Bias in Greek Mythology

Comparing gods and mortals

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Abstract

This research aims to determine in what way gods and mortals are described in Greek mythology, and how these descriptions differ from each other. In Greek mythology, gods are often portrayed with human traits; they make mistakes, have human-like relationships and feel the same emotions as mortals. We want to know whether this is also reflected in the words used to describe them, or whether there is a very clear distinction between the descriptors of gods and humans. This project will analyze the adjectives and adverbs that describe gods in Greek mythology texts, and compare this with the way that mortal characters are represented. Results show that both mortals and gods are described with mostly positive adjectives and adverbs, even though the words themselves do differ from each other. The individual differences between characters are larger than those between the group of gods and the group of mortals.

Keywords
Text Mining, Bias, Greek Mythology, Greek Gods

1 Introduction

There is a lot to learn from analyzing Greek mythology. Written in poem verses, Greek myths detail a story about characters from Ancient Greece, followed by a moral taken from the lesson that these characters learn. Indeed, the main goal of myths is to offer moral instruction and guidance to its readers about themselves and the world that surrounds them [1]. As a result, these short stories from over two millennia ago can highly influence the way that readers across the centuries perceive the world around them [2]. But, as bias towards some specific preferences is an inherent feature of human beings [2], it can be challenged whether the writing of these myths is biased as well.

This project concerns itself with the analysis of the potential bias between the description of mortal (human) and immortal characters (gods). It assesses the ways in which Gods are portrayed differently than mortals in popular Greek myths. This way, we may be able to provide more insight into ancient Greek culture. To answer the research question, text mining is performed on different myths and the outcomes are then compared. Because Gods are generally visualized as immortal, enhanced beings [1] [3] that are hence superior to their human counterparts, the results of this project are expected to reflect that.

2 Data collection and description

In order to avoid bias in the data set, the analysis concerns itself with full texts and not specific characters. The myths chosen are all poems. 'The Iliad' and 'The Odyssey' by Homer, as well as 'The Fall of Troy' by Quintus Smyrnaeus relate different instances of the Trojan War. Ovid's 'Metamorphoses' was also chosen for this project because it is a collection of myths ranging throughout the history of Ancient Greece. As such, it provides a general timeline of the many events that occurred during this period, which is advantageous for variety of our analysis.

English translations of these myths were scraped from the Theoi Text Library website [4]. The raw data consists of 19121 words, which we deemed enough to perform a meaningful analysis on. The translations were done in the time period between 1913 and 1922. The translating scholars made sure to stay true to the original text, by peer reviewing each other and not omitting any words that are currently not used anymore [4].

To ensure that the line between mortals and gods is clear, we did not include any demigods or deified mortals. For example, since Achilles is the son of a sea nymph and Heracles became a god [5] , they were left out of the analysis. With these characters removed, we investigated whether there were enough names of mortals and gods left. There are 8292 mortals and 3926 gods mentioned respectively in the extracted texts, which is enough to perform an analysis on. Figure 1 shows the five most common names for gods and mortals, respectively. The most important characters like Odysseus and Zeus [5] are most commonly counted, meaning the dictionary method is validated.

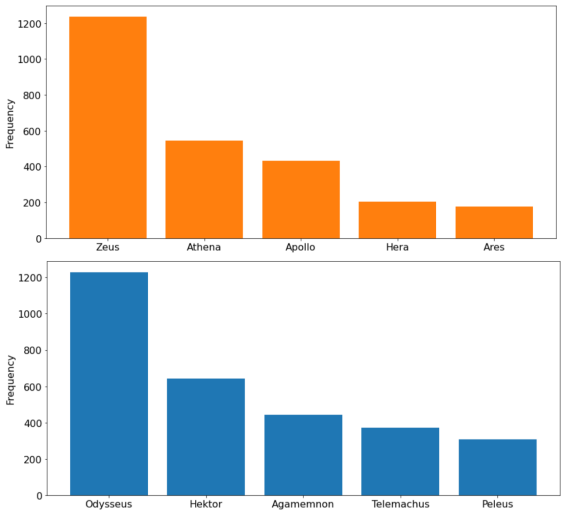

Figure 1: 5 most common names for gods and mortals respectively

3 Methods

To be able to count the occurrences of mortals or gods in the data, we first created two dictionaries; one with names of mortals, and one with Olympian gods. These lists were created using the character overview from the Theoi website [4] . Because some characters have multiple names or different spellings, each value of the dictionary consisted of a list of all possible names for a character, and an integer defining the number of times the character was named.

The second step was to preprocess the raw text data by tokenizing, PoS-tagging, and lemmatizing it using the nltk lemmatizer. We then retrieved a list of all words that were tagged as proper nouns, but not included in the dictionaries. If these proper nouns occurred more than ten times, we manually checked whether this character should be added to the dictionaries as well.

Next, we explored the data to gain a deeper understanding of the dataset, and implemented the models. We focused on adjectives and adverbs to answer our question, as they are critical in describing characters. First, we trained a Word2Vec model on the data to vectorize the text.

We chose Word2Vec, since this model is the most commonly used model for this type of research[6]. In order to easily distinguish between mortals and gods, all names of mortals were changed to 'MORTALNAME' and all names of gods to 'GODNAME'. We trained the model ourselves, because a pretrained Word2Vec model would most likely not properly vectorize a large part of the text, since many words in the data set are very uncommon in modern texts.

The final step was to investigate the characters individually. In the Word2Vec model, the distinction between different mortals and different gods was lost, so exploring the separate characters may provide a more nuanced conclusion. For this, we retrieved the 5-word span context of each character, and filtered these contexts to only retain adjectives and adverbs. We then counted the co-occurrences of the names with these words, and investigated the results. To account for the fact that some characters have higher counts simply because they occur more often in the text, we also normalized the counts by the frequency of the character names.

4 Results

Firstly, we investigated the results of the Word2Vec model. Figure 2 shows a graph of the adverbs and adjectives that are most similar to gods (yellow), and most similar to mortals (red). Words that are similar to both are colored orange. This plot was created by applying Principal Component Analysis on the vectorized words to retrieve a vector of two dimensions. From the plot, we can see that gods ('GODNAME') and mortals ('MORTALNAME') are not very close together. The largest cluster of similar descriptors is located as far from gods as from mortals. This would indicate that these descriptors are used for gods as well as mortals. Fewer words are located closer to either gods or mortals. Interestingly, the words that are similar to both mortals and gods are often positive, but not always. For example, 'terrible' is used for both gods and mortals.

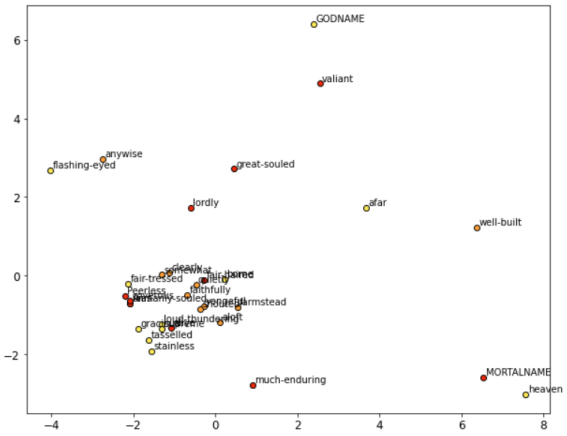

Figure 2: Most similar adverbs and adjectives for gods, mortals and both.

Character description	Occurrence
Odysseus + goodly	110
Athena + flashing-eyed	83
Zeus + great	42
Hector + goodly	40
Hector + glorious	33
Menelaus + fair-haired	31
Menelaus + good	27
Hera + white-armed	25
Odysseus + dear	24
Hera + queenly	22

Figure 3: Ten most common co-occurrences of mortals and gods with descriptors.

Next, we calculated the co-occurrences of the different characters with descriptors. Figure 3 depicts the absolute co-occurrence counts. As expected, most of the names with the highest co-occurrences are the most common names, like Odysseus and Zeus. The most common descriptors all have positive meanings, like 'great', 'good', and 'glorious'.

Figure 4 shows the first ten counts, divided by the frequency of the character name. These descriptors are more varied, but still mostly positive. The full table can be found in the source code of

Character description	Relative occurrence
Briseis + fair-cheeked	0.47
Demodocus + clear-toned	0.36
Tithonus + lordly	0.33
Eurycleia + dear	0.32
Eurycleia + nurse	0.32
Orestes + goodly	0.27
Capaneus + glorious	0.27
Hector + greatly	0.27
Capaneus + good	0.27
Bellerophon + peerless	0.27

Figure 4: Ten most common relative co-occurrences of mortals and gods with descriptors.

this project. From this full table, it appears that the words used for both gods and mortals are all positive, but there are many descriptors that are specific to only one character. An example of this is the description 'loud-thundering' for Zeus. An example of a mortal character with a specific description is Hector and 'man-slaying'. Both these specific descriptions are logical, considering Zeus is the god of thunder, and Hector famously killed the important character Patroclus in the Iliad [5]. So, from the relative co-occurrences we can conclude that many descriptors are specific for only a small set of characters.

5 Conclusions

In general, gods in Greek Mythology are depicted as superior to their mortal counterparts [1]. Not only do gods have divine enhancement, they are also anthropomorphic. Because of this, they are conceived to be close to humans, with some enhanced features [3]. Our results reflect this, as gods are sometimes described as "human-like" and sometimes humanized further with descriptors like "terrible" (negative) and "modest" (more normal). In contrast we also found that humans are defined very positively, repeatedly called "god-like". This is interesting as it lessens the gap between the traditional perception of gods and mortals. However, this is a result that we did not anticipate from the literature but that can be justified because the most commonly mentioned mortals are heroes. Due to this, it is logical that they are described in such a grand way. Because of these recurrent positive descriptions, we found more differences between individual characters than between the mortal and immortal groups.

One limitation of this research is the restricted amount of myths explored, due to time constraints. Future research could perform similar analysis on more data. Also, while this paper describes two different models, more models could be tested to verify the robustness of the results. Word2Vec is a commonly used black box model, but other, more transparent models may provide further insight into the exact relation between gods and mortals. A further look into individual differences between characters may also give a more nuanced image of the way gods and mortals are depicted. Lastly, since the context span used for this research was 5 words, some descriptors may have appeared in contexts of characters that they do not belong to. However, since the descriptions in the translations are often quite long, this will not have occurred often. In future research, this problem can be solved by manually checking the descriptions of characters in smaller datasets.

In summary, although gods in Greek Mythology are thought to have characteristic advantages over mortals, the results from our model indicate that these contrasts are not as stark as expected. Both gods and mortals are often described in positive ways, and the difference between descriptions is more clear when comparing individual characters, rather than the two groups of characters. This research provides a small step towards further understanding ancient Greek culture, and the relationship of ancient Greeks with their myths.

References

[1] Kelly MacFarlane and Mary Lefkowitz. Greek Gods, Human Lives: What We Can Learn from Myths. *The Classical World*, 98(3):351, 2005.

[2] Ioannis Karakis. Neuroscience and Greek mythology. *Journal of the History of the Neurosciences*, 28(1):1–22, 2018.

[3] Silvio Bär. The Nature and Characteristics of the Gods in Classical Mythology. *Symbolae Philologorum Posnaniensium Graecae et Latinae*, 30:7–46, 2020.

[4] Theoi Classical Texts Library, 2017.

[5] Robert Graves. *Greek Gods and Heroes: For Young Readers*. RosettaBooks, 2014.

[6] Tomas Mikolov, Kai Chen, Greg Corrado, and Jeffrey Dean. Efficient estimation of word representations in vector space, 2013.