Track Changes: Textual Scholarschip and the challenge of digital literary writing

New Beginnings: using keystroke logging for literary writing

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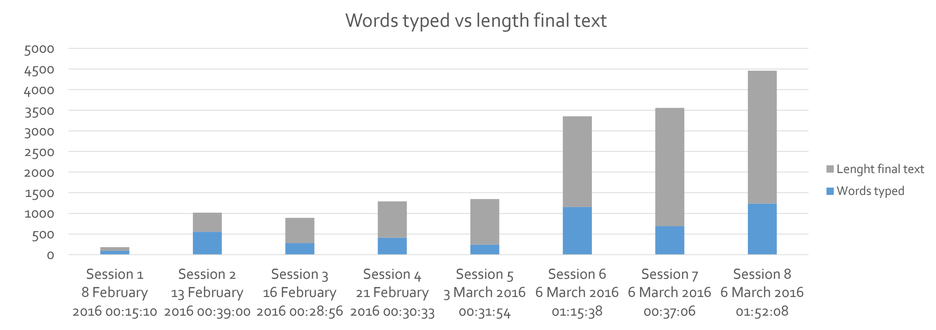
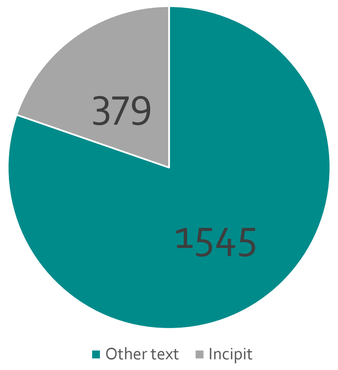
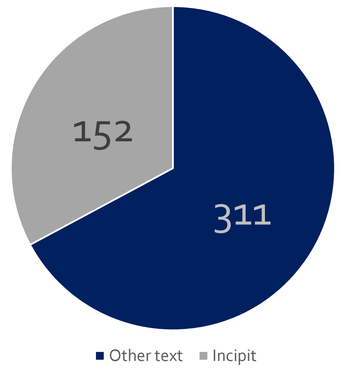
Data of the writing process



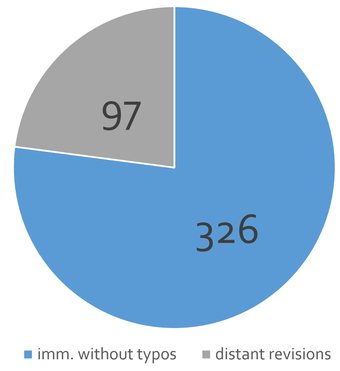
1. Lines of events in RevisionMatrix



2. Distant revision chains, lines in RevisionMatrix



3. Proportion of immediate & distant revisions



Introduction

The project *Track Changes: Textual scholarship and the challenge of digital literary writing* aims to develop and apply new methods, notably keystroke logging, to gain insight into contemporary literary writing processes taking place in a largely digital environment. Our research draws from digital humanities, genetic criticism and cognitive writing process research. In our pilot study from 2016, the Dutch writer Walter van den Berg contributed a short story (3218 words), completely registered by Inputlog (Leijten & Van Waes, 2013). The story is vocalised by an "I"-narrator who is asked to guard a stage in a park, for one night. We used the keystroke files to create a TEI-XML representation, in which the additions and deletions are visualised – the Word-documents below are based on these TEI-XML files. Both keystroke sequences and version comparison were used to investigate how the incipit (opening) of his story was written.

Writing process of the incipit

The incipit is traditionally seen as an important part of a story, and found to be prominently present in writers' work processes (Debray Genette, 2004). Often, it is composed only later on during a process, but Walter van den Berg devotes the first two writing sessions fully on the incipit. The incipit starts out as a fairly descriptive and condensed passage, without a sense of time passing. Late in the second session, tell-time slows down and the final paragraph takes on the character of a scene (with direct dialogue). The focalisor, tense and setting of the story are introduced and are not changed during further composition. During sessions three, four and five, further work is done on the incipit. Sessions six and seven are concentrated on expanding the story(line) at the bottom of the text-so-far, and there are no changes to the incipit. Session eight is very long, and contains a radical rewriting of the incipit, as well as the completion of the story arc.

Revision chains

Revisions in the form of deletions and additions can take place in larger chronological chains, which are thought to be an indication of personal writing strategy, but also seen as related to task difficulty. (Severinson Eklundh & Kollberg, 2002).
We looked at two types of revision chains:

- 'distant revision chain': a series of deletions and insertions in earlier textual material
- 'immediate revision chain': A series of deletions on the same cursor location during new text production, but excluding typo-correction

Both chain types occur relatively more often when Van den Berg works on the incipit, suggesting the importance of shaping this part of the story. **Pie chart 1** indicates that there is relatively more work done in the incipit in comparison to the rest of the story and **pie chart 2** shows that 33% of the distant revision chains were made in the incipit. During the complete writing process 23 % of the total amount of revisions were distant revisions, and 77% were immediate revisions (**pie chart 3**).

We have selected three noteworthy (re)writing episodes concerning the incipit (see the visualisations below). We might argue that the final rewriting of the incipit is more reader-focused, and influenced by the previously completed story arc. On the contrary, the very first renderings of the incipit could be functioning as a structuring/planning tool for the writer; providing backstory of his main character in order to be able to generate scenes.

Conclusion

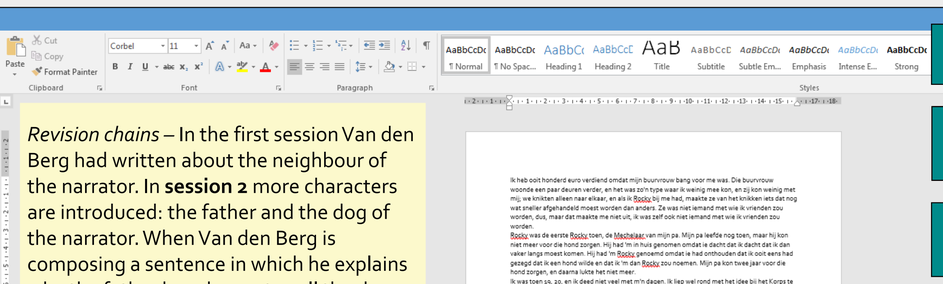
Working with keystroke logging provides very detailed information about the digital writing process, as the writer can be 'followed though the text'. Using a combination of quantitative and qualitative methods leads to new insights into modern day literary writing, stimulating the development of new tools/methods.

Discussion points

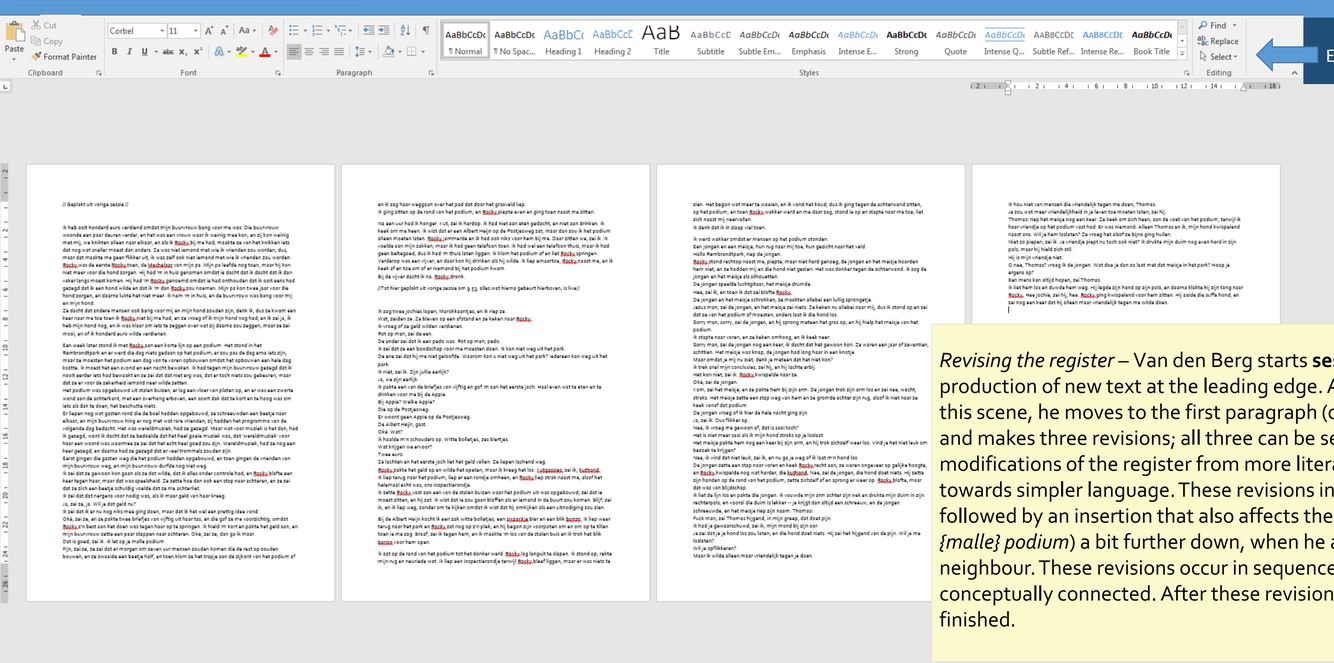
- What are fruitful units to analyse in a (digital) writing process?
- How can we best visualise the writing process?
- Is there more research done into born-digital writing processes?

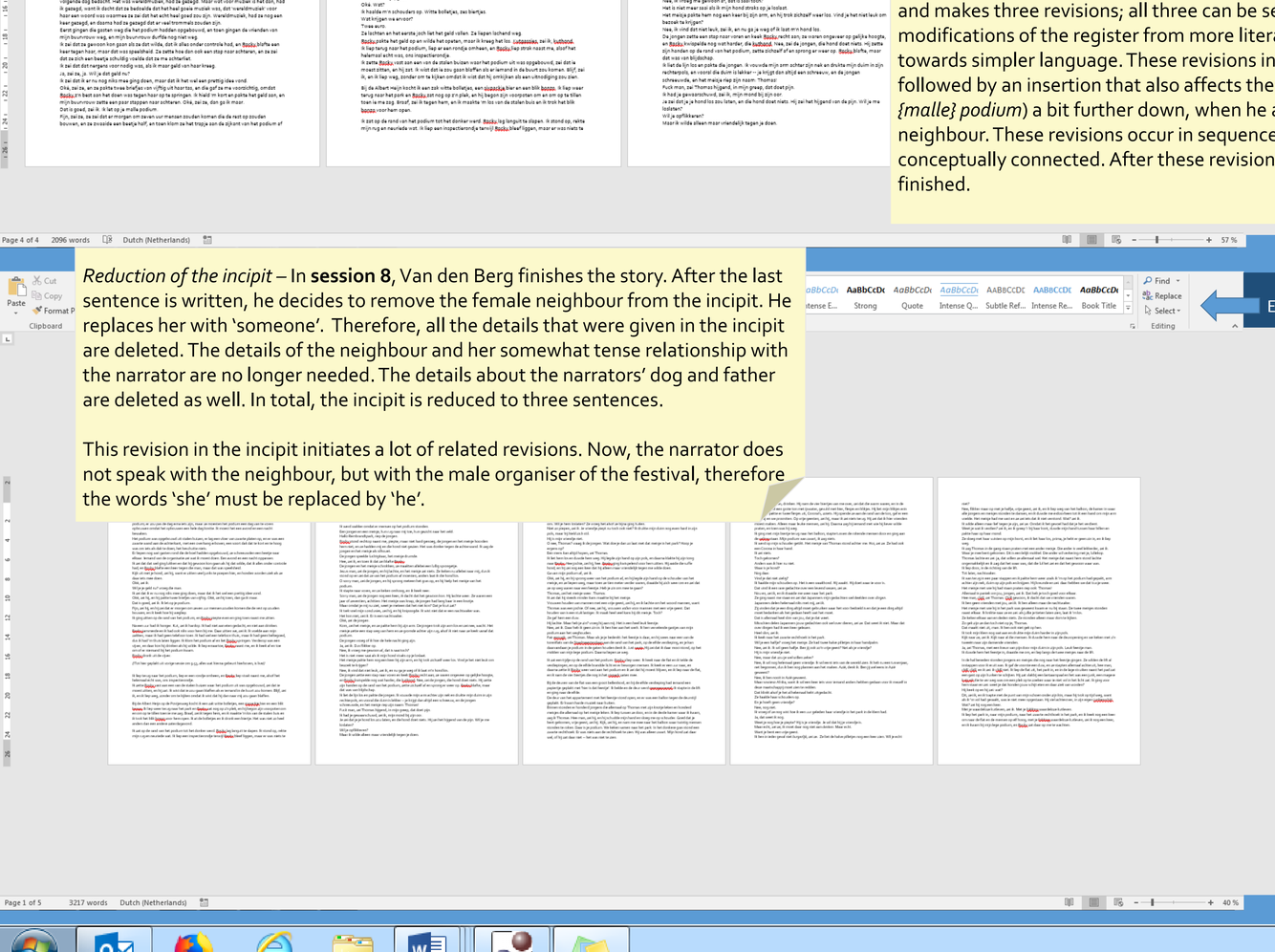
References
Debray Genette, R. (2004). Flaubert's "A Simple Heart," or How to Make an Ending. In Deppman, J., Ferrer D. and Michael Grodon (eds), *Genetic Criticism. Text and Avant-textes*. Philadelphia: University of Pennsylvania Press, pp. 69-95.
Kollberg, Py, and Kerstin Severinson Eklundh. (2002). Studying Writers' Revising Patterns with S-Notation Analysis. *Contemporary Tools and Techniques for Studying Writing*, Dordrecht: Springer, pp. 89–104.
Leijten, M., & Van Waes, L. (2013). Keystroke Logging in Writing Research: Using Inputlog to Analyze Writing Processes. *Written Communication 30*(3), pp. 358-392

Revision chains – In the first session Van den Berg had written about the neighbour of the narrator. In **session 2** more characters are introduced: the father and the dog of the narrator. When Van den Berg is composing a sentence in which he explains why the father has chosen to call the dog Rocky, he leaves the sentence to make a revision in the fist sentence. He deletes the specification that the neighbour is a type who visits museums and drinks cappuccinos. This is the start of a revision campaign, as he re-reads the text and makes modifications.
Later, Van den Berg writes a sentence in which he mentions that the neighbour is scared of the narrator. This also initiates a revision chain, in which he adds a first sentence where he writes that the narrator earned hundred euro's because his neighbour is afraid of him.



Revising the register – Van den Berg starts **session 5** with the production of new text at the leading edge. After he finished this scene, he moves to the first paragraph (of the incipit) and makes three revisions; all three can be seen as modifications of the register from more literate/formal towards simpler language. These revisions in the incipit are followed by an insertion that also affects the tone (*ik let op je {malle} podium*) a bit further down, when he addresses the neighbour. These revisions occur in sequence and are also conceptually connected. After these revisions, the session is finished.



Reduction of the incipit – In **session 8**, Van den Berg finishes the story. After the last sentence is written, he decides to remove the female neighbour from the incipit. He replaces her with 'someone'. Therefore, all the details that were given in the incipit are deleted. The details of the neighbour and her somewhat tense relationship with the narrator are no longer needed. The details about the narrators' dog and father are deleted as well. In total, the incipit is reduced to three sentences.

This revision in the incipit initiates a lot of related revisions. Now, the narrator does not speak with the neighbour, but with the male organiser of the festival, therefore the words 'she' must be replaced by 'he'.