020 did go online and turned out to be a nice event with interesting talks, followed by playful social gatherings in the evenings.

After the event, we sent out an invitation to all authors of a positively reviewed abstract to submit an extended version of their talk to the Journal.\textsuperscript{2} We received 6 submissions that were each reviewed by 3 or 4 expert reviewers in a single-blind setup. All 6 submissions could be accepted after either minor or major revisions. The resulting work can be found in this issue.

The contributions to this issue of the DHBenelux Journal reflect a mix of articles that directly respond to themes proposed in the original call, as well as case studies and projects that fell outside of these. Addressing the thematic strand of \textit{Digital Humanities Education and Digital Education in the Humanities}, Florentina Armaselu’s article “The Digital Humanities Classroom. From the Toolbox to the Mindset?” raises the question as to how more student-driven, inquiry-based approaches may help students develop a critical mindset in their introduction to digital humanities methods. Based on experiences from the University of Luxembourg, Armaselu calls for a hybrid

\textsuperscript{1} This edition has now taken place and ended up being online as well.
\textsuperscript{2} A downside of the quickly designed online setup was that not all positively reviewed work could be presented.
approach that mixes methods from various disciplines “underpinned by a view of the DH classroom metaphorically defined as a ‘node.’” Four contributions in the field of digital literary studies offer novel perspectives on stylometric analysis and the reception of literature, working with datasets varying from literary corpora, linked collection data, and social media data. Building on experiences, insights, and data from the project *The Riddle of Literary Quality*, Van Rossum, Van Zundert and Van Dalen-Oskam suggest a method for identifying literary perspective in a corpus that consists of popular Dutch novels from the late 2000s to the early 2010s, to complement the project’s stylometric analysis with new narratological perspectives. Going beyond literary text corpora to focus instead on linking collection data, Nijboer, Van Deinsen, Van Wissen, Van Strien and Blom focus on canon formation in early Dutch literature on the basis of the *Schrijverskabinet* dataset, *ONSTAGE* and *ECARTICO* data, as well as various data sets from the National Library of the Netherlands. Also focusing on aspects of literature’s popularity, but with a focus on contemporary literature, Lore De Greve and Gunther Martens analyze tweets relating to the Ingeborg-Bachmann-Preis, and to audience reactions concerning the performative components of the prize’s competition - such as broadcast readings. Alongside these three contributions that each zoom in on aspects of literary quality, style, and popularity in their own way, Megan Bushnell’s contribution “Reconstructing Gavin Douglas’s Translation Practice in the *Eneados* Using a Corpus Linguistic-Based Method” applies a multidimensional, interdisciplinary method to the study of medieval translation, offering new perspectives on what is lost in the translation of classic literary texts. Finally, Milan van Lange and Ralf Futselaar’s work in the area of digital history analyzes the expression of emotions in Dutch parliamentary debates in relation to victims of the German occupation of the Netherlands during World War II, suggesting a more fine-grained understanding of how war victim legislation has been discussed between 1945 and 1990. In addition to the steering committee members mentioned above, we would like to thank the Leiden local organizers: Angus Mol, Sjef Barbiers, Alison Carter, Jelena Prokic, Laurents Sesink and Erik Weber. We would also like to thank the Journal’s editorial board for their continued support in the process, and for stepping in at times we were not available. Finally, our wholehearted thanks go to the reviewers who carefully read the papers and provided valuable insights which helped us in our decision making process, and to the authors for taking the time to prepare the camera ready versions of their papers.
I Catching
Computationally Operationalising Narrative Perspective for Stylometric Analysis

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One of the aims of literary research is to explain different interpretations and preferences of literary language. Narrative perspective is one of the many interlinked features associated with literary style. An automated way to measure a text’s perspective is thus essential for the computational analysis of a large corpus of literary fiction. However, no such measure of narrative perspective exists to date. In this paper we explain a first step in developing such a measure. We take two approaches to operationalise narrative perspective as a textual predisposition towards either first or third person perspective. The first measure is based on a baseline machine learning approach, the second is based on computing the ratio of combinations of pronouns. The latter approach results in a heuristics based measure which we call the I-index. Our research demonstrates that narrative perspective can be predicted with high accuracy. We reflect on our results to broach the advantages and pitfalls of both methods.

1 Introduction

In computational literary studies, various stylometric methods are applied. To verify authorship, for instance, or to map stylistic differences between texts, authors, genres, etc. In the project The Riddle of Literary Quality, stylometry was used to investigate the concept of literary quality with the main objective to establish which linguistic features are more prominent in novels that readers rate as highly literary, as opposed to novels that are rated less high. The project demonstrated the combined importance of a novel’s textual qualities for its perceived literariness, qualities such as: narrative structure and plot (Koolen et al., 2020), semantic complexity and lexical originality (van Cranenburgh, 2016), and the work’s embeddedness in social structures such as
genre and author gender (Koolen, 2018). One of these textual qualities is narrative perspective. The corpus used for the Riddle of Literary Quality consisted of 401 novels. In several experiments, in which sets of novels with different ratings on the scale from high to low literariness were compared, pronouns showed up at the top of the lists of preferred words (van Cranenburgh et al., 2019). In order to establish if and how these preferences relate to perceptions of literary quality, it is necessary to find out if their prevalence can be linked to a difference in narrative perspective. We would like to be able to determine if these pronoun preferences are related to prevailing perspective, which we operationalise as being narrated in either first or third person. However, clear computational measures to determine perspective do not exist. In this paper we build on the work done in The Riddle of Literary Quality and take a first step in the process to develop such a formal measure.

2 Theoretical Background

Establishing a rudimentary definition of narrative perspective is important when we want to answer questions such as whether novels with a first person narrator significantly differ in style from novels with a third person narrator, and if a text’s narrative perspective correlates with its perceived literariness. Especially when dealing with large size corpora, as in the case of the Riddle of Literary Quality project, we need to be able to establish narrative perspective computationally and reliably. In this paper we present and evaluate a first methodological step to do exactly this.

Narrative perspective is a highly complex and multifaceted narratological concept (Porter-Abbott, 2008, pp.311–12). It depends on many aspects such as narrator voice, narrative time, dialogue, reliability of narrator, and so forth: “[t]o mention only a few factors: one’s position with respect to the perceived object, the angle of the light, the distance, previous knowledge, psychological attitude towards the object – all these things and more affect the picture one forms and passes on to others. Storytelling is one form of such passing on,” Mieke Bal writes in her Introduction to the Theory of Narrative (Bal, 2017, p.133). As non-binary and abstract features, these factors of storytelling currently cannot be easily computationally determined, an issue raised by Luc Herman and Bert Vervaeck in their criticism of positivistic narrative processing: “In striving for the disambiguation typical of the hard sciences, literary narratology might lose its relevance as a tool for the development of interpretations that ideally keep the complexity of a text intact. In any case, empirical narratology turns the narrative and literary dimensions of the text into quantitative data.” (Herman and Vervaeck, 2005, p.105).

In contrast to the sceptical take by Herman and Vervaeck we do think it is possible to operationalise literary complexities in a way that enhances the relevance of literary hermeneutics, while remaining respectful of the literary texts themselves. We think that taking small iterative heuristic steps combined with machine learning validation on large ground truths is a feasible way forward. As we will show in the methodology section, these heuristic steps guarantee that the complexity of each literary text is directly taken into account.

In this paper we report on our work to establish if first and third person narrative voice can be reliably determined automatically. Highly accurate formal measures to determine story perspective computationally do not exist yet. Related computational narrative work has focused elsewhere: on dialogue detection (cf. Byszuk et al., 2020), narrative generation (cf. Mani and Hirst, 2013), or matters of authorial perspective (e.g.
Piper, 2015), for instance. Research so far has not yielded results that allow simple and straightforward detection of story perspective, let alone more subtle related aspects such as perspective shift within the same story, chapter or paragraphs, unreliable perspectives, and mixed perspectives. One complicating issue, for instance, is that perspective and its subtle guises are intricately tied to the distinction between dialogue and non-dialogue text that both can take various ambiguous mixed shapes. Acknowledging this complexity Brunner (2013, 2019) combines machine learning and rule based approaches to automatically detect speech, thought and writing representation. Brunner’s method currently does not yield an accuracy of distinguishing dialogue from non-dialogue that enables automated precise labelling of samples. Brunner reports an F1 score of 0.87 on direct speech recognition, and scores lower than 0.5 for other forms of speech and dialogue, e.g. indirect speech, free direct speech and narrator text (Brunner, 2019, p.242). This means that automatic dialogue detection currently cannot help us in detecting narrative perspective and once more demonstrates that inferring narrative perspective while acknowledging the many complexities of literary style is not a straightforward machine learning task. Because machine learning methods that can measure perspective directly are not available we have opted to first tease out the many less complex features and their appropriate computational measures that will ultimately allow us to determine narrative perspective automatically with sufficient accuracy. As a first step we focus on pronouns as features that are related to narrative perspective.

In absence of precise machine learning methods for now we rely on manually labelling a ground truth (in the “NLP sense” of labelled baseline data for computer analysis). If we want to develop a measure of narrative perspective we are forced to start small, modest, and we should progress with small steps keeping computational and hermeneutic evaluation tightly integrated, as we reason elsewhere (van Zundert and van Dalen-Oskam, 2019). Machine learning results often agree with human intuitions. However, it remains unclear whether the underlying mechanisms of machine learning are comparable with the human cognitive process. Insufficient understanding of the heuristics of machine learning or data bias may lead to poor explanations for mechanisms behind real world phenomena (for especially egregious examples cf. Coalition for Critical Technology, 2020 and Liberman, 2010). The issue of the human comprehensibility of methodology remains a topic of much debate in the field of Digital Humanities, one that we would like to contribute to by integrating machine learning and computational methodologies as mutual checks and balances.

Our proposal for a first measure is intentionally simple and straightforward, because we want to better understand the interpretative process in the human reader. Within this first step towards making perspective computationally measurable we focus on pronoun use. Pronouns are semantically and syntactically a more clear and unambiguous category than other phenomena related to perspective, such as dialogue and emotional valence. This makes pronouns a good baseline point of entry for both machine learning and human heuristic approaches to studying perspective, as others have also recognised (e.g. Andresen and Knorr, 2020). For that reason we choose to use the analysis of pronouns as a first step in both hermeneutically and computationally understanding the measurement of perspective in literary texts.
3 Method

We applied two approaches to our development of a measure to determine perspective in fiction computationally, so as to be able to thoroughly validate our results. The first measure is a machine learning approach, where we try to let the “data speak for itself” bottom up. The second approach is narratologically informed and based on computing the ratio of combinations of pronouns.\footnote{Code for both approaches is open source (MIT license) and available in Github: \url{https://github.com/jorisvanzundert/riddle_ikindex}.}

Both methods use the same set of data of 1001 fragments of novel texts. Samples were taken from the novels from The Riddle of Literary Quality project corpus of 401 bestselling and most frequently borrowed novels in the Netherlands between 2007 and 2012. The samples were taken from across the entire Riddle corpus, although some novels contributed more samples than others. Samples were not chosen randomly but manually so that none contained dialogue, and were unambiguous consecutive examples of narrative text. Multiple fragments were chosen from novels that featured more than one narrator to reflect the narrative diversity of the corpus. Token length of samples varied around 250 tokens (minimum of 229, maximum of 314, with a mean of 258.11 words and standard deviation of 10.10). All samples were converted to lowercase and all punctuation was removed. A typical example of a text would look like the sample depicted in example 1.

---

\begin{verbatim}
verhoo daalde tijdens kantooruren af in de grijze catacomben van de dagelijkse routine waar het vergaderen ervoor zorgde dat alles nóg een tint grijzer werd vergaderen met de gemeente amsterdam vergaderen met architecten en interieurontwerpers over bijzonderheden van de nieuwbouw en renovatie van het hollands museum vergaderen met zijn conservatoren met projectontwikkelaars aannemers bouwplaatsmanagers opzichters subsidiegevers lobbyisten analisten fiscalisten bestuurders commissieleden deelraadsleden verenigingsleden een enkele keer bekeek hij een kunstwerk er waren de vroege ochtenden en soms lange avonden in zijn museumvleugel hij sliep slecht soms maakte hij in zijn eentje een wandeling door het lege gebouw heel soms zag hij zijn zonen verhoo betrapte zich erop te verlangen naar een doodgewoon appartement met een doodgewone keuken en dito badkamer en dan waren er de verplichte reizen naar de biënnales van sào paulo en venetië zijn aanwezigheid was vereist op openingen van tentoonstellingen in verschillende musea in europa: wining and dining in londen parijs düsseldorf madrid san francisco hij deed twee aankopen die de kranten haalden hij gaf gemiddeld drie interviews per maand aan buitenlandse dagbladen of tv zenders over het verloop van de verbouwing die geheel volgens nieuw ingestelde nederlandse traditie vertraging opliep op een zeker ogenblik moest de nieuwe vleugel tegen de vlakte de dag brak aan dat er twee verhuiswagens het bouwterrein op reden die een parkeerplek vonden tussen de containers cementwagens hijskranen en hei installaties samen met de opzichter een enthousiaste gezette vent met een oversized snor die archaïsch opkrulde bij de uiteinden liep verhoo
\end{verbatim}
het zoveelste rondje langs de enorme bouwput die de laatste maanden zijn uitzicht had bepaald
(Source: Joost Zwagerman (2010), *Duel*. Amsterdam, Antwerpen: De Arbeiderspers.)

Example 1: Example of one of the full samples of Dutch-language literary text used, without punctuation and all lowercase. (Pronouns in bold.)

The machine learning approach used a three layer feed forward convolution neural network with a standard Keras Python implementation backed by Tensorflow. We used a take-one-out approach to training and testing. Thus, for each sample we trained the model on the entire set of samples leaving out that specific sample, after which the model made a prediction, i.e. whether the tested sample was first or third person perspective. Essentially this means that we apply a plain vanilla machine learning binary classification approach to the problem of identifying first person and third person narrative perspective.

The pronoun ratio based approach we started by using equation (1). This equation computes the ratio between first-person pronoun singular “ik” (transl. “I”) and third-person pronouns singular “hij” and “zij” (transl. “he”, “she”).

\[
I = \frac{n_{ik}}{1 + n_{hij,zij}}
\]

(1)

This basic formula worked well but we found through iterative testing that using more pronouns would increase accuracy. Iterative evaluation also served to show that reflexive pronouns (“zichzelf”, “haarzelf”, “onszelf”; transl. “himself”, “herself”, “ourselves”) should not be counted as they are essentially redundant and therefore inflate the “he”, “she”, and “we” count of the pronouns they refer to. Eventually we arrived at the equation depicted as equation (2), or Van Rossum’s I-index.² Van Rossum’s I-index computes the ratio of pronouns associated with first person perspective to a fuller set of pronouns found in a text, including second-person, plural, and possessive pronouns. In this form the I-index resembles an approach presented by Jockers for English (Jockers, 2014). Apart from the obvious difference in language domain the main difference with that method is in our use of all pronouns. Jockers’ method uses first and third-person pronouns only. Jockers does not provide a formal validation, but for the Dutch context the use of all pronouns yielded better results than using selective pronouns (cf. section 4).

\[
I = \frac{n_{(ik,we,me,mijn[n],ons,ons)}}{1 + n_{(ik,we,me,mijn[n],ons,ons,hij,zij,ze,jou[w],haar,zijn,jullie)}}
\]

(2)

By sorting the labelled list of fragments from highest to lowest I-index several categorisation errors came to the fore. Several of these were manual labelling mistakes

---

² As a gesture of appreciation for her sound and creative contribution to developing this measure, well beyond the baseline for any expected contribution of a master student to a research project, we have chosen to name this equation “Van Rossum’s I-index”.
on part of the researcher where high I-indices were labelled as third person narratives. Other irregularities alerted us to the many pronominal forms that narrative perspective can take, such as Renate Dorrestein’s novel De leesclub (“The Book Club”), which is written from a first person plural, or the “we” perspective that the titular book club implies (see example 2). We include full-length excerpts in this article because they illustrate how multifaceted narrative perspective is beyond the sentence level. The second excerpt, from Mama Tandoori for example, features both first-person possessive pronouns for focalization and third-person pronouns for description.

Daar zaten we dan. Na drie lange dagen op het eiland was de toestand onveranderd dezelfde. De schrijver, laten we er geen doekjes om winden, lag nog steeds voor pampus. Het regende en het regende. We leefden van zeewier, algen en een enkele kwal, door Johanna op de aangespoelde twee-pitter bereid. Het was gezond en vitaminerijk voedsel, maar wel eenzijdig, al bracht Jo zoveel mogelijk variatie aan door de kelp beurtelings te koken, te bakken en te blancheren. Het gele mos, waar Tillie meteen al haar twijfels over had gehad, was keihard en ongebruikbaar gebleken. Verder groeide er op het hele eiland niets, zelfs geen distels. Gelukkig was bijna onze hele voorraad The Famous Grouse aangespoeld. Er waren maar een paar flessen op de rotsen gesneuveld. Ook van de Maizena waren diverse brokstukken aan land gekomen. In een afgebroken mast hadden we meteen op het hoogste punt van het eiland Leonie’s meest kleurrijke Marimekko gehesen. Met behulp van touw en zeil hadden we vervolgens een afdak in elkaar gezet, waaronder we onze kleren en onszelf konden drogen. Hadden we niet op een kale rots gezeten, dan waren we begonnen met de aanleg van een kleine moestuin, zoals bekend uit de literatuur. Robinson Crusoe, dat werk.

Wat we het meest misten, behalve een boek, was wc-papier. En Annabel betreurde het teloorgaan van haar pincet.

(Source: Renate Dorrestein (2010), De leesclub. Amsterdam, Antwerpen: Contact)

(Translation)

There we were. After three long days on the island, the situation remained unchanged. The writer, let’s not beat around the bush, was still out cold. It rained and it rained. On the rare occasions that it was dry, thick patches of fog swept across the gray sky. The tide ebbed and flowed. We lived on seaweed, algae and the occasional jellyfish, prepared by Johanna on the washed-up two-pitter. It was healthy and nutritious food, but it was monotonous, although Jo added as much variety as possible by alternately cooking, baking and blanching the kelp. The yellow moss, which Tillie had immediately felt unsure about, had turned out to be hard and inedible. Nothing else grew on the whole island, not even thistles. Fortunately, almost our entire supply of The Famous Grouse had washed up. Only a few bottles had broken on the rocks.

Various pieces of debris from the Maizena had also come ashore. On the highest point of the island we immediately hoisted Leonie’s most colorful Marimekko on a broken mast. With the help of rope and tarpaulin we then fashioned a shelter under which we
could dry our clothes and ourselves. Had we not been sitting on a bare rock, we would have started cultivating a small vegetable garden, a known literary trope. Robinson Crusoe, that business.

What we missed most, other than a book, was toilet paper. And Annabel mourned the demise of her tweezers.

(Source: Google translate with our own manual corrections.)

Example 2: Example of one of the full samples of Dutch-language literary text used, without punctuation and all lowercase. (Pronouns in bold.)

Another labelling discrepancy occurred with excerpts from Ernest van der Kwast’s novel *Mama Tandoori*, a novel in which the narrator uses overwhelmingly possessive pronouns to paint a loosely autobiographical portrait of his mother (see example 3).

My mother drank tea with the patient’s mother. It was quiet; this was a house of sorrow. You could hear a tear drop. Then my mother was taken to the patient. She scrutinised...
him, seeing his dark, gleaming hair, the perfectly straight parting: the hair of a film star. They didn’t exchange any words. My mother cleaned the captain’s wounds, changed his bandages, in silence. Rajesh Mudgal endured it all. He clenched his jaw, thinking of the sea: salty rain, waves as grey as elephants.

Slowly, very slowly, the patient improved, recovered his strength. My mother could tell by his eyes: new tiny wrinkles in the skin around their corners, a brilliance in the black lakes of his irises. Rajesh Mudgal’s eyes were smiling. One morning, she began to long for them. Suddenly it was there, the longing, and it was warm and quick as lightning, everywhere and nowhere at once. Never before had she woken with such clarity, as if the new day’s sun had been poured directly into her soul. Her body was made of light; her fingertips tingled.

She wondered what Rajesh Mudgal might be feeling. My mother tried to read his face. She saw furrows. The longer she looked, the more lines, the more creases of pain, she discovered: in his forehead, around his mouth, between his eyebrows. She was overcome by compassion. My mother took his hand, the hand with the five stumps for fingers. Squeezing it softly, she seemed to feel a spark. Startled, she dropped the hand. Suddenly, the situation dawned on her. She was a nurse; he was the scion of a wealthy family. He was an invalid; she was a woman in the prime of her life.


Both texts in example 2 and 3 feature a variation on a first person perspective, albeit in a different form than the initial version of the I-index accounted for which resulted in their mis-classification as third person perspective. We examined these outliers in our training material to expand the I-index into new descriptive directions, to also account for narrative perspective in its multiple personal pronouns and possessive pronoun forms. As such, we used the texts that resisted our initial method as input to refine the I-index.

4 Results

Both methods were tested and validated on 1001 selected full text fragments of Dutch fiction non-dialogue narrative that were labelled manually for first and third person perspective. Both measures were verified by leave-one-out testing, thus yielding 1001 observations each. We found that both approaches are highly effective in determining narrative perspective, yielding a F1 harmonic mean of 0.97 for the machine learning approach (figure 2) and a perfect 1.00 score for the pronoun ratio approach (figure 1).

Pictured in figure 1 are the results from the I-index’s classification of our corpus of 1001 narrative text excerpts. The swarm plot shows that the majority of entries labelled as third person narrative perspective (orange dots) is located at the lower end
of the spectrum with a score of zero being the most frequent, which is reassuring for a measure that takes first-person pronouns as a baseline. Texts labelled as first person perspective (blue dots) are expectedly feathered out over the higher scores on the I-index scale, in the graph appearing at the moment where texts are no longer labelled as third person narratives. The threshold rate sits at an I-index of 0.0833, indicated by the dotted line. The F1 curve visualises this predictive point of optimal certainty and shows that when that threshold would be shifted upwards in the first figure, it would result in more classification errors. The confusion matrix on the right-hand side shows the model’s error rate in prediction, which sits at zero for both our 346 first person and our 655 third person perspective texts, meaning that the model has made no mistakes in classifying the fragments according to our manual labelling of first and third person.

Figure 2 visualises the results from the predictive machine learning model to contrast our computational I-index method. For the machine learning model, the swarm plot points to less clear-cut distinction between texts classified as first person (blue dots) and those classified as third person perspective (orange dots). The overlap occurring at both sides of the dotted cut-off line points at the algorithm’s inaccuracies in the categorisation of texts. As such, the predictive model’s maximum certainty sits somewhat higher at a machine learning index of 0.2. The F1 curve indicates that the machine learning model is more consistently certain of a binary judgment than the
I-index, looking at the vertical lines sitting at both the 0,0 and 1,0 points on the x-axis, and that it is somewhat more confident than our computational measure, hovering on the higher end of the graph as opposed to the gradual downwards slope of the I-index model. The third error metric, however, confirms that despite this increased confidence, the algorithm has made more mistakes in classification; 15 excerpts that were manually labelled as first person perspective were incorrectly deemed to be third person narrative texts, and 9 excerpts that were manually labelled as third person perspective were faultily taken as first person perspective.

5 Discussion

As a first step in developing some baseline approaches to computationally describing narrative perspective present in text, the measures both yield perfect to near-perfect results. However, we prefer the pronoun ratio based approach above the machine learning one because it more clearly indicates and reveals the linguistic and narratological properties sought after and associated with the narratological inference.

Additionally, we would like to underline the versatility and flexibility of this computational measure, as it can be simply adapted to expand the range of pronouns that it accounts for, as evidenced by our own refinement process, and it can be rearranged to accommodate different narratological foci — a third person index, for instance, or an index of plural perspective. Although of minor importance, it could also be noted that the statistics based method outperforms the machine learning method as to speed.

In a sense our approach is consciously naive because of our decision to establish a baseline measure, for which we have explained our reasons in the theory section. Obviously perspective in fiction is more complex than the dichotomy between first and third person view. See, for instance, Fludernik (1995) on unfamiliar pronominal strategies such as second-person pronouns of address and impersonal pronouns in experimental fiction. We purposefully designed this computational measure as an index to reflect our intention to approach literary perspective as a spectrum, rather than as a binary system. In its current form the index discriminates between first and third person perspective. But the index is designed in such a way that it is open to adaptation for multiple and eventually mixed narrative perspectives. This open design also creates the possibility of the index’s use for narratological shifts within the context of the full text of novels. This is part of our future work.

It must be noted that our measures have been tested on an unambiguous gold standard. We used narrative text in the sense of text without quoted or directly implied dialogue. In unmediated fiction narrative which features, for instance, indirect free speech, it is not readily clear whom the narrative perspective is most closely associated with (either speaker or narrator) and how mixed perspective in such cases could and should be measured. Further validation should also be applied to ensure our sampling process and choices have not introduced bias. For instance, due to pragmatic reasons many samples were taken from the first parts of novels because that is where consecutive narrative text generally occurred more often than in later parts of the texts. It is arguable that narrative parts (i.e. non-dialogue) at the start of a novel are of a different length compared to such parts in the latter half of a story, while also their style may differ. Furthermore we should expand our evaluation to examine if the found cut off rates for predictions are stable over different corpora that are not as clearly a gold standard construction as applied in our current tests.

Another conscious naivety in our approach is the establishing of the harmonic mean.
Because both observations, predictions and labels were fully known in this case, we could simply compute the cut off value for predictions that would yield the highest F1 score. In unsupervised situations there is obviously no way to do this. Further experimentation should determine if these cut off values are both realistic and usable in different situations.

6 Conclusion

In this paper we have introduced two methods to automatically categorise the narrative perspective of a text sample as a point on the line between first person or third person perspective. We have focused on the novels in modern Dutch that were part of the corpus of The Riddle of Literary Quality project, on the one hand to eventually establish a possible link between narrative mode and pronoun use, and on the other, to explore whether narrative perspective in the most basic of computational definitions is one of the features playing a role in the perception of literary quality. The first of our two measures was a machine learning approach and the second was based on computing the ratio of combinations of pronouns. We have demonstrated that both approaches can predict narrative perspective with very high accuracy. Our fine-tuned calculation of pronoun ratio - which we named Van Rossum’s I-index - even yielded a perfect score. Because the I-index is transparent and easy to modify to accommodate other perspectives we prefer this approach. In its current version, however, it is only an entry point explaining the socio textual significance of narrative perspective. We are working on follow-up research in which we will develop this first step into a more comprehensive method that will be very useful in stylometric research on large and diverse corpora of literary texts in Dutch. We expect our approach may also be useful in other languages with comparable and unambiguously determinable pronoun identifiers. The situation for languages with verb or noun inflexion to indicate pronouns, however, might require further adaptation.

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Reconstructing Gavin Douglas’s Translation Practice in the Eneados Using a Corpus Linguistic-Based Method

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1 Introduction

One of the main questions in the study of translation is whether something can be translated perfectly. Is a flawless transposition of ideas, style, and context possible across languages? The generally accepted answer to this question is ‘no’—the semantic networks of one language are too complex to be reproduced perfectly by another. However, closer examination of the topic reveals the issue is even more fraught, raising questions such as how a perfect translation is defined, how to evaluate it, and if it is even desirable. Different answers to these questions yield different approaches to translation and different implications as to the nature of meaning and how it is accessed. Some approaches separate meaning from language or from its physical context. Others, like the one pursued here, argue that meaning is multidimensional, created not just by language, but by context and presentation. Therefore, a multidimensional, interdisciplinary method must be adopted when studying translation.

This paper discusses the practical application of such an interdisciplinary method that applies digital tools and resources to the study of medieval translation—specifically Gavin Douglas’s medieval Scottish translation of the Aeneid, the Eneados (1513). This is the subject of the author’s DPhil project at the University of Oxford, titled Equivalency, Page Design, and Corpus Linguistics: An Interdisciplinary Approach to Gavin Douglas’s ‘Eneados’ (completed May 2021), which argues that such a method can be indispensable for the study of medieval texts by making larger texts more accessible and offering new perspectives on them. This paper considers a specific study directly from this doctoral work that cross references the evolution of Douglas’s translation method with changes in his source’s layout. Such a comparison reveals a new perspective on Douglas that is relevant to longstanding critical debates on the nature of Douglas’s humanism.

This paper first introduces Gavin Douglas and the Eneados and various critical debates regarding his translation method and humanist status. It then discusses the interdisciplinary method adopted here that makes use of a digital resource, designed with reference to descriptive translation studies, corpus linguistics, and philology. This resource is described in detail. A case study is then presented that statistically analyses Douglas’s translation method by means of line ratios—a measure of how many lines Douglas uses to translate one line of Latin—and compares these results
to aspects of layout in Douglas’s source text. This paper evaluates these results and reflects on the benefits and challenges of an interdisciplinary method, positing the further potential of this method.

2 Gavin Douglas and the Eneados

The Eneados (1513) is the first full translation of the Aeneid in either the English or Scottish literary tradition. It was written by Gavin Douglas (c. 1475-1522)—a Scottish poet/translator, cleric, and politician, who lived on the cusp of the Middle Ages and the emerging Renaissance, witnessing both the pinnacle of a Scottish ‘golden age’ under James IV and its demise (not to mention James’s) in the disastrous Battle of Flodden (1513). Consequently, characterisations of Douglas tend to hover between oppositions—he is either a denizen of the Middle Ages (Blyth, 1987; Lewis, 1954; Rossi, 1965) or Renaissance (Brewer Hall, 1960; Dearing, 1952; Fox, 1966; Morgan, 1977), a vocal nationalist (Canitz, 1966; Corbett, 1999) or pacifist (Cummings, 1995), and, most relevantly for this article, either a straightforward humanist (Canitz, 1966; Jack, 1972) or a poet to whom ‘a “humanist outlook” can only be ascribed ... in a highly qualified way’ (Ross, 1986, p.394).

Humanism is generally understood as ‘the study and imitation of classical antiquity’ (Wakelin, 2007, p.7). Based on the first part of this definition—the study of classical antiquity involving ‘a self-conscious commitment to return to the classics’ (8)—Douglas’s activities definitely apply. As Jack (1972, p.21)argues, ‘the very fact of translating Virgil’s epic indicates an interest in the humanist ideals’. Johnson and Petrina, (2018, p.x) essentially repeat this argument when they state that the purpose of the Eneados was ‘to discover the continuity between Latin culture and its Scottish counterpart’.

However, Douglas’s tendency to expand on the original text and insert his own original poetry does not at first sight match the second criterion—‘imitation’. Throughout the thirteenth century and into the beginning of the fourteenth, there were a series of Italian humanist debates about the value of imitatio with arguments over whom to imitate (several models vs. a single model, usually Cicero), what to imitate (genre, content, or style), and what quality authors should strive for (variety vs. consistency) (McLaughlin, 1996) (see McLaughlin, 1996). Eventually (c. 1512) this argument was settled by Bembo (1470-1547) in favour of single-model imitation valuing the replication of Cicero’s style that prioritised consistency (see McLaughlin, 1996, pp.262-74).

It is immediately apparent that Douglas does not subscribe to Bembo’s position. While Douglas’s translation is notable for its extreme fidelity to the Aeneid, even replicating the orthography and errors in his source—Ascensius’s (1501) Paris edition of the complete works of Virgil (Ink. 4. D 7672, UB Freiburg, 1501; see Bawcutt, 1973)—the Eneados is also famous for its lengthy interventions in the original text of the Aeneid. These include original Prologues to each book, as well as a thirteenth book (translated from the Supplement, 1428, by Maffeo Vegio, included in Ascensius’s 1501 edition), an original commentary (restricted to Prologue I and Book I; referred to here as the Comment), and supplementary material throughout his translation that makes it more than twice as long as the original (9,867 vs. 21,047 lines, excluding Book XIII and paratext). While some of this expansion might be attributed to the fact that Douglas uses iambic pentameter, which is a shorter line than Virgil’s dactylic hexameter (see Macafee, 2013, p.231), much of it also derives from his original interpolations in the text, which consist of authorial asides, internal glosses, doublets and triplets, and even
at times poetic flourishes that can make up several lines (see *Aen*. V.429/*Ene*. V.8.10-17 for a particularly extreme example of this). In this way, Douglas does not replicate Virgil’s style—he does not recreate Virgil’s prosody or eloquent terseness.

Douglas’s humanist status is further complicated by Scotland’s own uncertain humanism during his lifetime. Printing, a key engine of humanist activity, started late in Scotland and was initially sporadic, with Chepman and Myllar’s press operating only briefly from 1507-10 (see Dickson, 1885, pp.9-10). However, despite this, or perhaps because of it, Scotland had strong links with the Continental book trade, which Ford, (1999,p.221) argues indicate strong Scottish interest and ‘participation in pressing debates of the time’—predominantly religious ones, but also, ostensibly, humanist. Likewise, while there is no discernible Greek influence (again, a hallmark of humanism) prevalent in Douglas’s time (see MacQueen, 1990, p.10), Jack (1972) observes a strong Latin and Italian humanist influence on Scottish authors and libraries. Indeed, Douglas himself proves to be highly engaged in Italian humanist authors, referencing them numerous times in his earlier work, the *Palice of Honour* (c. 1501), and proving to have intimate knowledge of some works by Boccaccio (1313-75), Valla (1407-57), and Landino (1424-98) in his statements in the Prologues and Comment (Bawcutt, 1977, pp.117-18).

As a result of this rather mixed humanist profile, where Douglas’s activities and context do not appear to perfectly align with humanist sensibilities, many scholars—especially Gray (1989, 2001, 2012) — have been hesitant to outrightly classify Douglas as a humanist. Rather, his humanism has been qualified with such labels as ‘vernacular’ (Bawcutt, 1976, p.36), ‘medieval’ or ‘old’ (Gray, 1989, 2001) , ‘Christian’ ((Gray, 2012)), and ‘Romantic’ (Fowler, 2005). However, it is this paper’s contention that the confusion about Douglas’s humanist status is rooted in his translation method, which has eluded comprehensive description on account of the inscrutability of the *Eneados*.

The *Eneados* is incredibly long—again, twice longer than the original. As a result, previous studies have generally been very selective, focusing on only one or two Books (Blyth, 1987), or just the Prologues (Archibald, 1980; Ebin, 1980; Nitecki, 1981), or certain types of passage within the *Eneados* (Macafee, 2013; Ridley, 1983). While many of these selection processes are intelligently justified, it is hard to have a complete sense of Douglas’s method of translation if only part of the work is analysed. Even those who have covered the entirety of Douglas’s work (Bawcutt, 1976; Watt, 1920) have not characterised Douglas’s translation at different points within the work, instead treating his method as a monolith—though Bawcutt’s account is nevertheless excellent and a helpful critical foundation.

This paper provides a new perspective on this debate by analysing the entirety of the *Eneados* using an interdisciplinary method that makes use of digital tools. Such a method provides a single unified analysis of the *entirety* of the *Eneados* that is rooted in both literary and quantitative analysis. The quantitative analysis produces a ‘map’ of the *Eneados* that can make the researcher more aware of the broader context of Douglas’s work, while at the same time providing the means to more discriminately select aspects of the text for literary and qualitative analysis. In the case of this study, this method reveals an evolution in Douglas’s translation method that correlates with changes in his source text’s presentation, which indicates a greater interest in formal aspects of translation—i.e. *imitatio*—than generally granted. This, in turn, strengthens Douglas’s humanist credentials.
3 An Interdisciplinary Method

This project combines three subjects—descriptive translation studies (DTS), corpus linguistics, and philology—to study Gavin Douglas's translation of the Aeneid. DTS is a branch of translation studies whose aim is 'to describe the phenomena of translating and translation(s) as they manifest themselves in the world of our experience' (Holmes, 1987, p.15). When identifying a work as a translation, DTS always assumes that there is a source text, a transferral process from the source text to the translation, and a tangible relationship between the translation and the original (Toury, 2012, pp.29-30). The recovery of this transferral process is one of the aims of DTS, and one of its main assumptions is that there is some form of equivalency between source- and target-text linguistic choices.

There are several different approaches to how this equivalency might be understood, which might best be characterised as different permutations of two concepts: that translation is concerned with surface-level linguistic structures, and that translation involves the transformation of larger cultural concepts (see Baker, 1992, pp.5-6). Modern and medieval critics have emphasised the importance of translation as a cultural enterprise, with modern scholars advising a ‘target-oriented approach’ that focuses on the target-language’s cultural context (see Vermeer, 1987, p.29; Toury, 2012, p.18) and medieval scholars advocating ‘sense for sense’ translation, as opposed to ‘word for word’ (see Copeland, 1991). Nevertheless, the importance of cultural context within the function of translation does not fully supplant its linguistic aspects. Cultural concerns dictate a translation’s linguistic realisation, which, in turn, selects the appropriate translation strategies (see Toury, 2012, p.7, fig.2). In this way, translation processes and linguistic manifestations of a translation can be used to reverse-engineer cultural contexts.

This work attempts to do this using corpus linguistics. As Toury, (2012, pp.243-44) notes, ‘it is precisely in the lexicon that the distinctiveness of a language variety used for the formulation of translations is most conspicuous’. Corpus linguistics provides a means of detailed analysis of a text’s lexis by using a computer to find and count occurrences of certain words and analyse their contexts using statistics (see Fantinouli and Zanettin, 2015 for examples of such methods). Using this method, source texts and translations can be aligned to measure equivalency by means of parallel concordancing, where a translated text and its source can be searched simultaneously. This enables researchers to retrieve replacing and replaced segment pairs and analyse them on a large scale. Moreover, it enables statistical analysis, which not only helps illustrate general trends in the translation’s process, but also indicates what aspects of the text deserve closer examination. In this way corpus linguistics can provide a different perspective on translated texts and streamline existing methodologies. In so doing it provides ‘descriptions far above what we live with at present’ (Sinclair, 2005, p.81).

However, a major flaw in the kind of description corpus linguistics provides is that it is intrinsically divorced from its context. By its very nature, corpus linguistics looks at language beyond its physical form (see Meurman-Solin, 2001, p.8, p.20). This can be a huge oversight when studying a translation—particularly a medieval one—as more researchers (see Weitemeir, 1996, pp.101-02; Smith and Kay, 2011, p.212; Kallendorf, 2015, p.4; Peikola et al., 2017) acknowledge the importance of textual transmission in understanding a translator’s reception and understanding of a text. This is especially vital when studying medieval and early modern texts, when many of the choices regarding book production and formatting ‘had not yet been standardised’.
Consequently, how a translation is presented can be an important consideration in how a translation is produced and should be factored into analysis. Such a practice has been labelled as ‘historical pragmatics’ or ‘pragmaphilology’ by Jucker (1995), ‘philological computing’ by Meurman-Solin (2001a), and ‘historical pragmatics’ by Smith (2013). The result is a method that is grounded in the specifics of the text, but also enhanced by an awareness of the text as a whole—not only in terms of a statistical profile of its features, but also in terms of its material attributes, and its historical context.

4 The Eneados and Aeneid Digital Files

To achieve this method, a collection of digital files has been assembled using corpus linguistic methods (Bushnell, 2019a; 2019b). It is not strictly a corpus, as it is made of just one text and its source material rather than several—rather it is a ‘corpus-based apparatus’. It contains all thirteen Books and Prologues of the Eneados, along with the twelve books of the Aeneid and the Supplement. It does not contain any of the commentary included in Ascensius’s (1501) edition, as the transcription and digitisation of this massive commentary was beyond the scope of this project. It comprises of 39 base files that cover three authors (Virgil, Maffeo Vegio, and Gavin Douglas), three texts (the Aeneid, Supplement, and Eneados), and two languages (Latin and Scots), consisting of 259,347 words total (see Table 1). The corpus is available online on Oxford’s CQPweb platform (Hardie, 2012).

Table 1: Breakdown of the base files of the ‘corpus-based apparatus’ (Bushnell, 2019a, 2019b). Word counts are based on plain files—no line numbers, titles, annotation or tagging have been counted.

<table>
<thead>
<tr>
<th>Language</th>
<th>Latin</th>
<th>Scots</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virgil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maffeo Vegio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gavin Douglas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Text</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aeneid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eneados</td>
<td></td>
<td></td>
</tr>
<tr>
<td>File Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Book</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prologue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Book</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
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<td>3,852</td>
</tr>
<tr>
<td>II</td>
<td>5,119</td>
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<tr>
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<td>2,596</td>
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</tr>
<tr>
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</tr>
<tr>
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<td>1,543</td>
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<td>10,760</td>
</tr>
<tr>
<td>Total</td>
<td>64,195</td>
<td>259,347</td>
</tr>
</tbody>
</table>

17
The digital files’ sources include Coldwell’s (1957-64; 4 vols) edition of the *Eneados* (accessed via Literature Online) and Ascensius’s (1501) edition of the *Aeneid*—previously established as Douglas’s source text when translating. However, Greenough’s (1902; 2 vols) edition of the *Aeneid* (accessed via the Perseus Digital Library, Crane, c. 1987-2021) and Brinton’s (1930) edition of the *Supplement* (accessed via Virgil.org, Wilson-Okamura, 2014) were also used as a base transcription and then modified to reflect the orthography, punctuation, and content of Ascensius’s text. Coldwell’s text was selected because it is the most reliable edition of the *Eneados* that is currently available, though will soon be superseded by Bawcutt’s (2020; 3 vols) edition, once that is fully released. It is based on the Trinity College MS (O.3.12, Trinity College, University of Cambridge, 1513), which is the closest to being an exemplar out of the five extant manuscripts of the *Eneados* (Elphynstoun MS, Dk.7.49, University of Edinburgh, 1527; Ruthven MS, Dc.1.43, University of Edinburgh, pre-1584; Lambeth MS, 117, Lambeth Palace Library, 1545; and the Bath MS, 252A, Longleat, 1547). Greenough’s (1897-1902) and Brinton’s (1930) texts were selected because they were already digitised and easily accessible.

The digital files are available as plain text or as XML files. The plain files represent the text without any metadata whatsoever. The XML files are enhanced with several levels of metadata that describe the text’s layout, demarcate narrative and speech boundaries, and indicate equivalent segments between the Latin and Scots. This annotation has been implemented manually and both the Latin and Scots files are annotated. The files are also tagged with normalised (and modernised, where appropriate) lexical forms, and part-of-speech and semantic labels. The normalised and modernised forms have been supplied manually, whereas the part-of-speech and semantic tagging was provided by the USAS tagger (see Archer et al., 2003). This tagging is only provided for the Scots files.

The metadata most relevant for this specific case study is the layout and alignment annotation. Three types of layout are represented in these files: Douglas’s *ordinatio* (how he breaks up his text into chapters and books), Ascensius’s *ordinatio* (how he breaks up his text into sections and books), and page divisions in Ascensius’s edition. The page breaks in the Trinity MS—widely accepted being closest to an exemplar out of available manuscripts of the *Eneados*—are not represented, because while the number of lines on each page in Ascensius’s (1501) edition differs wildly over the course of the text, it is more consistent in the Trinity manuscript, where approximately 40 lines appear on every page. As previously intimated, Ascensius divides the *Aeneid* into smaller chunks, which, at least initially, are confined by the page, making page breaks analogous to section boundaries. However, page breaks in the Trinity manuscript carried no such weight. Moreover, page breaks and page layout in general in the Trinity manuscript were probably at the discretion of Matthew Geddes, the scribe of the Trinity MS and Douglas’s secretary, rather than Douglas himself. Ascensius’s page layout, on the other hand, is original to him, as he was the compiler of his edition and printed it in partnership with Thielman Kerver and Jean Petit.

Alignment annotation was implemented by breaking the *Aeneid* and *Eneados* into translation units. A translation unit here is defined as whole lines (barring interference from layout) of the source and translation that correspond to one another so that the source is completely translated, and the translation is completely accounted for, and that cannot be broken down into smaller units of complete translation that also are contained within whole lines (barring interference from layout). The following would be considered a translation unit where one line of Latin is completely translated by four lines of Scots:
The texts were aligned by line since they are both poems and their lines are distinct units of expression. While, as noted previously, the lines in the *Aeneid* and *Eneados* are of different lengths, they at least have a functional equivalency between the two poems, are at stable lengths, and are established components within poetry. These factors make them the best units of measurement. However, it must be remembered that neither Douglas nor Virgil necessarily composed using lines as a unit of meaning.

5 The Impact of Ascensius’s (1501) Edition on Douglas’s Evolving Translation Method

As previously explained, Douglas’s translation method has eluded comprehensive description. This is partly because of how critics have approached the *Eneados*, but also because of the seemingly contradictory nature of Douglas’s translation. Douglas appears to “tie ... himself” to the original to such an extent ‘as to lose his artistic freedom’ (Petrina, 2013, p.24), yet at the same time seems perfectly untroubled exercising his poetic license by expanding on Virgil’s text when translating. Even his conception of his practice is contradictory. In Prologue I, Douglas makes clear that he does not pursue ‘word for word’—ostensibly literal—translation, making entreaties like ‘I pray you note me nocht at euery word’ (Douglas, 1957-64, I.Prol.126). However, he later declares in his Direction (ll. 44-46)—a postscript addressed to his patron—that readers can compare his translation to its source and account for almost every word. Fortunately, the process of aligning digital files of the *Aeneid* and *Eneados* has created a means of measuring the distance between the original text and translation via line ratios—the measure of how many lines Douglas uses to translate one line of Latin. These effectively measure how closely Douglas mimics surface level structures in the original Latin text—specifically the length of clauses. Out of the 6,311 translation units in the *Eneados*, 54% have a line ratio with the value of 2 ($p < 0.001$, pairwise proportion test), with usually 1 line of Latin being translated with 2 lines of Scots (70%, $p < 0.001$, pairwise proportion test). This confirms Bawcutt’s (1974, p.57) claim that, for Douglas, ‘the couplet often corresponds to a single hexameter’ and suggests that Douglas translated line-by-line.

Such practice is conducive for literal translation—understood here as a translation that follows the syntax of its source very closely—as it forces the translator to maintain the order of content in the poem and encourages the preservation of the original grammar, whereas larger translation units enable a less meticulous approach to translation (i.e. paraphrase). For example, the following translation unit features a line ratio of 1.88, which does not indicate an especially expansive translation. However, the unit itself is very large (15:8) indicating that rather than translate this instance line-by-line, Douglas decided to translate part of Aeneas’s defence when reproached by Dido as a block. While this is not an inappropriate decision, considering that these lines feature several incidents of enjambment, suggesting that they are meant to be read together, this is an unusual decision for Douglas, who structures his translation around single lines of Latin 56% of the time ($p < 0.001$, pairwise proportion test), even though Virgil’s
lines are not always designed to stand alone in this way.

Pro re paua loquar: nec ego hanc abscondere furto  
Speraui: ne finge fugam: nec coniugis vnquam  
Praetendi tedas: aut haec in foedera veni.  
Me si fata meis paterentur ducere vitam  
Auspiciis: et sponte mea componere curas  
Vrbem troianam primum dulcesque meorum  
Relliquias colerem: et priami tecta alta manerent.  
Et recidua manu posuissem pergama victis: (Virgil, 1501, IV.337-44)

‘... As the mater requiris, a litil heris:  
I purposyt nocht forto hyde thyftuusly  
My vayage, nor, as ȝe weyn, secretly  
Away to steil; quhat nedis ȝou sa tofeyn?  
For I pretendit nevir, be na meyn,  
With ȝou to mak the band of mariage,  
Nor in that ȝok, ne frendship in Cartage,  
ȝyt come I nevir: bot gif the fatis, but pled.  
At my presour sufferit me lyfe to led,  
At my fre wil my warkis to modyfy,  
The cite of Troy than first agane suld I  
Restore, and of our deir frendis remanys  
Gaddir togiddir, and to the venquist Troianys  
Raparal with my handis agane thar wallis,  
And beild vp Priamus palyce at now fallis. ...’ (Douglas, 1957-64, IV.6.112-26)

In not approaching this passage line-by-line, Douglas can play with the order of things and does not adhere as closely to the syntax of the passage. Every Latin line in this passage is interspersed with another within the Scots translation—except for the last two lines (Aen. IV.343-44, Ene. IV.6.125-26), which are completely swapped in their order of translation. There is also some paraphrase and doubling that accompanies this rearrangement. For example, Douglas translates ‘abscondere’ (‘to abscond’) twice two lines apart as ‘forto hyde thyftuusly’ (Ene. IV.6.113) and ‘away to steil’ (IV.6.115). Likewise, he paraphrases ‘ne finge’ (‘do not pretend’) twice in separate lines—once as ‘as ȝe weyn’ (IV.6.14) and again as ‘quhat nedis ȝou sa tofeyn’ (IV.6.15). He also arguably translates ‘componere’ (‘to put in order, to gather together’) and ‘colerem’ (‘I would take care of’) twice. Both are translated initially as ‘my warkis to modyfy’ and ‘The cite of Troy ... suld I / Restore’. However, then Douglas appears to combine the meaning of ‘componere’ with the subjunctive force of ‘colerem’ when he has Aeneas declare ‘suld I ... of our deir frendis remanys / Gaddir togiddir’. He similarly blurs his translations of ‘posuissem’ (‘I would establish’) and ‘manerent’ (‘they would endure’). Not only does he take ‘manerent’ as a first-person singular form, when it is really third-person plural, but his translation ‘beild vp’ is arguably more appropriate for ‘posuissem’, since it suggests the creation of something new, whereas ‘reparal’, the translation for ‘posuissem’, implies the restoration of something old. In effect, Douglas takes a case of dicolon abundans—a rhetorical trope where Virgil repeats the same idea in a different manner (see Dainotti, 2015, p.35)—and shares vocabulary between the two Latin iterations. He is enabled to do so by translating a larger section of Latin at one time, as this gives him more options for translation. He can decide what content should go together and how the grammar should be interpreted. As result, the syntax of the passage is more loosely rendered.
By contrast, a smaller translation unit produces a far more exact translation. The following example, featuring the Sibyl’s instructions to the Trojans, has a high line ratio of 4 (4:1), but the unit itself is small, indicating how Douglas was translating this passage line-by-line (see *Aen.* VI.125-55/*Ene.* VI.2.100-57; average line ratio: 2.9; average number of Latin lines per unit: 1.5).

Duc nigras pecudes: ea prima piacula sunto: (Virgil, 1501, VI.153)

Til his funeral entyre, or sacrifyss,
Do bring the blak bestis, as is the gyss;
Lat tha be your first expiationys,
And clenging graith, eftir your serymonys. (Douglas, 1957-64, VI.2.151-54)

While this unit features many additions that serve to clarify Sibyl’s orders, the translation is grammatically exact so that the imperative verbs ‘duc’ (‘bring’) and ‘sunto’ (‘let be’) are translated literally. Such translation proves to be the norm for Douglas, as corroborated by a qualitative analysis of Douglas’s most expansive (where line ratios are 4 or greater) and succinct (where line ratios are 1 or less) translation units (see Figure 1 for a summary of results).

![Figure 1: Distribution of four different combinations of literal, paraphrased, complete, and incomplete translation across translation units that have very low (less than or equal to 1) or high (greater than or equal to 4) line ratios. Results are significant according to a chi-square test (p < 0.001).](image)

However, while this preference for lengthy, literal translation often characterises Douglas’s method, the implementation of ‘standard’ line ratios and units (where 2 lines of Scots translate 1 line of Latin) is irregular and uneven. A closer look at the line ratios in the *Eneados* reveals a general increase in Douglas’s length of translation over the course of the text (Figure 2). This expansion is only partly based off Virgil’s own tendencies. While Virgil also becomes more expansive throughout the *Aeneid*, writing longer and longer books, the change is less dramatic (Figure 3). The *Eneados* adds about 59 extra lines per book, while the *Aeneid* adds only 6—in other words, Douglas is almost ten times more prolific than Virgil.
Figure 2: Average line ratios across the thirteen books of the *Eneados* with a descriptive trend line. Results are significant ($p < 0.001$) according to a linear regression performed in R that was tested with an ANOVA.

Figure 3: Total number of lines in each book of the *Aeneid* and *Eneados* with linear trend lines and equations. The results are significantly different ($p < 0.001$) according to a t-test.
Not only do Douglas’s line ratios change over the course of the *Eneados*, but the number of Latin and Scots lines per unit changes too (Figure 4). For the most part, the number of Latin lines in each translation unit remains constant around 1.5, indicating that Douglas generally translates on a line-by-line basis. However, in Book I and Book XIII the number spikes to 2, which could indicate an increase in paraphrased translation, as in the example below from Book I where Douglas paraphrases ‘olim voluentibus annis’ (‘at long last after years have turned’) as ‘after this mony a day’, ‘reuvocato a sanguine teucri’ (‘recalled from the blood of Teucer’) as ‘of Troianys ofspring’, and combines ‘ductores’ (‘princes’), ‘qui mare: qui terras omni ditione tenerent’ (‘who hold the sea, who hold lands with sovereignty’) as ‘princis of power our sey and land to ryng’.


‘... Throu owt the warld debarrit in euery sted And drevin from Itale? Thou hecht vmquhill, perfay, Of thame suld cum, efter this mony a day, The worthy Romanys, and of Troianys ofspring Princis of power our sey and land to ryng. Quhat wikkit counsale, fader, has turnyt thi thocht? ...’ (Douglas, 1957-64, I.5.16-21)

This less syntactically exact translation might be expected for Book XIII, given that Book XIII draws on the work of a different author (Virgil, 1501) and Douglas’s respect for this work is significantly less than that for the *Aeneid* (see Ghosh, 1995, p.7). However, it is surprising that Douglas should have adopted a similar approach to Book I, when he praises Virgil so highly in Prologue I. This suggests that Douglas begins
translating the *Aeneid* in one fashion, but then chooses to pursue a more grammatically exacting one for the rest of the poem. He resurrects this more flexible model only in Book XIII—either because he has less respect for Vegio as a poet or because aspects of Vegio’s text necessitate it. This indicates a general push towards literal translation over the course of the *Eneados*, confirmed by Figure 5.

![Figure 5: Distribution of literal and paraphrased translation in selected translation units with very low (less than or equal to 1) or high (less than or equal to 4) line ratios in each book of the *Eneados*. Results are significant according to a chi-square test (*p* < 0.01).](image)

Such variation in activity indicates that Douglas’s translation practice evolves, which would mean that translation is not a uniform action even when performed by a single translator for a single text. This would also imply that Douglas translates the *Aeneid* in its textual order. This makes sense, given that translation is essentially a product of reading, and thus dictated by the source text’s *ordinatio*. In fact, this increase in Douglas’s line ratios over the course of the *Eneados* can be attributed to the evolution in the layout of his source text—Ascensius’s (1501) edition.

The layout of Ascensius’s (1501) text is somewhat complex. Excerpts from the *Aeneid* are foregrounded in the page and surrounded by two accompanying commentaries—one by Servius and one by himself (Figure 6). While this was a common way of presenting the text in printed editions of the *Aeneid* of this time, Ascensius’s segmentation of the text is unique in that he endeavours to ensure that his excerpts make grammatical or narrative sense, whereas other editions tend to follow segmentation that is dictated by the commentary rather than the text. In fact, a comparison of the segmentation in Ascensius’s edition to that in six other texts (Virgil, 1487/88; Virgil, 1491-92; Virgil, 1492a; Virgil, 1492b; Virgil, 1492c; Virgil, 1499) reveals only a 9% similarity, whereas the other editions have, on average, a 97% similarity between each other (*p* < 0.001, pairwise proportion test).
Douglas proves to be sensitive to this aspect Ascensius’s layout, structuring his chapters around Ascensius’s sections 67% of the time ($p < 0.001$, pairwise proportion test), with two sections on average comprising a chapter—as Bawcutt (1976: 105) estimates. For example, the following chapter break imitates the section break in Figure 7.

... hunc claris dextera factis.
[Section break here.]
Dum turnusrutulos animis audacibus implet. (Virgil, 1501, VII.474-75)

... And sum war eik inducit to the weir
For hie prowes knawin in ilke landis,
And dedis wrocht maste knychtly with his handis.

[Chapter break here.]
Ascanyus huntand hass a taym hart hurt,
Qhill Turnus on this wyss, about all partis,
Qihil Turnus on this wyss, about all partis,
Qhill Turnus on this wyss, about all partis,
Qhil Turnus on this wyss, about all partis.
Quhilk was the first moving of strife and sturt.

Quhilk was the first moving of strife and sturt.
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Quhilk was the first moving of strife and sturt.
Figure 7: UB Freiburg Ink. 4. D 7672 Folio 230v-231r in, featuring Aen. VII.461-502; image has been cropped. Lines Aen. VII.474-75 are highlighted (my edit) to illustrate the example above.

Similarly, 99.5% of the time \( (p < 0.001, \text{pairwise proportion test}) \), Douglas honours these sections within his translation units. For example, the following translation units preserve the section break seen in Figure 6:

- **Durate**: et vosmet rebus seruate secundis. (Virgil, 1501, I.207)
- **Beis stowt on prosper forton to remane.** (Douglas, 1957-64, I.4.84)
- **Talia voce refert: curisque ingentibus aeger ...** (Virgil, 1501, I.208)
- **Syk plesand wordis carpand he has furth brocht,**
  *Set his mynd trublit mony grewouss thocht.** (Douglas, 1957-64, I.4.85-86)

Considering Douglas’s attention to relatively minor details of Ascensius’s layout, his reaction to more noticeable aspects—such as the dramatic transformation of layout over the course of the text—should also be considered. In the early books, excerpts from the *Aeneid* tend to be short and rarely cross page boundaries (see Figure 6). Servius’s and Ascensius’s commentaries, on the other hand, are very lengthy and frequently spill over the page. In the later books of the *Aeneid*, the layout changes and the ratio of text to commentary reverses (see Figure 7 and Figure 8). This is not a sudden change but happens gradually, starting in Book II. Excerpts from the *Aeneid* become much longer and often cross at least a single page boundary—sometimes two. Meanwhile, the commentary shrinks.
This imbalance is the product of the division between the first and last six books of the *Aeneid* which has become codified in critical traditions of Virgilian reception. Interpretation of Books I through VI followed the outlines established by ancient commentaries on Homer’s *Odyssey*, and tended to be weightier, whereas ‘Commentary on the second half of the *Aeneid* was less focused’, and more sparse (Wilson-Okamura, 2010, p.191). Based on this, Wilson-Okamura (2010, p.217), in his examination of the reception of Virgil’s works in the Renaissance, has suggested there are two different types of readers of the *Aeneid*: those who are twelve-book readers—who read the entirety of the *Aeneid* as a cohesive whole—and those who are six-book readers—who either focus entirely on the first six books, or who read the work as a bifurcation. It is the tradition of six-book reading that causes the transformation of layout evident in Ascensius’s text. However, this does not necessarily mean that Ascensius himself was a six-book reader, especially considering how he writes commentary for the entirety of the *Aeneid* and includes Maefeo Vegio’s *Supplement*. It does, however, indicate that this division was a fixture in the study of the *Aeneid* at the time, resulting in more resources being available for Books I-VI than for Books VII-XII.

It is this paper’s contention that this change in layout affects the change in Douglas’s translation noted above, by means of Douglas’s interaction with Ascensius’s commentary. Bawcutt (1973, p.222) observes Douglas’s original additions within the text are regularly sourced from Ascensius’s commentary. This work confirms this by examining all translation units in the *Eneados* with a line ratio greater than 4 and their available commentary resources in Ascensius’s (1501) edition, determining that 86% of these units sourced their expansions directly from Servius’s and Ascensius’s commentaries ($p < 0.001$, pairwise proportion test). For example, Douglas uses both Ascensius’s and Servius’s commentaries when translating Virgil’s brief reference to Castor and Pollux:
Si fratrem pollux alterna morte redemit. (Virgil, 1501, VI.121)

Or gif Pollux redemyt his broder Castor,
As he that was immortal get and boyr,
Partyng with him his immortalite,
Athir for other sufferand forto de,
That ych of thame, by coursis alternate,
Sa oft gais and returnys that gait. (Douglas, 1957-64, VI.2.87-92)

The expansion ‘immortal get and boyr’ is almost certainly from Servius’s note ‘Helena et pollux de ioue nati immortales fuerunt’ (1501, fol.176r) or ‘Helen and Pollux were the immortal children of Jupiter’. Likewise, Douglas’s loose translation of ‘alterna morte’ as ‘athir for other sufferand forto de’ is probably from Ascensius’s note ‘morte alterna id est quam alternatim pro illo obit vt ille vicissim pro polluce’ (1501, fol.176r) or ‘reciprocated death, that is, how by turns Pollux dies for the other, Castor, so that, in exchange, the other may do the same for him’.

Similarly, Douglas mines Ascensius’s and Servius’s commentaries to find synonyms for certain words. For instance, in his translation of ‘Et nos et tua dexter adi pede sacra secundo’ (Virgil, 1501, VIII.302) (‘come to both us and your offerings by good speed’), Douglas (1957-64, VIII.5.59) translates ‘secundo’ both as ‘happy’ and ‘prosper’—the latter of which probably comes from Servius’s (1501, fol.254r) gloss ‘prospero omine’ or ‘favourable omen’. In addition, Ascensius (1501, fol.254v) glosses ‘adi’ (‘approach’), as ‘aggredere’ (‘approach’, ‘come here’), which matches up with Douglas’s double translation ‘wissy, at thou may cum heir’ (1957-64, VIII.5.58). In this way, Douglas uses Ascensius’s text as a glossary and encyclopaedia and incorporates it into his translation, thus impacting his textual proportions. This, coupled with the increase in expansions throughout the Eneados, suggests that as Douglas translates, he relies more and more on Ascensius.

However, this is complicated by the fact that Ascensius’s commentary decreases over the course of his edition. Rather than the amount of commentary available, it is layout that facilitates Douglas’s expansions, as Ascensius’s longer sections and shorter general commentary in the later books allow for easier cross-referencing because the text and the relevant commentary frequently appear on the same or facing page. Figure 9 shows this effect on a larger scale throughout the Eneados, indicating the number of sources Douglas uses and their location in respect to the content they explain. Commentary on the facing page of the text of the Aeneid tends to be referenced the most, with material that is on the same or backing page more commonly unrecognised.

While these results are not significant (p = 0.30, Fisher’s Exact Test, etc.), this preference is nevertheless noteworthy considering how Ascensius presents commentary relative to each Aeneid excerpt. Servius’s commentary always appears underneath the excerpt, while Ascensius’s own commentary runs alongside. Moreover, Ascensius’s commentary has three separate—though not always formally distinct—parts that always appear in the same order: first, a general summary of the excerpt (see White, 2013, pp.79-81), followed by quotations by Donatus (late 4th—early 5th c. AD) and sometimes Beroaldo (1453-1505) (see White, 2013, p.221), ending with a word-by-word dissection of the passage introduced by the phrase ‘ordo est’ (‘the order is’) (see White, 2013, pp.79-80). The two sources of commentary Douglas uses most are Servius’s commentary and Ascensius’s word-by-word dissection, which both always occur after the text they refer to, rather than beside it, and thus rarely occur on the same page as the text. This makes the high results for same page commentary striking.
In this way, layout proves to condition Douglas’s increasing use of expansions in the *Eneados*, despite the decreasing amount of commentary available, as the longer excerpts of the *Aeneid* and shorter commentary allow Virgil’s text and relevant glosses to occur in closer proximity to one another. This ensures that whatever commentary is available gets accessed more. In doing so, Douglas effectively redresses the imbalance in Ascensius’s commentary by weighing his translation more towards the final six books. While this could just be an accident of reading, the fact that Douglas’s later Prologues are also longer than his earlier ones suggests that, to a certain extent, this is a conscious trend. Douglas thus proves to be a twelve-book reader, who is interested in creating a uniform reading experience for his audience—though as a result his own translation is not uniform.

This practice indicates a real concern with the integrity of the text that not many scholars have identified in Douglas’s behaviour before and is symptomatic of a more humanist impulse (see Røyan, 2015, p.126). Many of Douglas’s interpolations are in service to the text and are inspired by Ascensius’s own behaviours in the source text. His programme of additions within his translation—and arguably within the Prologues as well—correct six-book readings of the *Aeneid* that cause an imbalance of commentary. While it is true that Douglas does not imitate Virgil’s rhetorical style, he does preserve structural aspects of his text as laid out by Ascensius, which is arguably evidence of a philological impulse in Douglas’s work that is sympathetic to Bembo’s ideas on imitation. Of course, this structural fidelity is complicated by the fact that Douglas ignores or alters other aspects of Ascensius’s layout—namely the book boundaries between Books I and II, V and VI, VI and VII, and VII and VIII—most likely to de-problematise Virgil’s paganism (see Røyan, 2015). Nevertheless, both the examples presented here, and the alteration of book boundaries are evidence of active

![Percentage of sources used and not used in selected translation units](image-url)
interest in how Classical texts are transmitted and how that might be done accurately and authoritatively in the vernacular—which is very much a humanist interest, albeit a vernacular one, as Bawcutt, (1976, p.36) argues.

6 Benefits and Challenges of an Interdisciplinary Method

As the previous case study has demonstrated, the method pursued in this project has revealed numerous aspects of the Eneados that have either been unacknowledged or casually observed but not meticulously studied. For example, while Bawcutt (1976, p.137) recognises that Douglas tends to build his translation around Virgil’s lines, with one Scots couplet often translating one Latin line, this work treads new ground by discovering how Douglas’s translation method shifts over the course of the Eneados. This in turn can shed new light on the order in which he composed the Books, Prologues, and Comment of the Eneados.

Moreover, it builds on Bawcutt’s (1973, 1976) work on Douglas’s extensive use of the commentary and the impact of certain features in Ascensius’s (1501) edition on the Eneados, finding that Ascensius’s layout influences Douglas’s translation practice. This correlation has important implications, attesting that translation and reading are analogous activities, where factors that impact the latter also affect the former. It also indicates that Douglas is sensitive to aspects of his source text’s presentation, demonstrating an instinct akin to imitatio in that he attaches importance to surface level structures of language and presentation and recreates them. However, the fact that he also revises these structures on occasion reveals an interest in textual editing and the sense of the work as a complete book that is rather prescient of modern sensibilities (see Griffiths, 2009, p.185).

In summary, this method has succeeded in supporting many claims of well-respected scholars—especially Bawcutt, who has done the most comprehensive work on Douglas—while at the same time making new discoveries, which arguably could not have been made without the use of an interdisciplinary methodology. However, that is not to say that this method is not without its challenges or pitfalls. Chief among these is the gap between Medieval content and modern linguistic and computational tools that requires creative traversing. For example, given the nested structure of XML, where an element cannot interrupt another element that it contains, alignment in these files was determined by line, as line elements, as well as word elements, were nearly always contained with a translation unit. Such practice tacitly assumes that Douglas had a similar respect for line boundaries. This is not a huge drawback; there is a fair amount of evidence that Douglas does structure his translation around lines, given that he often provides a neat Scots couplet for one Latin line. However, this could be considered a circular argument and it would be worth re-examining those books (Books I and XIII) where equivalency does not as neatly conform to line breaks to investigate whether Douglas models his translation around other units of meaning.

Likewise, while it is extremely likely that Douglas does attribute special significance to the line as a unit of meaning, it is necessary to remember that this does not hold true for Virgil himself, whose clauses often extend beyond line limits.

Similarly, at the time of the development of the digital resource used here (c. 2015), there was no easy way to automatically tag images for layout characteristics. Tyrkkö’s (2017) work with ImageJ and ImagePlot and Varila’s (2016) use of Juxta had not yet been published. This project devised its own transparent layout annotation system that tracked major codicological breaks in the source text—as described above. However,
this system had to be implemented manually, which was labour-intensive, and thus did not capture other more minute aspects of layout that may have been useful—such as the appearance of parahps and frequency of headings. Again, this could be worth revisiting; more overlaps between Ascensius’s layout and Douglas’s translation may be found.

Finally, it must be admitted that the ‘corpus’ used here is too small (259,391 words total) and its range too limited (comprising of only three texts) to make any kind of universal claim concerning Douglas’s language. For that reason, quantitative methods are used mainly as a means of exploring the corpus, of isolating certain elements of Douglas’s translation and tracking them across the text. The approach taken here is essentially a ‘formalist’ or ‘bottom-up’ one, comparing the translation to its source at their most basic, linguistic level, and then working up to the ‘bigger picture’ issues.

However, many DTS theorists do not believe that this is an appropriate way to approach translation, as it divorces translation from its greater context. Evans, (1994) laments the lack of interest in cultural theory in favour of ‘historical specificity’ (27), arguing a need for ‘understanding how subjects are constructed through and within various nexuses of power-relations’ (31). Based on reasoning such as this, Snell-Hornby, (1987, pp.96-97) argues that ‘textual analysis must proceed from the macro to the micro level’ with ‘the importance of individual items ... decided by their function in the text’. Baker (1992, p.6) also admits that ‘the top-down approach is the more valid one theoretically’, but offers the concession that, practically, a bottom-up approach can be more valuable, because ‘meaning is realised through form and without understanding the meanings of individual forms one cannot interpret the meaning of the text as a whole’. In other words, a bottom-up approach can be effective in providing the detail needed to realise a top-down approach in the first place. Again, given the lack of complete analyses of Douglas’s translation, it is arguably this type of detail that scholarship on Douglas needs currently.

In this way, this project has proved that an interdisciplinary method drawing on literary and linguistic methods, and traditional and digital techniques can be very productive when applied to medieval texts—especially large, complicated ones that defy easy analysis. When digital, linguistic, and statistical analyses are balanced with respect to literary, codicological, and historical context, they can forge a powerful tool that can provide new perspectives on even well-studied texts and reveal hidden implications. Moreover, the adoption of this method produces a variety of digital tools and texts that help to make the study of medieval literature and language more accessible and, consequently, more relevant.

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Using Linked Data to Track and Trace Processes of Canonization in Early Modern Dutch Literature

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This article is about a pilot project in which we linked five web resources in order to get a firmer grip on processes of canonization in Dutch literature in the early eighteenth century. The project centers around the Panpoëticon Batavûm, an early eighteenth century portrait gallery of Dutch writers, initiated by the painter Arnoud van Halen (1673-1732) and continued by others. This hall of fame provides an early example of the historical canonization of Dutch writers. As a collection the Panpoëticon is no longer intact, but it has been digitally reconstructed as a website. We created a RDF representation of this website and combined these data with data derived from the DBNL, Ecartico, Onstage and the Short Title Catalogue Netherlands. Using these combined data sets we investigate whether the Panpoëticon reflects the popularity of playwrights in the Amsterdam theater and vice versa, but we also address potential geographical and sociocultural biases in the Panpoëticon. Besides generating new insights in processes of canonization in early modern Dutch literature, this article aims to provide a working example of the synergy that can be achieved by combining multiple data sets using Semantic Web technology.

1 Introduction

Fame. Few phenomena are so quintessential to our culture and yet, from an academic perspective, so precarious to deal with. Researchers dealing with fame and famous people are likely to run into what William Labov (1972) called an observer’s paradox, since fame is basically created by calling it into being. Hence you can not observe people as being famous without contributing to their fame. This is particularly an issue in our own academic discipline, the history of literature and art, which has a long track record of establishing and re-establishing the fame of past writers and artists.
Along with popular views and partisanship, scholarship has been very instrumental in the shaping of the artistic and literary canons that, whether we like it or not, guide our views and understanding of art and literature in the past.

In the past decades literary and artistic canons have increasingly become subject to criticism and critical review. Aside from the objections made by (postmodern) critical theory that literary and artistic canons tend to reflect the views and interests of the dominant groups in culture and society, there is a growing awareness that such canons are likely to bias our understanding of past culture in its own context. And as a consequence the understanding of the dynamics behind processes of canonization is highly relevant to the history of art and literature (Gorak, 2013; Kolbas, 2001).

It will be clear that artistic and literary canons as social conventions should be distinguished – but not separated – from attempts to record and petrify such canons in writings, galleries and monuments. Such attempts have been numerous and can be traced back to Antiquity. In the realm of the arts the publication of Vasari’s *Vite* (1550) is generally understood as a first attempt to define a canon of Italian Renaissance art. The example of Vasari was followed by Van Mander (1604) for painters from the Low Countries. Updates to Van Mander were provided by De Bie (1662) and Houbraken (1721). At the same time when Houbraken was using his writing skills to celebrate the painters, his fellow painter and friend Arnoud van Halen (1673-1732) decided to use his painting skills to celebrate the poets.

In the first decades of the eighteenth century Van Halen created a collector’s cabinet that would eventually contain over 338 miniature portraits of Dutch authors (Figure 1). Throughout the eighteenth century this Panpoëticon Batavûm served as the *de facto* canon of Dutch literature (Leemans and Johannes, 2013; Van Deinsen, 2016). It was praised in hundreds of laudatory verses. And all these writings contributed to the authority of the Panpoëticon as a canon. After the death of Van Halen in 1732 the Panpoëticon was subsequently acquired by the broker and art lover Michiel de Roode in 1732, Arnoud de Jonghe in 1771, and the Leiden literary society Kunst Wordt Door Arbeid Verkregen [Art is Obtained by Labor] in 1772 (Figure 2). Under these new owners several old portraits were replaced and new likenesses were added to the cabinet.

Unfortunately, the cabinet was heavily damaged during the Leiden gunpowder disaster of 1807, although the individual portraits remained intact. However, the society, financially devastated by the disaster, was forced to put the collection of
paintings up for sale. In a final, desperate attempt to clear its debts, it offered the Panpoëticon to the newly founded Koninklijk Museum, a direct precursor of the Rijksmuseum Amsterdam, for the hefty sum of five thousand guilders. Despite the fact that nationalism was by then the thriving idea in politics and culture, interest in the eighteenth-century and rather encyclopedic collection was limited and the society’s offer was firmly rejected twice. The collection was eventually sold in 1819 and again in 1849. The then owner, a profit-driven art broker, sold the portraits separately and they ended up in collections all across Europe (Van Deinsen, 2017, 2020). The wooden cabinet itself was lost.

Regret always comes later. Currently eighty-two of the original portraits have found their way to the Rijksmuseum in Amsterdam, others are part of different heritage collections or in the possession of private collectors. Of many the current whereabouts remain unknown. Meanwhile the Panpoëticon has been digitally ‘reconstructed’ as a website Het Schrijverskabinet (www.schrijverskabinet.nl) which gives a systematic overview of the portraits that were once in the cabinet as well as some additional information on the writers being portrayed. This website is of course an excellent tool to provide visitors with a feeling of what the cabinet was once about, but it falls short in providing researchers with structured data about the Panpoëticon and its inductees.

In this paper we will describe how we created a (linked) data representation of the Panpoëticon and we will explore its research potential. There were two major reasons why we thought that having a representation of the Panpoëticon in structured data would be useful. The first reason is that in addition to conventional historical research the quantitative and computational analysis of such material might be helpful in unveiling the less manifest forces, structures and biases behind processes of historical canonization as has been wittily illustrated by Skiena and Ward (2013). The second – but not less important – reason is that in an emerging landscape of linked data concerning art and literature in the Dutch Golden Age (Brouwer and Nijboer, 2018),...
the addition of the Panpoëticon would be a valuable contribution *per se*. This collection is especially relevant since its genesis provides us with the unique opportunity to study the hybrid process of fame-making from the perspective of the cultural brokers involved. And as such it provides a little backdoor to escape – at least for a moment – the aforementioned observer’s paradox.

2 The Panpoëticon in RDF

Considering the aforementioned objectives, the use of Semantic Web technology for creating a data representation of the Panpoëticon is the most obvious choice. Semantic Web technology consists of three main components: Unified Resource Identifiers (URIs), the Resource Description Framework (RDF), and the SPARQL query language. URIs (world wide unique identifiers) are used to represent things and concepts. Preferably URIs should take the form of an http(s) address, so that the things or concepts they represent, can be identified using the Web. RDF is a generic data model that describes data in subject-predicate-object triples, like Shakespeare (subject) has gender (predicate) male (object). In the RDF data model subject and predicate are always represented by a URI while the object may also be represented by a textual or a numerical value (literal). Hence, we can make the previous statement, using only URIs in a form like:


For the sake of convenience we can shorten the lengthy ‘http:etc’ parts with commonly used prefixes, like:

(2) `viaf:96994048 schema:gender schema:Male`.

Since the object of a RDF triple can be the subject of another triple, the data model also allows for more complex statements like “Hamlet is a play by Shakespeare, who was born in 1564”, which can be represented in RDF like:

(3) `viaf:312343799 rdf:type schema:Play.
viaf:312343799 schema:name “Hamlet”.
viaf:9699404 schema:name “William Shakespeare”.
viaf:9699404 schema:birthDate “1564”`.

This feature of making complex statements by matching either the subject or the object of one triple to either the subject or object of another triple, makes the RDF data model very versatile, as data can be represented as a graph. And although certainly not all complexity can be easily accounted for in RDF, it has one other BIG advantage: ease of aggregation. Because every RDF dataset consists of triples, RDF datasets can easily be merged, even when they differ vastly in terms of content, terminology and scope. For this reason, the adaptation of Semantic Web technology has been particularly strong in fields where data is heterogeneous and semantically rich. The most obvious examples are general knowledge graphs like DBpedia and Wikidata. Another field that witnessed a steady adaptation of the RDF data model is cultural heritage. The collection databases of museums, libraries and archives typically cover data that is
diverse in structure and content. Meanwhile open data legislation increasingly urges publicly funded institutions to publish their data on the Web.

Large players in the Dutch cultural heritage field like the Rijksmuseum and the Royal Library have already published their collection databases in a RDF format. Obviously a RDF representation of the Panpoëticon would be a welcome addition to this emerging Semantic Web of Dutch cultural heritage. Especially since the Panpoëticon is already reconstructed as the Schrijverskabinet website and URIs should ideally point at a resource where the data about the entity being described, is served in both a human readable (HTML, i.e. a web page) and a machine readable (RDF) format. However, since this exercise was explicitly conducted as a pilot project, converting the Schrijverskabinet website into a full-fledged Semantic Web resource was not an option. Instead we used a less intrusive method by creating a separate data layer that represents the Schrijverskabinet in RDF. This layer serves both as a mere copy in terms of structure and relations between portrayed figures and articles about these persons, as well as an entry point that offers references to the Schrijverskabinet website and other datasets where possible.

Converting the Schrijverskabinet website into structured RDF data proved to be rather straightforward. Although the website does not provide structured data, it does use rather structured HTML, in the sense that individual data elements are recognizably ordered in the so called DOM tree of the HTML source code of the separate web pages, as is illustrated in Appendix 1 and Figure 3. For instance, the name of the portrayed person is taken from the content of the HTML h1 (heading) element, while an additional disambiguating description is taken from the h2 element. Similarly, information on the painter, the creation date of the portrait and its current location is taken from an array of labeled elements. Following this logic, the HTML was parsed into an intermediary data file of which a part is shown in Appendix 2.

Having a copy of the Schrijverskabinet website stored, the next step was to normalize and enrich the data, so that it can be converted to RDF. Part of this normalization is for instance the conversion of any dates that are given to a proper date description, so that the year range “1700 – 1732” can be expressed into a possible beginning and ending of respectively 1700-01-01 and 1732-12-31, which boosts ‘queryability’ when working with the data. Also, if multiple painters worked on a portrait (e.g. if Arnoud van Halen first made a portrait, after which Jan Maurits Quinkhard augmented it), then this information is split so that we can attribute the portrait to two painters, each expressed with their own unique identifier (URI).

As mentioned above, these URIs define the resources in the world of RDF. Apart from properties that express for example the name or description of a resource, is there also a property that states the type of this resource, which points to a particular class from a specific ontology or vocabulary. This way, we can say that painter and collector Arnoud van Halen is referred to by a URI and is an instance of the type Person, which means that he is a member of everything in the world we classify as Person:

\[
(4) \quad \langle https://data.create.humanities.uva.nl/id/schrijverskabinet/person/arnoud-van-halen\rangle \text{ rdf:type schema:Person .}
\]

Similarly, the (self) portrait of Arnoud van Halen is an instance of the type VisualArtwork:

\[
(5) \quad \langle https://data.create.humanities.uva.nl/id/schrijverskabinet/artwork/arnoud-van-halen\rangle \text{ rdf:type schema:VisualArtwork .}
\]
Figure 3: The portrait page of Hugo de Groot on the Schrijverskabinet website.
Source: http://www.schrijverskabinet.nl/portret/hugo-de-groot/
Instead of defining these concepts of Person and VisualArtwork ourselves, we make use of the classes from the well-known Schema.org vocabulary. Reasons to choose for Schema.org are its practical usability and the fact that this vocabulary is (getting) well-adopted amongst other providers of cultural heritage data, like the National Library of the Netherlands (KB), and the Netherlands Institute for Art History (RKD). In general, to advance the interoperability of RDF datasets it is good practice to reuse existing vocabularies, particularly for expressing the predicates in RDF triples and for the definition of classes (types) of the entities the dataset deals with.

The set of entities described by the Schrijverskabinet is rather limited and can be modeled into resources of the following classes: (1) schema:CreativeWork, for a reference to the original Schrijverskabinet portrait page, (2) schema:Person, for persons portrayed, painters, and contemporary authors that contributed to the Schrijverskabinet, (3) schema:Place, for birth and death places of persons portrayed, (4) schema:PublicationEvent, for the moment the portrait was added to the Panpoëticon, (5), schema:ScholarlyArticle, for contemporary articles listed on www.schrijverskabinet.nl about a particular portrayed person written by a present-day scholar, and (6) schema:VisualArtwork, for the portrait itself. Each of the modeled resources contains class specific properties to express additional information. The full set of RDF triples that is used to express data on for instance Hugo de Groot can be seen in Appendix 3.

The pipeline we used to map the Schrijverskabinet website into a RDF dataset is publicly available in a GitHub repository and can be rerun when the website is updated. The code and resulting dataset have also been published in the Zenodo research portal (Van Wissen and Nijboer, 2020).

3 Connecting resources: true Linked Data

Linked Data is simply about using the Web to create meaningful links between data from different sources (Bizer et al., 2011). RDF datasets are often considered Linked Data per se, since they use URIs to identify things, and link to external vocabularies to identify concepts. But that definition would be too confined. Linked Data becomes really interoperable when, and only when, entities described in a dataset are linked to entities in other datasets or to commonly used identifying URIs. It is about making explicitly clear that the John you are talking about is the same as the John someone else is talking about.

By convention the owl:sameAs predicate from the Web Ontology Language vocabulary is used to state that an entity in one dataset is the same as an entity in another dataset. And for this purpose it is highly recommended to refer to widely used identity providers like the Virtual Internet Authority File (VIAF). So when for instance my dataset states that:

(6) mydataset:John owl:sameAs viaf:40648922 .

And your dataset states that:

(7) yourdataset:Johannes owl:sameAs viaf:40648922 .

We can infer that:

(8) mydataset:John owl:sameAs yourdataset:Johannes .
Providing owl:sameAs links is a simple and effective way to identify entities across datasets. Yet, there is an ongoing discussion on whether the owl:sameAs predicate is the appropriate property for this task. In some circumstances this predicate is too blunt for the task, while in other circumstances its specific semantics may lead to undesired inferences (cf. Halpin et al., 2010; Idrissou et al., 2017). A full discussion of this issue goes well beyond the scope of the present paper and is in this context not very relevant, as potential problems usually arise at the fringes of the data landscape we want to explore. Furthermore, currently there is no viable alternative to the use of owl:sameAs links. They are still considered (part of) the ‘glue that connects different datasets on the Semantic Web’ (Beek et al., 2018).

The curators of the Schrijverskabinet already provided for each portrayed person a hyperlink to its corresponding page in the thesaurus of authors maintained by the Digital Library for Dutch Literature (DBNL), which is published by the National Library of the Netherlands (KB) as a separate dataset in their Linked Data Portal. When we started the project described in this paper, five inductees in the Panpoëticon did not have an entry in the DBNL thesaurus of authors yet. The DBNL, however, was so generous to create new entries for those persons. Today (almost) every person described at the Schrijverskabinet website is now linked to a corresponding page in the DBNL thesaurus of authors. These links to the DBNL make it possible to combine the RDF data derived from the Schrijverskabinet website with other RDF datasets. Contentwise the most relevant in this respect are the Short Title Catalogue Netherlands (STCN), ONSTAGE and ECARTICO.

The STCN is the Dutch retrospective bibliography for the period 1540-1800. The STCN contains bibliographic data on over 213 000 (and counting) titles that are still present in the collections of Dutch and several foreign (academic) libraries. This focus on physical books that survived the ravages of time always raises the question whether the STCN provides a representative overview of the output of the Dutch book industry prior to 1800. Recent research estimates that the STCN covers only 20% of the total production of printed works in the Dutch Republic (Pettegree and Der Weduwen, 2018, 2019). But in the case of literary works, with the possible exception of occasional poetry, this coverage should be estimated much higher since literary works have always been actively collected by libraries. Coverage in this field should be considered comprehensive enough for obtaining at least decent proxies for output and popularity. Authors of books in the STCN are linked to the Dutch Thesaurus for Author Names (NTA), which in turn is linked to VIAF. Both the STCN and the NTA have been made available by the KB as RDF datasets in their Linked Data Portal.

ONSTAGE, is a dataset containing the (almost) complete programming of the Amsterdam city theater from 1637 up until the present. The original programs have been enriched by links to structured representations of identified plays. The data allows researchers to trace the popularity of plays and playwrights over time and to track the rising popularity of Spanish drama in the seventeenth and French drama in the eighteenth century (Blom et al., 2020; Jautze et al., 2016). Persons (playwrights) and plays have been extensively linked to external identifiers. ONSTAGE is curated and hosted at the University of Amsterdam and is available as Linked Open Data.

ECARTICO is a prosopographical database with data on agents in the creative industries of the Low Countries from ca. 1475 until ca. 1725. The particular strength of the dataset is that it does not only deal with the who, what, when and where of the individual agents but that it also provides data on how these agents were related, either by kinship or other social relations. Although ECARTICO’s main objective
is to establish a prosopography (a systematic overview of people, their attributes and relations) it does also provide extensive linkage to external resources like VIAF, the NTA, the DBNL and others (Brouwer and Nijboer, 2018). To support the current project the editors of ECARTICO included all inductees of the Panpoëticon. ECARTICO is curated and hosted at the University of Amsterdam in cooperation with Huygens ING and is available as Linked Open Data.

Figure 4 shows how the Schrijverskabinet is linked to the resources mentioned above by only providing a link to the DBNL authors thesaurus. The most obvious is the linkage between ECARTICO and the Schrijverskabinet. Although these datasets do not directly link to each other, person entities described in both datasets do share a link to the DBNL authors thesaurus. As an intermediary both the DBNL and ECARTICO link the Schrijverskabinet to the NTA. This might seem redundant, but ECARTICO might provide identifications that so far have escaped the attention of the curators of the DBNL and the other way around. The NTA in turn is linked to the STCN and ONSTAGE. At the ‘end’ of the chain of owl:sameAs links appears Wikidata, the global database that anyone can contribute to. The author’s resource on Wikidata might serve in this context as a global low-level entry point for third parties to store, connect and publish data.

4 Some results

The benefit of linking the Schrijverskabinet to a web of resources is that one can harvest information about a person from various datasets that all have their specific expertise and scope. Biographical data is for instance better documented and structured in ECARTICO, while bibliographic information can be pulled out of the STCN. Finally, ONSTAGE can be used to check whether the most popular playwrights of the seventeenth century managed to obtain a canonical status by becoming inductees in the Panpoëticon.

Below we will present three use cases for which we queried the Schrijverskabinet RDF data in combination with other datasets. To make RDF data queryable it has to be stored in a triple store which can be accessed over the Web through a SPARQL
endpoint. An endpoint for the NTA, STCN and DBNL datasets is provided by the KB. For the other datasets a (temporary) endpoint is provided by the University of Amsterdam, while a more permanent endpoint will be provided by the Golden Agents research infrastructure in the near future. SPARQL is the dedicated language to query RDF data. The logic behind SPARQL and its syntax are well documented, both in print and on the Web. But in practice, it is for the greater part learned by doing, as with most computer languages. So, for learning purposes as well as for the sake of reproducibility and replicability, the SPARQL queries that generated these outcomes used in the cases below, are included in the appendices.

4.1 Mapping the birthplaces of inductees in the Panpoëticon

To address a potential geographical bias in the Panpoëticon we would like to know more about the places of birth of the inductees. Since structured data on birthplaces is not provided by the original Schrijverskabinet data, we took the birthplaces of the inductees from ECARTICO. The query we used for this purpose is included in Appendix 4, while the result is mapped in Figure 5.

As was expected the Panpoëticon seems pretty biased towards writers born in the western part of the Dutch Republic. Closer examination of the figures reveal that especially Amsterdam (77 inductees) was well represented. The second city on the list, Dordrecht, gave birth to only 17 literary heroes. People born in the eastern parts of the Netherlands (Drenthe, Twente, Achterhoek) were conspicuously absent in the Panpoëticon.

4.2 Inductees and their published works

The next thing we wanted to know is how well the inductees of the Panpoëticon are represented in the STCN. We designed a query (Appendix 5) that asks for the number of titles in the STCN for each writer in the Panpoëticon. The query runs over the Schrijverskabinet and the STCN using ECARTICO as an intermediary to obtain the applicable NTA URIs. The query returned 272 results, with a top ten of prolific writers that one would more or less expect (Vondel, Erasmus, Grotius, etc.) But more
Table 1: Most popular playwrights in the Amsterdam City Theater checked against the inductees in the Panpoëticon.

<table>
<thead>
<tr>
<th>Number of stagings</th>
<th>Name</th>
<th>Inductee</th>
</tr>
</thead>
<tbody>
<tr>
<td>973</td>
<td>Joost van den Vondel</td>
<td>Yes</td>
</tr>
<tr>
<td>809</td>
<td>Isaak Vos</td>
<td>No</td>
</tr>
<tr>
<td>697</td>
<td>Pieter Bernagie</td>
<td>No</td>
</tr>
<tr>
<td>576</td>
<td>Dirck Buysero</td>
<td>Yes</td>
</tr>
<tr>
<td>544</td>
<td>Pieter de la Croix</td>
<td>No</td>
</tr>
<tr>
<td>488</td>
<td>Thomas Asselijn</td>
<td>No</td>
</tr>
<tr>
<td>454</td>
<td>Frans Rijk</td>
<td>Yes</td>
</tr>
<tr>
<td>453</td>
<td>Jacob van Rijndorp</td>
<td>No</td>
</tr>
<tr>
<td>449</td>
<td>Jan Vos</td>
<td>Yes</td>
</tr>
<tr>
<td>349</td>
<td>Adriaan Bastiaensz. de Leeuw</td>
<td>No</td>
</tr>
<tr>
<td>346</td>
<td>Dirck Pietersz. Heynck</td>
<td>No</td>
</tr>
<tr>
<td>336</td>
<td>Willem van der Hoeven</td>
<td>Yes</td>
</tr>
<tr>
<td>333</td>
<td>Andries Pels</td>
<td>Yes</td>
</tr>
<tr>
<td>304</td>
<td>Reinier Bontius</td>
<td>No</td>
</tr>
<tr>
<td>301</td>
<td>Enoch Krook</td>
<td>No</td>
</tr>
<tr>
<td>283</td>
<td>Daniel Kroon</td>
<td>No</td>
</tr>
<tr>
<td>279</td>
<td>Pieter Langendijk</td>
<td>Yes</td>
</tr>
<tr>
<td>272</td>
<td>Jan Pluimer</td>
<td>No</td>
</tr>
<tr>
<td>255</td>
<td>Lodewijk Meyer</td>
<td>No</td>
</tr>
<tr>
<td>249</td>
<td>David Lingelbach</td>
<td>Yes</td>
</tr>
<tr>
<td>244</td>
<td>Pieter Cornelisz Hooft</td>
<td>Yes</td>
</tr>
<tr>
<td>217</td>
<td>Joan Dullaart</td>
<td>No</td>
</tr>
<tr>
<td>217</td>
<td>Willem Godschalk van Focquenbroch</td>
<td>Yes</td>
</tr>
<tr>
<td>201</td>
<td>Claas Bruin</td>
<td>Yes</td>
</tr>
<tr>
<td>191</td>
<td>Ysbrand Vincent</td>
<td>Yes</td>
</tr>
</tbody>
</table>

surprising is that of 124 writers that were inducted in the Panpoëticon no works can be found in the STCN. This can partly be explained by the fact that many poets had their poems only published in anthologies. Apparently, not having published single authored works was not an obstruction for writers to gain canonical status in the early modern period.

4.3 Canonization of popular playwrights

Finally we wanted to investigate whether the most popular playwrights of the seventeenth and eighteenth centuries were also inductees of the Panpoëticon. For this we counted for each playwright the number of stagings of their plays in the Amsterdam City Theater prior to 1785 which might serve as a proxy for popularity. In addition we checked for each playwright whether they were inducted in the Panpoëticon or not. This whole operation can be executed by one single SPARQL query (Appendix 6) running over the Schrijverskabinet, ONSTAGE and ECARTICO as an intermediary. The resulting Top 25 is displayed in Table 1.

The results of this exercise are at least remarkable, since it shows that being a successful playwright was no guarantee for reaching a canonical status. An explanation might be that many of the popular playwrights that failed to get inducted in the
Panpoëticon, were mainly active as translators of French and Spanish drama. But in that case, one can also state that the Panpoëticon failed to pay tribute to a group of writers that had an enormous impact on Dutch literary culture in the seventeenth and eighteenth centuries (cf. Jautze et al., 2016).

5 Final remarks

In this paper we described a pilot project in which we converted the Schrijverskabinet website, a digital reconstruction of the Panpoëticon Batavûm, into a RDF dataset. We were able to combine this dataset with other RDF datasets using the links to the DBNL authors thesaurus provided by the Schrijverskabinet. By querying the combined datasets we were able to generate contextual statistics for the Panpoëticon that might be helpful in generating new insights in processes of canonization in early modern Dutch literature. As such the project provides a working example of the synergy that can be achieved by combining multiple datasets using Semantic Web technology.

All three use cases we presented in this study, showed that the Panpoëticon was in no way an unbiased canon of Dutch literature. Notwithstanding the fact it was presented and perceived as an undisputed monument for Dutch literature by many eighteenth-century contemporaries (Van Deinsen, 2017), our detailed analysis of its content shows the collection was, in fact, heavily focused on authors from Amsterdam, included several overrated poets with a meager literary publication track and underrated successful dramatists that were seen as mere translators. The process of literary canonization, as materialized in the Panpoëticon, thus, was by no means only based on the literary quality of the inductees. All of this was of course more or less known by the small circle of initiates of the Panpoëticon, but data analysis reveals these biases more explicitly and to a point beyond doubt. As such, our pilot project has highlighted the added value of combining resources in charting the complex and oftentimes hidden mechanisms behind literary canon formation. This paves the way for a similar approach of other canonization projects, both in the past and present.

With regard to the specific case of the Panpoëticon: if the cabinet did not contain an unbiased canon of Dutch literature, it becomes all the more interesting to reveal hitherto unidentified factors contributing to the collection’s formation. Future research in, for example, the social status, social aspirations and networks of its initiator, its subsequent owners and maintainers and other stakeholders involved could provide new insights in processes of early modern canon formation. Data for such large scale prosopographical analysis of stakeholders and inductees is to a large part already available or is increasingly becoming available. The Linked Data framework presented in this paper ensures that data on the Panpoëticon can be used in conjunction. On a more technical level embedding this framework in the original context of the Schrijverskabinet website is an option that seriously should be considered.

Finally, we want to stress that the success of this project owes a lot to the extensive communication and collaboration between data providers and researchers. To align the data there has been an extensive and animated email exchange between the editors of the Schrijverskabinet and the editors of ECARTICO. Making the Schrijverskabinet successfully interlinked by pointing at only one domain, also owes much to the generosity of the DBNL to create new identifiers in their thesaurus for those inductees, who were not represented there yet. Last but not least, we have to mention the workshop at the Amsterdam Time Machine / Golden Agents Datasprint (March 12th, 2020) where we had lively discussions about the research potential of this data experiment. All of this
exemplifies once again that using Linked Data in humanities research is only partly a technological challenge. In the end, it is about connecting scholars and scholarship.

Acknowledgements

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Skiena, S. and C. Ward

Van Deinsen, L.

Van Deinsen, L.

Van Deinsen, L.

Van Mander, C.

Van Wissen, L. and H. Nijboer

Vasari, G.
Code and Data Availability

The pipeline used to convert the *Schrijverskabinet* into RDF, as well as the data itself, is available at:
https://github.com/LvanWissen/schrijverskabinet-rdf

Version 1.0 of the *Schrijverskabinet* RDF dataset has been published in the Zenodo research portal as Van Wissen and Nijboer (2020) and is available at:
https://doi.org/10.5281/zenodo.3835559

RDF versions of the DBNL authors thesaurus, the NTA and the STCN are provided by the KB in their Linked Data Portal:
http://data.bibliotheken.nl

ONSTAGE is available in HTML/RDFa at:
http://www.vondel.humanities.uva.nl/onstage/

ECARTICO is available in HTML/RDFa at:
http://www.vondel.humanities.uva.nl/ecartico/

Most of the aforementioned RDF datasets are aggregated (and regularly updated) in the Golden Agents research infrastructure at:
https://data.goldenagents.org/

Please note that many of the resources used in this study are actively maintained and regularly updated. Hence, rerunning experiments will probably yield slightly different results.
Appendices

Appendix 1: Fragment of the (slightly tidied) HTML source code of the web page describing the portrait of Hugo de Groot (Grotius) at the Schrijverskabinet website

```
<div id="portrait-info">
  <h1>Hugo de Groot</h1>
  <h2>Rechtsgeleerde en schrijver</h2>
  <div class="date-of.birth-and-death">
    Delft 1583 - Rostock 1645
  </div>
  <div class="details">
    <div class="label">Schilder</div>
    <div class="data"><a href="http://hdl.handle.net/10934/RM0001.COLLECT.512936">Rijksmuseum, Amsterdam</a></div>
  </div>
  <div class="label">Datering</div>
  <div class="data">1700 - 1720 </div>
  <div class="label">Vindplaats</div>
  <div class="data">
    <a href="http://www.schrijverskabinet.nl/artikel/hugo-de-groot/">
      Geleerd multi-genie in een jungle van politieke spanningen
    </a>
    door Jan Waszink</div>
  <div class="label">Artikel</div>
  <div class="data"><a href="http://www.dbnl.org/auteurs/auteur.php?id=groo001">Hugo de Groot</a></div>
</div>
```
Appendix 2: Data coming from the Schrijverskabinet website for the portrait of Hugo de Groot stored as JSON

```json
"http://www.schrijverskabinet.nl/portret/hugo-de-groot/": {
  "title": "Hugo de Groot",
  "subtitle": "Rechtsgeleerde en schrijver",
  "bio": "Delft 1583 \u2013 Rostock 1645",
  "painter": "Arnoud van Halen",
  "date": "1700 \u2013 1720",
  "origin": {
    "name": "Rijksmuseum, Amsterdam",
    "url": "http://hdl.handle.net/10934/RM0001.COLLECT.512936"
  },
  "article": {
    "name": "Geleerd multi-genie ...",
    "url": "http://www.schrijverskabinet.nl/artikel/hugo-de-groot/
  },
  "dbnl": {
    "name": "Hugo de Groot",
    "url": "http://www.dbnl.org/auteurs/auteur.php?id=groo001"
  },
  "quote": "Aan Delft ...",
  "depiction": "http://www.schrijverskabinet.nl/[/...]/Hugo-de-Groot-Jong-1.jpg",
  "artdepiction": "http://www.schrijverskabinet.nl/[/...]/Hugo-de-Groot-Jong.jpg"
}
```
Appendix 3: RDF Turtle representation of the webpage describing Hugo de Groot in the Schrijverskabinet

```turtle
@base <https://data.create.humanities.uva.nl/id/schrijverskabinet/>.
@prefix skb: <http://www.schrijverskabinet.nl/>.
@prefix xsd: <http://www.w3.org/2001/XMLSchema#>.
@prefix schema: <http://schema.org/>.
@prefix owl: <http://www.w3.org/2002/07/owl#>.
@prefix foaf: <http://xmlns.com/foaf/0.1/>.

<person/hugo-de-groot> a schema:Person ;
  schema:birthDate "1583"^^xsd:gYear ;
  schema:birthPlace _:delft ;
  schema:deathDate "1645"^^xsd:gYear ;
  schema:deathPlace _:rostock ;
  schema:disambiguatingDescription "Rechtsgeleerde en schrijver" ;
  schema:mainEntityOfPage <skb:portret/hugo-de-groot/> ;
  schema:name "Hugo de Groot" ;
  schema:subjectOf <skb:artikel/hugo-de-groot/>,
  <artwork/hugo-de-groot> ;
  owl:sameAs <http://data.bibliotheken.nl/id/dbnla/groo001> ;
  foaf:depiction <skbim:2016/03/Hugo-de-Groot-Jong-1.jpg> .

<skb:portret/hugo-de-groot/> a schema:CreativeWork ;
  schema:mainEntity <person/hugo-de-groot> ;
  schema:text """"Aan Delft ..."""" .

<skb:artikel/hugo-de-groot/> a schema:ScholarlyArticle ;
  schema:about <person/hugo-de-groot> ;
  schema:author <person/jan-waszink> ;
  schema:name "Geleerd multi-genie in een jungle van politieke spanningen" .

# NOTE: The skb: and skbim: prefixes are used to make the code more legible. They may not work in real world applications.
```
Appendix 4: SPARQL query to get the birthplaces of the inductees in the Panpoëticon

```
# The query is executed at: https://data.create.humanities.uva.nl/sparql

PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX rdf: <http://www.w3.org/1999/02/rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX schema: <http://schema.org/>

SELECT COUNT(DISTINCT ?ecarticoPerson) AS ?num
(xsd:decimal(COUNT(DISTINCT ?ecarticoPerson)))/10+5 AS ?radius
?birthPlaceName ?lat ?long
WHERE {

# First, fetch all persons and their portraits from the panpoeticon
GRAPH <https://data.create.humanities.uva.nl/id/schrijverskabinet/> {
  ?person a schema:Person;
  owl:sameAs ?dbnlPerson;
  schema:subjectOf ?portrait .
}

# We use the ECARTICO dataset to fetch the birthPlaces
GRAPH <https://data.create.humanities.uva.nl/id/ecartico/> {

  ?ecarticoPerson a schema:Person ;
  owl:sameAs ?dbnlPerson .

  ?ecarticoPerson schema:birthPlace ?birthPlace .

  ?birthPlace schema:name ?birthPlaceName ;
  schema:geo [ schema:latitude ?lat ;
}

GROUP BY ?birthplace ?birthPlaceName ?lat ?long
ORDER BY DESC(?num) ASC(?birthPlaceName)
```

Appendix 5: SPARQL query to list the inductees in the Panpoëticon and the number of their works catalogued by the STCN

```sparql
# The query is executed at: http://data.bibliotheken.nl/sparql
PREFIX foaf: <http://xmlns.com/foaf/0.1/>
PREFIX void: <http://rdfs.org/ns/void#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX schema: <http://schema.org/>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>

SELECT DISTINCT ?worksInSTCN ?name ?authorNTA WHERE {

  SERVICE <https://data.create.humanities.uva.nl/sparql> {
    SELECT ?name ?authorNTA WHERE {
      GRAPH <https://data.create.humanities.uva.nl/id/schrijverskabinet/> {
        ?person a schema:Person; 
        schema:name ?name ;
        schema:subjectOf [ a schema:VisualArtwork ];
        owl:sameAs ?authorDBNL .
      }
    }
  }

  # We use the ECARTICO dataset to jump to the NTA
  GRAPH <https://data.create.humanities.uva.nl/id/ecartico/> {
    ?ecarticoPerson a schema:Person ;
    owl:sameAs ?authorDBNL, ?authorNTA .
    FILTER(CONTAINS(STR(?authorNTA), 'http://data.bibliotheken.nl/id/thes'))
  }

  { SELECT (COUNT(?work) AS ?worksInSTCN) ?authorNTA WHERE {
    ?authorNTA a schema:Person .
    ?work foaf:isPrimaryTopicOf [ a foaf:Document ;
    }
    UNION {
    }
    UNION {
    }
  } GROUP BY ?authorNTA
}

ORDER BY DESC(?worksInSTCN)
```
Appendix 6: SPARQL query to list the most popular playwrights prior to 1785 (measured by the number of stagings of their plays in the Amsterdam City theater) and their presence in the Panpoëticon

```
# The query is executed at: https://data.create.humanities.uva.nl/sparql

PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX schema: <http://schema.org/>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT ?count ?name ?inductee WHERE {
  SELECT (COUNT(DISTINCT ?show) AS ?count) ?name ?personONSTAGE WHERE {
    # Ecartico is used to chain the Schrijverskabinet and OnStage together
    GRAPH <https://data.create.humanities.uva.nl/id/ecartico/> {
      ?personECARTICO a schema:Person ;
      schema:name ?name ;
      owl:sameAs ?externalURI , ?personDBNL .
    }
    GRAPH <https://data.create.humanities.uva.nl/id/onstage/> {
      ?personONSTAGE a schema:Person ;
      owl:sameAs ?externalURI . # this links them together
    }
    ?playURI schema:creator ?personONSTAGE . # a play is written by an author
    ?show schema:subEvent/schema:workPerformed ?playURI ; # a play is performed in a show
    schema:startDate ?date . # on a date
    FILTER (?date <= "1785"^^xsd:gYear) # filter to exclude contemporary performances
  }
  GROUP BY ?name ?inductee ?personONSTAGE ORDER BY DESC(?count)
}

# If person is also included in the Panpoëticon, set 'inductee' to 'Yes'
BIND(IF(EXISTS{
  GRAPH <https://data.create.humanities.uva.nl/id/schrijverskabinet/>{
    ?person a schema:Person ;
    ?person owl:sameAs/^owl:sameAs ?personONSTAGE .
  }, "Yes", "No") AS ?inductee)

LIMIT 25
```
Vehemence and Victims: Emotion Mining
Historical Parliamentary Debates on War Victims in the Netherlands

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This paper analyses digitized historical parliamentary proceedings on post-war welfare legislation aimed at alleviating the suffering of victims of the German occupation of the Netherlands. The history of this legislation has been described and analysed extensively in Dutch historiography. The political discussions and welfare policies it encompassed have become emblematic for a perceived ‘emotional history’ of the post-war Netherlands. We take established views on these discussions, and their emotional nature, as a starting point for a distant reading exercise using (external) lexicon-based emotion mining. We show that the received wisdom concerning emotionality in post-war parliamentary discussions cannot be replicated using emotion mining techniques and discuss the consequences of this finding.

1 Introduction

In Dutch historiography, a rough periodization exists to describe the ways in which the Dutch state and society have dealt with the lasting, personal consequences of the German occupation of the Netherlands (1940-1945). ‘War victims’, broadly understood, form one of the backbones of this periodization. Because of the prominence of victim recognition and assistance in historiography, we have chosen to evaluate this specific case and the periodization associated with it. The first phase, in the immediate post-war years, is generally characterized as a period during which there was much attention for the war and related suffering of its victims. After a very short period, however, a forward-looking phase of national recovery and rebuilding started (Blom, 1981). These years are described in historiography as a period of relative ‘silence’, roughly covering the 1950s. This ‘silence’ refers to the observation that there was little or no space for the public expression of emotions in those years – especially not those related to the recent past. This silence was then broken in the third phase, starting in the late 1960s, signified by renewed public attention. This evolved in the following decades into a phase of intense public attention for individual experiences, late-onset suffering
(war traumas), and related emotions such as sadness (Aerts, 2003; Beunders, 2002; Oosterhuis, 2014; Withuis, 2002, 2008).

Dutch sociologist Jolande Withuis summarized these developments as a cycle of “(...) speaking, silence, and renewed speaking” (Withuis, 2002, 2008). This periodization (or ‘cycle’) has been linked to broad societal developments in what Withuis has described as changes in ‘the mental climate’ of the Netherlands. Emotions play a key role in this historical development: a so-called ‘emancipation of emotions’ is used to explain observed changes in dealing with war victims – especially during the 1970s (Withuis, 2002). Before discussing this presumed broad societal development, we will briefly discuss the ‘building block’ of the aforementioned periodization: the historical development of the treatment of war victims by the Dutch state.

2 National war victim legislation

Contemporary estimates stated that by the summer of 1945 more than 800,000 people could be considered as ‘direct’ victims of the war. These were people in immediate need of food, drinking water, clothing, housing, and medical supplies. The Dutch government-in-exile in London founded a central aid organization in 1945, which was wound down in 1947 and 1948.\(^1\) This did not mark the end of public assistance, as its tasks were devolved towards the municipal social services. National government’s involvement with the aid for victims in these first post-war years can be seen as crisis management. But this was not all. In February 1950, after elaborate and long parliamentary discussions, the Material War Damage Act (Wet Materiële Oorlogsschaden, MOS) was passed. This legislative scheme was aimed at alleviating the material damage suffered by Dutch citizens who had fallen victim to the Nazi’s during the German occupation. The first national government aid schemes were mainly aimed at (material) recovery of the country, and not at individual (mental health) care or compensation. Basic needs – a roof over people’s heads – were urgent, material, and directly visible necessities. Thus, neither individual nor divergent experiences of occupation, but current material needs and facilitating the reconstruction of the country were key in the MOS (Bossenbroek, 2001).

During the quick recovery of the Dutch economy in the following decade, government spending and interventions increased as well. The scope of government policies expanded, exemplified by the rapid expansion of the national social welfare system. In the first instance, this did not lead to a corresponding expansion of social welfare legislation specifically aimed at victims of the German occupation of the Netherlands. The welfare benefits for this group were incorporated in more general social welfare schemes. Implementation of these schemes, such as the General Social Benefit Act (Algemene Bijstandswet, ABW, 1965) was still organized at the municipal level (Zanden and Lof, 1997). Consequently, war victims as a group do not appear on the parliamentary agenda in this period. Their needs were considered met in legislative terms and the practical execution of measures was a job for the municipalities.

The late 1960s and early 1970s saw an increase in public attention for the long-term and late-onset suffering of war victims. Growing attention for ‘late consequences’, in step with developments in the medical profession, eventually led to a professional, public, and political acceptance and awareness of (war) trauma (Swaan and Hendriks, 1996; Withuis and Mooij, 2010a,b). In addition, different groups of war victims became

\(^{1}\) This bureau was founded by Royal Decree before the first postwar parliament took office. Hence discussion its establishment is not recorded in the Handelingen dataset used in this investigation.
more centralized and organized over the years. They established professionalized interest groups that knew how to find their way to national politicians. These developments resonated in the parliamentary context. In the early 1970s, multiple (opposition-party) members of parliament (MPs) became concerned with the ongoing misery of war victims. These people successfully put war victim benefit legislation on the parliamentary agenda. In 1972, this led to the establishment an elaborate welfare scheme, known as Benefit Act for Victims of Persecution 1940-1945 (Wet Uitkeringen Vervolgingsslachtoffers 1940-1945, WUV). This was followed in 1983 with the establishment of a less elaborate and less generous – act aimed at the so-called Civilian-War Victims, known as Wet Uitkeringen Burgeroorlogsslachtoffers 1940-1945 (WUBO) (Piersma, 2010). Modifications to these legislative schemes were discussed regularly up until the late 1980s. For an overview of relevant Dutch war victim-related legislation and political discussion, see Table 1.

Table 1: An overview of war victim-related legislation established and discussed in Dutch parliament between 1945 and 1990.

<table>
<thead>
<tr>
<th>Act or legislation</th>
<th>Abbreviation</th>
<th>Beneficiaries/aimed at</th>
<th>Debated in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material War Damage Act</td>
<td>MOS</td>
<td>People suffering material war damage</td>
<td>1945-1950</td>
</tr>
<tr>
<td>Foster Children</td>
<td></td>
<td>Young Jewish war victims and survivors</td>
<td>1944-1949</td>
</tr>
<tr>
<td>Individual Cases</td>
<td></td>
<td>War victims (general)</td>
<td>1955-1956</td>
</tr>
<tr>
<td>General Treaty</td>
<td></td>
<td>Victims of Nazi persecution and former Resistance</td>
<td>1963</td>
</tr>
<tr>
<td>National group arrangement for war victims</td>
<td>RO</td>
<td>War victims (general)</td>
<td>1965</td>
</tr>
<tr>
<td>General Treaty</td>
<td></td>
<td>Victims of Nazi persecution</td>
<td>1963</td>
</tr>
<tr>
<td>Various governmental organisations and committees</td>
<td>WAC &amp; ICODO</td>
<td>War victims (general)</td>
<td>1980-1982</td>
</tr>
<tr>
<td>Benefit Act for Civilian-War Victims 1940-1945</td>
<td>WUC</td>
<td>Civilian war victims (of e.g. bombings or warfare)</td>
<td>1983-1988</td>
</tr>
</tbody>
</table>

3 Investigating the periodization in parliament

The different legislative schemes that were discussed in parliament over the years (see Table 1) form, in the first place, a diachronic framework of dates (or moments) underlying aforementioned periodization. In addition, emotions have a prominent role in this framework – as legislative developments in the 1970s are explained by an ‘emancipation of emotions’ in the literature. By contrast, a lack of attention for personal and immaterial aspects of war victimhood in the 1950s is generally explained by ‘silence’ that also entailed concealing (expressions of) emotions. This paper analyses parliamentary debates to investigate if the periodization (or ‘cycle’) outlined above, can actually be discerned in the language used in political debates and, more specifically, in debates about the rights of and welfare provisions for victims of the German occupation in the Netherlands. We focus, in the first place, on the debates themselves: were debates scheduled to discuss war victim legislation and if so, when did they take place? Secondly, we will look at the manifestations of emotionality during discussions about war victim-related welfare legislation in Dutch parliament. These are the manifestations of the emotions expressed by MPs in their speeches.

If the historiographical idea of ‘silence’ that was followed by ‘emancipation of emotions’ is true; we expect to observe a quantitative increase in the use of emotional language in parliament and specifically in discussions about war victim legislation. This leads us to the following questions: how emotional were parliamentary discussions on war victims, compared to other debates held around the same time? To what extent were the immediate post-war debates, and the ones in the 1950s, emotionally charged? Did the parliamentarians involved display strong empathy? Similarly, in the 1960s and 1970s, did MPs retain their ‘stiff upper lip’ or not? How did this change over
time? These questions also raise epistemological questions: can we observe, interpret, and compare emotionality in the context of historical research?

We do not aim for a definitive answer on the role of emotions in the political discussion of war victims. Instead, this paper aims to approach this topic from a new, external, and distant perspective. Our analysis will be based, at least in the first instance, on quantitative text analysis, or emotion mining. We should emphasize that we see these techniques as complimentary to more traditional forms of historical research. The central aim of this paper is to confront a consensus in historiography with the results of a distant approach to the sources, based on the quantitative outputs of emotion mining using generic emotion lexicons. We do not want to evaluate the performance of emotion mining as a methods itself, by precision and recall measures in identifying a ‘ground truth’ of (historical) emotionality. Our goal is to explore an alternative perspective to the already well-investigated historical case. From our viewpoint as historians, we aim to confront commonplace views and historical claims in a more traditional historiographic approach with the results of computational text analysis and see whether a combination of both approaches can assist in (re-)evaluating substantive historical research questions.

4 Emotions in history

Investigating emotions in ethically charged discussions from the relatively recent past gives rise to some fundamental issues. In the first place, the emotions of others are difficult to investigate, and even more so in retrospect. As historians, we will never be able to feel what others felt in the past. In addition, expressions of emotions are often best observed in volatile forms of communication – such as tone of voice, hand gestures, or facial expressions. Such signifiers are mostly lost. Insofar as they are available, moreover, they do not cover the entire period under scrutiny. For example, televised parliamentary discussions are not available for most of the earlier decades. This leaves us with a fraction of all historically expressed emotions that have been recorded and preserved: the manifestations of emotions as reflected in verbatim transcriptions of speeches and discussions in Dutch parliament.

In the behavioural sciences, it has become a common assumption that the words people use are indicative of their mental or psychological states (Tausczik and Pennebaker, 2010). Not only explicit expressions of emotions (e.g. ‘I am boiling with anger’), but also more implicit manifestations of emotions can be detected in (written) language. Even if emotions manifest themselves in less direct ways, their credibility as object of research is warranted by the more observable utterances in sources (Ross, 2013). This not only applies to the everyday words individual people use. As social psychologists Mark Dechesne and Bryn Bandt-Law pointed out: “(...) this suggests that one can examine a large sample of words that describe events at a given point in time and make inferences about which mental constructs are active during that time.” (Dechesne and Bandt-Law, 2019, p.3) The manifestation or expression of emotions in written or transcribed historical text can form an empirical baseline for making something seemingly intangible, such as emotions, identifiable and observable (Boot et al., 2017).

Next, there is an issue more fundamental to the field of contemporary history. Closeness in time and human suffering are bound to elicit empathies and antipathies among researchers. The fact that the debates in question have been highly politicised, and are to an extent ongoing, mean that few if any historians are, or indeed should be,
neutral with regard to this topic. This makes the historical study of emotions in dealing with war victims especially sensitive to the (unnoticed) introduction of personal bias (Tonkin and Tourte, 2016). We do not pretend to avoid bias completely. We do, however, try to question and evaluate the current historiographic consensus by approaching the possibility of biased readings of the sources with more distance. We apply quantitative text analysis (‘emotion mining’) to digitized historical parliamentary proceedings. This offers, in the first place, a rigid and systematic approach to the identification of historical manifestations of emotions.

5 Mining emotions with lexicons

For the identification and measurement of emotional words, several approaches are possible. In the context of this paper, an important difference between approaches lies in the ways in which the assessment of emotions is evaluated. One approach is to compare computational outcomes with evaluations by, ideally several, human annotators. This requires blinding, since the annotators should neither be aware of the computational evaluation, nor have a strong bias with regard to the original (war-related) parliamentary debates. In the case at hand, introducing a strong personal bias in this process is effectively inevitable, since the subject matter is highly emotive and well known, certainly among people with sufficient expertise to evaluate historical Dutch texts. To put it more simply, there are no people who can both reliably judge these rather ceremonial and formal political texts from the second half of the twentieth century, and be relied on not to be highly biased with regard to the discussion they would have to assess. In a way, this is of course the very thing we try to investigate. The parliamentary discussions at hand have already been read and interpreted by human historians. What we want to investigate is whether their judgment aligns with a more distant computational approach.

A second option, the one chosen here, is a lexicographical approach. This method relies on word lists that have been created independently from the project at hand and the data used. By using an existing emotion lexicon that has generated good outcomes in other investigations, a rough but useful measuring tool can be created (Mohammad, 2011, 2012, 2020a,b; Mohammad and Turney, 2013). Since it is not possible to use human annotators in this case, generic lexicons offer a good, if second best, option. Therefore, this investigation relies on a (translated) generic word list, consisting of hundreds of Dutch words associated with different emotions. This lexicon, the NRC Word-Emotion Association Lexicon, or EmoLex, represents different categories of basic emotions (joy, anger, sadness, etc.). The EmoLex was created in a large-scale crowdsourcing project using human annotators. The Dutch translation was established using an automated translation process. The method used to create the word lists was based on the assessment of individual words, rather than texts (Mohammad and Turney, 2013). We prefer to use this externally validated resource over an internally validated one. To sum up: we do not believe that it is viable or preferable to have highly political texts from half a century ago evaluated by modern-day human annotators. That is not to say, however, that our preferred method does not come with disadvantages.

In using generic lexicons that are externally validated, there is always a risk that unknown biases were introduced in the creation process (Mohammad, 2020a). We do, however, not consider these biases necessarily problematic in our case study. We expect them to be barely relevant to the historical case under scrutiny. It is important
to note, however, that these biases are also not knowable to us.

A more fundamental potential problem of emotion lexicons is that they have been created relatively recently, whereas language changes through time. The issue of spelling variation, the most obvious change in the case of Dutch, can be mostly solved by the application of modern language technology (Reynaert et al., 2015). The potential problem of historical semantic change remains. Semantic change is, at least in theory, a serious and unresolvable drawback of this approach. We argue, however, that this is not a major issue in analysing a relative recent historical text collections. We can all come up with examples (such as ‘awful’ or ‘gay’ in English) of words that have changed meaning, but the number of Dutch words that completely changed meaning or shifted from the one emotion category (e.g. ‘joy’) to the other (e.g. ‘anger’) in the period of our interest is negligibly small. They exist, but they are rare exceptions, and not the rule (Boot et al., 2018; Hamilton et al., 2016; Morin and Acerbi, 2016).

The use of generic lexicons to identify, analyse, and evaluate manifestations of emotions is an undeniably crude method. On the level of a single particular term or sentence, it is not usually a very reliable method for identifying a certain emotion. This lack of precision, however, is less important as we are predominantly interested in general trends and proportionality (Wiedemann, 2016). Moreover, when a lexicon is applied to larger corpora, this method creates an opportunity for a systematic comparison between texts of different origin or from different periods. Even if the lexicon is not always precisely accurate, its value lays in the score of one debate relative to others. They are a means to compare relative emotionality, rather than to provide an absolute measure (Drucker et al., 2014).

These disadvantages however, do not outweigh the most important advantage of using a generic emotion lexicon. This lexicon is generic in the sense that it is not based on a single (type of) dataset or developed for a specific research application (Mohammad and Turney, 2013). We consider it an important advantage that this perspective is more ‘distant’, as it is less reliant on our personal preconceptions, ideas, and interpretations as historians. In addition, this approach to the identification of emotional language in a large body of text is transparent, traceable, and replicable – as both the texts used and the emotion lexicons are open source.

In this paper, emotion mining should not be interpreted as a statistical test to reject or accept a null hypothesis, but as one of several ways to approach historical texts. It does not preclude, and indeed often invites, to ‘go back to the sources’ and do careful, close reading of the historical records. The application of quantitative text analysis is an addition to, rather than a substitute for the normal practice of historical research.

Although the NRC EmoLex covers multiple basic emotion categories, we focus on the emotions sadness and anger in this paper. These emotions are not only generally stronger connected to narratives on war and victimhood, they are expected to be important markers in the discussion of these topics. In addition, especially these two emotions are in the historiography connected to narratives about ‘silence’ or ‘emancipation’ regarding emotions (Beunders, 2002; Brudholm and Lang, 2019). We did not expect emotions such as joy to manifest themselves very strongly in these discussions – as indeed, they did not.

6 Data and materials

This investigation relies mainly on the analysis of the digitised, enriched, and machine-readable version of the Dutch parliamentary proceedings. This historical collection of
texts is known in Dutch as Handelingen der Staten-Generaal. The collection, containing the verbatim minutes of debates in both houses of Dutch parliament, were first digitised by the Royal Library of the Netherlands and made available to the public in 2010. In the following years, the dataset was enriched and improved in the Political Mashup project. The dataset used here is freely available, on request, from DANS, the Dutch national repository of research data. The dataset consists of a large collection of enriched XML files containing the complete minutes of all the meetings of the lower and upper chambers of parliament, separated by date, speaker, political affiliation, topic, etc. (Marx et al., 2012).

Different topics discussed in the debates have been manually annotated by this paper’s authors based on the original descriptions of the documents. Based on these descriptions, all documents reporting on the debates dealing with legislative schemes and issues mentioned in Table 1 were identified and retrieved from the collection. This led to the creation of a war victim debate subset that is used in this investigation for further detailed analysis. This subset of 52 documents (approx. 521,750 words) was separated from the rest of the Political Mashup Handelingen dataset. The individual parliamentary debates in the subset were clustered based on the themes, issues, motions, or legislative schemes as they were described in the topic descriptions of the documents in the Political Mashup dataset (see also Table 2). The further computational process of pre-processing and analysing the debates is described in the following section.

7 Computational Workflow

Our quantitative analysis relies on RStudio and the R-programming language (R Core Team, 2019; RStudio Team, 2018). The text corpus was first loaded into the R-environment. Not all of a language’s varieties and complexities are necessary (or even desirable) for this analysis. Therefore, cleaning and unification of the texts was performed using the Quanteda R-package: all characters are reduced to lower case and interpunction and frequent but meaningless stopwords (the, a, etc.) were removed (Benoit et al., 2018). In addition, all words were lemmatised by using the Philosophical Integrator of Computational and Corpus Libraries (PICCL). In this process, all occurrences of variations in spelling and syntactical form of words are reduced to their linguistic basic form (Reynaert et al., 2015). Every document was then subsequently divided into (chronologically) consecutive 250-word chunks (segments). This normalization process makes a proportional comparison between document-emotion-scores possible, as it dampens the possible effect of text size on (higher) scores (Jockers, 2016). The number of text chunks per thematic cluster is also displayed in Table 2.

Next, one of the most consequential steps in the pre-processing of texts is performed: a so-called bag of words is created (formally known as Document Term Matrix, DTM). Word order and sentence structure are completely discarded. This reductionist representation of text results in a table of lists with (occurrences of) words per document. The original order of words within the historical documents does, in practice, not inform the analysis performed. Although there are examples of sentences in which a change in the specific word order also fundamentally changes its meaning, this is

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2 This is the number of words actually used in the analysis, after the pre-processing steps and the 'chunking' of the documents in 250-word text segments. This process is described in section 7 Computational Workflow.
A bag of words is in most of the computational text analyses sufficient enough to capture the meaning of text (Grimmer and Stewart, 2013).

Table 2: Thematically categorised clusters of parliamentary debates on war victims in Dutch parliament

<table>
<thead>
<tr>
<th>Act or legislation</th>
<th>Thematic debate cluster</th>
<th>Text chunks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material War Damage Act</td>
<td>MOS</td>
<td>800</td>
</tr>
<tr>
<td>-</td>
<td>Foster Children</td>
<td>53</td>
</tr>
<tr>
<td>-</td>
<td>Individual cases</td>
<td>25</td>
</tr>
<tr>
<td>-</td>
<td>General Treaty</td>
<td>256</td>
</tr>
<tr>
<td>National group arrangement for war victims</td>
<td>RO</td>
<td>-</td>
</tr>
<tr>
<td>Preliminary discussions on benefit act (pre-WUV)</td>
<td>Pre-WUV motions</td>
<td>423</td>
</tr>
<tr>
<td>Benefit Act for Victims of Persecution 1940-1945</td>
<td>WUV</td>
<td>211</td>
</tr>
<tr>
<td>Motion (WUV-related) by MP Voogd</td>
<td>Motion Voogd IV</td>
<td>84</td>
</tr>
<tr>
<td>-</td>
<td>WAC &amp; ICODO</td>
<td>94</td>
</tr>
<tr>
<td>Benefit Act for Civilian-War Victims 1940-1945</td>
<td>WUBO</td>
<td>85</td>
</tr>
<tr>
<td>Combined discussion of two acts</td>
<td>WUV &amp; WUBO</td>
<td>56</td>
</tr>
</tbody>
</table>

We assume that typicality of a text, or document characteristics, are not necessarily best captured by its most frequently occurring words. Therefore, a Term Frequency – Inverse Document Frequency (TF-IDF) weighting is assigned. Although this weighting is still fundamentally based on counting words, its implication is a bit more sophisticated: a TF-IDF score measures how distinctive a certain term is for a specific document, relative to all other documents in the collection. Each unique word has its unique ‘weighting’. In this way, TF-IDF has as additional advantage that it takes into account a word’s commonness or rarity: individual occurrences of relative rare words weigh heavier than very frequent terms (Kwartler, 2017; Robertson, 2004).

This is particularly important when judging parliamentary discussions. Relatively common words to describe the matter under discussion (e.g. ‘victim’, ‘widow’, ‘war’) are themselves possibly part of an emotion lexicon. Therefore, in a parliamentary setting where (mostly) problems are being discussed, a base negativity is almost inevitable. By using TF-IDF, a threshold from negativity is created that lessens the influence of relatively common negative terms relative to more strongly negative words (e.g. ‘horrible’, ‘disaster’) that actually separate the relatively emotional discussions from the rest.

The TF-IDF weightings (values) of the EmoLex-words in each 250-word text chunk are added up to arrive at a score for each investigated emotion (anger and sadness) in each chunk. As every debate consists of multiple 250-word chunks, we take the mean of the chunk-scores of all chunks of a certain document and assign the resulting number as ‘score’ to each individual document. For the non-war victim-related debates, we take the mean score of all aggregated 250-word chunks of each month in which Dutch parliament gathered for discussion. These scores are plotted in boxplots (see Figure 1) and diachronic graphs or trend lines. The Loess smoothing algorithm that is integral part of the R programming software (R Core Team, 2019) is used to draw the trend lines (see Figure 2). Finally, we bring together these quantitative results and a more traditional approach to historical research by a close(r) reading and interpretation of the emotion words, the original historical documents, and secondary literature.
8 Results

All parliamentary debates from the period under scrutiny here, roughly the Cold War years, are scored using the lexicons. The results per thematic category of relevant debates are shown in the boxplots in Figure 1 (anger at the top, sadness at the bottom). The emotion scores of all chunks of individual debates are merged into different thematic categories, related to the discussion of particular legislative schemes. The thematic debate clusters are chronologically sorted in the visualisations of the results, based on the first occurrence of the theme on the parliamentary agenda (see also Table 1).

Individual debates of all thematic clusters are plotted on a timeline in Figure 2. For every individual debate, the mean score of all 250-word chunks is calculated and plotted as a coloured bar. Hence, each bar represents mean score of a single discussion on a war victim-related discussion in parliament. Not only the results for all war victim-related debates are plotted; also average scores (per month) of all other, unrelated parliamentary debates are taken into account. These scores are plotted here as grey dots. The moving averages are plotted as a coloured line (for the war victim-related discussions) and a black line (for the other parliamentary discussions). This is not only done for scores on words associated with anger (top of Figure 2), but also for the sadness words from the NRC EmoLex (bottom of Figure 2).

Based on the trend lines in Figure 2, a first observation is that the emotion scores of the language use in the unrelated, ‘normal’ parliamentary debates do not indicate that emotionality in parliamentary debates in general was subject to strong change over time. This result is surprising, given the ‘cycle of speaking, silence, and renewed speaking’ that is considered to have been the result of a broad societal development in the ‘mental climate’ of the Netherlands. The general scores are relatively constant over the more than four decades of parliamentary debates plotted in Figure 2. This also goes, albeit to a lesser extent, for the scores of the different debates related to war victim legislation. Even when taking a closer look, by plotting the scores of each individual 250-word chunk of the war victim debates, the distributions of the scores are broadly similar (see Figure 1). There is no single thematic cluster in the parliamentary discussion of war victim legislation in our dataset that really stands out. This goes for the anger scores, and for sadness as well.

That there is little variation among the different war victim debates, is not to say we did not find any variation in emotionality in parliamentary debates at all. When we compare the war victim debates with the other parliamentary discussions, a difference in scores can be observed. Most of the debates dealing with war victim legislation score higher on the emotions anger and sadness than the average parliamentary debate. When looking at the moving average, we can say that this is true for the entire period under scrutiny.

In the timelines in Figure 2, not only the (high) scores, but also the number of debates give no indication whatsoever of a ‘silence’ regarding this topic in Dutch parliament in the first post-war decade. The Material War Damage debates (1945-1950) in particular belong to the longest, most elaborate parliamentary discussions within the war victim debates dataset.\(^3\) In addition, the high emotion scores do not indicate a withholding or suppression of language use associated with emotions in the period 1945-1960. This indicates that emotions were in this period, from a quantitative perspective, just as

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\(^3\) The MOS debates also consist of much more words than any other thematic debate cluster on other types of legislation in later years (see also Table 2).
Figure 1: Scores of each thematic cluster of war victim debates on word use associated with anger (top) and sadness (bottom). Individual chunk scores in grey, mean in red.
Figure 2: Scores of each individual war victim debate and the moving average (Loess smoothing) on word use associated with the target word (in red) for ‘anger’ at the top and for ‘sadness’ at the bottom. All other parliamentary debates in grey (monthly mean) and black (moving average).
frequently manifest as in later debates. When zooming in to the ‘words behind the scores’, the lists (see Figures 3 and 4 in section 10 Appendix) with the highest scoring words display a frequent use of references to emotional events (e.g. ‘bombardment’, ‘disaster’, and ‘loss’), and to verbs related to suffering (e.g. ‘to afflict’, ‘to demolish’), and suffering in general (such as ‘suffer’, ‘grief’ or ‘misery’). Close reading of the actual historical debates, as a traditional historian, indicates that words as these were often used in emotional descriptions of people’s suffering. Sometimes, this was done by detailed descriptions of examples of suffering from identifiable, individual victims. These examples were used to dress up the parliamentary discussion on material war damage. Often, however, emotion words were present in generic mentions of misery. Take, for example, fragments of a speech of Pieter Zandt, member of the House of Representatives for the Reformed Political Party (SGP). He mentioned how people “(...) have suffered (...) in the war”, and how they were “(...) plunged in deep mourning.” He also emphasized how people had undergone “sorrow” and “misery” (Handelingen der Staten-Generaal, 1950, p.305).

Both our ‘distant’ and ‘close’ reading results do not display a ‘silence’ in the 1950s – either in terms of discussing war victims, and in the manifestation of related emotions. This does not seem to be the case in the following decade (see the trend lines in Figure 2). If there is a silence to be observed in these graphs, it consists of the period of roughly covering the 1960s – with one 1963 debate (on the General Treaty for compensation with Germany) as an exception. This lacuna in the observations, however, was more the result of an administrative policy choice or practice, than that it was related to a shift in the role of emotions in these discussions. National governmental care for war victims became integrated into the general social welfare legislation in this period. As a consequence, the decision-making processes regarding war victim-related legislation was not separately scheduled for parliamentary discussion (Piersma, 2010).

Contrasting the 1950s, the alleviating of individual and consequential, late-onset suffering, also and indeed especially in immaterial terms, was considered as a governmental responsibility in the early 1970s. The emotion scores in the debates on the WUV – the first social benefit scheme particularly aimed at the contemporary and immaterial problems of war victims – are relatively similar to the scores of the debates in the 1950s. When looking at the quantitative measures, emotional manifestations still had a prominent role in discussing war victims in parliament. This does not say that nothing had changed.

A closer look at the most frequent lexicon words behind the scores, and the actual course of the debates, indicate a shift from an ‘empathetic’ to ‘appraising’ role of emotional language. Examples of emotion words used in the discussions are those directly referring to an emotion, such as ‘bitterness’, ‘fear’, or ‘sadness’. Other words refer to the typical expressions of emotions, such as ‘crying’, a verb obviously associated with the emotion sadness. With this choice of words, MPs made explicit what kind of emotions they perceived as being present in society. In the practice of discussing the WUV, they often related them to particular groups of victims (Handelingen der

To summarize the observed development more concretely: emotional language use in the 1970s discussions changed from using ‘words associated with certain emotions’ to ‘words explicitly referring to a certain emotion’. Instead of describing victims’ misery in an evocative manner, as was done in the 1950s by outlining ‘losses’ and ‘disasters’ in adjective-laden diatribes, MPs’ appraisals of related sadness, bitterness, or fear (of others) dominated in the debates of the 1970s. In other words, in the 1950s politicians spoke emotionally, whereas in the 1970s they spoke about emotions. This is backed up in particular by the most frequently used words related to sadness. Examples of frequently occurring words explicitly referring to emotions are: ‘fear’, ‘regret’, ‘bitter’, ‘bitterness’, or ‘sorrow’. Other words refer to the typical expressions of emotions, such as aforementioned example of the verb ‘crying’. This qualitative change, however, was not yet indicated by the quantitative emotion mining results, as no significant linear increase in the use of anger and sadness words between 1945 and 1990 has been found. This is where the top word lists of emotion lexicon words proved particularly insightful (see also the tables in section 10 Appendix).

9 Conclusion

In this paper, parliamentary debates were analysed to investigate a persistent periodization in Dutch historiography of the post-war dealing with the immediate and late consequences of World War II in the Netherlands. We wanted to know whether this periodization (or cycle), in which emotions seem to play a key role, could be discerned in parliamentary language use by analysing parliamentary proceedings with an external perspective of lexicon-based emotion mining.

Results of emotion mining in this investigation helped indicate, in the first place, outliers (or the lack thereof), and assisted in describing diachronic trends on a very rough level. A first important finding is that most – not all – debates on war victim legislation score higher on word use associated with anger and sadness than the average parliamentary debate. This is true for the entire period we have investigated (1945-1990). The quantitative results pointed at the elaborate and relative emotional discussions of the late 1940s and 1950s on the Material War Damage Act (MOS).

How do the outcomes of this investigation compare to the common view of emotionality in this period as presented by various historians? Withuis, Beunders, Aerts and others have emphasised clearly observable periods of heightened and subdued emotionality. Emotion mining outputs, by contrast, indicated first and foremost a relatively stable trend in manifestations of emotional language - especially in the average, non-war victim-related parliamentary debates. When looking at the war victim debates in particular, a relative peak in emotion scores was observed in the first post-war years, including the early 1950s. Subsequently, the diachronic emotion mining output displayed a minor decreasing trend in the war victim debates. Aside from a very minor revival in the scores around 1970, the decreasing trend that started after 1945 continued until the end of the 1980s.

This investigation has found no empirical evidence of a ‘silencing’ in parliament regarding the suffering of war victims, or regarding related emotions, in the first 15 years after the allied liberation of 1945. There was, in the first place, elaborate
discussion. Victims were discussed in parliament in the context of the Material War Damage Act. Secondly, as a closer scrutiny of debates indicated, emotional descriptions of suffering of identifiable war victims were used to dress up arguments for elaborate and generous legislation or compensation. Our analysis indicated that contemporary MPs did not have a ‘stiff upper lip’, as the elaborate attention for individual suffering – expressed in particularly emotional language – displayed first and foremost an empathetic attitude. That the resulting legislation of the 1950s was considered as rather limited in hindsight, did not mean contemporary parliamentarians had no eye for personal war-related suffering. Neither, moreover, did we find empirical evidence for a strong quantitative increase in emotionality in later decades. We argue that the term ‘emancipation’ that is used in historiography to refer to the developments in the 1970s is somewhat confusing, as it implies that there had been close to no space for the manifestation and expression of emotions before.\footnote{Why and how this presumption of ‘silence’ that was followed by a process of ‘emancipation’ became so prominent, both in contemporary debates as in the later historiography, will be further examined in a chapter of the dissertation \textit{Emotional Imprints} that builds on this research.}

If there is a conclusion to be drawn regarding ‘silence’ in the emotion mining results, it is a lacuna in the emotion scores of the 1960s. The lack of substantial parliamentary debate in those years, however, had more to do with contemporary administrative and organizational practices, than with silencing or withholding emotions. As war victim legislation was not discussed separately, it was difficult to confront close reading of these debates with a distant reading perspective. This is an unfortunate, but inevitable limitation of this type of research material and our quantitative approach – as the latter requires a rather rigid categorization of debates.

That emotional manifestations were a relative constant in parliamentary debates over more than four decades, does not mean that nothing had changed. We would argue that utilising more traditional historical research practices alongside emotion mining proved valuable. Closer scrutiny of the words behind the scores, and the actual debates, was necessary to gain more detailed insight in what was actually going on. Closer scrutiny of the most frequent lexicon words behind the scores indicated a shift in language from using ‘words associated with certain emotions’ to ‘words used to explicitly refer to a certain emotion’. Emotion mining output had an indicative function in this investigation, but did not draw a comprehensive picture of developments, changes, or how above-mentioned ‘qualitative change’ unfolded in the debates. Closer scrutiny of the lexicon words behind the scores and close reading of the original documents remained essential to understand, interpret, and give meaning to the details of complex and multifaceted historical developments, continuities, and changes.

Were the previous historians writing on this topic (all) wrong? Perhaps. As we explained, the computational methods and resources used here are not without limitations. On the other hand, it is difficult if not impossible to grow up Dutch without developing strong ideas about World War II and its aftermath. We think it is more likely, although not certain, that our emotion mining results have helped identifying a shared preconception in historiography, rather than a shortcoming of lexicon-driven emotion mining.

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10 Appendix

All other data, graphs, and table used in/referred to in this paper can be found in: Data Repository ‘Vehemence and Victims’ (version 1). Amsterdam: NIOD, 2020. https://github.com/MilanvanL/vehemence-victims.

Figure 3: Top 20 (Dutch) anger words (NRC EmoLex) per thematic cluster of war victim-related parliamentary debate
Figure 4: Top 20 (Dutch) sadness words (NRC EmoLex) per thematic cluster of war victim-related parliamentary debate
#Bookstagram and Beyond. The Presence and Depiction of the Bachmann Literary Prize on Social Media (2007-2017)

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1 Introduction

Although there has been ample empirical and theoretical research on the ‘field(s)’ of literary criticism and its changing institutional context, few scholars (Bogaert, 2017; Kellermann and Mehling, 2017; Kellermann et al., 2016; Steiner, 2008) have actually attempted to directly ingest and mine the actual content of user-generated online literary criticism. While there is no shortage of broad trend watching and apocalyptic doom saying (activities seemingly endemic to literary criticism itself), the actual scope and productivity of phenomena like #bookstagram and activist counter-criticism like #diekanon and #frauenzählen (#countingwomen) remain largely unknown. Recent studies (Chong, 2020; Kempke et al., 2019; Löffler, 2017; Schneider, 2018; Thomalla, 2018) mainly evoke institutions under threat and take the vantage point of the traditional gatekeepers, namely professional literary critics. However, little attention has been paid to layman literary criticism itself, its frames of reference and the effect of peer-to-peer recommendation systems as a novel way of controlling or “gatekeeping” access to the literary system. The digitisation of the public sphere has led to a proliferation of the agents and media (both digital and traditional) participating in the evaluative talk about literature (Allington, 2016). These new gatekeepers are not just emotionally involved in the discussion, they are increasingly recruited and involved by the literary system itself. Thus, the knowledge of a limited number of professional ‘pundits’ is being rivalled and challenged by technological developments and the reliance on a type of “distributed cognition” even more urgently in need of exploration.

In this article, we will focus on the online content generated by the Ingeborg-Bachmann-Preis. In recent years, with the rising interest in in the field of literary criticism, there has been a similar increase in research on literary prizes (Auguscik, 2017; Childress et al., 2017; Ducas, 2013; English, 2009; Kennedy-Karpat and Sandberg, 2017). Nevertheless, despite its position as one of the most prominent literary prizes in the German-speaking community, relatively little research has been devoted (solely) to the Bachmann-Preis (Letten, 2010; Moser, 2004; Rahmann, 2017; Röhrich, 2016) itself and only one study has explored its reliance on broad audience participation and lay criticism (Bogaert, 2017). Although many literary prizes seek to involve the “lay”

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1 We will take “lay” to designate anyone who is not a member of the official jury.
audience in their decision-making process, the Bachmann-Preis is remarkable, on the one hand, because the professional jury discussion is broadcast live on television and, on the other hand, because social media users “join in” on the debate in considerable numbers (more than 1000) online. Therefore, we will analyse the position of the Ingeborg-Bachmann-Preis in the field of literary prizes and its influence on the online presence and depiction of the prize on three social media platforms, namely Twitter, Instagram and Goodreads. Because the Tage der deutschsprachigen Literatur were first mentioned on Twitter in 2007, we will be focusing on the user-generated content from that year onwards. Prior to 2007 and the advent of “internet 2.0”, events like TDDL used to be discussed on individual blogs, but these were not archived and have been increasingly replaced by microblogging services like Twitter. We choose 2017 as ante quem in view of representativity, as not all platforms follow as closely in the footsteps of the yearly event for reasons that will be detailed below (see 3.3).

We argue that each of these social media implements a distinct way of communicating that comes with certain expectations and limitations regarding the type and subject of the critical discourse etc.. As the range of (social) media platforms is increasingly heterogeneous and multimodal, we will therefore not only compare the online discussion and the content of the tweets, posts and reviews, but also how the platform might shape their content. We therefore argue not only that the characteristics that differentiate the Bachmann-Preis from otherwise comparable prizes\(^2\), affect its representation on social media, but also that the content of these contributions are additionally shaped by specific expectations and limitations of the social media platforms. We shall discuss the aforementioned position and characteristics of the Ingeborg-Bachmann-Preis and briefly address the process of data mining and data collection. The paper will also concern itself with the evolution of the online presence of the Bachmann-Preis throughout the decade concerning its visibility and popularity on the social platforms. Finally, we will then explore the content of the three different corpora by performing a corpus analysis, examining word frequencies, using Voyant Tools, an open-source digital environment for web-based text reading and analysis, and AntConc, another open-source digital tool for corpus analysis.

2 The Ingeborg-Bachmann-Preis and its Position in the Field of Literary Prizes

Ten years after the dissolution of the Gruppe 47\(^3\), the Ingeborg-Bachmann-Preis was founded in 1977 by Humbert Fink, himself a former member, and Ernst Willner, who decided to organise a literary competition modelled after the meetings of the Gruppe 47 (Moser, 2004, p. 38). Additionally, they engaged Marcel Reich-Ranicki, a famous author, literary critic and former Gruppe 47-member, as one of the jury members of the Bachmann-Preis. As a consequence, the prize’s design was greatly influenced by the principles and practices of the Gruppe 47. This influence accounts for some of the prize’s distinguishing characteristics which evoke its specific position in comparison to other literary prizes. The Bachmann-Preis is awarded during the Tage der deutschsprachigen Literatur (TDDL), an annual, multi-day literary festival and competition, which takes

\(^2\) Such as the Dutch-language Gouden (Boeken)Uil/Finstro Literatuurprijs and the Man Booker Prize.
\(^3\) A post-WWII group of writers and literary critics, led by Hans Werner Richter. For more information on the Gruppe 47 read Böttiger (2012)’s Die Gruppe 47: Als Die deutsche Literatur Geschichte schrieb.
place in Klagenfurt (Austria). Due to its sizeable prize money, it is one of the most significant literary prizes in the German speaking countries, though not the only prize awarded during the TDDL. The set-up is similar to the literary meetings organised by the Gruppe 47: the contenders read an unpublished narrative text or chapter of a novel, which is afterwards discussed and criticised by the professional jury in the presence of the author, who is not allowed to take part in the jury discussion, and a live audience. The entirety of these proceedings is broadcast live on television as well as streamed on the official website. There it has accumulated a lively following of “lay critics” on social media (mainly Twitter, but Instagram as well), consisting of journalists, writers, bookstore owners, fans, etc.

The prize’s reputation as a literary competition is a first distinguishing characteristic (Bogaert, 2017, p. 7) (Rahmann, 2017, p. 3). In *The Economy of Prestige*, English maintains that literary awards are the “best instrument for negotiating transactions between cultural and economic, cultural and social, or social, or cultural and political capital—[...] our most effective institutional agents of capital intraconversion” (English, 2009, p. 10) (10), but he nevertheless highlights the discomfort caused by the “conception of art as a contest or competition from which there must emerge a definite winner” (English, 2009, p. 2). The Ingeborg-Bachmann-Preis, however, deliberately presents itself as a competition and it is widely known as the *Klagenfurter Wettbewerb* or the *Bachmannwettbewerb*. The latter is even used by the organizers as the prize’s official username on Twitter, Instagram and Facebook. Furthermore, the authors’ readings are generally dubbed *das Wettlesen*, the “reading competition”. Clarissa Stadler, moderator of the TDDL in 2009, stated that this “Wettlesen [...] keine Literatur-Castingshow, sondern ein seriöser Wettbewerb [ist]” (10). As a consequence, this particular prize is not presented as “a sort of gift” (English, 2009, p. 5), but instead as something the competing author must “earn”. This image is partially evoked through the uncommon nature of the competing texts, another distinguishing aspect of the Bachmann-Preis. Most literary prizes award books that have already been published. In this case, the audience has had a chance to purchase, read and possibly review the book before it is nominated for a prize. In this traditional scenario, the book is already “out there” when ends up on a prize’s longlist. The author is not actively involved in the process of evaluation and the jury evaluates a finished product which can be separated from its creator. Although the literary prize is an important mechanism in the institutionalized

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4 The prize money of the Ingeborg-Bachmann-Preis consists of 25.000 euros. The *Deutscher Buchpreis* and the *Friedenspreis des Deutschen Buchhandels* award their winner with the same amount of prize money and the endowment of the *Georg-Bücher-Preis* is even higher at 50.000 euros. None of these prizes, however, gain as much online traction as the TDDL.

5 The contenders must be invited by a member of the jury who is allowed to invite 2 authors. The jury currently consists of 7 members (still 9 in 2007). Consequently, there are 14 competing authors (18 in 2007).

6 With a maximum reading time of 25-30 minutes.

7 English illustrates that prizes allow symbolic capital to be “cashed in” (English, 2009, pp. 10-11), e.g. the publication of new editions for a Nobel Prize in Literature laureate’s out-of-print titles, or for economic capital to be “culturally laundered” (English, 2009, p. 11) by converting, for example, “Nobel’s profits from the manufacture of deadly explosives [...] into a mantle of supreme literary achievement” (English, 2009, p. 11).

8 Not to be confused with their Twitter-handle, which is @tddlit.

9 This account is no longer active. All posts concerning TDDL are now posted on the Instagram-profile of 3sat.

10 Translation: “reading competition is not a literary casting show, but a serious competition”.

consecration of a literary text, it is hardly the first step, albeit one of the most important ones, in the this process. This is not the case for the Ingeborg-Bachmann-Preis: instead of a finished product, a jury member nominates an often unestablished author. The first value judgement thus pertains to the person and not the unpublished text. Furthermore, the audience has not yet been able to read the text and neither they nor the jury members could be influenced by, for example, newspaper reviews, sales or even Goodreads-ratings before the text is read out loud during the TDDL. Instead of a step in the process of consecration, the Bachmannwettbewerb constitutes the very first form of consecration for these texts. Many of the texts are announced for “imminent release” by the main publishing houses, but not every text, even a winning title, is turned into a novel or published. Additionally, though the emphasis lies on the written text, the nominated authors must nonetheless “perform” by reading it out loud, and thus participate and compete in order to earn or win the prize.

Another characteristic that sets the Bachmann-Preis apart from other literary prizes is its transparency regarding the jury discussion and their eventual judgement (Bogaert, 2017, p. 5)(Rahmann, 2017, p. 3). For most literary prizes, the jury discussions are not are not publicly accessible and only the resulting jury judgement is shared. Some prizes even restrict the disclosure of information about the nominations or the judging process; e.g. the Nobel Prize for Literature and the (Man) Booker Prize. According to Bogaert (2017, p. 9), this transparency is derived from, but at the same time a more radical form of, the staged transparency of the Gruppe 47. Because the proceedings are broadcast live and are available as a live-stream, the audience is able to react to and interact with the jury discussion on social media platforms. This transparency thus stimulates the audience participation and enables the lay-audience to take up a consecrating role pertaining not only to the texts under discussion, but also the jury members and their evaluation. In 2002 an additional audience award, the Publikumspreis, was created and the organisation has increasingly encouraged the use of the official hashtag while discussing the prize on social media. Both trends show that the audience participation is not only made possible, but also desired, valued and increasingly integrated in the prize’s design. As a consequence, it is not simply an illusion that everyone can and should participate in the literary criticism, although the decision remains firmly with the experts. How the specific characteristics of the prize influence its presence and depiction on social media platforms will be discussed in the following sections.

3 Data Mining and Collection

In the following three subchapters, we will expound on how relevant data was identified and which search terms were used. As this case study focuses on the Ingeborg-Bachmann-Preis, it was necessary to identify all tweets, posts or reviews concerning this prize, which will be clarified in the next subchapter.

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11 Since 1996 the jury members receive the text a week before the competition starts.
3.1 Twitter

Due to the very limited amount of tweets (and timeframe) that can be scraped using the Twitter API, we decided to collect the tweets by other means.\(^{14}\) Because all social media-derived data are publicly accessible and since our usage and actual processing is geared towards identifying abstract patterns, not towards disclosing personal data, the actual processing remains under the umbrella of “fair use”.\(^{15}\) Furthermore, we did not collect any information on the individual users apart from their handle and the amount of likes and retweets – in keeping with the social media platform API access terms.

The popularity of Twitter has expanded considerably during the past 14 years as it became one of the most-used social media platforms, resulting in an explosion of tweets. It was therefore imperative to identify which tweets would be relevant for this research and how they could be recognised. The Bachmann-Preis has had its own official Twitter-account, @tddlit, and encourages the online audience to use #tddl as the “official” hashtag when tweeting about the TDDL: “der Hashtag zum Mittwittern lautet auch diesem Jahr wieder #tddl, lässt der ORF verlauten”\(^{16}\) (Diener, 2020). They first encouraged the use of single official hashtag in 2017: “[...]Wir wollen es dieses Jahr […] ein bißchen einfacher machen und verwenden den hashtag #tddl”\(^{17}\).

Since hashtags are used to tag or label tweets, they are a relatively reliable way\(^ {18}\) to find those tweets relating to a specific subject. By using Twitter’s advanced search function to look at which other hashtags were used in the tweets using the #tddl-hashtag, a first preliminary list was created. The search was then extended by searching for comparable hashtags, e.g. #tddl17 in accordance with #tddl16. This led to a definitive list of 35 hashtags used within the allotted timeframe (2007-2017)\(^ {19}\). We proceeded to scrape all Tweets containing these terms, but without including the #-sign, to also pick up those tweets containing “failed hashtags”\(^ {20}\) or tweets where the terms occur without being used as a hashtag. This was especially important for the tweets that were created before 2009, which barely included hashtags and would have otherwise slipped through the cracks. This resulted in a total amount of 42,812 scraped, unique tweets\(^ {21}\). As the following table (see Figure 1) illustrates, #tddl is by far the most popular

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\(^{14}\) see Marquisvictor’s OMGOT3: https://github.com/marquisvictor/Optimized-Modified-GetOldTweets3-OMGOT.

\(^{15}\) The same applies to the data collected from both Instagram and Goodreads. The data will only be used for non-commercial purposes.

\(^{16}\) Translation: “this year, the hashtag for tweeting along is once again #tddl, announces ORF”.

\(^{17}\) To safeguard the personal and privacy rights, this tweets will be cited by mentioning only the tweet-ID, name of the website, date and last access. Here: 867326032038199297. Twitter, 24 May 2017. Accessed 14 September 2020.

\(^{18}\) Translation: “[...]We wanted to make it a bit easier this year […] and use the hashtag #tddl”.

\(^{19}\) Sometimes hashtags may refer to multiple subjects or can be used for commercial purposes that are unrelated to the subject they actually refer to.

\(^{20}\) The advanced search function in Twitter allows the use of a timeframe, thus easily excluding hashtags that were used after 2017. The numbers may change at any time if tweets, posts or reviews are removed by their creators.

\(^{21}\) With “failed hashtags” we refer to those hashtags that might not be recognised as such because of a space between the #-sign and the term, e.g. “# tddl”, or because there is no space between two or more separate hashtags, for example “#tddl#bachmannpreis”.

\(^{21}\) Please note that the total is not equal to the sum of the number of tweets per query (45,776). It is the total of unique tweets. The difference consist of 2,964 duplicate tweets. Because many tweets contain more than one hashtag, sometimes the same tweet was collected multiple times.

This scraping method does not take the language in which the tweet was written into account, but simply collects all tweets containing the query or hashtag in question. However, an examination of the
Figure 1: Overview of the scraped TDDL-related queries and hashtags as well as the number of tweets in which they appear.

<table>
<thead>
<tr>
<th>Tag or query</th>
<th>Number of Tweets</th>
</tr>
</thead>
<tbody>
<tr>
<td>bachmannbewerb</td>
<td>9</td>
</tr>
<tr>
<td>bachmannpreis</td>
<td>4,705</td>
</tr>
<tr>
<td>bachmannpreis2010</td>
<td>3</td>
</tr>
<tr>
<td>bachmannpreis2013</td>
<td>2</td>
</tr>
<tr>
<td>bachmannpreis2014</td>
<td>2</td>
</tr>
<tr>
<td>bachmannpreis2015</td>
<td>2</td>
</tr>
<tr>
<td>bachmannpreis2016</td>
<td>11</td>
</tr>
<tr>
<td>bachmannpreis2017</td>
<td>1</td>
</tr>
<tr>
<td>bachmannpreisträger</td>
<td>83</td>
</tr>
<tr>
<td>bachmannpreisträgerin</td>
<td>89</td>
</tr>
<tr>
<td>bachmannpreisträgerinnen</td>
<td>6</td>
</tr>
<tr>
<td>bachmannpreisträgerbewerb</td>
<td>70</td>
</tr>
<tr>
<td>angeborgbachmannpreis</td>
<td>52</td>
</tr>
<tr>
<td>angeborgbachmannpreisträgerin</td>
<td>1</td>
</tr>
<tr>
<td>tageordertagsdeutschpreisgeschichtsliteratur</td>
<td>1</td>
</tr>
<tr>
<td>tddl</td>
<td>30,714</td>
</tr>
<tr>
<td>tddl07</td>
<td>1</td>
</tr>
<tr>
<td>tddl08</td>
<td>1</td>
</tr>
<tr>
<td>tddl09</td>
<td>741</td>
</tr>
<tr>
<td>tddl10</td>
<td>3</td>
</tr>
<tr>
<td>tddl11</td>
<td>11</td>
</tr>
<tr>
<td>tddl12</td>
<td>10</td>
</tr>
<tr>
<td>tddl13</td>
<td>282</td>
</tr>
<tr>
<td>tddl14</td>
<td>244</td>
</tr>
<tr>
<td>tddl15</td>
<td>571</td>
</tr>
<tr>
<td>tddl16</td>
<td>7,461</td>
</tr>
<tr>
<td>tddl17</td>
<td>637</td>
</tr>
<tr>
<td>tddl2009</td>
<td>2</td>
</tr>
<tr>
<td>tddl2011</td>
<td>6</td>
</tr>
<tr>
<td>tddl2012</td>
<td>3</td>
</tr>
<tr>
<td>tddl2013</td>
<td>5</td>
</tr>
<tr>
<td>tddl2014</td>
<td>6</td>
</tr>
<tr>
<td>tddl2015</td>
<td>7</td>
</tr>
<tr>
<td>tddl2016</td>
<td>19</td>
</tr>
<tr>
<td>tddl2017</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>42,812</td>
</tr>
</tbody>
</table>

Tag or query, with more than 30,000 instances, and is followed most closely by tddl16 (7,461) and bachmannpreis (4,701).

3.2 Instagram

Instagram was originally launched in 2010 and has become one of the most popular and influential social media platforms. Nevertheless, posts about the Ingeborg-Bachmann-Preis first show up in 2012, more than five years later than on Twitter. The same procedure as before was employed in order to identify the posts discussing the TDDL, namely the use of hashtags. We scraped all public posts from 2007 up until 2017 containing the relevant hashtags, resulting in a total of 542 unique posts (see Figure 2). This table displays the hashtags and the number of posts per hashtag for the corpus has shown that the vast majority of tweets were indeed written in German, with a few exceptions. The same applies for the collected Instagram-posts. see https://github.com/instaloader/instaloader. It is important to note that Instaloader is only able to scrape hashtags instead of queries.

Once again, the total is the sum of the unique posts, not the sum of the posts per hashtag (945).
investigated period. Similar to the tweets, the most popular hashtags are #tddl (356), #bachmannpreis (168) and #tddl16 (92), although the difference between the number of posts per hashtag and the size of the corpus itself are remarkably smaller than the Twitter-corpus.

Figure 2: Overview of the scraped TDDL-related hashtags as well as the number of Instagram-posts in which they appear.

<table>
<thead>
<tr>
<th>Hashtag</th>
<th>Number of Posts</th>
</tr>
</thead>
<tbody>
<tr>
<td>#bachmannpreis</td>
<td>168</td>
</tr>
<tr>
<td>#bachmannpreis2014</td>
<td>1</td>
</tr>
<tr>
<td>#bachmannpreis2015</td>
<td>4</td>
</tr>
<tr>
<td>#bachmannpreis2016</td>
<td>13</td>
</tr>
<tr>
<td>#bachmannpreis2017</td>
<td>10</td>
</tr>
<tr>
<td>#bachmannwettbewerb</td>
<td>24</td>
</tr>
<tr>
<td>#bachmannwettbewerb2017</td>
<td>4</td>
</tr>
<tr>
<td>#ingeorgbschauennpreis</td>
<td>77</td>
</tr>
<tr>
<td>#ingeorgbschauennpreis2013</td>
<td>1</td>
</tr>
<tr>
<td>#tagederdeutschsprachigenliteratur</td>
<td>87</td>
</tr>
<tr>
<td>#tagederdeutschsprachigenliteratur2017</td>
<td>2</td>
</tr>
<tr>
<td>#tddl</td>
<td>356</td>
</tr>
<tr>
<td>#tddl13</td>
<td>1</td>
</tr>
<tr>
<td>#tddl14</td>
<td>7</td>
</tr>
<tr>
<td>#tddl15</td>
<td>7</td>
</tr>
<tr>
<td>#tddl16</td>
<td>92</td>
</tr>
<tr>
<td>#tddl17</td>
<td>75</td>
</tr>
<tr>
<td>#tddl2015</td>
<td>1</td>
</tr>
<tr>
<td>#tddl2016</td>
<td>6</td>
</tr>
<tr>
<td>#tddl2017</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>542</td>
</tr>
</tbody>
</table>

3.3 Goodreads

Goodreads was launched in 2007 and presents itself as “the world’s largest site for readers and book recommendations”\(^24\). While originally devised as an online equivalent of “reading communities”, the site was eventually acquired by Amazon. Although more local, German-language equivalents to Goodreads exist (e.g. Lovelybooks), none of these sites has managed to attract similar amounts of followers, nor do they provide API-access to their data. As Goodreads is a social media platform aimed specifically at book reviews – distinguishing it from both Twitter and Instagram – collecting information concerning the Bachmannpreis is a different venture. For this case study, we decided to focus on those texts that actually won the Ingeborg-Bachmann-Preis and the reviews pertaining to them. We therefore proceeded to scrape all English, German and Dutch reviews\(^25\) that Goodreads displays automatically for each language and book.

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\(^{25}\) This article ties in with the FWO-funded research project “Evaluation of literature by professional and layperson critics: A digital and literary sociological analysis of evaluative talk of literature through the prism of literary prizes (2007-2017)” (https://www.talklitmining.ugent.be/), which focuses on six German-language, English-language and Dutch-language literary prizes, including the Ingeborg-Bachmann-Prize. As a consequence, we focus on – and mined – both the German, English and Dutch literary reviews on Goodreads.
It is important to note, however, that due to the specific nature of the Ingeborg-Bachmann-Preis – that is, the fact that the competing texts are 1) unpublished, 2) short texts that do not always result in a published novel – this may influence their chance of having a Goodreads book page. Furthermore, the competing text and resulting published novel may have a different title, complicating the search. The table below contains the amount of reviews for each text/novel\(^\text{27}\) that – when this article was written – has a book-profile on Goodreads.

From the data in Figure 3, one can gather that most Bachmann-Prize-winning authors have made it onto the Goodreads platform. However, the winning texts from 2009 and 2017 do not have a Goodreads-page and consequently no information or reviews could be collected. The relative dearth of reviews on this platform can be explained in multiple ways: some texts or novels are published at a later time, and Goodreads only allows for the discussion of texts as book publications, unlike tweets or Instagram-posts containing #tddl, which typically engage with the event and not just with the text. Despite these limitations, it is useful to include the German, English and German Goodreads reviews in the corpus, as this site illustrates that winning texts and authors typically gain notoriety beyond the German-language literary context. A total of 169 reviews was scraped, consisting of 49 German, 87 English and 33 Dutch reviews.

\(^{26}\) Goodreads automatically displays a maximum amount of 300 reviews – generally the ones with most likes. Which reviews are shown might change as more reviews are being added, removed or as they receive more likes.

\(^{27}\) If the resulting novel does not share the title of the competing text, both titles are included.

![Figure 3: Overview of the books/texts that were scraped on Goodreads.](image)

<table>
<thead>
<tr>
<th>Year of participation and publication</th>
<th>Author</th>
<th>Text Title</th>
<th>Book Title</th>
<th>Reviews</th>
<th>Scraped Reviews</th>
<th>Book-ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-2008</td>
<td>Lutz Seiler</td>
<td>Türkisch</td>
<td>Türkisch</td>
<td>0</td>
<td>0</td>
<td>3127475</td>
</tr>
<tr>
<td>2010-2010</td>
<td>Peter Wawerzinek</td>
<td>Ich finde dich/Abenlohe</td>
<td>Rabenlohe</td>
<td>11</td>
<td>De: 3 En: 2</td>
<td>8802774</td>
</tr>
<tr>
<td>2011-2011</td>
<td>Maja Haderlap</td>
<td>Im Kessel</td>
<td>Engel des Vergessens</td>
<td>60</td>
<td>De: 10 En: 25 Ni: 10</td>
<td>12224292</td>
</tr>
<tr>
<td>2012-2013</td>
<td>Olga Martynova</td>
<td>Ich werde sagen „Hilfe“</td>
<td>Monika Schlüsselbein</td>
<td>1</td>
<td>De: 1</td>
<td>18904023</td>
</tr>
<tr>
<td>2014-2015</td>
<td>Tex Rubinszitz</td>
<td>Wir waren niemals hier</td>
<td>Inna</td>
<td>9</td>
<td>De: 8 En: 1</td>
<td>23896558</td>
</tr>
<tr>
<td>2015-2016</td>
<td>Nora Gominger</td>
<td>Recherche</td>
<td>Recherche</td>
<td>1</td>
<td>En: 1</td>
<td>27507660</td>
</tr>
<tr>
<td>2016-2020</td>
<td>Sharon Dodua Otuo</td>
<td>Herr Göttrup setzt sich hin</td>
<td>Herr Göttrup setzt sich hin</td>
<td>1</td>
<td>De: 1</td>
<td>30838894</td>
</tr>
</tbody>
</table>
4 Data Analysis: The Online Presence and Depiction of the Ingeborg-Bachmann-Preis

4.1 The Evolution of the Ingeborg-Bachmann-Preis’ Online Presence

As aforementioned in the previous chapter, the TDDL has accumulated a lively following of lay critics on social media since it was first discussed on Twitter in 2007. Since then, its online presence has gained importance as the medium’s popularity increased. Recalling the number of tweets scraped per query (3.1), #tddl is the most popular term or hashtag by far, occurring in over 67% of the tweets. However, as illustrated by above chart (Figure 4), although the difference between the number of tweets containing tddl and the total number of tweets is relatively small most years, only analysing this data would nevertheless paint an inaccurate picture of the Twitter-activity for others. Although the first tweets were created in 2007, tddl itself occurred for the first time in 2009 and became the most popular term and hashtag in the following year. However, its popularity took an unprecedented hit in 2016, when it was dethroned by #tddl16, which was used 7,459 times in 2016 itself. The cause of this unexpected increase may be the fact that this hashtag was used by the official Bachmannwettbewerb Twitter-account and that Top FM4 launched a “Twitteraturwettbewerb” (Gratzer, 2016) during the TDDL, using the hashtags #tddl16 and #tddt16. The tddl-data would suggest that the online discussion of the Bachmann-Preis reached an absolute low in 2016, whilst it actually reached a peak of approximately 8,500 tweets on the subject. The chart shows a sudden increase in 2009 with a steady growth and a first peak in 2013, after which the total number of tweets roughly varies between 5,000 and 8,000.

![Figure 4: Overview of the number of tweets about the TDDL that were created per year.](image)

The second chart (left side of Figure 5) illustrates that the majority of these tweets are posted during the TDDL itself and that this ratio remains relatively constant throughout the years, with an average of 87.26% of tweets per year and a total of 87.37% of all tweets from 2007 until 2017 being posted during the literary event. The tweets that were not, were mostly posted in the days leading up to or just after the event. For the corpus analysis included in this study, we will analyse all tweets, not

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28 This is the average of the sum of every average per year.
only those posted during TDDL, in order to get an accurate view of everything that is being discussed.

If we take a look at the average number of tweets per Twitter user (right side of Figure 5), we can deduce that its evolution generally resembles the evolution of the number of tweets per year, although the two peaks come at an earlier moment, in 2009 and 2013, with a stabilisation of approximately 7 tweets per user from 2015 onwards. The number of participating Twitter users itself shows a steady growth with a maximum amount of 1.144 users in 2016, the same year the number of tweets peaked, possibly because of Stefanie Sargnagel’s participation. The total amount of unique Twitter users amounts to 4.870 people who have tweeted about TDDL between 2007 and 2017.

The number of Instagram-posts is remarkably lower than the number of tweets. The first TDDL-Instagram-posts were created in 2012, meaning that this is a relatively new development in comparison to Twitter, where the TDDL-discussion was already becoming an established subject at that time. Consequently, following chart (left side of Figure 6) shows the beginning of the discussion on Instagram, comparable to the Twitter-data of 2007 to 2012. The growth is rather similar, but, even when comparing this data to the first six years of TDDL-tweets, the number of Instagram-posts is far smaller, indicating that this is not the “main” platform on which the TDDL are being discussed. A possible reason for this may be related to the design of the social platforms.

As aforementioned, the event’s transparency and audience award inspire and encourage audience participation in the form of online discussion. Twitter is defined by its “Sofortkommentierung”29 (Bogaert, 2017, p. 43): people use the platform to comment on current events, comparable to how the professional jury (relatively) spontaneously criticises the competing texts. It is easy to comment or to retweet, facilitating the online discussion. Twitter thus offers its users a platform that enables a “spontaneous” and interactive discussion. Instagram, on the other hand, is a medium more focused on the visual aspect, rather than the textual. The platform consequently does not enable the same lively discussion; a possible reason as to why it is a less popular medium for an audience of lay critics. Returning to the chart, it becomes clear that the majority of posts is still created during the TDDL, although percentile-wise less than

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29 Translation: “immediate commentary”.

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on Twitter, with an average of 77.91% percent of the posts per year and 78.23% of all posts (2012-2017) being created during TDDL.

Similar to the number of posts, the number of Instagram users that post about the Bachmann-Preis is remarkably smaller than the number of Twitter users (right side of Figure 6). This is not entirely unexpected, yet the average number of posts per Instagram user is much lower than the number of tweets per Twitter user as well. Each Instagram user creates a maximum of 2.64 posts (2017) about the literary competition, compared to a maximum of 8.89 (2013) tweets per Twitter user, demonstrating that those who post about TDDL on Instagram do so less frequently than on Twitter, which might be a consequence of the less interactive setting of the platform as well as of its focus on visual aspects. It is more difficult to get or keep the discussion going, resulting in less posts discussing the subject.

When compared to both Twitter and Instagram, Goodreads is an entirely different social media platform. The focus is not on the number of tweets or posts per year – or per annual edition of the event, to be precise – but on the amount of reviews per novel or text. In the table below (Figure 7), the reviews are ordered per year in which the novel or text they review won the Ingeborg-Bachmann-Preis. The number of reviews varies greatly from text to text (and year to year), without any obvious exponential growth, and consequently does not correspond to the evolution of the number of tweets or Instagram-posts or the “liveliness” of that year’s online discussion. For example, although the number of tweets reached an absolute peak in 2016, the text has only received ten Goodreads ratings and one review.

There are several aspects that may complicate the process of rating and reviewing the texts or novels on Goodreads. A first question is of course whether the text or novel has a book page on Goodreads. Two of the winning titles, Petersen’s “Bis dass der Tod” (2009) and Schmalz’s “mein lieblingstier heißt winter” (2017), do not have one. Consequently, they cannot be rated or reviewed by readers. Three of the texts, “Turksib”, “Recherche” and “Herr Gröttrup setzt sich hin”, were never turned into a novel, which might contribute to the fact that they received little ratings and reviews. Besides this, about half of texts or novels was published after the year in which the authors competed, when reviewing the texts no longer fits in the Bachmann-

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30 Unless they were to create said book page themselves, which has not yet happened at the time this article was written.
Figure 7: Overview of the number of ratings and reviews on Goodreads as well as the average rating given to a text/book.

Preis’ ideal of “Sofortkommentierung”. Another difficulty is that several of the novels (see Figure 3) have a different title than the winning text, complicating the search. However, we can deduce that most texts or books (except for Gomringers “Recherche”) receive more ratings than reviews, and that the average rating of a text or book is not necessarily related to its popularity, as illustrated by the number of ratings and reviews. Besides this, the three books with the most ratings and reviews are also the books with most translations, thus reaching a wider audience that may not be familiar with the Ingeborg-Bachmann-Preis.

4.2 Corpus Analysis: The Depiction of the Ingeborg-Bachmann-Preis in Online Literary Criticism

In the following pages we will analyse the corpus of tweets, Instagram-posts and Goodreads-reviews using Voyant Tools (Sinclair and Rockwell, 2016). For this corpus analysis, we will look at the word frequency to get an impression of which topics are being discussed in a respective corpus and how this may be connected to the social media platform they originated on. However, we will also take the amount of terms referring to a certain topic into consideration. For the analysis of the word frequency, Voyant’s “Summary”-tool was used to examine the thirty\(^{31}\) most frequent content words. Two advantages of Voyant are that it provides an editable pre-existing stopword list for various languages, including German, and removes the function words for this language if you define the language options, and that it does not automatically separate letters from numbers, which is relevant for hashtags, such as “tddl16”. To the stopword list we decided to add “beim”, “gerade” and “schon”. Afterwards we also manually removed some “words” that were actually separated parts of a URL or website, as well as single letters or numbers and some English stopwords that were not detected by the German-language stopword list.\(^{32}\) We have argued that the specific expectations and limitations of the social media platforms themselves affect the content of the online contributions as well. Consequently, we posit that the content of the user-generated discourse will vary depending on the platform it was posted on.

When examining the word frequency of the Twitter corpus\(^{33}\) (see Figure 8), the most

\(\begin{array}{|c|c|c|c|}
\hline
\text{Year} & \text{Text/Novel} & \text{Number of Ratings} & \text{Number of Reviews} & \text{Average Rating} \\
\hline
2007 & "Turkabi" & 4 & 0 & 4 \\
2008 & Der Kaiser von China & 230 & 24 & 3,31 \\
2010 & Rabenliebe & 68 & 11 & 3,35 \\
2011 & Evigel des Vergessens & 538 & 60 & 3,85 \\
2012 & Mörisches Schlässelbein & 10 & 1 & 3,7 \\
2013 & Vielleicht Esther & 892 & 155 & 3,81 \\
2014 & Itona & 54 & 9 & 3,41 \\
2015 & "Recherche" & 1 & 1 & 4 \\
2016 & "Herr Gröttrup setzt sich hin" & 10 & 1 & 3,8 \\
\hline
\end{array}\)
recurring topic appears to be the TDDL or Bachmann-Preis themselves, as evidenced by the word “bachmannpreis” and the different variations on “tddl”, such as “tddl16” etc., with a total of 45,101 mentions.\textsuperscript{34} Bogaert (2017, pp. 59-63) study reveals that many tweets contain context-related statements about the contest. The high frequency can be further explained by the fact that most tweets, even those that discuss other aspects of the event, usually contain a (variation of) tddl-hashtag to mark it as part of the TDDL-discourse.\textsuperscript{35}

The second most popular topic in the Twitter-discussion is the jury, which can be connected to the event’s design. Besides the term “jury” itself, the table contains the names of six jury members, namely Burkhard Spinnen, Hubert Winkels, Meike Feßmann, Hildegard Elisabeth Keller, Daniela Strigl and Klaus Kastberger (5,369 compared to the jury discussion by Xiana Bogaert. The method and corpus employed in this study differ by relying on corpus analysis and by examining a larger corpus, both concerning the timeframe (2007-2017) and the scraped queries.

Both in this and the Instagram-corpus the words “bachmann”, “literatur”, “preis”, “tage” and “ingeborg” etc. may also refer to the TDDL, though they may also refer to Ingeborg Bachmann or literature in general.

\textsuperscript{34} There is a dark number of Tweets and Instagram-posts about the TDDL without a hashtag. However, this does not hinder the analysis included in this article.
ments). With the exception of Klaus Kastberger, who was still a fairly new addition to the jury in 2017, the most frequently mentioned jury members are those who act as jury member (and chairman, in the case of Spinnen and Winkels) for many consecutive years. Consequently, they become so called “permanent fixtures” and thus enjoy a high symbolic capital and credibility regarding the Ingeborg-Bachmann-Preis.36

Because the lay audience is able to watch the official jury discussion, they are able to discuss, interact with and react to their statements. This corresponds to Bogaert’s conclusion that “die Tweets hauptsächlich die Jurydiskussionen des Bachmannpreises zum Gegenstand ihrer Kritik heranziehen”37 and that they form an easy stepping stone for lay critics to engage in the discussion (Bogaert, 2017, p. 54). She maintains that the Twitter users indirectly evaluate the texts by discussing and criticising the jury discussion and that their process of evaluation is consequently shaped by the professional jury’s criteria and not just by their own (Bogaert, 2017, p. 56).

As public figures, the jury members themselves – their background, appearance, clothing, voice... – being discussed as well. The texts (“text” and “texte”), and therefore the direct literary criticism, appear to take third place (5022 mentions) compared to the discussion of the jury and the subsequent indirect, i.e. second-level literary criticism.38 However, taking the indirect criticism into account, this does not necessarily imply that the evaluation of the texts is of lesser importance. Furthermore, the discussion of the authors (“autoren” and “rubinowitz”, a reference to competing author Tex Rubinowitz) can also be connected to the discussion of their texts; author names are sometimes used as stand-ins for text titles.

Of course, as the lay audience is shown the “video portraits” and performance of the authors, they also become a topic of conversation. Two remaining topics are the organising and broadcasting television channel, 3sat, possibly in line with the previously mentioned reflexion on the TDDL, and the mention of Literaturcafé, the Twitter-profile of Wolfgang Tischer. Tischer is a journalist, literary critic and blogger who acts as a sort of moderator in the online TDDL-discussion. His prominent presence in the exchange also becomes apparent from the visualisation, made with TAGSExplorer (see Figure 9), which shows that Tischer was, next to Klaus Kastberger (one of the jury members), one of the “Top Tweeters” in 2016, the year Sharon Dodua Otoo won the Bachmann Prize. That his usernames pops up in this list illustrates that the Twitter users do not simply react to what they see, the readings, jury discussion etc., but that they interact with one another.


Translation: “the tweets mainly draw on the jury discussions of the Bachmann Prize as the subject of their criticism”.

Although initial runs of the Bachmann Prize stuck to the principle of “criticism on the spot” (“Stehgreikritik”) as maintained by the Gruppe 47, in more recent years the professional jury members have access to the texts well in advance of the event. For the audience, however, this principle still applies, as the texts are only released online at the beginning of each individual author reading.

See https://tags.hawksey.info/tagsexplorer/.
Unlike the corpus of tweets about the Bachmann-Preis, the corpus of Instagram-posts has not yet been analysed before. Looking at the content words with the highest wordcount (see Figure 10), a few things stand out in comparison. References to the TDDL and the Bachmann Prize, are still the most frequent, with a total of 649 mentions, namely “tagederdeutschsprachigenliteratur”, “tddl” and its variations (“tddl16” and “tddl17”), as well as “bachmannpreis”, “ingeborgbachmannpreis” and “bachmannwettbewerb”. A second recurring and popular topic (322 mentions) concerns the spatial setting, consisting of seven English and German references to the general or specific location of the TDDL, i.e. “klagenfurt”, “lendhafen”, “kärnten”, “austria”, “carinthia”, “wörthersee” and “wien”. It is not surprising that the spatial setting, which seems comparably irrelevant in the discourse on Twitter (only Klagenfurt is featured), plays such a prominent role in the corpus of Instagram-posts. Instagram is by default a “location-based social photo sharing application” (Hochman and Schwartz, 2012, p. 6) and “real-time picture sharing network” (Giridhar et al., 2017, p. 1). Giridhar et al. (2017, p. 1) argue that “unlike text-based social networks with publicly available content, such as Twitter, Instagram features a content type that generally requires physical proximity to the event”.

Consequently, the people posting about the TDDL on Instagram may consist of the lay audience that is present to follow the competition on site. For such a location-oriented visual social media platform, the frequent occurrence of place names is to be expected. Besides the focus on the event itself and the spatial setting, literature and books in general (“literatur”, “literature”, “bücher and “buch”) are mentioned relatively frequently as well, 148 times. Furthermore, instead of discussing the competing texts, the Instagram-posts seem to address the author readings instead (“lesen”, “wettlesen” and “lesung” – 62 mentions). Similar, however, are the references of the organising and broadcasting media channels, 3sat and ORF. A final important term is the word “bookstagram”, referring to the hashtag #bookstagram. This hashtag is used to demarcate the book community and tag book reviews on Instagram, which “has become one of the most prolific social platforms for readers to connect with books” (Jaakkola, 2019, p. 93). Instagram is, as illustrated by the smaller size of the corpus, a less relevant medium for the online discussion of the TDDL, notwithstanding the emergence of Bookstagram, where longer, more substantial reviews can be written. However, this needs to be explored further.

Up until this point, the corpus of tweets and Instagram-posts have each highlighted

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40 See Jaakkola’s article for more information on the book community and book reviews on Instagram.
and stressed different aspects of the Ingeborg-Bachmann-Preis in varying degrees dependent on the expectations and limitations of the respective platform, with more attention for the jury and jury discussion as well as the texts on Twitter and for the location and author readings Instagram. Because the analysis based on a list containing the 30 most frequent content words by itself does not necessarily provide the full picture, we decided to perform an additional analysis using AntConc’s “Concordance”-tool (Anthony, 2019),\footnote{Despite its advantages over AntConc regarding the automatic removal of function words, the adaptable stopword list etc., Voyant only allows the search for a word ending in or beginning with the search term, e.g. “text” or “text”. This causes significant overlap because the result of both queries includes the frequency of the term “text” itself. AntConc, however, supports search terms like “text*”, thus including in a single search all words ending in or beginning with “text” as well as the term “text” itself and consequently facilitating the search.} in order to confirm which aspects of the TDDL, the text, jury, author or reading, receive most attention on each platform (see Figure 11). For this, we looked at the frequency of the following queries: “*text*”, “*jury*” / “*juror*”, “*autor*” / “*schriftsteller*” and “*lesung*”.

It must be noted, however, that this method does not take into account that references to jury members and authors often use their names, as demonstrated by Bogaert (2017, pp. 68-69)’s analysis of the number of references to author names in the TDDL-tweets of 2013. Because of this, the data results of this search do not include all references to either of them and they may therefore be underrepresented in these charts. It

<table>
<thead>
<tr>
<th>Word</th>
<th>Wordcount</th>
</tr>
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<tbody>
<tr>
<td>tddl</td>
<td>310</td>
</tr>
<tr>
<td>klagenfurt</td>
<td>152</td>
</tr>
<tr>
<td>bachmannpreis</td>
<td>149</td>
</tr>
<tr>
<td>tddl16</td>
<td>95</td>
</tr>
<tr>
<td>literatur</td>
<td>85</td>
</tr>
<tr>
<td>bachmann</td>
<td>77</td>
</tr>
<tr>
<td>lendhafen</td>
<td>45</td>
</tr>
<tr>
<td>ingeborgbachmann</td>
<td>44</td>
</tr>
<tr>
<td>kärnten</td>
<td>37</td>
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<tr>
<td>ingeborg</td>
<td>30</td>
</tr>
<tr>
<td>ingeborgbachmannpreis</td>
<td>29</td>
</tr>
<tr>
<td>deutschsprachigen</td>
<td>28</td>
</tr>
<tr>
<td>tddl17</td>
<td>28</td>
</tr>
<tr>
<td>literature</td>
<td>26</td>
</tr>
<tr>
<td>saat</td>
<td>25</td>
</tr>
<tr>
<td>austria</td>
<td>23</td>
</tr>
<tr>
<td>bookstagram</td>
<td>23</td>
</tr>
<tr>
<td>carinthia</td>
<td>23</td>
</tr>
<tr>
<td>orf</td>
<td>23</td>
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<tr>
<td>würthersee</td>
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<td>tage</td>
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<tr>
<td>tagederdeutschsprachigenliteratur</td>
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<td>bücher</td>
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<tr>
<td>wien</td>
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</tr>
<tr>
<td>bachmannwettbewerb</td>
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<td>buch</td>
<td>18</td>
</tr>
<tr>
<td>preis</td>
<td>18</td>
</tr>
</tbody>
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Figure 10: Overview of the 30 most frequently occurring content words in the Instagram corpus.
nevertheless supplements the analysis based on the most frequently content words. The preliminary Twitter-data allow for the tentative conclusion that ever since 2008 the emphasis has been on the texts themselves, followed by the jury and authors, which are rather evenly matched. The least attention seems to go to the author readings.

In comparison, the results for Instagram are not as clean-cut (Figure 12). There is no constant emphasis on a single specific topic. Instead the dominant aspect changes regularly, although the number of author-references rises above the others in 2017. The author readings never have the highest frequency, but they are quite well represented in comparison, and the aspect of the texts appears not quite as negligible as the list of content words intimates, even if it does not receive the same amount of attention as in
the Twitter-corpus.

Although the corpora of tweets and Instagram-posts each have their own focus, they nevertheless remain similar to a certain extent by highlighting the same aspects, albeit in varying degrees. The Goodreads reviews, however, differ in this respect.

| Goodreads Reviews: 30 Most Frequent Content Words (2007-2017) |
|------------------|-----|----------------|-----|----------------|-----|
| **German Reviews** | **English Reviews** | **Dutch Reviews** |
| Word          | Frequency | Word          | Frequency | Word          | Frequency |
| 1. buch         | 37         | book          | 144       | verhaal       | 22         |
| 2. geschichte   | 26         | family        | 103       | boek          | 18         |
| 3. keith        | 17         | story         | 64        | vader         | 17         |
| 4. sprache      | 17         | read          | 56        | familie       | 15         |
| 5. leben        | 16         | history       | 48        | petrowskaja   | 15         |
| 6. china        | 14         | past          | 39        | geschiedenis  | 14         |
| 7. großwarter   | 13         | war           | 38        | grootmoeder   | 14         |
| 8. autorin      | 11         | german        | 37        | teal          | 14         |
| 9. gut          | 11         | stories       | 36        | gast          | 13         |
| 10. einfach      | 10         | novel         | 36        | lezen         | 13         |
| 11. haderlap     | 10         | author        | 33        | praktig       | 13         |
| 12. text         | 9          | like          | 31        | schrijfster   | 12         |
| 13. vergangenheit | 9       | grandmother   | 28        | katja         | 11         |
| 14. kind         | 8          | time          | 28        | zoektocht     | 11         |
| 15. lesen        | 8          | partisans     | 27        | babi          | 10         |
| 16. petrowskaja  | 8          | people        | 37        | joodse        | 9          |
| 17. reise        | 8          | life          | 35        | mensen        | 9          |
| 18. famillengeschichte | 7 | reading       | 25        | mic           | 9          |
| 19. lesen        | 7          | slovenian     | 25        | verhalen      | 9          |
| 20. auflarbeitung | 6        | father        | 24        | zoals         | 9          |
| 21. ereignisse   | 6          | narrator      | 24        | familieleden  | 8          |
| 22. erzählt      | 6          | part          | 24        | jar           | 8          |
| 23. katja        | 6          | world         | 24        | kiev          | 8          |
| 24. kinder       | 6          | language      | 23        | deel          | 7          |
| 25. kindheit     | 6          | haderlap      | 22        | gaan          | 7          |
| 26. peter        | 6          | girl          | 21        | geschreven    | 7          |
| 27. selten       | 6          | nazis         | 21        | kromt         | 7          |
| 28. autor        | 5          | wwi           | 21        | leven         | 7          |
| 29. beschreibt   | 5          | written       | 20        | maken         | 7          |
| 30. familie      | 5          | just          | 19        | oorlog        | 7          |

Figure 13: Results of the AntConc “Concordance”-analysis of German-, English- and Dutch-language Goodreads-reviews of the texts/books awarded with the Ingeborg-Bachmann-Preis.

This corpus has been divided into three corpora, one for each language, which will be compared side by side. The table below (Figure 13) shows the thirty most frequently used content words per sub-corpus. In the Twitter- and Instagram corpora many topics connected to the Ingeborg-Bachmann-Preis were discussed, whereas only two of these topics are present in the lists below, namely the author and different textual aspects. The list varies slightly per language, but they nevertheless highlight the same topics. The focus on the author is present in all three sub-corpora – though perhaps most in the German reviews – both by general terms, such as “autorin”, “autor”, “author” and “schrijfster”, and their name: “haderlap”, “petrowskaja”, “katja” and “peter”. Most other content words relate in some way to the texts themselves. Several of them do not inherently refer to aspects of literary texts, but instead refer to the content and plot of the reviewed works, such as “vergangenheit”/“past”, “war”/“oorlog”, “babi [jar]”, “grandmother”/“grootmoeder”, “geschichte”/“history”/“geschiedenis”… Others directly refer to books and texts, with content words like “buch”/“book”/“boek”,.
“text”, “seiten” and “novel”, the writing of said texts (“written”/“geschreven”), or the story-aspect and the type of story it concerns: “aufbearbeitung”, “familiengeschichte”, “geschichte”/“story”/“verhaal” and “stories”/“verhalen”. Additional topics discuss specific aspects of texts, e.g. the narration (“erzählt” and “narrator”) and the language use (“sprache”/“language”/“taal”). Besides these author- and text-oriented topics, the reviews appear to focus on the role and experience of the reader-reviewer, such as “lesen”/“read[ing]”/“lezen” and “leser”. Besides this, they possibly reflect on the evaluation of a text: “gut” and “prachtig”.

The list contains no explicit references to the Ingeborg-Bachmann-Preis or the TDDL, the jury members, the author readings or the location. Instead, the emphasis lies on the texts, the authors and the reader-reviewer. The Goodreads reviews consequently do not rely on the jury discussion as a stepping stone to indirectly evaluate the texts, but emphasise their own judgement and discuss, inter alia, the work’s plot, language use and narration. On the one hand, most of the texts have been turned into a novel, meaning that there is a lot of new material that has not been discussed by the TDDL-jury. Due to the delay between the first reading of the text during the TDDL and the publication of the book, the TDDL themselves are long past and no longer a “hot topic”. Besides this, chances are that some of the reader-reviewers may not have watched the TDDL or know about its existence, especially the reviewers who read and reviewed a translation of the book (English and Dutch reviews). A targeted word-search has revealed that the Bachmann-Preis is mentioned five times in the German sub-corpus, only once in the corpus of English reviews and never in the Dutch sub-corpus. Despite these short references, the focus is nevertheless on the reader-reviewers’ own evaluation instead of on the prize, as it was on Twitter and Instagram. On the other hand, the expectations created by the platform itself are responsible for this as well: Goodreads is by design a platform on which the users write book reviews, automatically putting the book in the spotlight, whereas Twitter and Instagram have no such limitation or expectation. Because it is a platform focusing on the books themselves and is specifically aimed at reader-reviewers and their personal book recommendations, the importance of the reader’s own evaluation is stressed.

5 Conclusions

This article has discussed the Ingeborg-Bachmann-Preis’ specific position in the field of literary prizes and came to the conclusion that it distinguishes itself from other prizes due to its visibility as a live television broadcast, attracting numerous “second-screen” commenters, its presentation as a literary competition, its nomination procedure, the nature of the competing texts and the transparency of the proceedings. Besides addressing the process of data mining and collection, we have also analysed the evolution of the prize’s online presence from 2007 up to 2017.

On the one hand, its visibility and popularity on Twitter and Instagram increased throughout the decade, but as the number of tweets seems to have stabilised, the discourse on Instagram is still in an earlier phase of its evolution and the amount of posts is still expanding. The question how many reviews a text or book receives on Goodreads, on the other hand, may hinge on the visibility surrounding shortlists and prizes, but it does not correlate directly to the liveliness of that year’s online discussion on either Twitter or Instagram. Furthermore, we have shown that the characteristics that differentiate the Bachmann-Preis from otherwise comparable prizes affect its representation on social media platforms, such as its relative transparency enabling
the lay audience to criticise and discuss the jury discussion on Twitter, or the possibly decreased likelihood of the texts to be reviewed on Goodreads if they have not been turned into a novel.

Besides this, the corpus analysis of the different corpora illustrated that the content of the contributions on social media depend on and are additionally shaped by the specific expectations and limitations regarding each social platform, such as the more text- and jury-oriented, active discussion on Twitter, the emphasis on location on Instagram and the shared attention for the TDDL on both of these platforms, as well as the relative “slowness” of the Goodreads platform in catching up with the aftermath of the prize and its focus on text, author and reader in reviews.

Analysing the number of tweets, Instagram-posts and Goodreads reviews per year and their average number per Twitter or Instagram users thus enabled us to describe not only the presence of social media activity surrounding this literary prize on different platforms, but also – regarding Twitter and Instagram – the annual evolution of this online discourse. On the one hand, this explorative study has employed Voyant Tools and AntConc to perform an additional quantitative analysis of the online depiction of the German-language Ingeborg-Bachmann-Preis. Despite the statistical limitations of this quantitative corpus analysis (see 4.2), the examination of word frequencies has nevertheless succeeded in revealing underlying patterns regarding the content of the social media contributions. The use of TAGSExplorer, on the other hand, has also provided a first glance at the interaction between the different “TDDL-tweeters” in 2016. However, a more in-depth analysis of the online discourse will be necessary in order to further explore and examine the specific evaluative criteria used by the social media users to evaluate the competing texts, contenders, jury etc. in addition to the exchange between social media users and the professional jury.42

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Hochman, N. and R. Schwartz

Instaloader

Jaakkola, M.

Kellermann, H. and G. Mehling

Kellermann, H., G. Mehling, and M. Rehfelt
Kempke, K., L. Vöcklinghuis, and M. Zeh  

Kennedy-Karpat, C. and E. Sandberg  

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Marquisvictor  

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Steiner, A.  

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The Digital Humanities Classroom as a “Node”. From Toolbox to Mindset?

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The paper describes a framework for digital pedagogy and evaluation that combines different approaches – theoretical, application-oriented and project-based –, underpinned by a view of the digital humanities classroom metaphorically defined as a “node”. The metaphor encompasses the hybrid character of digital humanities teaching, as a crossing or convergence of paths, which involves the use of various categories of study materials, themes, examples, methodologies and skills, as well as exchange, circulation of ideas and connection with other disciplines. It is assumed that the application of this type of hybrid approach in the course design, together with the coverage of a variety of tools to be studied in class, might foster a reflective mindset, enabling the students to contextualise the digital technologies within different humanities areas, beyond the acquisition of technical skills and knowledge of computational methods and tools usually referred to as the toolbox-based education paradigm.

1 Introduction

This paper is based on the case study of an introductory course on computational text analysis and text interpretation for students enrolled on the Bachelor en Cultures Européennes (BCE) programme at the University of Luxembourg. Given that digital humanities (DH) education is a hybrid field, involving various subject matters and skills as well as teaching and assessment strategies, the paper will use the lens of a classroom case study to address the challenge of DH teaching, with a shift from a toolbox-based instruction paradigm to a more reflective mindset that considers new technologies in a broader cultural and pedagogical context.

Studies in digital pedagogy have already pointed out the need for “curriculum change” and a shift towards an “inquiry-based curriculum” Whitby (2007, pp. 3, 4) fostered by new technologies and focusing less on “things to know” and more on developing “strategies for learning” by stimulating the imagination and engaging students in “taking responsibility for their own learning” (pp. 7, 8). By questioning the “what works” paradigm “currently dominating educational research”, Ross (2017, pp. 1, 2) assumes the relevance of “speculative methods” that may capture the “‘not-yetness’ of technologies” and provide a “conceptual handle for digital education
approaches” and for openness to new practices and ideas while allowing “curiosity, critique, doubt, unintended consequences and emergent properties of technologies in use”. Other studies, focusing on digital humanities, have highlighted different aspects to be considered when teaching in this area. Mahony and Pierazzo (2012, p. 7) argue that DH teaching should be relevant to the student’s study and research interests and should deal not so much with skills, though these are important, but with “new methodologies and new ways of thinking”. Cordell (2019) recommends cultivating a “mindset for approaching data, exploring it” and understanding “what questions computation might help answer about it”, rather than aiming to bring the students to expertise in any particular computational method. In their article “Beyond buttonology”, Russell and Hensley (2017) affirm that tutorial-based teaching focusing on tools should be complemented by “critical engagement with digital methodologies” and “humanities sources as data”. Other scholars (Papadopoulos and Schreibman, 2019; Sinclair and Rockwell, 2012) advise practical approaches in the classroom, such as asking students to develop their own research questions based on their own texts or applying problem-/project-based learning and enabling students to become producers rather than just consumers of knowledge.

The main questions derived from these readings that the paper will address are the following. (1) What type of information and pedagogical approach should learners be exposed to in order to attain the objectives of such a shift? (2) How effective is the applied methodology in attaining these goals? The remaining sections will present in more detail the initial settings, assumptions and methodology of the course, as well as the results and feedback obtained from the first (and partially second) iteration of this empirical case study.

2 Case study

The course was taught during the 2019-2020 winter semester, starting in September 2019 and ending in February 2020 with a final examination. It was an optional general course worth three ECTS¹ in the Arts and Media Studies module of the BCE programme. Eleven undergraduate students completed the course, with profiles in different areas such as history and English literary and linguistic studies. The course, Introduction to Computational Text Analysis and Text Interpretation, introduced concepts, methods, tools and data for computational text analysis and interpretation from six categories: corpus linguistics, parsing, named entity recognition, sentiment analysis, topic modelling and word embedding. Based on an application-oriented approach, it was intended to illustrate how these techniques can be applied when answering or formulating historical, linguistic or literary research questions, for instance when analysing the evolution of a concept in an art history collection, main topics in the European Parliament’s news releases, specific vocabularies in a series of transcribed life-history interviews or the sentiment-based plot arc of a novel. At the same time, the course aimed to foster a basic understanding of the theoretical assumptions underpinning the “black box” guise of the user interface and assimilation of elementary principles of programming in R and Python. Each session, except for those dedicated to work on the project, included theory and a presentation of potential applications followed by hands-on activities. The final assessment consisted of individual projects, with the students using the tools of their choice from those studied in class.

Taking the node or crossroads metaphor as a starting point (symbolically represented in Figure 1), the pedagogical approach applied in the classroom supposed the intersection of different areas of enquiry and virtual connections within the course or programme as a whole, including for instance thematic (culture-oriented themes), theoretical (text analysis methods), data-related (dataset processing and assessment), practical (hands-on activities with different tools) and referential (further reading and links to relevant information to be studied individually) aspects.

Expected outcomes included critical thinking and practical skills, enabling the students to apply the knowledge acquired to their course project or projects from other disciplines. The dotted aspects resulted from the study and will be discussed in section 3. These assumptions were tested via an anonymised questionnaire proposed to the students and completed at the end of the course, which included questions such as: (1) the role of the selected text analysis tools in their projects and in answering the research questions; (2) the “added value” determined by the use of this type of analysis as compared with a more “traditional” non-digitally-based study and interpretation of texts; (3) reflections on the innovative character (if any) of the computational text analysis approach and/or its limitations, bias, etc.; (4) evaluation of the course scenario.

3 Discussion

In his model of the public image of a city, Lynch (1997, p. 47) defines the concept of nodes as “primarily junctions, places of a break in transportation, a crossing or convergence of paths, moments of shift from one structure to another. Or [...] simply concentrations, which gain their importance from being the condensation of some use or physical character, as a street-corner hangout or an enclosed square.” This definition conveys a composite image, of foci to and from which one can travel, junctions, moments of shift, crossing of paths and concentrations, which served within the methodological framework of the course as a metaphor for the digital humanities classroom as a “node”. The metaphor encompasses the hybrid character of DH teaching, which involves a concentration of various subject matters, teaching and assessment strategies to be applied in the classroom, as well as circulation of ideas, exchange and connection with other disciplines inherent to the concept of node as a unit within a network. It was assumed that applying this type of hybridity as an underlying principle in the course design might foster reflection on the role and characteristic
usage of digital technology in the humanities, beyond the acquisition of technical skills and knowledge of computational methods and tools.

3.1 Lesson structure

Following this principle, the lessons were conceived as a combination of basic theoretical information about the tools and methods to be studied, together with topics and sets of data from different areas of enquiry (history, literature, philosophy, arts, etc.). These themes and datasets were used as examples and starting points for experimenting during the hands-on activities. The main goal was to provide an overview of different categories of tools and methods for computational text analysis and a thematic basis for interpretation via these tools. Six categories of digital tools (see section 2) were presented and worked with during the course sessions, which included lexical, syntactic and semantic perspectives considered as basic standpoints in analysing texts using computational methods. The themes were chosen to cover areas of interest for students with different backgrounds enrolled on the BCE programme and to provide a relevant context for applying what was learned in class. The predefined themes were also intended to offer some guidance and models to the students for formulating research questions and interpreting the analysis results in their own projects.

The lessons involved various degrees of heterogeneity. Some dealt with the investigation of specific concepts, such as culturomics (Michel et al., 2011), hermeneutical tools (Rockwell and Sinclair, 2016), distant reading (Moretti, 2013) and Vonnegut’s (2010) chalkboard shapes of stories. The application of these concepts was studied using tools for n-gram detection and visualisation (Google Books Ngram Viewer), Web-based text reading and analysis (Voyant), topic modelling (MALLET) and lexicon-based sentiment analysis (sentimentr, syuzhet via RStudio). Other lessons relied on theoretical subjects from various areas, such as Pennebaker’s (2013) linguistic features for “predicting” honesty and deception, P. Thompson’s (2004) model of life-history interviews with black immigrants to Britain, Kripke’s (1981) philosophy of naming, J.B. Thompson’s (2007) study of ideology in modern culture or Hazard’s (1961) reflections on the origins of contemporary Europe. These theoretical aspects were combined with methods and tools such as keyness-based comparison of two corpora (AntConc), textometry (TXM), named entity annotation and query (GATE), context-free grammar and dependency parsing (Stanford parser) and computation of word similarity and representation of meaning through vector semantics (gensim – word2vec via Python IDLE).

The datasets proposed for exploration or analysis were based on online sources, such as CLARIN Resource Families, Project Gutenberg, the Digital Corpus of the European Parliament (DCEP), Digital Humanities Resources for Project Building — Data Collections & Datasets and researchers’ published data, and included a variety of textual collections, from oral history interview transcriptions, parliamentary debates, film summaries and novels to fake and real news, children’s literature and academic articles in art history. The aim was to provide the students with a variety of materials (theory, tools, themes and data references), which could help them in formulating their own research questions and interpretation hypotheses in the development of their projects. More details of the lesson structure and short overviews are presented in the following examples. (1) Ideology and grammar. Parsing combined theoretical

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2 [https://www.rstudio.com/](https://www.rstudio.com/).
3 [https://www.python.org/](https://www.python.org/).
enquiry referring to J.B. Thompson’s (2007) “modes of operation of ideology” and Bourdieu’s (2005) insight into language and “relations of symbolic power” with the use of parsing tools (Stanford parser) to analyse passivisation and nominalisation patterns in a sample of children’s literature. (2) “Distant reading” of parliamentary discourse. Topic modelling elaborated on Moretti’s (2013) and Underwood’s (2019) reflections on close and distant reading, to experiment with topic modelling tools (MALLET) and discover hidden thematic structure and exploration paths in a sample of parliamentary news. (3) Crisis and culture. Word embedding started with Hazard’s (1961) concept of “crisis of the European conscience” in the late 17th and early 18th centuries, opposing classical and modern views, and made use of word embedding techniques (gensim – word2vec) to detect context-based similarity for “crisis” in a corpus of academic papers on surrealism.

3.2 Assignments

The course included 14 sessions of 90 minutes each, 11 for subject presentations and hands-on activities and 3 for work on individual projects in a lab-like mode. Consultation hours and extra time to access the course computer room (4 additional sessions in the exam preparation period) were also provided for experimentation and finalisation of project reports. The final grade was based on five assignments: (1) project proposal, a 1-page term paper outlining the intended topics, research questions and envisaged approach – tools, methods and data to be used (30%); (2) project realisation, which consisted of the actual work on the project using methods, tools and data learned in class, and a set of deliverables such as input/output data samples, pieces of code, readme files, diagrams, etc. (30%); (3) project report, a 3-5 page written essay (20%); (4) a 10-minute oral presentation during the final examination that took the form of a mini-conference (10%); (5) active participation in the course as a whole (10%). The sixth assignment, non-graded, consisted of the students’ involvement in providing responses to a feedback questionnaire. The first assignment (project proposal), which involved selecting methods and tools to be used in the project, was due after the 11 sessions of subject matter presentation (second week of December). Adjustments to these choices were accepted without penalties for slight changes between the proposal and the project report, since it was considered that methodology adjustments were part of the research process and work on the project. The other assignments were submitted at the end of the exam preparation period (end of January), with the final examination and oral presentation taking place at the beginning of February. Different types of documents to be submitted for the assignments were chosen (overview of the general idea, raw data and result files, essay, presentation, questionnaire answers) in order to document the process at different stages of the project and to enable reflection and a diversity of forms of expression as learning experience.

The proposed projects varied in terms of topics and selected tools. The majority of students (6) opted for the use of Voyant, some of them (3) in combination with AntConc for methodological comparison. GATE was chosen by a smaller number (3), while MALLET (1) and RStudio, sentimentr and syuzhet (1) were each selected by a single student. According to some of the reports, Voyant was preferred as it was considered to be accessible online, “easy to use”, “user-friendly” and a “powerful tool for beginners and for advanced users”. One student described Voyant as a “perfect tool to conduct a preliminary analysis of any text” but concluded that the “interpretations themselves would have to be tested for correctness using a different tool”. No project
used the other remaining tools studied in class (Google Books Ngram Viewer, TXM, Stanford parser and word2vec via Python IDLE) in the first iteration, although some of them were mentioned as possible alternatives in the initial project proposals. From the point of view of themes and datasets, the projects dealt with various subjects at different scales, from the analysis of a small number of documents, e.g. specific US and European Commission presidential speeches, national and international treaties and conventions, and a novel, to the compilation and study of larger corpora containing speech transcripts of candidates in the 2020 US presidential race, extracts from the UK Hansard parliamentary reports, customer reviews from the Facebook page of a commercial clothing company or comments scraped from a dedicated pet discussion board. Regarding the research questions and the proposed approach, the students were interested in aspects such as: (1) comparing or identifying the development over time of different types of discourse (speeches, treaties, parliamentary debates) using corpus linguistics methods; (2) applying named entity recognition techniques to assess the capacity of the tool to detect unfamiliar names of people and places in a novel; (3) using topic modelling to identify the main arguments in the discourse of the top five Democrat frontrunners in the US presidential election; (4) computing sentiment scores for customer reviews and evaluating the overall accuracy of the method; and (5) creating a classification of pet-related subjects (categories, habits, needs) as reflected in the discussion forum of a pet-owners’ community.

Although the variety of project ideas, themes, analysed data and overall results was generally rewarding, certain aspects, as discussed below and in the following section, required further attention and adjustments in a second iteration of the teaching experiment. Some projects showed initiative in collecting and preparing the sets of data, creativity in combining different features, tool tuning, labelling, visualising and interpreting the results, as well as awareness of the benefits and limitations related to the data size and format, tool, methodology and applied approach. Other projects, though demonstrating a relevant degree of effort in testing, producing raw results and interpreting, were less effective in communicating, through the final report and presentation, how the tools and methods were actually used to obtain the results and support the proposed interpretation. Additional categories included projects that, despite interesting thematic choices, focused more on the description of technical details of the analysis and less on the text interpretation itself, or projects that proposed interpretations mainly based on features that didn’t go beyond lists of frequency counts, word clouds and word trends within documents. The latter cases were characterised either by over-interpretation of certain word occurrences within a given historical context or by a lack of contextualisation and simple linguistic comparisons of word usage. Although the general outcome was rather positive, there was an indication that the interpretative aspect of the node-based methodology (Figure 1, dotted input) was not sufficiently developed during the subject presentation and hands-on sessions of the course in such a way as to encourage adequate reflection and critical engagement with the results of the analysis. Correlating these observations with the students’ feedback helped in evaluating the overall experience of the course and identifying some areas for possible improvement.

These tools, except for Google Books Ngram Viewer, were chosen in the second iteration of the course after some modifications of the lessons, as described in section 3.3.
3.3 Feedback

Feedback was provided via two channels: the official evaluation carried out at the Faculty level, after the end of the teaching period, and the responses to the questionnaire proposed as a sixth assignment at the end of the course, after the final examination. While ten (out of eleven) students completed the official evaluation, only eight also filled in the assignment questionnaire. No profile information was available in the official report. The proposed course questionnaire comprised a section for the description of the respondent profile, an anonymisation code and a formal agreement for the use of the collected data for research and publication purposes. The group that filled in the course questionnaire included 2 female and 6 male students, aged 18 to 34, enrolled on the BCE programme with a main background in history (4) and English studies (4). No previous knowledge of computational text analysis tools was reported.

Six and two students selected answers 1 and 2 respectively on the Likert scale of 1 to 5 (Not at all to Expert) for the self-evaluation of their general knowledge of digital tools and methods. One student indicated Microsoft Excel as a tool already worked with before its use in class for the course.

Responses in the positive range were provided regarding the significance of the role played by text analysis tools in addressing the research questions formulated in the projects. Two answers were placed in the middle (3 points) and six answers on the right side (four/two respectively for 4 and 5 points) on the scale of 1 to 5 (Not at all significant to Essential). All the respondents agreed that these tools allowed them to discover something new or formulate new questions for the studied dataset in addition to their initial assumptions from the project proposal. Six out of eight also considered there to be an “added value” conferred by the use of this type of analysis as compared with a more “traditional” non-digitally-based study and interpretation of texts. Asked to provide details about this “added value”, the respondents mentioned the possibility of processing “large quantities of text in a short time”, providing a “quick overview [of the] main topics of a big text”, enabling “objectivity and orientation for textual analysis” or allowing the student to use these tools for “other classes and make [his/her] research easier”.

The questionnaire also included a section for the evaluation of the course scenario (Figure 2). The overall assessment ranged from four answers (one/three) in the not interesting and neutral area to four (three/one) in the interesting and very interesting area. The theoretical materials were considered appropriate and very appropriate by six students (three/three), while two (one/one) rated them as neutral or not appropriate. Five students (three/two) agreed or fully agreed that the hands-on activity provided enough background for the development of the projects, while three (two/one) answered either neutrally or didn’t agree. Regarding the course assignments, one student evaluated them as very difficult, three as neutral and four (two/two) as moderately or not at all difficult. Although the number of respondents was relatively small, the answers provided a rough idea of how the pedagogical approach was perceived by the students.

5 The questionnaire and students’ responses can be consulted as supplementary material (Excel file BCE-EU-105_02_CourseEvaluationQuestionnaire) published with the first version of the paper on Zenodo: https://zenodo.org/record/3872252#.YKS8qKgzY2x.
Further details were obtained via open questions asking the students to enumerate some of the strong and weak points in the course approach and provide suggestions for improvement and general comments about whether or not the course was appropriate for the BCE programme, its potential (or lack thereof) from a pedagogical perspective, whether or not it was useful as compared with their other projects, etc. Strong points mentioned included being introduced to “a lot of tools that can be used”, the combination of “practical work together with theoretical work” that enabled them to “learn better” and the fact that the course was “practical, descriptive” and covered “wide areas of interest”. Weak points included aspects such as difficulty in following the course “without prior knowledge of informatics”, “explanations were good but can be improved”, “too much in too little time, too little time to practice during the semester”. Additional comments referred to the relevance of the course for the BCE programme, especially from a “research point of view”, and to the fact that it taught students to “objectively look at all data and not believe something blindly”. It was suggested as well that the course should focus on fewer tools but “explain them more in depth”. Similar remarks were collected from the official evaluation. On the one hand, the students assessed that the course helped them to “gain knowledge in programming tools” and get “insight into the possibilities of computer science in the humanities”; there was a recognition that “students should be trained more in digital tools” and an appreciation that the “introduction to the different programs” can subsequently be used for “research in text interpretations”. On the other hand, it was considered that “at some points it was hard to follow the lecturer” without being a “computer programmer” and there was a sense of feeling “a bit lost with all the information”; it was suggested that the course should provide “less content but longer explanation of the most important” items and should “spend more time on a program”.

While the general idea of providing an overview of a variety of tools and methods for computational text analysis and the combination of theoretical and practical approaches seemed to have been positively perceived by the students, the project evaluations and the collected feedback suggested that the number of programs studied in
class and the time allocated to some of them should be adjusted. For this reason, during the second iteration of the course for the 2020-2021 winter semester, some tools were presented succinctly (e.g. Google Books Ngram Viewer and Voyant), while more time was allocated to explanations and sessions implying a higher degree of difficulty (e.g. the TXM specificities model, topic modelling and programming using R and Python). Another point that required further attention was related to the need for examples of how the selected methods, tools and data can be used to derive interpretations and encourage critical thinking. As Goldstone (2019, p. 2) observes when referring to literary studies, more attention should be paid in the humanities to methodologies for analysing and making a “convincing scholarly argument using quantitative evidence”. The hands-on activities in the second iteration therefore included additional discussions on the evaluation of the applied methods and the interpretation of results, as well as potential bias and limitations. Moreover, the assignment and grading descriptions contained explicit examples and criteria for formulating research questions and hypotheses according to the data intended for analysis, and for proposing interpretative scenarios with the goal of fostering self-reflection on the experience as a whole (Figure 1, dotted output). The project reports from this second round showed increased awareness in articulating research questions and interpretation arguments based on the analysed data. These aspects will be further considered and developed in the next iteration of the course during the 2021-2022 winter semester.

4 Conclusion and future work

The paper describes a digital pedagogy and evaluation framework applied to a case study combining different approaches – theoretical, application-oriented and project-based –, underpinned by a view of the DH classroom metaphorically defined as a “node”. The metaphor encompasses the hybrid character of digital humanities teaching, which involves the use of various categories of study materials, themes, examples, methodologies and skills, as well as the idea of exchange and connection with other disciplines. It was assumed that the application of this type of hybrid approach in the course design, together with the coverage of a variety of tools to be studied in class, might foster a reflective mindset, enabling the students to contextualise the digital technologies within different humanities areas, beyond the acquisition of technical skills and knowledge of computational methods and tools usually referred to as the toolbox-based education paradigm.

The case study involved a small number of students and two iterations of the teaching experiment (the first being described in more detail in the paper). Although the findings are currently limited and require further investigation, an evaluation of the students’ projects and analysis of their feedback seem to suggest that a combination of the toolbox- and mindset-based pedagogical perspectives (or a setting in which the second includes the first) would allow the DH classroom to be framed as a node within the humanities curriculum network. The main “entry points” of such a node pertain to hands-on experience with data selection, preparation and assessment and with tools for analysing the selected data, basic theoretical insights into the computational methods used for analysis beyond the black-box appearance of the interface, contextualisation of the analysis within a thematic, meaningful framework, interpretation examples including potential pitfalls, bias and limitations, and references to other disciplines as fields of application and further reading of related humanities and technical literature. The “exit points” of the node refer to a set of acquired skills in
computational analysis, critical thinking and self-reflection that may serve in formulating research questions and hypotheses, interpreting results and reflecting on the implied experience, exploring new paths and making connections, and understanding technology as both a tool and an asset for continuous questioning and discovery within a humanistic area of enquiry. Even though such a model needs refinement and more iterations of the suggested course scenario, together with experimentation with other syllabi for teaching digital technologies in the humanities, it proposes a framework that may be assessed, validated or invalidated, modified and improved, and possibly an avenue for further research and debate on ways and metaphors of imagining the shift from a toolbox- to a broader mindset-based paradigm in digital humanities pedagogy.

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