

# Sentiments of Satire: Sentiment Analysis on *Book I* of Juvenal's *Satires*

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## Abstract

Juvenal's *Satires* critique Roman moral and societal failings with an absurdity meant to entertain the audience. His writing style is characterized by its angry, vitriolic nature. I perform sentiment analysis on my own translation of *Satire I, II, IV, and V* using a lexicon-based approach to determine if the sentiment of Juvenal's vocabulary more closely aligns with the negative themes of the *Satires* or the positive effect they were meant to have on their audience. The results of the analysis show that Juvenal used a largely positive vocabulary to express his negative themes. His use of sentiment changes based on the *persona* he is writing with, playing on greater satiric themes. Sentiment analysis on classical works offers the opportunity to analyze ancient texts through new perspectives that show deep literary nuance.

## Methods

### Translation Theory

Schleiermacher: move the author to the reader, or move the reader to the author

Reynolds: a successful translation is situational

### My Translation of *Book I*

Literal over poetic translation

Purpose: to aid in interpretation of sentiment analysis results

Table 1. Example Data Processing on Line 87 of Juvenal's *Satire I*.

Original Latin, Juv. 1.87	<i>et quando uberior vitiorum copia quando</i>
Step 1. Lemmatization of Latin	<i>et quando uber vitium copia quando</i>
Step 2. Translation of Lemmas	and when abundant crime supply when
Step 3. Word Scoring	0, NA, 1, -1, 1, NA
Step 4. Composite Score Calculation	0.111

### Text Data

Reduce each Latin word to its base form, e.g. *laudaretur* → *laudo*

Translate the base form Latin into English

### Word Sentiment Score Assignment

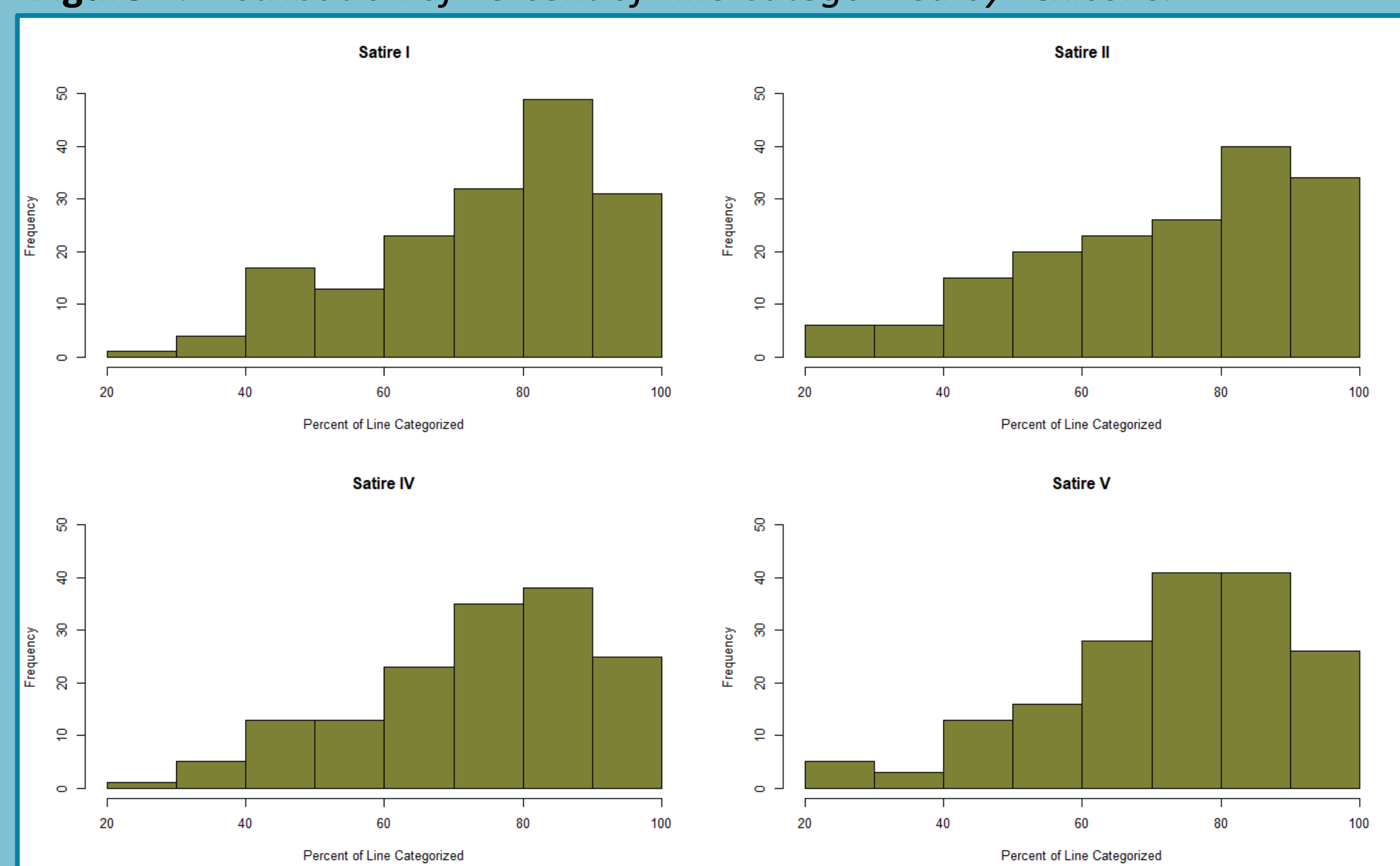
NRC EmoLex and Vader lexicons

### Composite Score Calculation

Calculate a composite score for each line with the following formula:

$$\text{Composite score} = \frac{\text{Categorized(Pos-Neg)}}{\text{Length}^2}$$

Figure 1. Distribution of Percent of Line Categorized by Lexicons.



## Partial Results: *Satire IV*

### Literary Analysis

#### Structure of *Satire IV*

- Initial critique of Crispinus
- Epic narrative
  - Invocation to the Muses
  - Capture of the giant turbot
  - Presentation of turbot to emperor
  - Calling of the counsel
  - Discussion of a plan of action
- Concluding judgement on Domitian

#### Key Themes

- Abuse of power
- Parody



### Sentiment Analysis Results

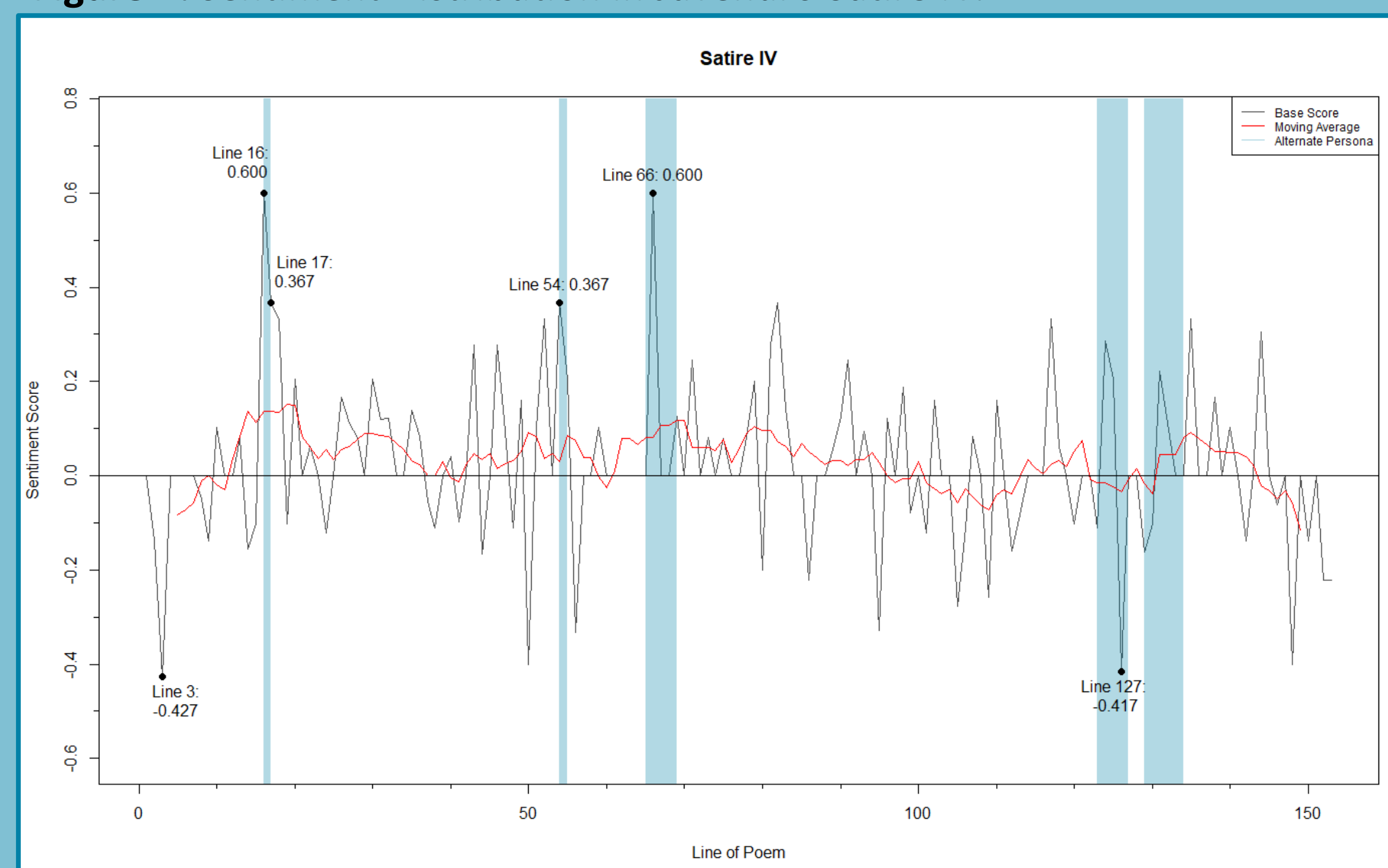
Table 2. Highest Scored Lines in *Satire IV*.

Rank	Line	Score	Latin	Classic Translation	Translated Lemmas
1	4.16	0.600	<i>aequantem sane paribus sesteria libris</i>	Leveling the price certainly with equal weight	level certainly equal price weight
1	4.66	0.600	<i>privatus maiora focus. genialis agatur</i>	Too great for a private hearth. Let [those] festivities [of yours] happen	private great hearth festivity do
3	4.17	0.367	<i>ut perhibent qui de magnis maiora locuntur</i>	As those who present the greater from the great would say	as present who from great great say
3	4.54	0.367	<i>quidquid conspicuum pulchrumque est aequore toto</i>	Whatever is notable and beautiful in the entire sea	whatever notable beautiful and be sea entire
3	4.82	0.367	<i>cuius erant mores qualis facundia mite</i>	Whose morals were as great as his eloquence, a meek [temperament]	who be moral what kind eloquence meek

- Lines 16 & 17 suggest how others might view Crispinus' fish purchase
- Line 66 is part of the fisherman's address to Domitian upon delivering the turbot
- Line 54 puts words in the mouths of informers
- Line 82 describes one member of Domitian's council

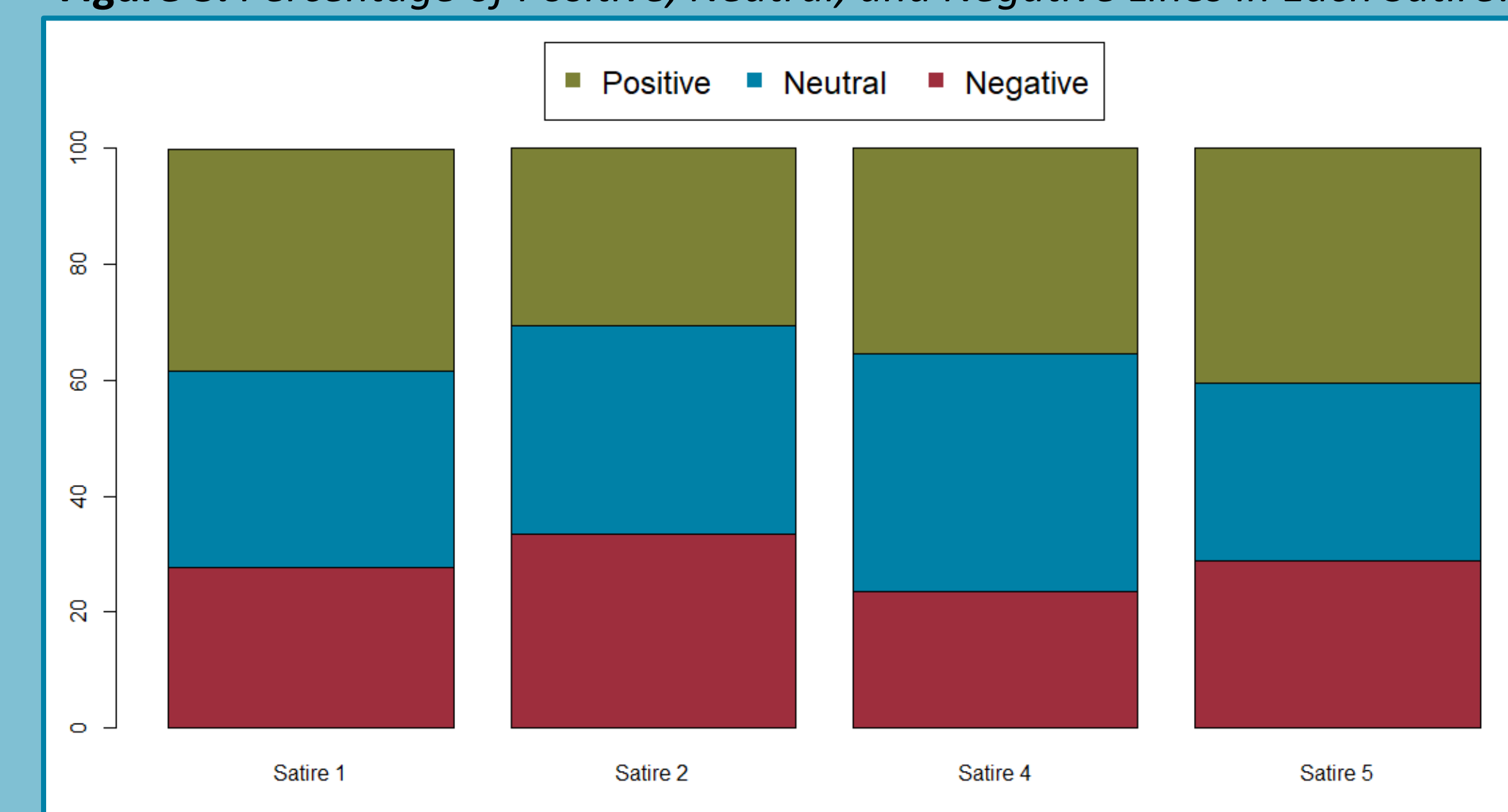
Of these top five lines, **four of them are written to express ideas from a source other than Juvenal's own *persona***. These lines and their scores support the idea that Juvenal used language with differing sentiments for different, even hypothetical, interlocutors. Even though these other voices join the poem for only a few lines, and not necessarily in direct speech, the sentiment of their language is unique from that of Juvenal's *persona*.

Figure 2. Sentiment Distribution in Juvenal's *Satire IV*.



- Lines 16–17: Exaggerators' commentary on Crispinus' fish
  - Positive peak of the poem by base score and moving average
- Lines 54–55: Informers' commentary on what belongs to the emperor
  - Positive by base score and moving average
- Lines 65–69: Fisherman's address to Domitian
  - Positive by base score and moving average
- Lines 124–128: Veiento's interpretation of the fish as a sign of future military victory over the Brits
  - Largely negative, representative of the failure of the address
- Lines 130–135: Montanus' proposal to have a new, bigger plate made to hold the fish
  - Largely positive, representative of Montanus' success

Figure 3. Percentage of Positive, Neutral, and Negative Lines in Each *Satire*.



Positive: 30.6–40.5%

Neutral: 30.6–41.2%

Negative: 23.5–33.5%

True Neutral: 16.8–20.3%

Charged Neutral: 13.8–20.9%

## Conclusion

### Positive Vocabulary Composition

- Satires I & V*: largely positive by composite score
- Satires II & IV*: largely neutral by composite score
- By moving average, each satire is made up of majority positive lines

### Differing sentiment across characters and *personae*

- Every satire has at least one instance of a character expressing a viewpoint not from Juvenal's own *persona*
- These sections of the poem are often accompanied with an increase in positive sentiment compared to the surrounding lines

## References

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