

# Text Analysis Report: theory\_of\_relativity\_bard

## 1. Basic Statistics

Metric	Value
Word Count	427
Sentence Count	23
Character Count	3048
Unique Word Count	208
Avg Word Length (chars)	5.80
Avg Sentence Length (words)	18.57
Avg Sentence Length (chars)	132.52
Sentence Length Std Dev (words)	7.13
Lexical Diversity (TTR)	0.4871
MATTR (Window=50)	0.7894

## 2. Entropy & Complexity

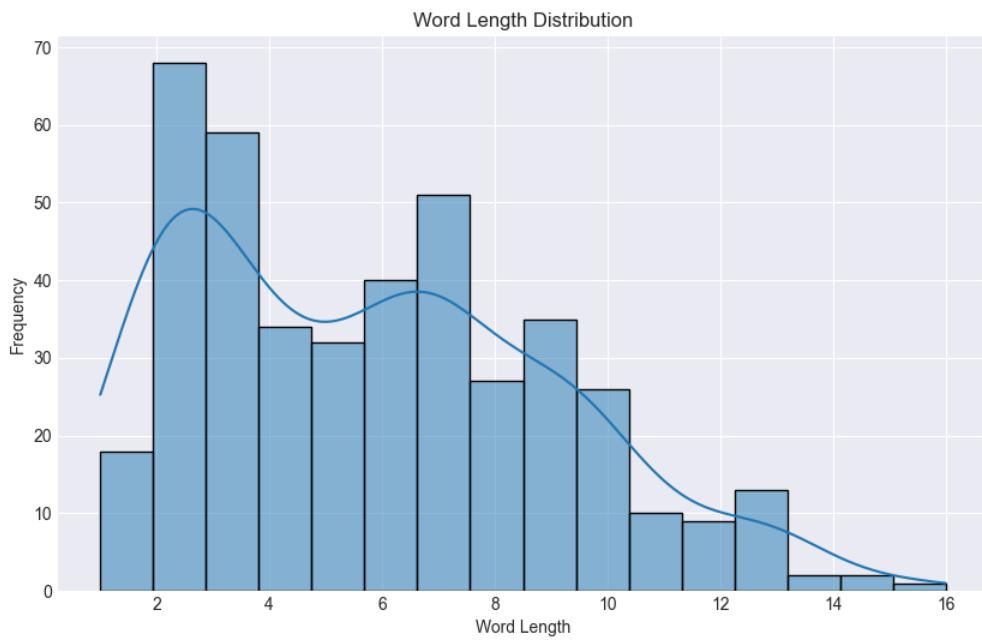
Metric	Value
Shannon Entropy (Words)	7.0872 bits
Shannon Entropy (Chars)	4.5325 bits
Function Word Ratio	0.3583

## 3. Readability Scores

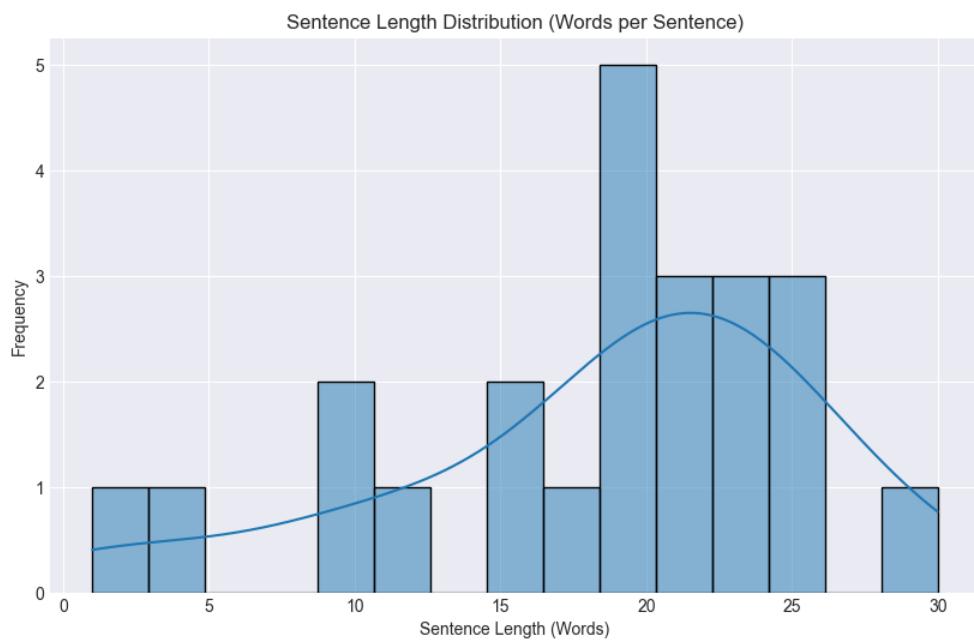
Index	Score
Flesch Reading Ease	17.54
Flesch-Kincaid Grade Level	15.70
Gunning Fog Index	15.04
SMOG Index	16.70
Coleman-Liau Index	17.23
Automated Readability Index	17.50

## 4. Visualizations

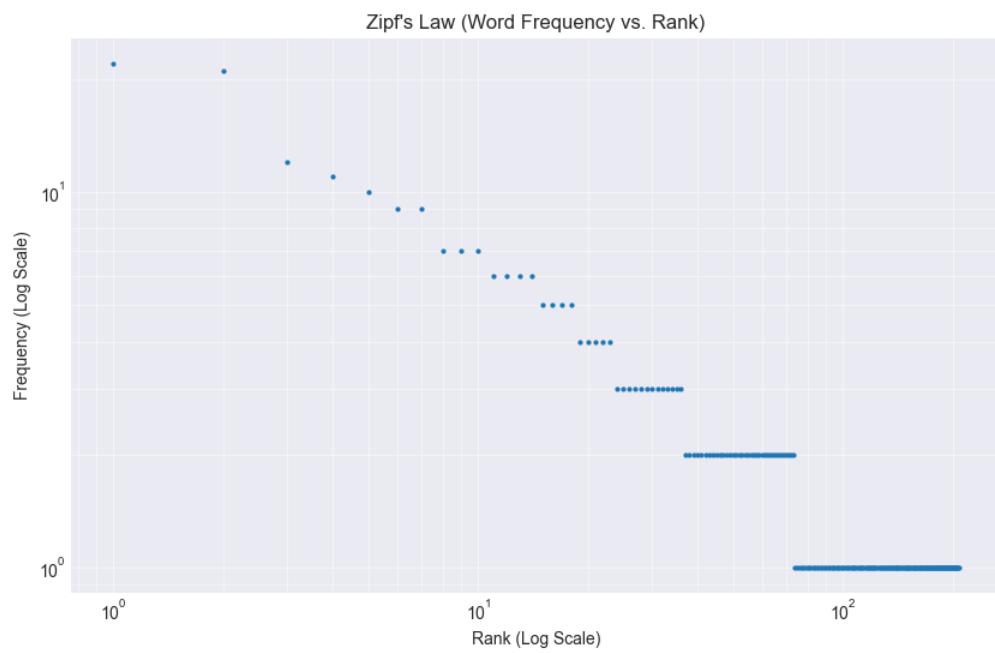
### Word Length Distribution



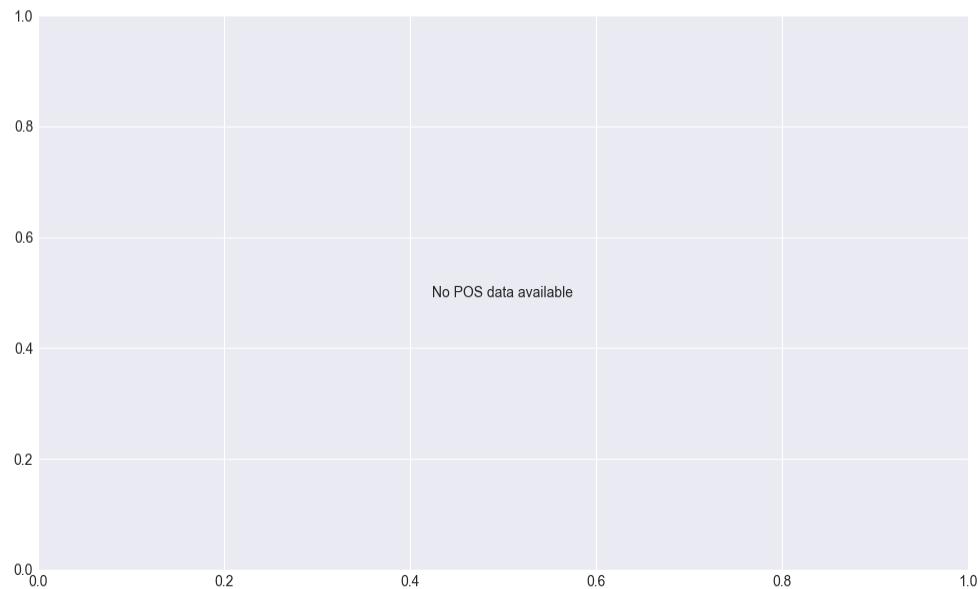
## Sentence Length Distribution



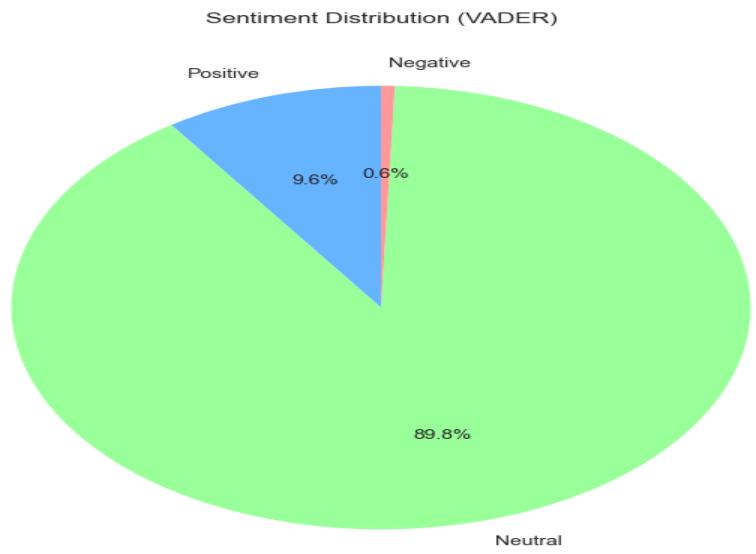
## Zipf's Law Analysis (Word Frequency vs Rank)



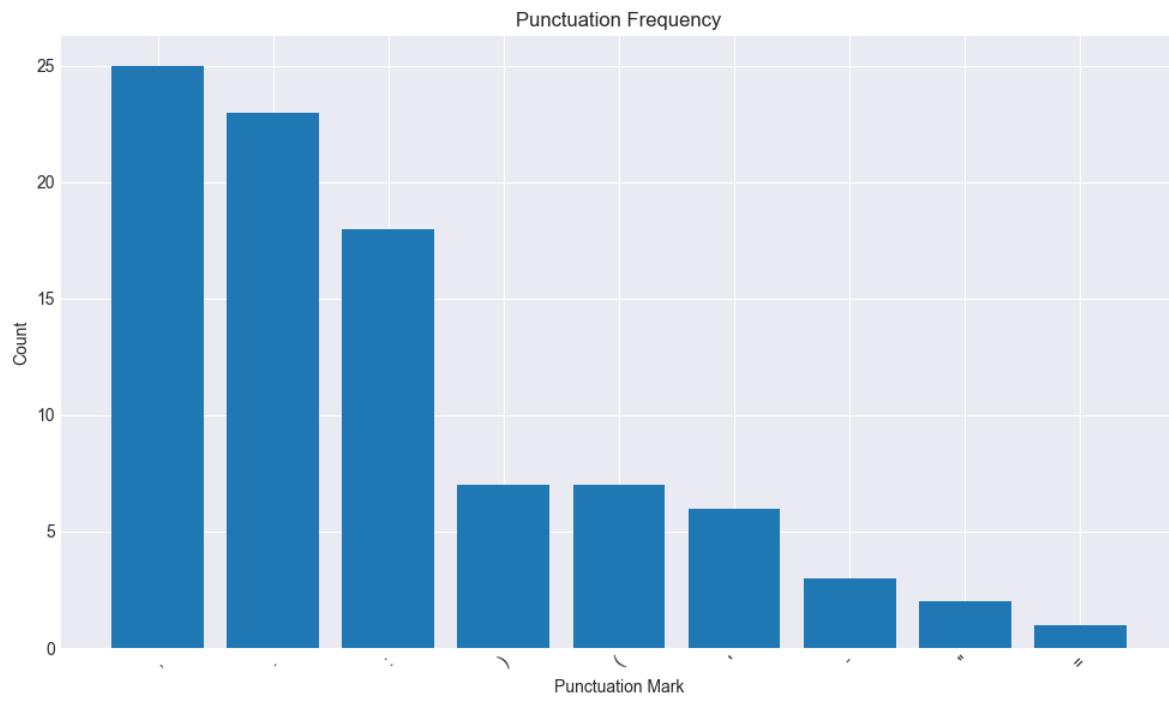
## Part-of-Speech Distribution (Top 25)



## Sentiment Distribution (VADER)



## Punctuation Frequency



## 5. Frequency Analysis

### Most Common Words (Top 15, with stopwords):

of (22), the (21), relativity (12), in (11), and (10), a (9), gravitational (9), time (7), to (7), as (7), general (6), physics (6), einstein (6), s (6), special (5)

## **Most Common Punctuation:**

',' (25), '.' (23), ':' (18), '(' (7), ')' (7), '"' (6), '-' (3), """ (2), '=' (1)

## **6. N-gram Analysis**

### **Common 2-grams (Top 10):**

'general relativity' (6), 'special relativity' (4), 'einstein s' (4), 'in the' (3), 'newtonian physics' (3), 'time dilation' (3), 'gravitational waves' (3), 'the theory' (2), 'theory of' (2), 'of relativity' (2)

2-gram Repetition Rate: 0.1127

### **Common 3-grams (Top 10):**

'the theory of' (2), 'theory of relativity' (2), 'and general relativity' (2), 'the speed of' (2), 'speed of light' (2), 'time dilation time' (2), 'dilation time passes' (2), 'time passes slower' (2), 'mass and energy' (2), 'spacetime caused by' (2)

3-gram Repetition Rate: 0.0282

### **Common 4-grams (Top 10):**

'the theory of relativity' (2), 'the speed of light' (2), 'time dilation time passes' (2), 'dilation time passes slower' (2), 'theory of relativity encompassing' (1), 'of relativity encompassing special' (1), 'relativity encompassing special relativity' (1), 'encompassing special relativity and' (1), 'special relativity and general' (1), 'relativity and general relativity' (1)

4-gram Repetition Rate: 0.0094

## **Character N-gram Analysis:**

### **Common Character 3-grams (Top 10):**

'the' (32), 'ati' (32), 'al\_' (26), 'vit' (25), 'ion' (25), 'tio' (24), '\_th' (23), '\_of' (22), 'of\_' (22), 'ed\_' (22)

### **Common Character 4-grams (Top 10):**

'tion' (24), '\_of\_' (22), 'the\_' (21), '\_the' (21), 'lati' (18), '\_\_\_' (18), '\_rel' (16), 'vity' (16), 'ity\_' (16), 'rela' (15)

### **Common Character 5-grams (Top 10):**

'vity\_' (16), '\_rela' (15), 'relat' (15), 'elati' (15), 'ation' (15), 'lativ' (14), '\_the\_' (14), 'ativi' (13), 'gravi' (13), 'ravit' (13)