

The adjective usage of *Frankenstein; Or, The Modern Prometheus* and *Around the World in Eighty Days*

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Abstract

Adjectives are one of the ways a writer draws the reader into the story and enables the reader's imagination. Past research looked into the difference of adjective usage between male and female novelists, however the experiments were performed on books written after 1960 in English. This research is focused on the adjective usage of two famous books from the 19th century, one male and one female, to see if that relation changed over time. The two books are *Frankenstein; Or, The Modern Prometheus* by Mary Shelley written in 1818 and *Around the World in Eighty Days* by Jules Verne written in 1872. The predicted results are that Mary Shelley used 18 percent more adjectives per 10.000 words than Jules Verne. This shows that despite language development and cultural changes over the past 200 years, the difference of adjective usage between the genders stayed the same.

1 Introduction

Adjectives are used in everyday life to describe everything around us, and are frequently used in novels to portray the setting to the reader. Some writers, such as Bapsi Sidhwa, use an excessive amount of adjectives in their work (Mahmood et al., 2014). Understanding the adjective usage of writers gives an insight to their writing style, however, it is possible that it is something more subconscious. Arslan et al. (2022) found that female novelists use more adjectives than male novelists, meaning gender also plays a role. This was tested on four books from the 21st century. Understanding if that also holds up for books of the 19th century, will give an insight how despite cultural

changes and the development of language, writing style perhaps has not changed remarkably. In this paper, representing the female writer, it will be Mary Shelley with *Frankenstein; Or, The Modern Prometheus* and representing the male writer, Jules Verne with *Around the World in Eighty Days*. To what extent do the writers of *Frankenstein; Or, The Modern Prometheus* and *Around the World in Eighty Days* differ in the use of adjectives? The adjective frequency in *Frankenstein; Or, The Modern Prometheus* is higher than *Around the World in Eighty Days*.

2 Related Work

There are many different strategies for getting the message across in a text, and that varies per writer and genre. One of the characteristics setting texts apart is the adjective usage. Looking at the different types of texts, there is an increased frequency of adjectives used in technical texts compared to literary texts, 67.3 percent vs 32.7 percent (Mazdayasna & Firouzi, 2013). This is because the two texts have different purposes, one is to inform and the other one is to entertain. Another clear difference of adjective usage is between spoken texts, such as movies and TV shows, and written academic texts. The frequency of adjectives is generally increased in written academic texts compared to TV shows or movies (Tang et al., 2021). Other previous research has shown that some writers use an excessive amount of adjectives, such as the Pakistani novelist Bapsi Sidhwa. It was not compared to other writers, but it was concluded that Sidhwa's writing was characterised by exaggerations and overstatements (Mahmood et al., 2014). When evaluating gender and the use of adjectives, it was concluded that the average frequency of adjectives is considerably higher for female fiction writers compared to male fiction writ-

ers (Arslan et al., 2022). An underlying factor is that female writers are more polite and less direct than male writers, thus meaning they use more adjectives (Arslan et al., 2022). This research was based on four modern English novels, all written between 1997 and 2009. However, other research shows that adjective usage is very similar in fictional texts, although male writers have a slightly higher usage of adjectives (Argamon et al., 2003). The experiment was performed on the British National Corpus, covering a whole range of genres. However, this included all types of fictional texts, and not only novels. The cultural differences are most likely negligible, since it was tested on a British corpus. There are a lot of different factors to take into account while analysing texts, such as language, culture and personal writing style. Research has shown that female Japanese students did not translate their politeness traits to English, showing that culture clearly plays a role in language as well (Arslan et al., 2022). Gender of the writer is just one factor, but all factors play a role in adjective usage. Adjectives are extremely important to construct scenarios and enable the reader's imagination, but this proves that adjective usage varies due to different factors. Overall, the research is a varied, some research proposes that female novel writers use more adjectives compared to male novelists, and the other proposes that the difference is marginal. However, it is possible that the adjective use changes when the texts are written longer ago, or because it was originally written in another language.

3 Data

The data used is from two different books, one by a female writer and the other by a male writer. Those two books are: *Frankenstein; Or, The Modern Prometheus* by Mary Shelley written in 1818 and *Around the World in Eighty Days* by Jules Verne written in 1872. While *Around the World in Eighty Days* was originally written in French, an English version will be used in this experiment. The reading score is 65 (neither easy nor difficult to read) for the book of Mary Shelley, while Jules Verne scores 71 (fairly easy to read) for his book according to Project Gutenberg. This proves that *Frankenstein; Or, The Modern Prometheus* is slightly more complex. This will mean the sentence length is somewhat longer, which might result in slightly more adjectives used. Another fac-

tor is that Mary Shelley's book is written in an epistolary form, meaning the story is told in a correspondence of letters, while *Around the World in Eighty Days* is told in a present tense story form. The plain text files for both books can be downloaded for free from the project Gutenberg database. The free claws web tagger (CLAWS4) from Lancaster University will be used to tag all the data, and the adjectives will be analysed in Antconc 4.3.1. The claws web tagger has an accuracy of 96 to 97 percent, so this small error margin might influence the data. The adjective count will be measured per 10.000 tokens for the male and female novelist. It is assumed that gender is the main factor for the difference in adjective use, and other factors are not taken into account, such as cultural differences and writing style, but it might influence the data. The tokens are counted via www.wordcounter.net from the start of the first chapter until the ending of the last chapter of the book. Table 1 shows the raw data that is used for the experiment.

	Quantity
Tokens female	2212
Tokens male	1569
Tokens adjectives female	74.975
Tokens adjectives male	62.760

Table 1: Quantity of tokens for the male and female novelist

4 Predicted Results

Table 2 summarizes the predicted results, based on the results of the experiments of Argamon et al. (2003) and Arslan et al. (2022).

	Quantity
Tokens adjectives female	295
Tokens adjectives male	250

Table 2: Tokens per 10.000 words for the male and female novelist

Discussion The data displays a higher usage of adjectives per 10.000 words for the female novelist than for the male novelist. The female author used 18 percent more adjectives. This could be due to Mary Shelley using more descriptive language, and not being as direct as Jules Verne, as suggested by Arslan et al. (2022). A increased

frequency of adjective usage may lead to longer sentences, however there is no evidence to back that up in this scenario. Looking at the readability score, Mary Shelley's book score 65, while Jules Verne's book scores 71. This means that the average sentence length is slightly longer in Jules Verne's book, and the average number of syllables is also marginally more, which contradicts the results. The research of Argamon et al. (2003) suggested that the difference is not that big and that the males even use marginally more adjectives, opposite of the results found in this experiment. However, that experiment was performed on a British corpus and not specifically on novels, but on fictional texts in general. Comparing the results to the other two experiments, it is evident that the adjective usage is different from the corpus and more in line with the results of Arslan et al. (2022). However, this was only performed on two books, so the difference between the writers could just be personal. This could be solved by performing the experiment again, but with a corpus of 19th century novels.

5 Conclusion

To conclude, does Mary Shelley's *Frankenstein; Or, The Modern Prometheus* use more adjectives than Jules Verne's *Around the World in Eighty Days*? The data shows that 18 percent more adjectives are used per 10,000 words in *Frankenstein; Or, The Modern Prometheus* than in *Around the World in Eighty Days*. Despite all the cultural changes and language development around the world, the difference of adjective usage between genders remained relatively the same. This study was limited to two books and if a corpus is used, such as Argamon et al. (2003), results will be more representative for novels in general. It is possible that that will conclude that there is no difference in adjective usage between genders in novels, and that it might come down to personal writing preferences, which are averaged out in a corpus. For future research, it would be interesting to have a corpus of 19th century books, written by people all over the world, to see if the results would be the same despite the cultural and linguistic differences.

References

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A Github Link

`https://github.com/Lars511/
FinalProjectResearch24`