

# Natural Language Processing – Homework

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# The Sirens Chapter Analysis

## Text preprocessing:

In order to prepare the text for analysis, I employed several preprocessing steps using the Natural Language Toolkit Library(NLTK).

- Conversion to lowercase
  - Punctuation removal
  - Stopwords elimination
  - Sentence tokenization
  - Word tokenization

# Word Cloud

I started by creating a Word Cloud to see the most frequent words in the text



The words with the most occurrences are: "Bloom", "said", "one", "now", "miss", "Douce".

## Anaphora Detection

To detect anaphoras in the text, I implemented a process that checks if a word or a group of words at the beginning of two or more successive clauses or sentences are equal. The maximum number of words in a group that I checked was 4.

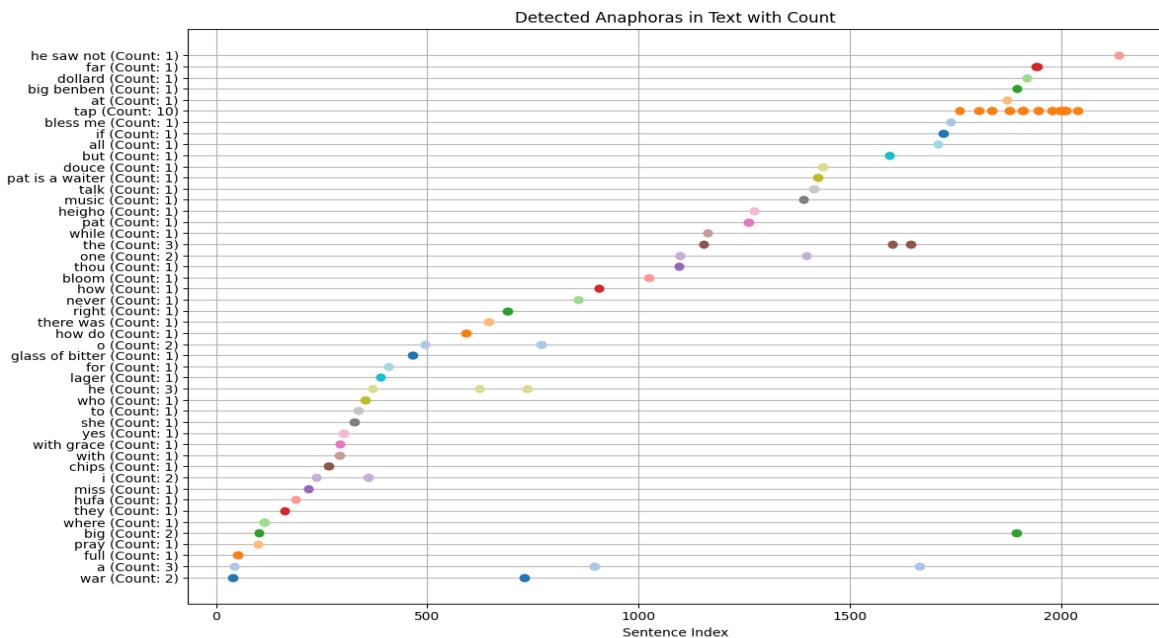
I identified 48 anaphoras in the text.

All the examples can be seen in the jupyter notebook.

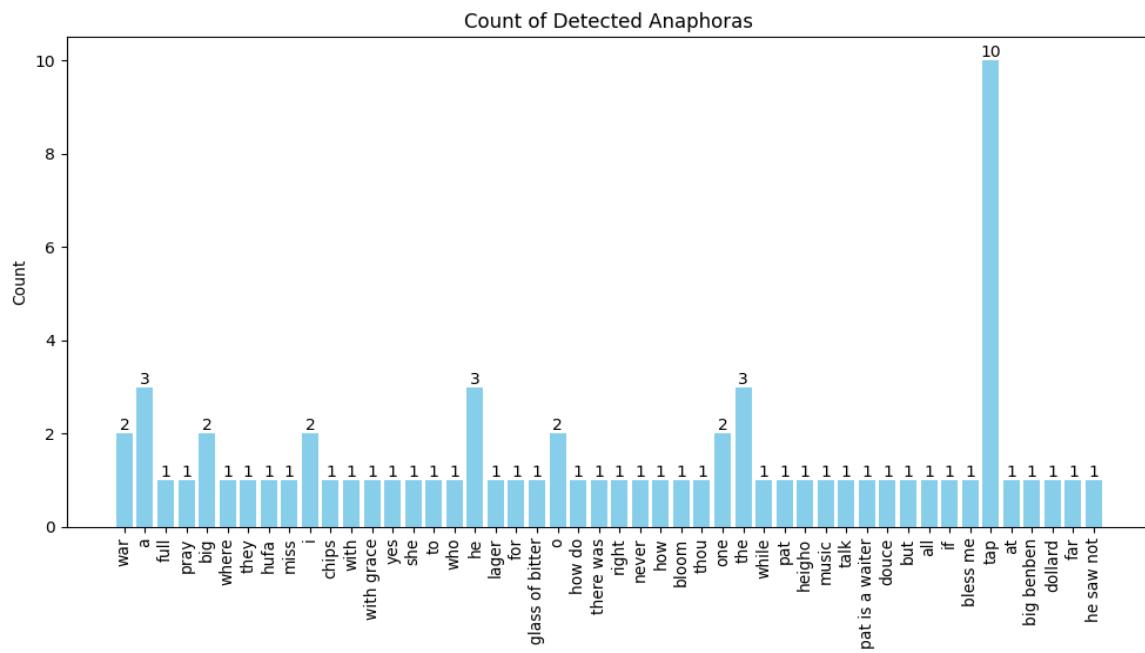
war! war!  
a boy. a croppy boy.  
full tup. full throb.  
pray for him! pray, good people!  
big Benaben Dollard. big Benben.  
where bronze from anear? where gold from afar? where hoofs?  
they cowered under their reef of counter, waiting on footstools, crates upturned, waiting for their teas to draw. they pawed their blouses, both of black satin, two and nine a yard, waiting for their teas to draw, and two and seven.  
hufa! hufa!  
miss Kennedy lipped her cup again, raised, drank a sip and gigglegiggled. miss Douce, bending over the teatray, ruffled again her nose and rolled droll fattened eyes.  
i see, he said. i didn't recognise him for the moment. i hear he is keeping very select company.  
chips, picking chips off one of his rocky thumbnails. chips.  
with the greatest alacrity, miss Douce agreed. with grace of alacrity towards the mirror gilt Cantrell and Cochrane's she turned herself.  
with grace of alacrity towards the mirror gilt Cantrell and Cochrane's she turned herself. with grace she tapped a measure of gold whisky from her crystal keg.  
yes. yes. yes.  
she answered: —Miss Kennedy, was Mr Boylan in while I was upstairs? she asked.  
to mind her stops. to read only the black ones: round o and crooked ess.  
who? who may he be?  
he stopped. he wagged huge beard, huge face over his blunder huge.  
lager for diner. lager without alacrity she served.  
for some man. for Raoul.  
glass of bitter? glass of bitter, please, and a sloegin for me.  
o saints above, I'm drenched! o, the women in the front row! o, I never laughed so many!  
how do? how do?  
there was a slight difference of opinion between himself and the Collard grand. there was.  
right, sir. right, Pat.  
never forget it. never.  
how sweet the answer. how is that done?  
bloom looped, unlooped, noded, disnoded. bloom.  
Co-ome, thou lost one! Co-ome, thou dear one!\_ Alone.  
one life is all. one body.  
the chords harped slower. the voice of penance and of grief came slow, embellished, tremulous.  
while Goulding talked of Barracough's voice production, while Tom Kernan, harking back in a retrospective sort of arrangement talked to listening Father Cowley, who played a voluntary, who nodded as he played. while big Ben Dollard talked with Simon Dedalus, lighting, who nodded as he smoked, who smoked.  
pat set with ink pen quite flat pad. pat took plate dish knife fork. pat went.  
heigho! heigho!  
music did that. music hath charms.  
talk. talk.  
pat is a waiter hard of his hearing. pat is a waiter who waits while you wait.  
douce now. douce Lydia.  
but wait. but hear.  
all gone. all fallen.  
if not? if still?  
bless me, father,\_ Dollard the croppy cried. bless me and let me go.\_ Tap.

tap. tap.  
at Geneva barrack that young man died. at Passage was his body laid.  
big benben. big benben.  
dollar, was it? dollar, yes.  
far. far. far. far.  
he saw not bronze. he saw not gold.

## The distribution of anaphoras across the chapter



## Count of Detected Anaphoras



## Anadiplosis detection

To detect anadiplosis in the text, I implemented a process that checks if the last word of a clause or sentence is repeated as the first word of the clause or sentence. The maximum number of words in a group that I checked was 4.

I identified 23 anadiplosis in the text.

All the examples can be seen in the jupyter notebook.

A husky fifenote **blew. blew.**

—**war! war!**

**hufa! hufa!**

Dollard, **yes. yes**, her lips said more loudly, Mr Dollard.

**who? —who** may he be?

**glass of bitter? glass of bitter**, please, and a sloegin for me.

—**o! o!**

**how do? how do?**

Hoarsely the apple of his throat hoarsed **softly. softly** he sang to a dusty seascape there: \_A Last Farewell.\_ A headland, a ship, a sail upon the billows.

Dollard and Cowley still urged the lingering singer out **with it. —with it**, Simon.

—With it, Simon. —It, Simon.

**heigho! heigho!**

Want **to. to** keep it up.

Call me that **other. other** world she wrote.

You must **believe. believe**.

**talk. talk.**

He waits **while you wait. while you wait** if you wait he will wait **while you wait.**

Or **if not? if not?**

He bore no **hate. hate**.

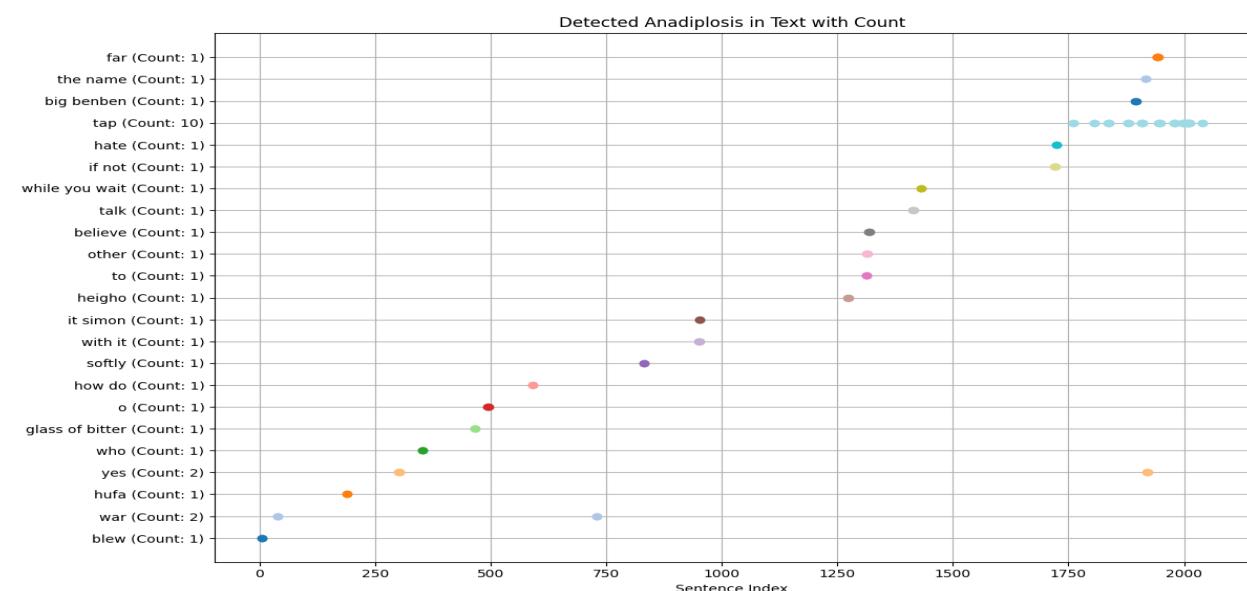
**tap. tap.**

**big benben. big benben.**

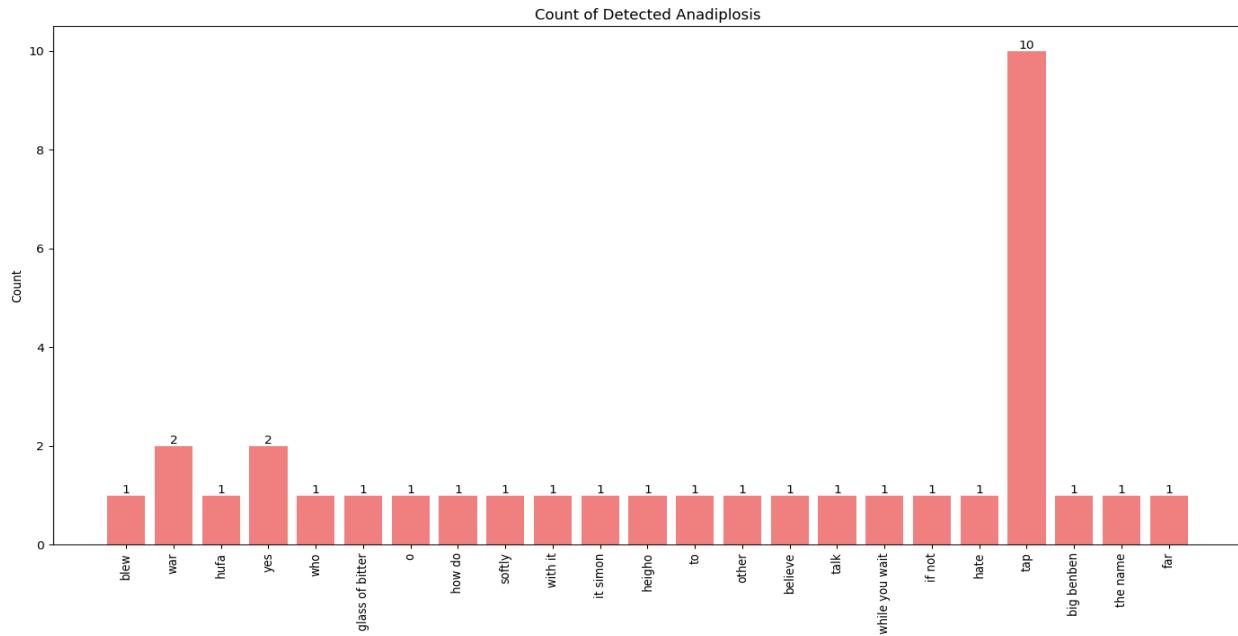
He murmured that he knew **the name. the name** was familiar to him, that is to say.

**far. far. far. far.**

### The distribution of anadiplosis across the chapter



## Count of Detected Anaphoras



## Epistrophe detection

To detect epistrophes in the text, I implemented a process that checks if a word or a group of words at the end of two successive sentences are equal. The maximum number of words in a group that I checked was 4.

I identified 45 anaphoras in the text.

All the examples can be seen in the jupyter notebook.

A husky fifenote **blew**. **blew**.

**smack**. \_La cloche!\_ Thigh **smack**.

—**war!** **war!**

**hee hee**. Wait while you **hee**.

**fro**. To, **fro**.

**bloom**. Old **bloom**.

—No, don't, **she** cried. —I won't listen, **she** cried.

**hufa!** **hufa!**

Will you ever forget his goggle **eye**? Miss Douce chimed in in deep bronze laughter, shouting: —And your other **eye**!

Miss Douce, bending over the teatray, ruffled again her nose and rolled droll fattened **eyes**. Again Kennygiggles, stooping, her fair pinnacles of hair, stooping, her tortoise napecomb showed, spluttered out of her mouth her tea, choking in tea and laughter, coughing with choking, crying: —O greasy **eyes**!

—**o!** **o!**

Miss Douce of satin douced her arm **away**. —O go **away**!

**yes**. **yes**. **yes**.

In came **lenehan**. Round him peered **lenehan**.

**I see**. He **see**.

Wire in **yet**? Not **yet**.

Come **on**. Richie led **on**.

**how do?** **how do?**

cider. Yes, bottle of cider.

As said before he ate with relish the inner organs, nutty gizzards, fried cods' roes while Richie Goulding, Collis, Ward ate steak and kidney, steak then kidney, bite by bite of pie he ate Bloom ate they ate. Bloom with Goulding, married in silence, ate.

O, she need not trouble. No trouble.

—With it, Simon. —It, Simon.

Bloom signed to Pat, bald Pat is a waiter hard of hearing, to set ajar the door of the bar. The door of the bar.

She thanked me. Why did she me?

where? Here there try there here all try where.

First gentleman told Mina that was so. She asked him was that so. And second tankard told her so. That that was so.

—Grandest number in the whole opera, Goulding said. —It is, Bloom said.

heigho! heigho!

You must believe. believe.

do. But do.

talk. talk.

He waits while you wait. while you wait if you wait he will wait while you wait.

he asked her, smiled. Charming, seasmiling and unanswering Lydia on Lidwell smiled.

now. Maybe now.

Deaf wait while they wait. But wait.

Bloom listened. Richie Goulding listened. And by the door deaf Pat, bald Pat, tipped Pat, listened. He was the croppy boy. Scaring eavesdropping boots croppy bootsboy Bloom in the Ormond hallway heard the growls and roars of bravo, fat backslapping, their boots all treading, boots not the boots the boy.

Or if not? if not?

He bore no hate. hate.

tap. tap.

big benben. big benben.

And \_The last rose of summer\_ was a lovely song. Mina loved that song.

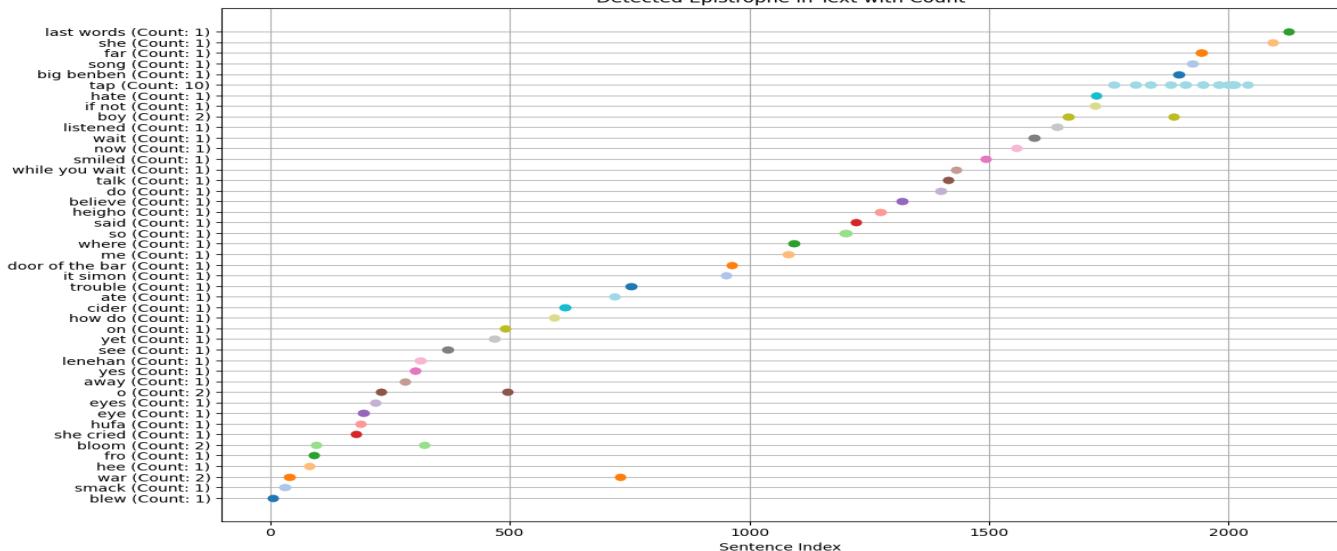
far. far. far. far.

What is she? Hope she.

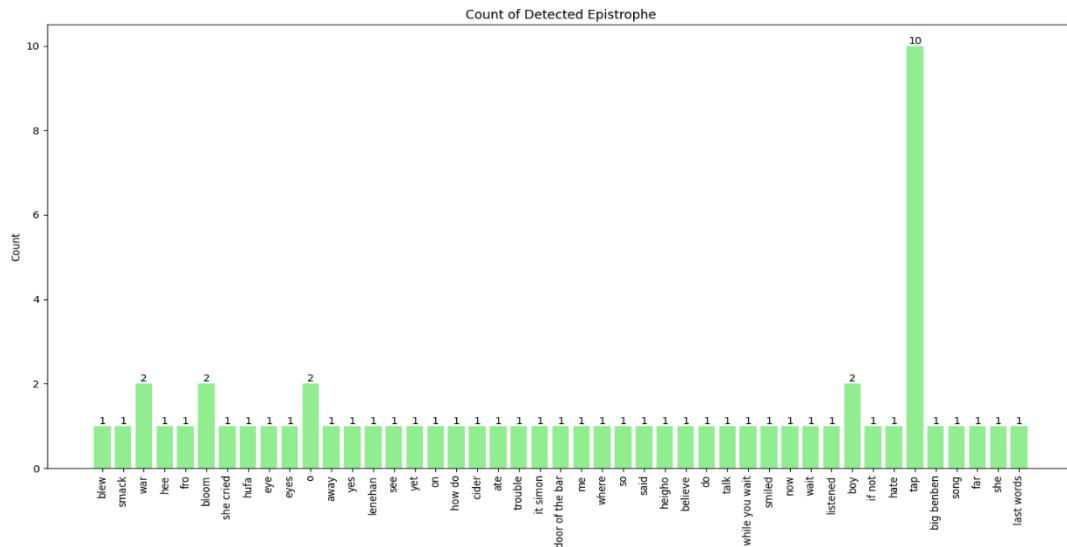
Robert Emmet's last words. Seven last words.

## The distribution of epistles across the chapter

Detected Epistrophe in Text with Count



## Count of Detected Epistrophes



## Epizeuxis detection

To detect epizeuxis in the text, I implemented a process that finds the words or a short phrase that is repeated in succession with no other words in between.

I identified 48 anaphoras in the text.

trilling, trilling: Idolores.  
jingle jingle jaunted jingling.  
A moonlit nightcall: far, far.  
Did not: no, no: believe: Lidlyd.  
hee hee. hee hee.  
ay, ay. —ay, ay, Mr Dedalus nodded. —ay, ay, Ben.  
Bloowho went by by Moulang's pipes bearing in his breast the sweets of sin, by Wine's antiques, in memory bearing sweet sinful words, by Carroll's dusky battered plate, for Raoul.  
The boots to them, them in the bar, them barmaids came.  
Miss Douce chimed in in deep bronze laughter, shouting: —And your other eye!  
Ah, panting, sighing, sighing, ah, fordone, their mirth died down.  
Shrill, with deep laughter, after, gold after bronze, they urged each each to peal after peal, ringing in changes, bronzegold, goldbronze, shrilldeep, to laughter after laughter.  
gazed in the coffin (coffin?)  
wait, wait.  
—please, please.  
Boylan, eyed, eyed.  
His spellbound eyes went after, after her gliding head as it went down the bar by mirrors, gilded arch for ginger ale, hock and claret glasses shimmering, a spiky shell, where it concereted, mirrored, bronze with sunnier bronze.  
—come on, come on, Ben Dollard called.  
about her bronze, over the bar where bald stood by sister gold,  
inexquisite contrast, contrast inexquisite nonexquisite, slow cool dim seagreen sliding depth of shadow, \_eau de Nil.\_ —Poor old Goodwin was the pianist that night, Father Cowley reminded them.  
—She was a daughter of... —Daughter of the regiment.

**haw haw** horn.

—..... \_my ardent soul I care not foror the morrow.\_ In liver gravy

Bloom **mashed mashed** potatoes.

Conductor's legs too, bagstrousers, **jiggedy jiggedy**.

Jiggedy jingle **jaunty jaunty**.

**good, good** to hear: sorrow from them each seemed to from both depart when first they heard.

Throb, a throb, a pulsing proud erect.

\_—Come!\_ It soared, a bird, it held its flight, a swift pure cry, soar silver orb it leaped serene,  
speeding, sustained, to come, don't spin it out too **long long** breath he breath **long** life, soaring high,  
high resplendent, aflame, crowned, high in the effulgence symbolistic, high, of the ethereal bosom,  
high, of the high vast irradiation everywhere all soaring all around about the all, the  
endlessnessnessness... —\_To me!\_ Siopold!

Lydia, **admired, admired**.

He stretched **more, more**.

**that that** was so. He heard more faintly **that that** they heard, each for herself alone, then each for other, hearing theplash of waves, loudly, a silent roar.

Miss Douce, miss Lydia, did not believe: miss Kennedy, Mina, did not believe: George Lidwell, no:  
miss Dou did not: **the first, the first**: gent with the tank: believe, no, no: did not, miss Kenn:  
Lidlydiawell: the tank.

**yes, yes**, will tell you.

P. S. The rum **tum tum**.

**la la la** ree. P. P. S. **la la la** ree.

**hee hee hee hee. hee hee hee hee. hee hee hee hee. hee hee hee hee. hee hee hee hee.**

One: one, one, one, one, one: two, one, three, four.

Look: look, look, look, look: you look at us.

—**do, do**, they begged in one.

**he came, he came**, he did not stay.

But perhaps he has wife and family **waiting, waiting** Patty come home.

At each slow satiny heaving bosom's wave (her heaving embon) red **rose rose** slowly sank red **rose**.

Heartbeats: her **breath: breath** that is life.

And all the **tiny tiny** fernfoils trembled of maidenhair.

Fro, to: to, fro: over the polished knob (she knows his eyes, my eyes, her eyes) her thumb and finger passed in pity: passed, reposed and, gently touching, then slid so smoothly, slowly down, a cool firm white enamel baton protruding through their sliding ring.

**walk, walk, walk.**

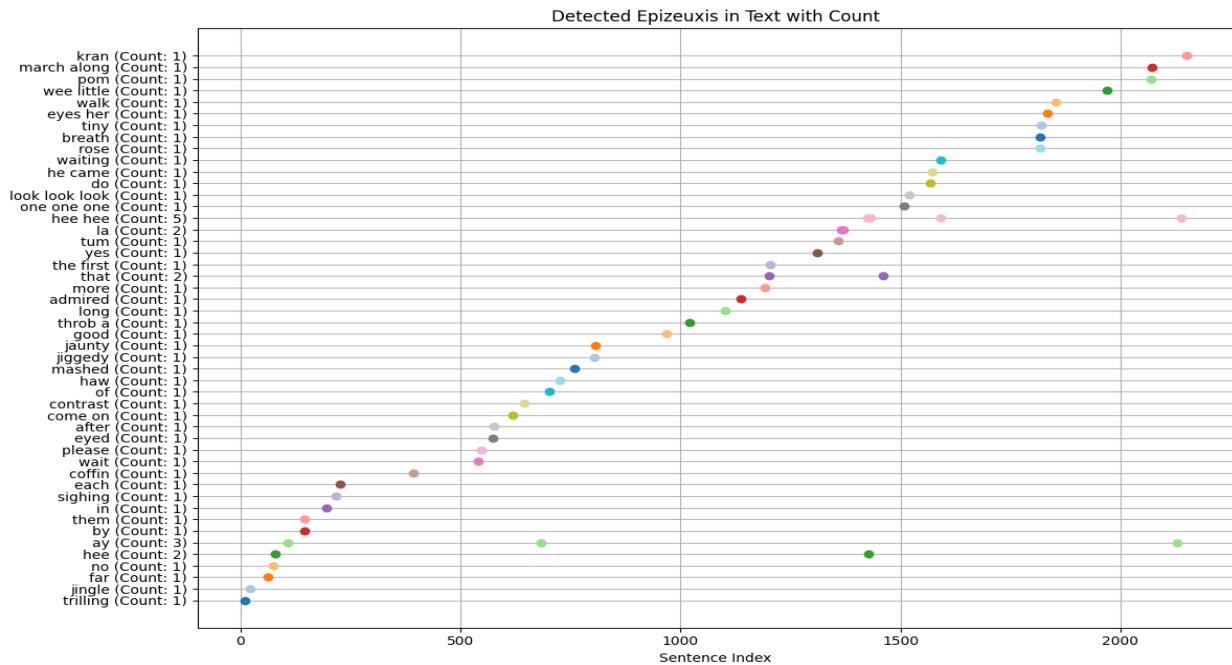
Growl angry, then shriek cursing (want to have wadding or something in his no don't she cried), then all of a soft sudden **wee little wee little** pipy wind.

I mean of course it's all **pom pom pom** very much what they call \_da capo.\_ Still you can hear.

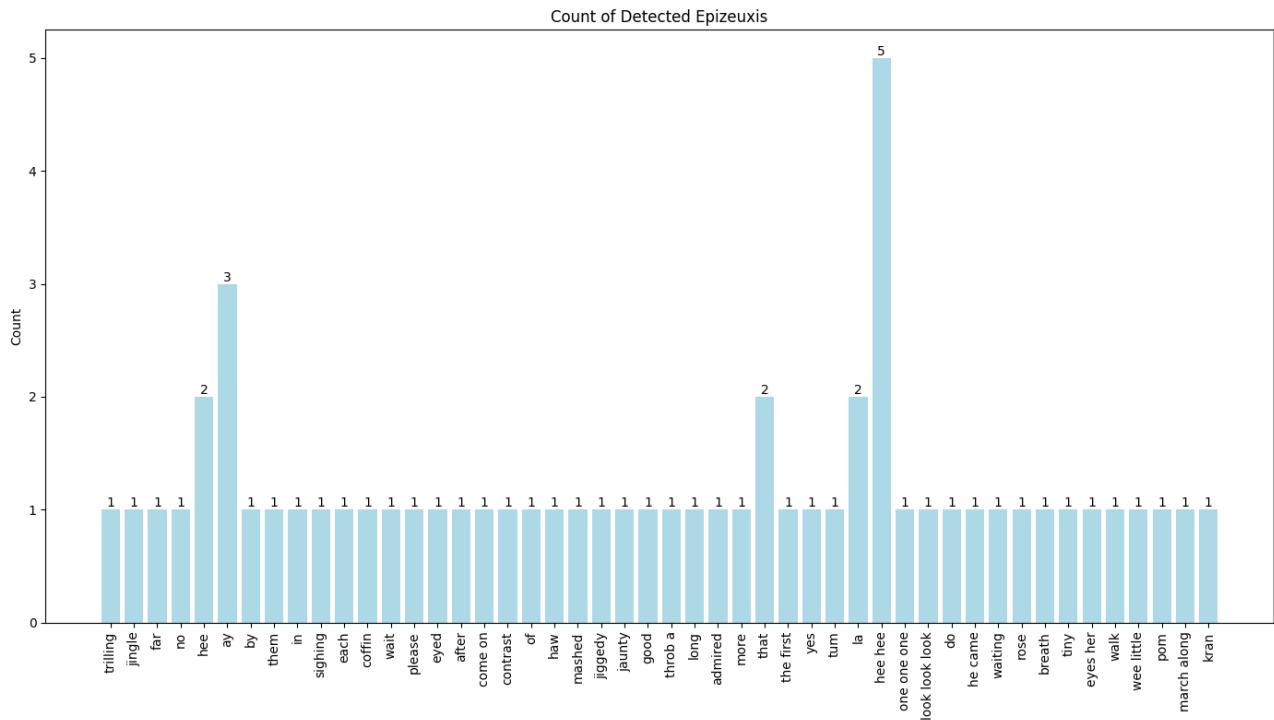
As we march, we **march along, march along**.

\_Then and not till then.\_ Tram **kran kran kran**.

## The distribution of epizeuxis across the chapter



## Count of Detected Epizeuxis



## Polyptoton detection

To detect polyptotons in the text, I implemented a process that finds the repetitions of words with the same root, identified by stemming the words.

jingle jingle jaunted **jingling**.

Bloowho went by by Moulang's pipes bearing in his breast the **sweets** of sin, by Wine's antiques, in memory bearing **sweet** sinful words, by Carroll's dusky battered plate, for Raoul. **sweet** are the **sweets**.

Bloowho went by by Moulang's pipes bearing in his breast the sweets of **sin**, by Wine's antiques, in memory bearing sweet **sinful** words, by Carroll's dusky battered plate, for Raoul.

She **sipped** distastefully her brew, hot tea, a **sip**, **sipped**, sweet tea.

Miss **douce** of satin **douced** her arm away.

**it** throbbed, pure, purer, softly and softlier, **its** buzzing prongs. —Come!— **it** soared, a bird, **it held** **its** flight, a swift pure cry, soar silver orb **it** leaped serene, speeding, sustained, to come, don't spin **it** out too long long breath he breath long life, soaring high, high resplendent, aflame, crowned, high in the effulgence symbolic, high, of the ethereal bosom, high, of the high vast irradiation everywhere all soaring all around about the all, the endlessnessnessness... —To me!— Siopold! George Lidwell held **its** murmur, hearing: then laid **it** by, gently.

Sparkling bronze azure **eyed** Blazure's skyblue bow and **eyes**.

Quavering the **chords** strayed from the air, found it again, lost **chord**, and lost and found it, faltering. His spellbound eyes went after, after her gliding head as it went down the bar by **mirrors**, gilded arch for ginger ale, hock and claret glasses shimmering, a spiky shell, where it concerted, **mirrored**, bronze with sunnier bronze.

**roll** of Bensoulbenjamin **rolled** to the quivery lovestivity roofpanes.

She waved about her outspread \_Independent,\_ searching, the lord **lieutenant**, her pinnacles of hair slowmoving, lord **lieuten**.

**hoarsely** the apple of his throat **hoarsed** softly.

Pat, waiter, **waited**, **waiting** to hear, for he was hard of hear by the door.

When first they saw, lost Richie Poldy, **mercy** of beauty, heard from a person wouldn't expect it in the least, her first **merciful** lovesoft oftloved word.

Flood of warm jamjam lickitup secretness **flowed** to **flow** in music out, in desire, dark to lick **flow** invading.

Pores to **dilate** **dilating**.

To **pour** o'er sluices **pouring** gushes.

It sang again to Richie Poldy Lydia Lidwell also sang to Pat open mouth ear **waiting** to **wait**.

Ah, Martha!— Quitting all languor Lionel **cried** in grief, in **cry** of passion dominant to love to return with deepening yet with rising chords of harmony.

—Come!— It **soared**, a bird, it held its flight, a swift pure cry, **soar** silver orb it leaped serene, speeding, sustained, to come, don't spin it out too long long breath he breath long life, **soaring** high, high resplendent, aflame, crowned, high in the effulgence symbolic, high, of the ethereal bosom, high, of the high vast irradiation everywhere all **soaring** all around about the all, the endlessnessnessness... —To me!— Siopold!

This is the **jingle** that joggled and **jingled**.

Pat is a waiter who **waits** while you **wait**. He **waits** while you **wait**. He **waits** while you **wait**.

**jog** **jig** **jogged** stopped.

To wipe away a tear for martyrs that want to, **dying** to, **die**.

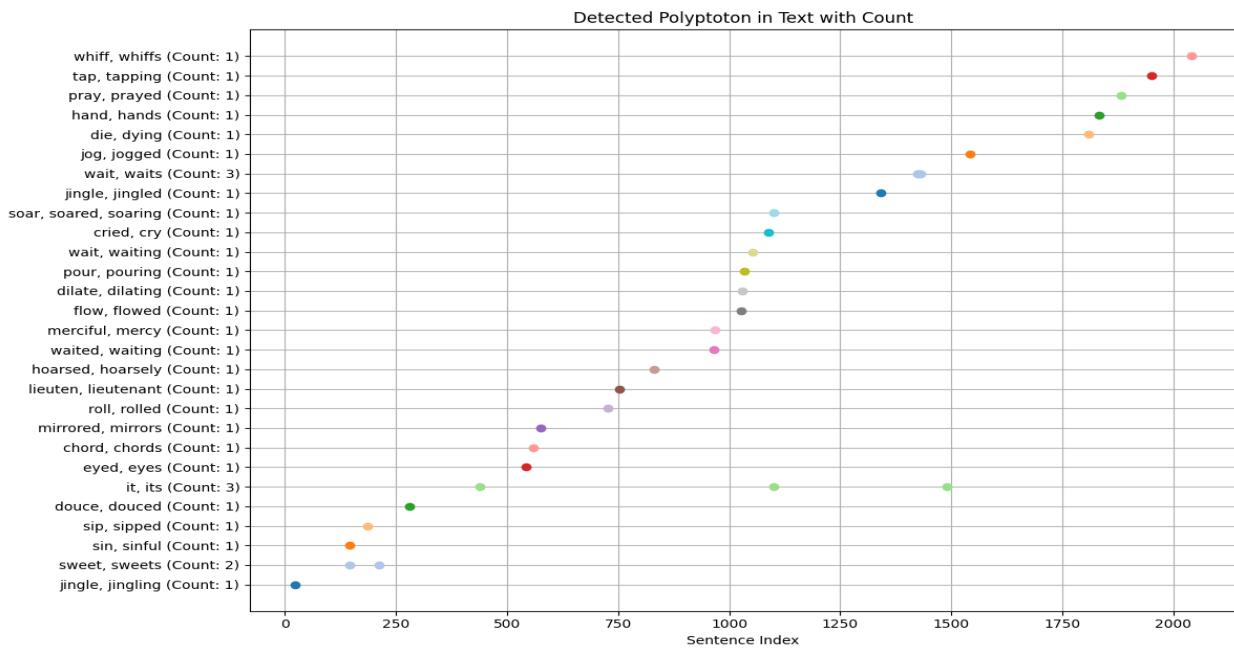
On the smooth jutting beerpull laid Lydia **hand**, lightly, plumply, leave it to my **hands**.

**pray** for him, **prayed** the bass of Dollard.

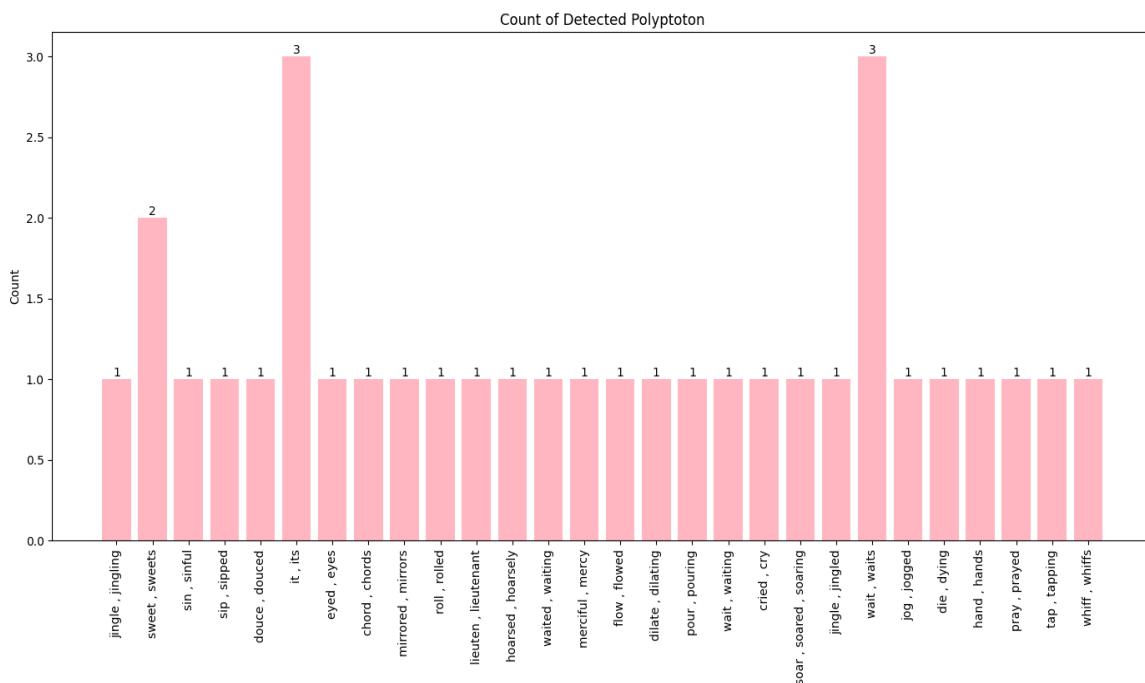
**tap** blind walked **tapping** by the **tap** the curbstone **tapping**, **tap** by **tap**.

A stripling, blind, with a tapping cane came taptaptapping by Daly's window where a mermaid hair all streaming (but he couldn't see) blew whiffs of a mermaid (blind couldn't), mermaid, coolest whiff of all.

## The distribution of polyptotons across the chapter



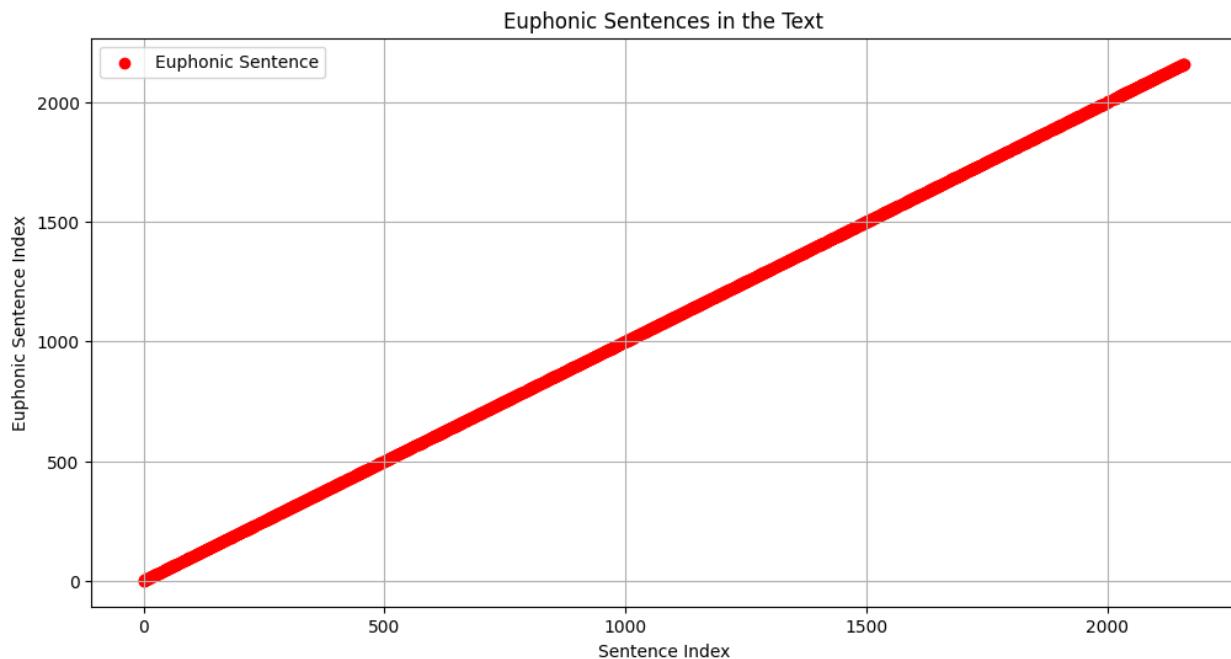
## Count of Detected Polyptotons



## Euphony detection

To detect euphonies in the text, I implemented a process that computes the euphony score for each sentence based on the presence of euphonic consonants “LMNRWVSFHZ” and selects the euphonic sentences.

I identified 1857 euphonic sentences out of 2161 total sentences.



## Aliteration detection

To detect aliteration in the text, I implemented a process that finds the repeating first sounds of words within sentences using CMU Pronouncing Dictionary.

I identified 1413 alterations present in the text.

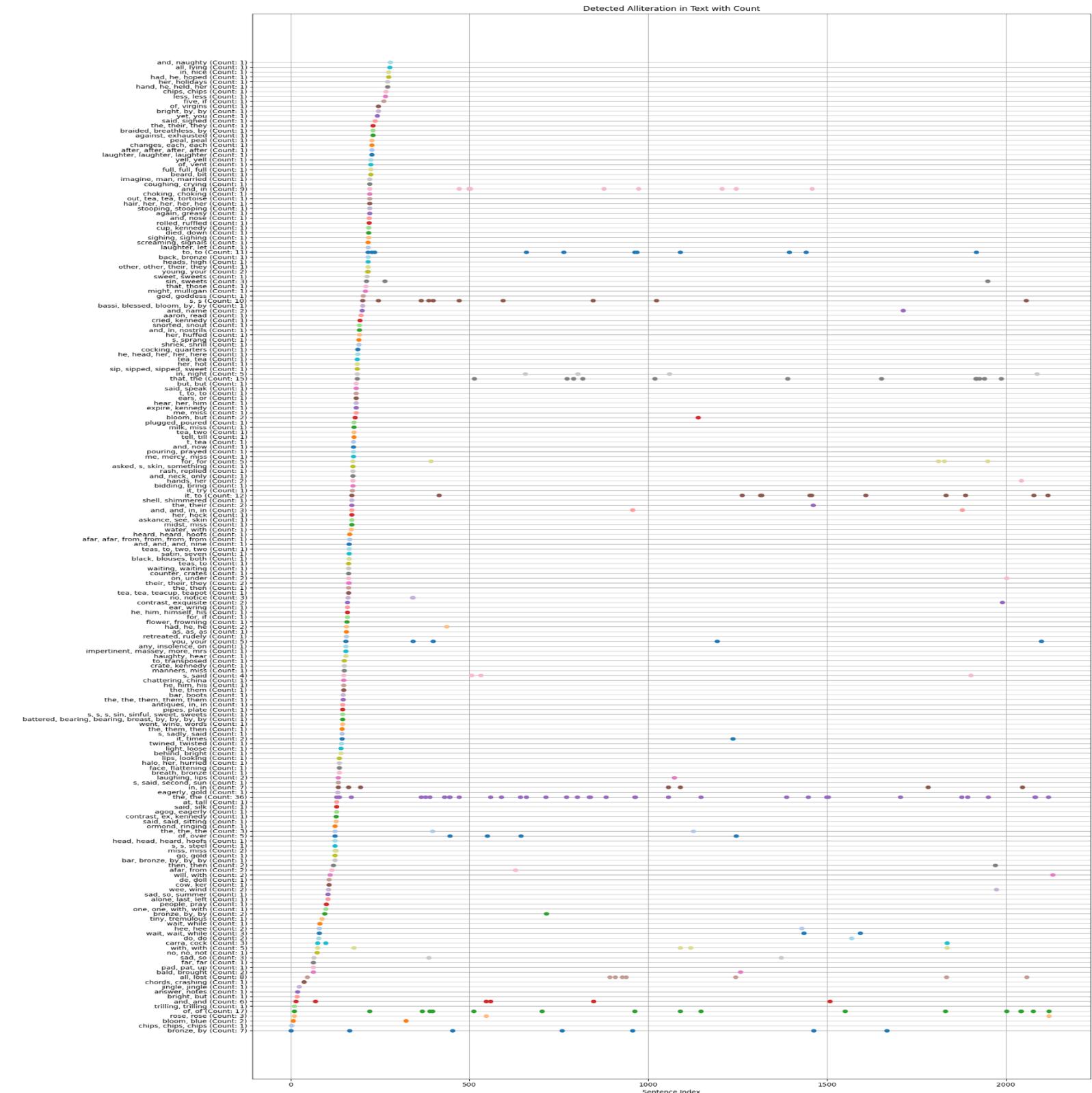
All the examples can be seen in the jupyter notebook.

Examples of detected alterations:

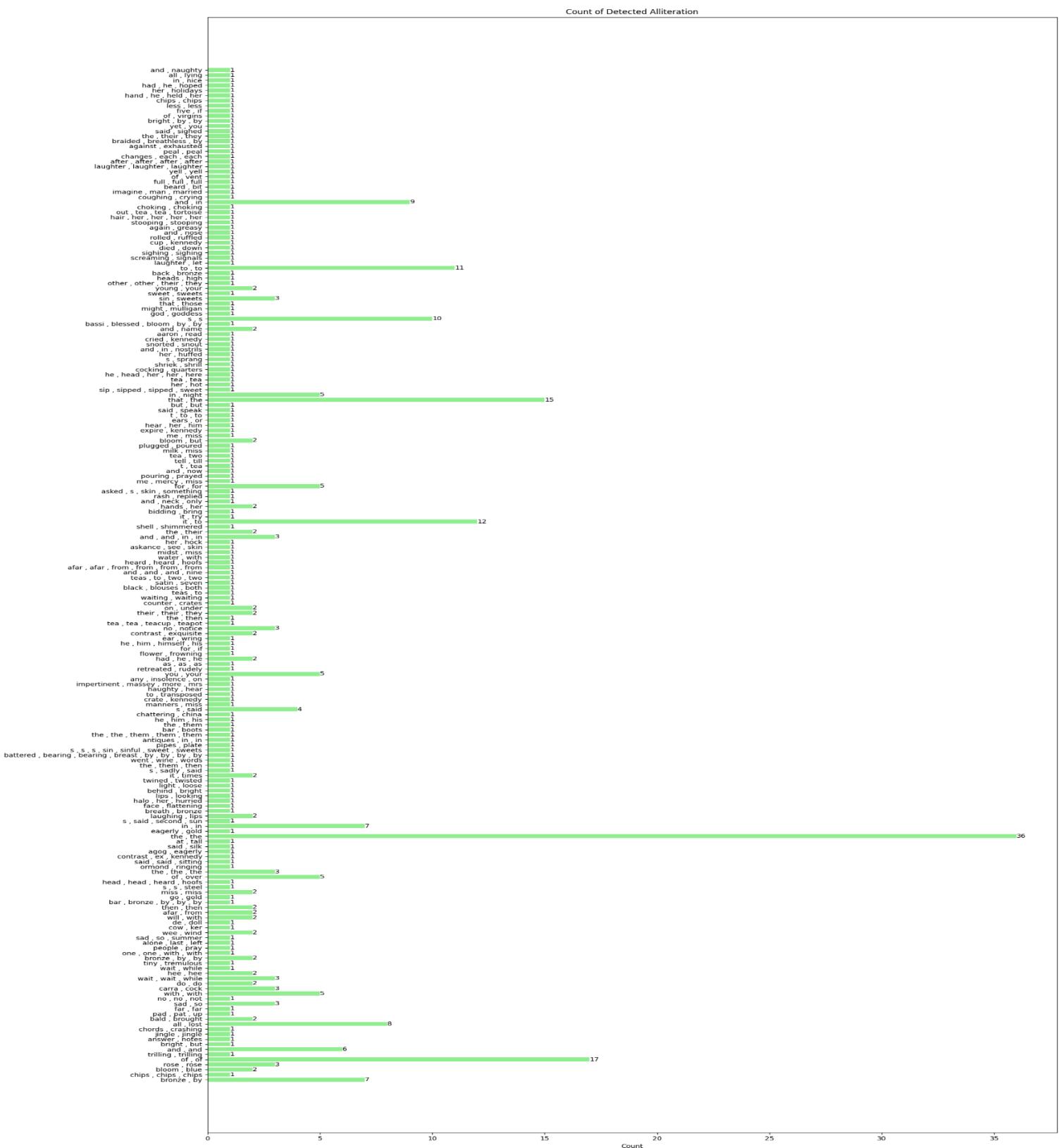
by bachelor's walk jogjaunty jingled blazes boylan, bachelor, in sun in heat, mare's glossy rump atrot, with flick of whip, on bounding tyres: sprawled, warmseated, boylan impatience, ardentbold.

sorrow from me seemed to depart.\_ Through the hush of air a voice sang to them, low, not rain, not leaves in murmur, like no voice of strings or reeds or whatdoyoucallthem dulcimers touching their still ears with words, still hearts of their each his remembered lives.

# The distribution of the first 200 detected aliterations



# The count of the first 200 identified alliterations



## Consonance detection

To detect consonances in the text, I implemented a process that finds the repeating consonant sounds within a group of words using CMU Pronouncing Dictionary. I excluded common suffixes, such as “ing”, “ed”, “es”, “s”

I identified 2652 consonances present in the text.

All the examples can be seen in the jupyter notebook.

Examples of detected consonances:

softly he sang to a dusty seascape there: \_A last Farewell.\_ A headland, a ship, a sail upon the billows.

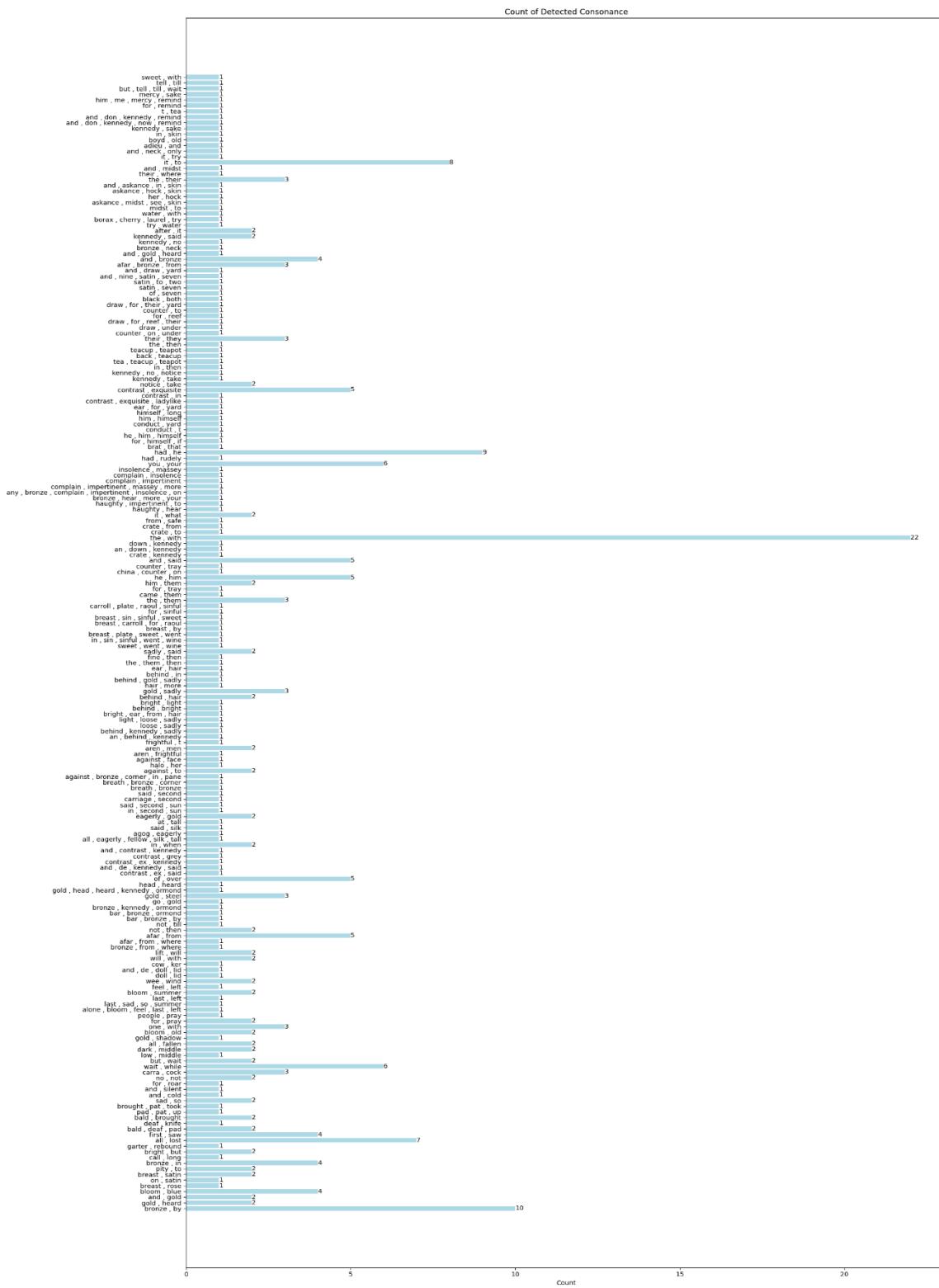
most beautiful tenor air ever written, Richie said: \_Sonnambula.\_ He heard Joe Maas sing that one night.

# The distribution of the first 200 detected consonances

Detected Consonance in Text with Count



# The count of the first 200 identified consonances



# Assonance detection

To detect assonances in the text, I implemented a process that finds the repeating vowel sounds within a group of words using CMU Pronouncing Dictionary.

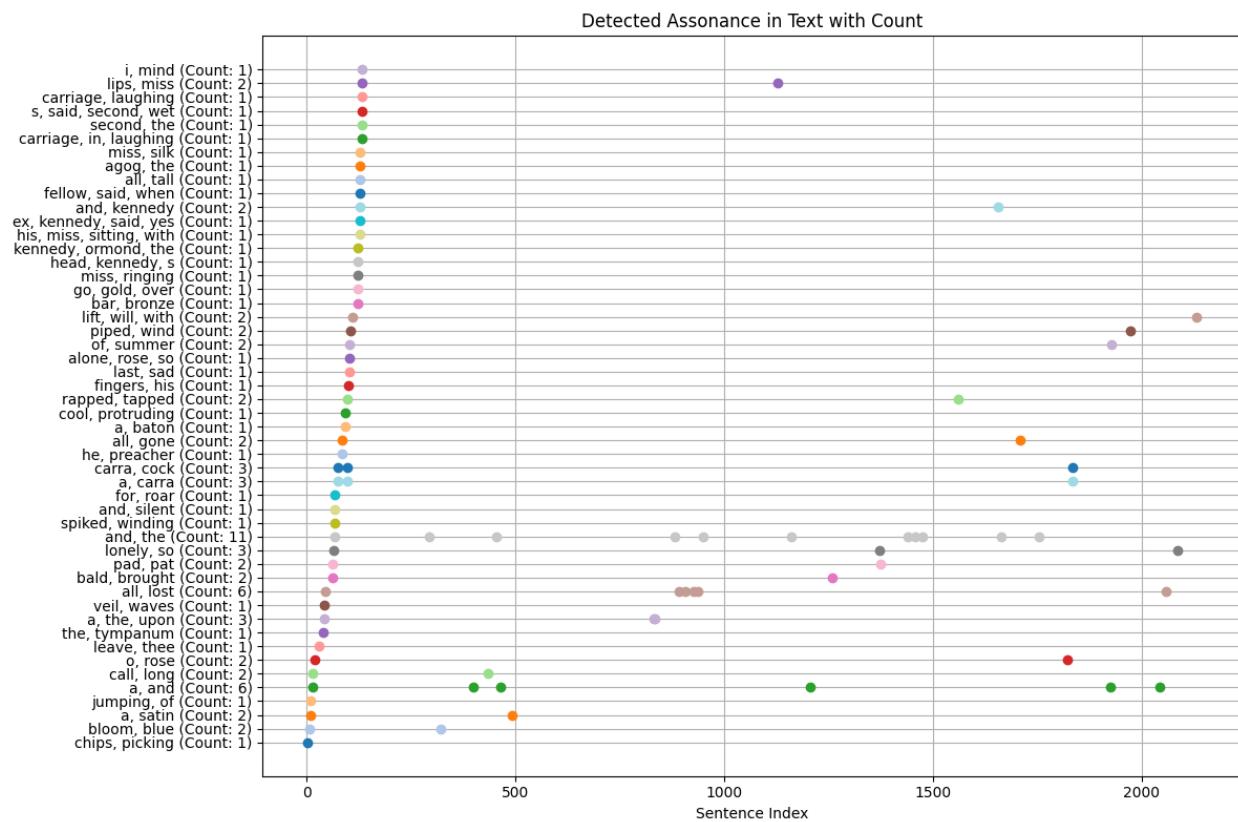
I identified 2115 assonances present in the text.

All the examples can be seen in the jupyter notebook.

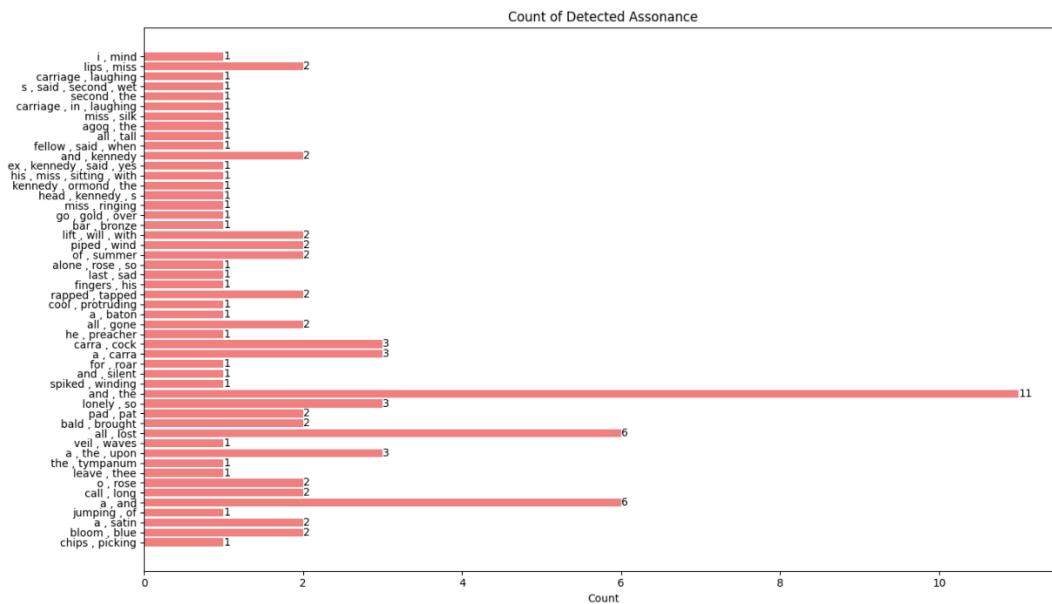
Examples of detected assonances:

First **lid**, De, Cow, Ker, Doll, a **fifth**: Lidwell, Si Dedalus, Bob Cowley, Kernan and **big** Ben Dollard.  
First Lid, De, Cow, Ker, **doll**, a fifth: Lidwell, Si Dedalus, **bob** Cowley, Kernan and big Ben **dollard**.

## The distribution of the first 50 detected assonances



## The count of the first 50 identified assonance



## Sibilance detection

To detect sibilances in the text, I implemented a process that finds the repeating hissing sounds, such as 's', 'sh', 'z', 'ch', 'x', within a group of words using CMU Pronouncing Dictionary.

I identified 591 consonances present in the text.

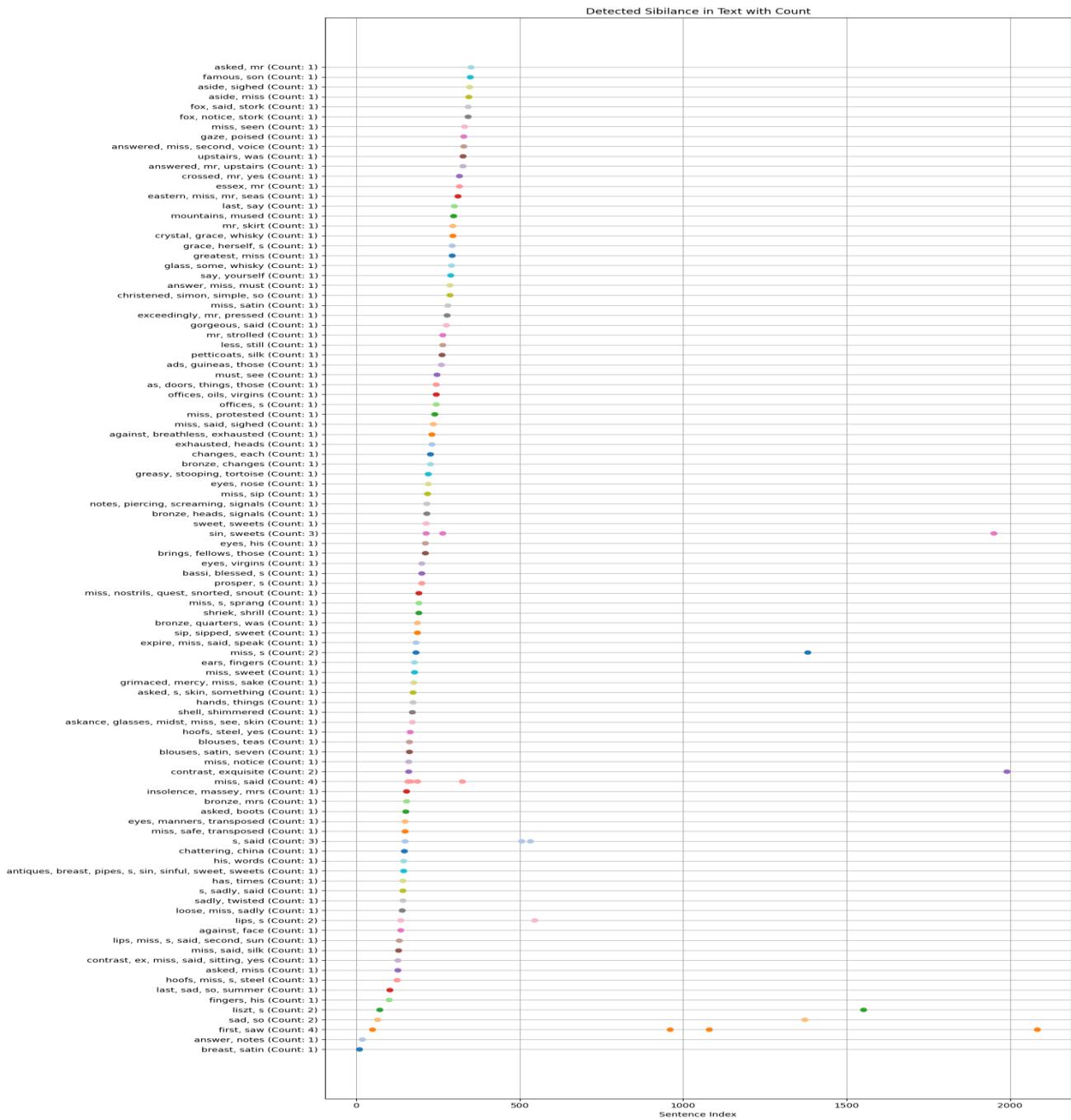
All the examples can be seen in the jupyter notebook.

Examples of detected sibilances:

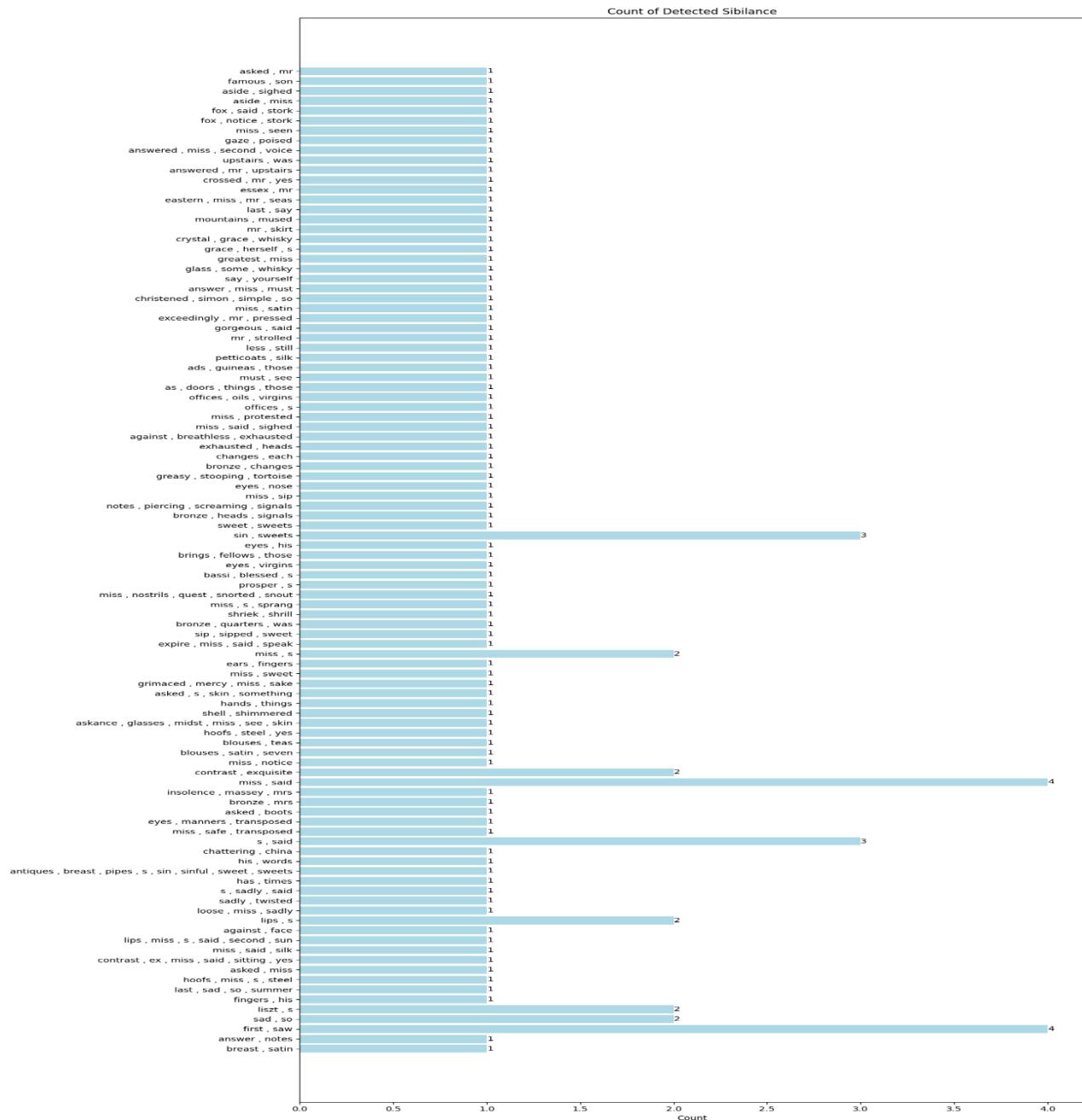
Tap –Very, mr Dedalus said, staring hard at a headless sardine.

A stripling, blind, with a tapping cane came taptaptapping by Daly's window where a mermaid hair all streaming (but he couldn't see) blew whiffs of a mermaid (blind couldn't), mermaid, coolest whiff of all.

# The distribution of the first 100 detected sibilances



# The count of the first 100 identified sibilances



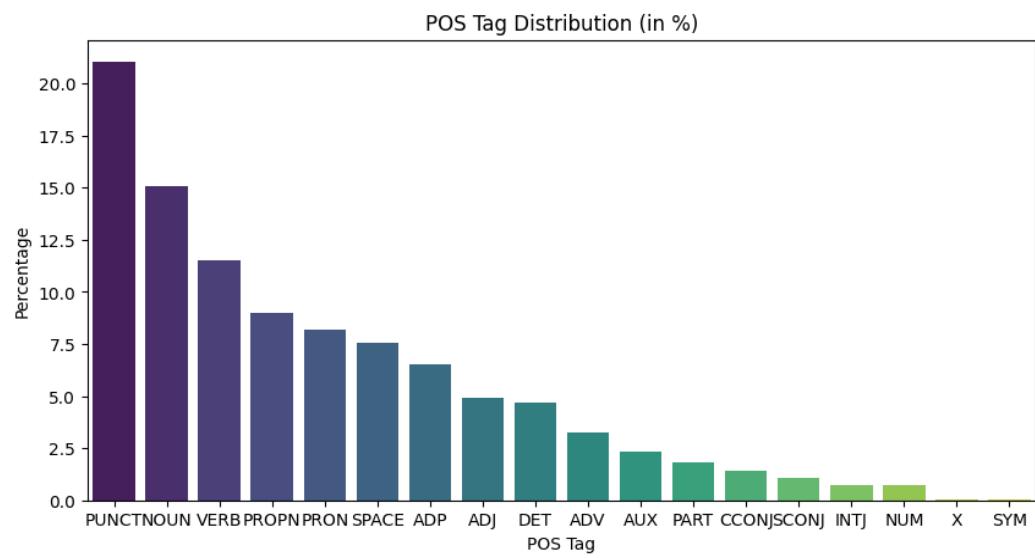
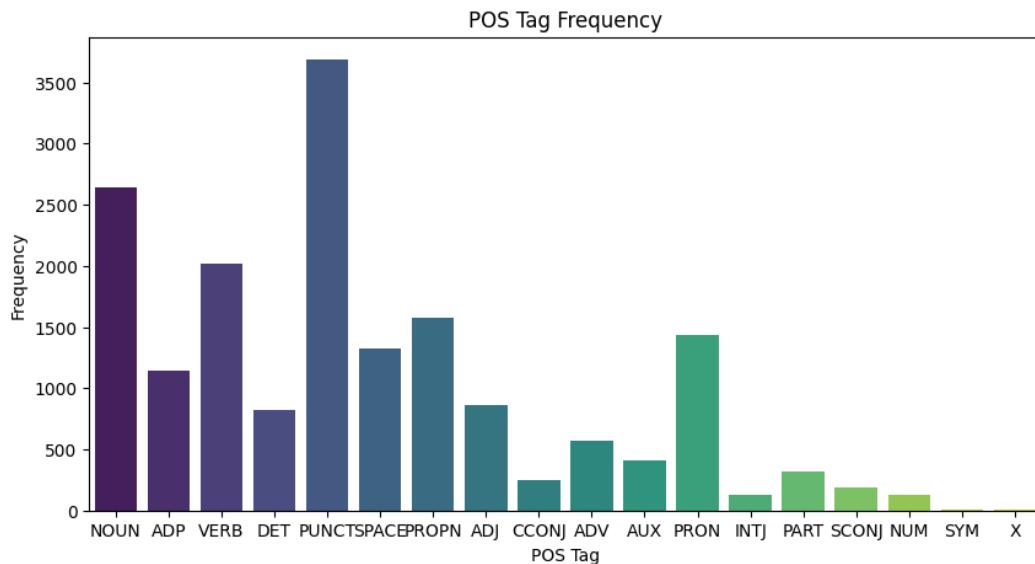
# Polyphonic analysis

In order to do a polyphonic analysis on the text, I inspected the parts of the speech, named entities, sentiments and topics within the text.

## Part-of-Speech (POS) Tagging

Used the spacy library which is a powerful NLP library for various linguistic annotations.

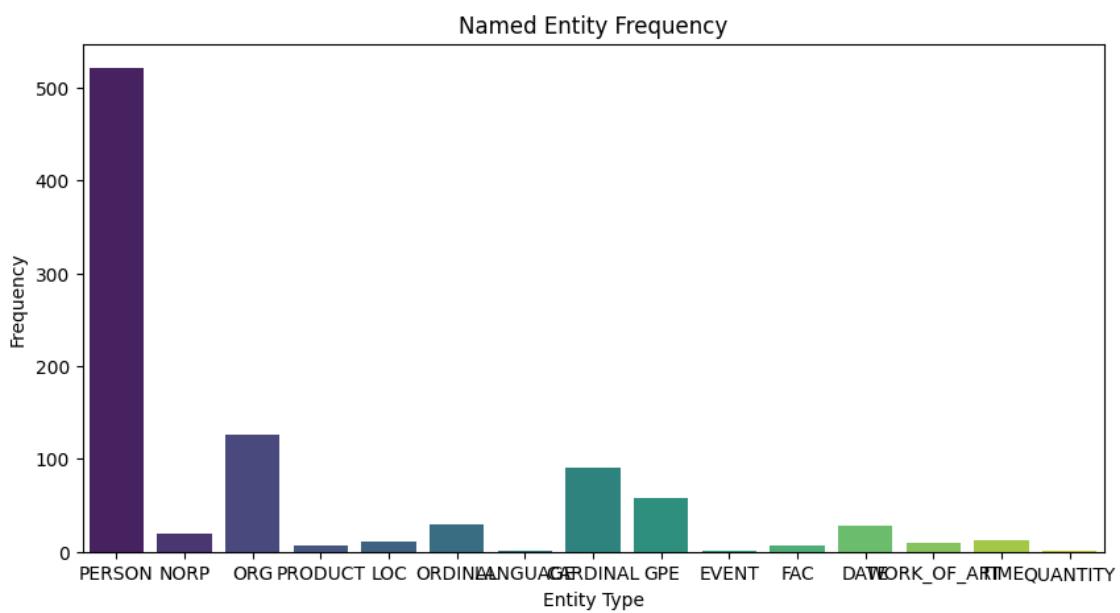
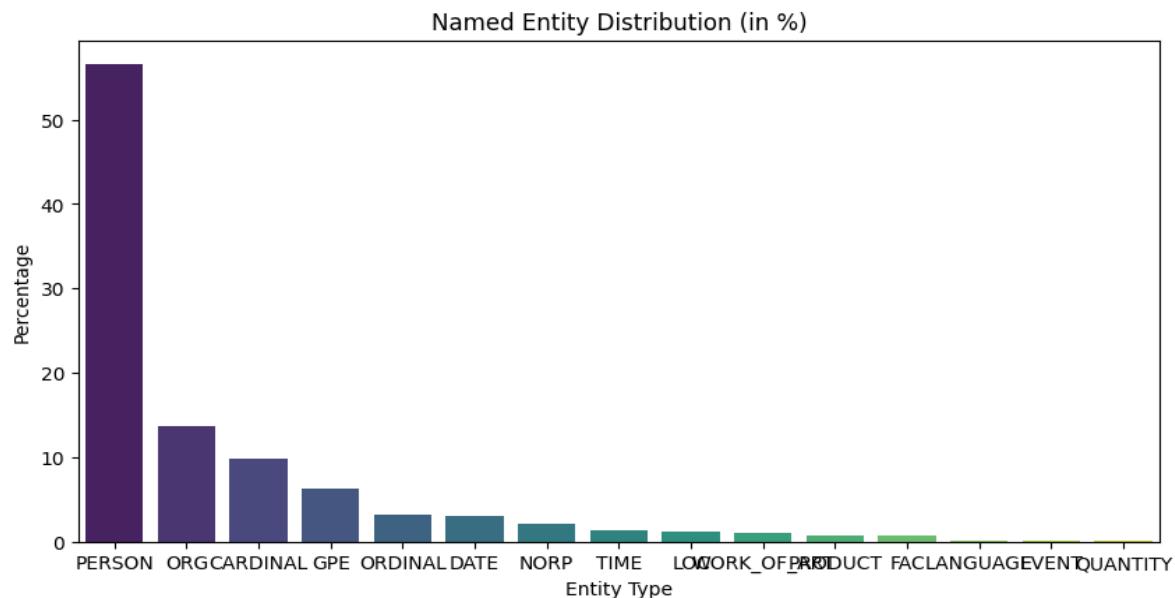
Distribution of the parts of the speech across the chapter



## Named Entity Recognition (NER)

Used the spacy to identify the entities in the text and classify them.

Distribution of the named entities in the text



## Sentiment Analysis

Used the TextBlob library to process the text and identify the sentiments.

Polarity: Measures the positivity or negativity of the text. (range from -1 to 1)

Subjectivity: Measures how subjective or objective the text is. (range from 0 to 1)

**Average Polarity: 0.04**

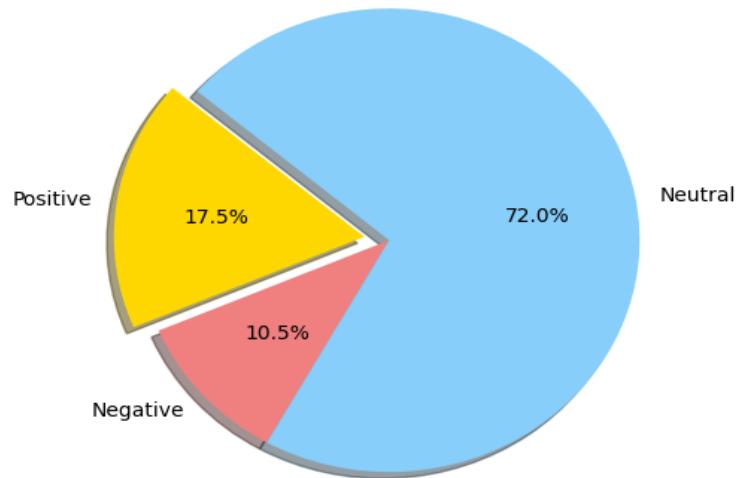
**Average Subjectivity: 0.16**

**Positive Sentences: 378**

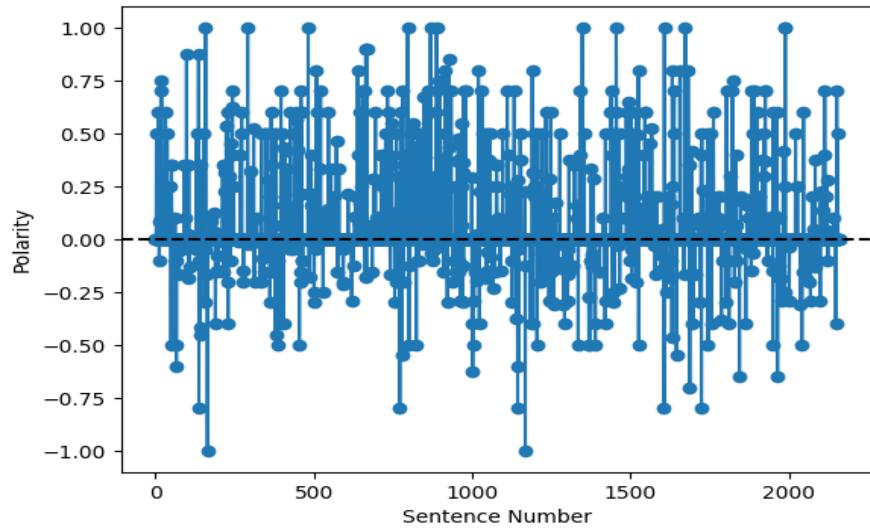
**Negative Sentences: 227**

**Neutral Sentences: 1556**

Sentiment Distribution



Sentiment Over Time



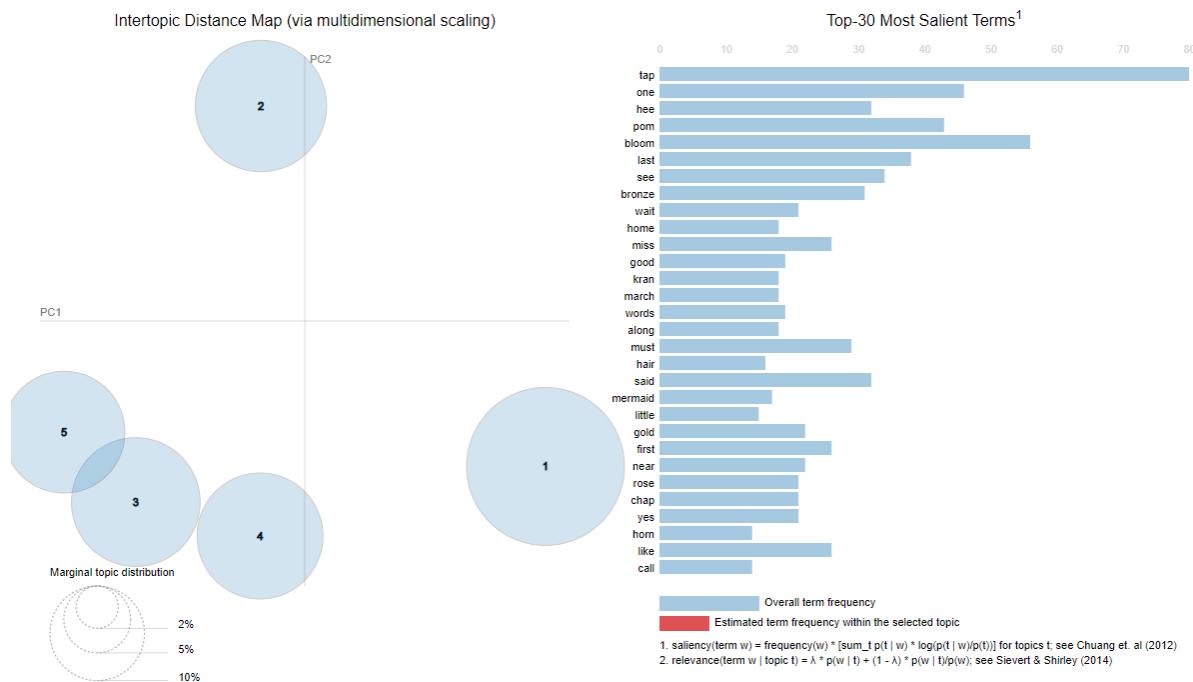
## Topic Modeling

Used the Latent Dirichlet Allocation model from gensim library to identify the topics within the text.

Identified topics and their weights

```
(0, '0.023*"bloom" + 0.015*"bronze" + 0.013*"miss" + 0.011*"gold"')  
(1, '0.022*"last" + 0.015*"said" + 0.013*"words" + 0.012*"mermaid"')  
(2, '0.066*"tap" + 0.022*"pom" + 0.015*"home" + 0.012*"little"')  
(3, '0.036*"one" + 0.016*"wait" + 0.013*"hair" + 0.010*"two"')  
(4, '0.024*"hee" + 0.019*"see" + 0.014*"good" + 0.014*"kran"')
```

Topic visualization



# A Tale of Two Cities by Charles Dickens Analysis

For the second text I selected the first 4 chapters from the novel “A tale of two cities” by Charles Dickens

I applied the same preprocessing steps, as previously described.

# Word Cloud

The words with the most occurrences are: "passenger", "sir", "business", "guard", "one", "hand".



# Anaphora detection

I identified 12 anaphoras in the text.

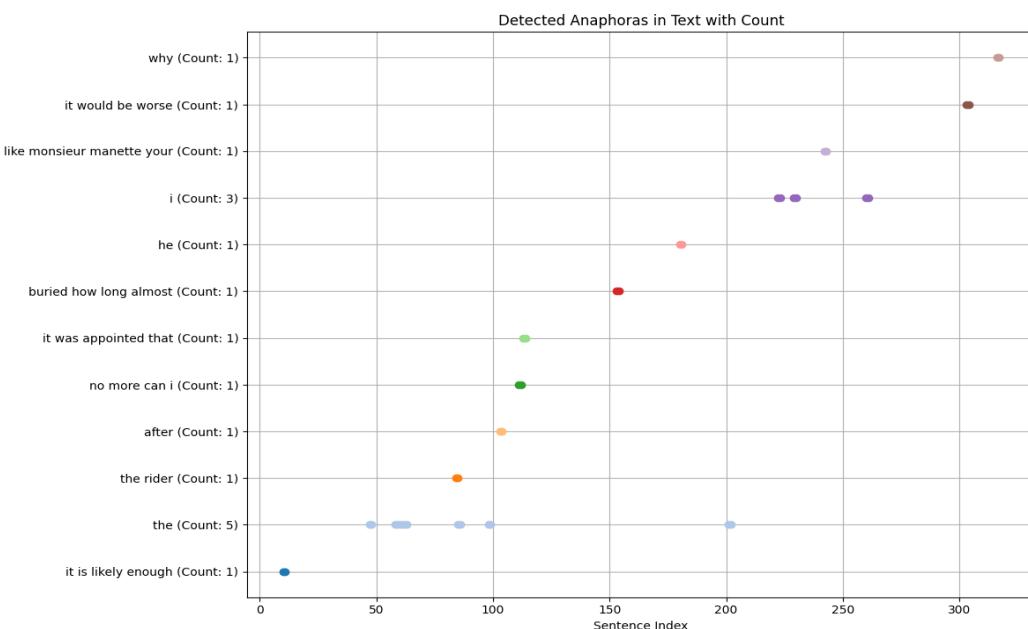
**it is likely enough** that, rooted in the woods of France and Norway, there were growing trees, when that sufferer was put to death, already marked by the Woodman, Fate, to come down and be sawn into boards, to make a certain movable framework with a sack and a knife in it, terrible in history. **it is likely enough** that in the rough outhouses of some tillers of the heavy lands adjacent to Paris, there were sheltered from the weather that very day, rude carts, bespattered with rustic mire, snuffed about by pigs, and roosted in by poultry, which the Farmer, Death, had already set apart to be his tumbrils of the Revolution.

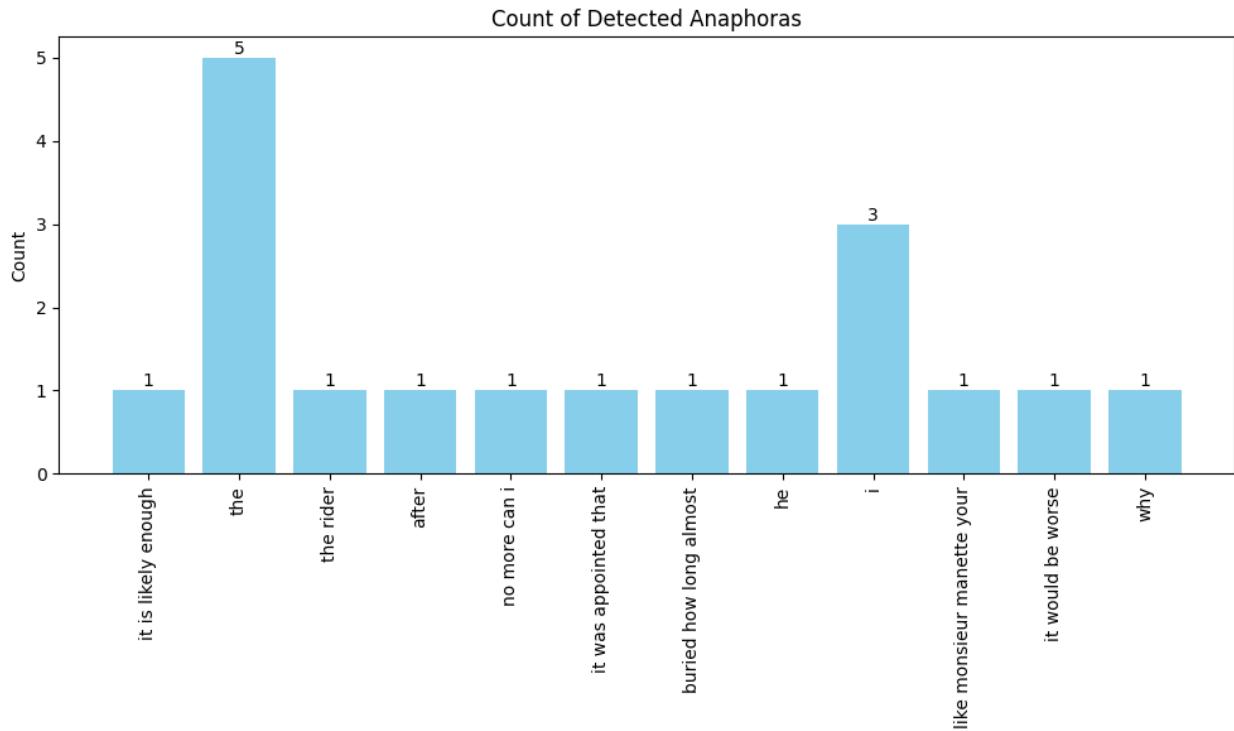
**the** little narrow, crooked town of Dover hid itself away from the beach, and ran its head into the chalk cliffs, like a marine ostrich. **the** beach was a desert of heaps of sea and stones tumbling wildly about, and the sea did what it liked, and what it liked was destruction.

**the rider** stooped, and, casting up his eyes at the guard, handed the passenger a small folded paper. **the rider**'s horse was blown, and both horse and rider were covered with mud, from the hoofs of the horse to the hat of the man "Guard!" said the passenger, in a tone of quiet business confidence.

**after** standing with the bridle over his heavily splashed arm, until the wheels of the mail were no longer within hearing and the night was quite still again, he turned to walk down the hill. “**After** that there gallop from Temple Bar, old lady, I won’t trust your fore-legs till I get you on the level,” said this hoarse messenger, glancing at his mare.

**no more can i** turn the leaves of this dear book that I loved, and vainly hope in time to read it all. **no more can i** look into the depths of this unfathomable water, wherein, as momentary lights glanced into it, I have had glimpses of buried treasure and other things submerged.  
**it was appointed that** the book should shut with a spring, for ever and for ever, when I had read but a page. **it was appointed that** the water should be locked in an eternal frost, when the light was playing on its surface, and I stood in ignorance on the shore.  
 "Buried how long?" "Almost eighteen years." "I hope you care to live?" "I can't say." Dig—dig—dig—until an impatient movement from one of the two passengers would admonish him to pull up the window, draw his arm securely through the leathern strap, and speculate upon the two slumbering forms, until his mind lost its hold of them, and they again slid away into the bank and the grave.  
 "Buried how long?" "Almost eighteen years." "You had abandoned all hope of being dug out?" "Long ago." The words were still in his hearing as just spoken—distinctly in his hearing as ever spoken words had been in his life—when the weary passenger started to the consciousness of daylight, and found that the shadows of the night were gone.  
**he** had a good leg, and was a little vain of it, for his brown stockings fitted sleek and close, and were of a fine texture; his shoes and buckles, too, though plain, were trim. **he** wore an odd little sleek crisp flaxen wig, setting very close to his head: which wig, it is to be presumed, was made of hair, but which looked far more as though it were spun from filaments of silk or glass.  
**i** have no time for them, no chance of them. **i** pass my whole life, miss, in turning an immense pecuniary Mangle." After this odd description of his daily routine of employment, Mr. Lorry flattened his flaxen wig upon his head with both hands (which was most unnecessary, for nothing could be flatter than its shining surface was before), and resumed his former attitude.  
 Like Monsieur Manette, your father, the gentleman was of Beauvais. Like Monsieur Manette, your father, the gentleman was of repute in Paris.  
**it would be worse** than useless now to inquire which; worse than useless to seek to know whether he has been for years overlooked, or always designedly held prisoner. **it would be worse** than useless now to make any inquiries, because it would be dangerous.  
 "Why, look at you all!" bawled this figure, addressing the inn servants. "Why don't you go and fetch things, instead of standing there staring at me?"





## Anadiplosis detection

I identified 1 anadiplosis in the text.

"It wouldn't do for you, **jerry. jerry**, you honest tradesman, it wouldn't suit your line of business!"

## Epistrophe detection

I identified 10 epistrophes in the text.

Much of that wouldn't do for you, **jerry!** I say, **jerry!**

It is fifteen years since we—since I—came last from France." "Indeed, **sir?** That was before my time here, **sir.**

Show **concord!** Gentleman's valise and hot water to **concord.** Pull off gentleman's boots in **concord.** Please to let me know." "Yes, sir. Tellson's Bank in London, sir?" "Yes." "Yes, sir.

That was before my time here, sir. Before our people's time here, sir.

He was a French gentleman; a scientific gentleman; a man of great acquirements—a Doctor." "Not **of beauvais?**" "Why, yes, **of beauvais.** Like Monsieur Manette, your father, the gentleman was **of beauvais.**

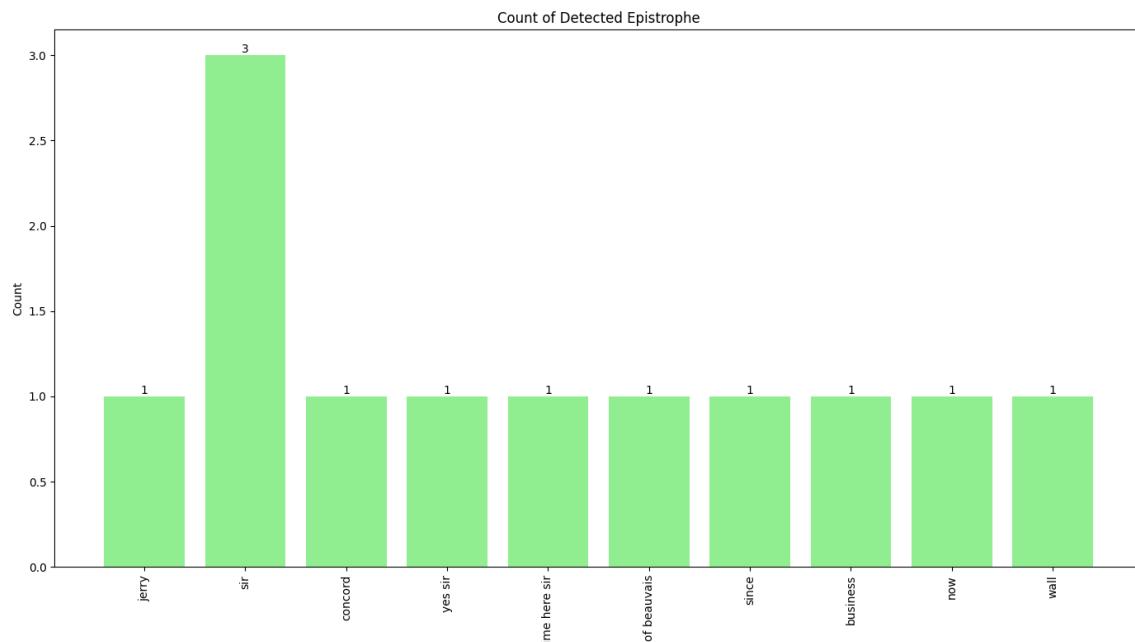
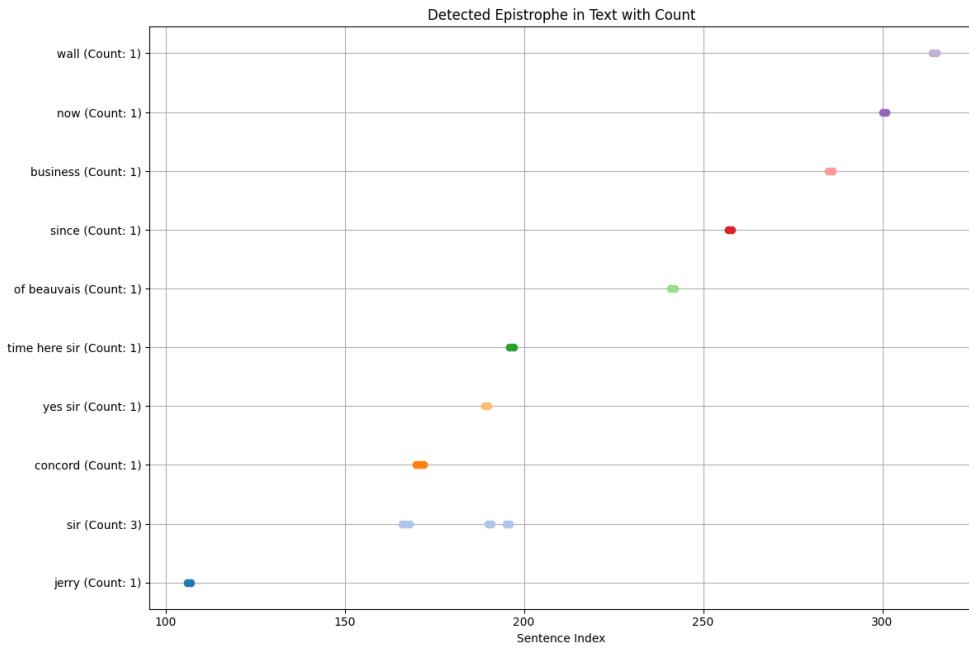
And you will see how truly I spoke of myself just now, in saying I had no feelings, and that all the relations I hold with my fellow-creatures are mere business relations, when you reflect that I have never seen you **since.** No; you have been the ward of Tellson's House **since**, and I have been busy with the other business of Tellson's House **since.**

**business!** You have **business** before you; useful **business.**

See **now**, see **now!** The best and the worst are known to you, **now.**

A wild-looking woman, whom even in his agitation, Mr. Lorry observed to be all of a red colour, and to have red hair, and to be dressed in some extraordinary tight-fitting fashion, and to have on her head a most wonderful bonnet like a Grenadier wooden measure, and good measure too, or a great Stilton

cheese, came running into the room in advance of the inn servants, and soon settled the question of his detachment from the poor young lady, by laying a brawny hand upon his chest, and sending him flying back against the nearest **wall**. ("I really think this must be a man!" was Mr. Lorry's breathless reflection, simultaneously with his coming against the **wall**.)



## Epizeuxis detection

I identified 8 epizeuxis in the text.

Thus did **the** year one thousand seven hundred and seventy-five conduct their Greatnesses, and myriads of small creatures— **the** creatures of this chronicle among **the** rest—along **the** roads that lay before them.

The Dover mail was in its usual genial position that the guard suspected **the passengers**, **the passengers** suspected one another and the guard, they all suspected everybody else, and the coachman was sure of nothing but the horses; as to which cattle he could with a clear conscience have taken his oath on the two Testaments that they were not fit for the journey.

If any one of the three **had had** the hardihood to propose to another to walk on a little ahead into the mist and darkness, he would have put himself in a fair way of getting shot instantly as a highwayman.

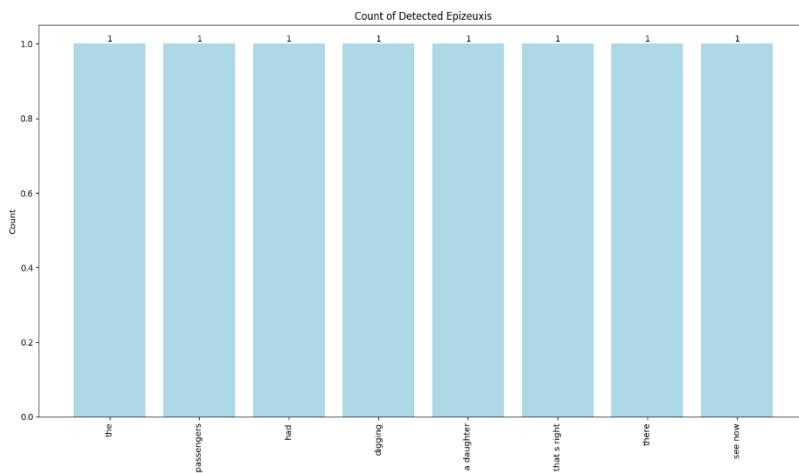
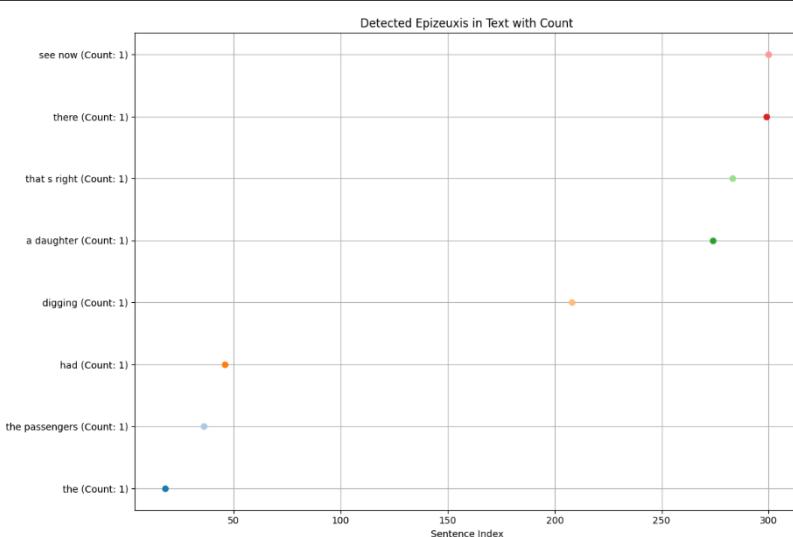
When it was dark, and he sat before the coffee-room fire, awaiting his dinner as he had awaited his breakfast, his mind was busily **digging**, **digging**, **digging**, in the live red coals.

Now if this doctor's wife, though a lady of great courage and spirit, had suffered so intensely from this cause before her little child was born—" "The little child was **a daughter**, sir." "**a daughter**.

"That's right, that's right.

**"there, there, there!"**

**see now, see now!**



## Polyptoton detection

I identified 18 polyptotons in the text.

it was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us, we were all going direct to Heaven, we were all going direct the other way—in short, the period was so far like the present period, that some of its noisiest authorities insisted on its being received, for good or for evil, in the superlative degree of comparison only. There was a steaming mist in all the hollows, and it had roamed in its forlornness up the hill, like an evil spirit, seeking rest and finding none. A clammy and intensely cold mist, it made its slow way through the air in ripples that visibly followed and overspread one another, as the waves of an unwholesome sea might do. it was dense enough to shut out everything from the light of the coach-lamps but these its own workings, and a few yards of road; and the reek of the labouring horses steamed into it, as if they had made it all. A solemn consideration, when I enter a great city by night, that every one of those darkly clustered houses encloses its own secret; that every room in every one of them encloses its own secret; that every beating heart in the hundreds of thousands of breasts there, is, in some of its imaginings, a secret to the heart nearest it! it was appointed that the water should be locked in an eternal frost, when the light was playing on its surface, and I stood in ignorance on the shore. Very orderly and methodical he looked, with a hand on each knee, and a loud watch ticking a sonorous sermon under his flapped waistcoat, as though it pitted its gravity and longevity against the levity and evanescence of the brisk fire.

Even the Cock-lane ghost had been laid only a round dozen of years, after rapping out its messages, as the spirits of this very year last past (supernaturally deficient in originality) rapped out theirs. Even the Cock-lane ghost had been laid only a round dozen of years, after rapping out its messages, as the spirits of this very year last past (supernaturally deficient in originality) rapped out theirs.

Daring burglaries by armed men, and highway robberies, took place in the capital itself every night; families were publicly cautioned not to go out of town without removing their furniture to upholsterers' warehouses for security; the highwayman in the dark was a City tradesman in the light, and, being recognised and challenged by his fellow-tradesman whom he stopped in his character of "the Captain," gallantly shot him through the head and rode away; the mall was waylaid by seven robbers, and the guard shot three dead, and then got shot dead himself by the other four, "in consequence of the failure of his ammunition:" after which the mall was robbed in peace; that magnificent potentate, the lord Mayor of London, was made to stand and deliver on Turnham Green, by one highwayman, who despoiled the illustrious creature in sight of all his retinue; prisoners in London gaols fought battles with their turnkeys, and the majesty of the law fired blunderbusses in among them, loaded with rounds of shot and ball; thieves snipped off diamond crosses from the necks of noble lords at Court drawing-rooms; musketeers went into St. Giles's, to search for contraband goods, and the mob fired on the musketeers, and the musketeers fired on the mob, and nobody thought any of these occurrences much out of the common way.

He walked up hill in the mire by the side of the mail, as the rest of the passengers did; not because they had the least relish for walking exercise, under the circumstances, but because the hill, and the harness, and the mud, and the mail, were all so heavy, that the horses had three times already come to a stop, besides once drawing the coach across the road, with the mutinous intent of taking it back to Blackheath.

In those days, travellers were very shy of being confidential on a short notice, for anybody on the road might be a robber or in league with robbers.

In those days, travellers were very shy of being confidential on a short notice, for anybody on the road might be a robber or in league with robbers.

Get on with you!" The emphatic **horse**, cut short by the whip in a most decided negative, made a decided scramble for it, and the three other **horses** followed suit.

The **passenger** booked by this history, was on the coach-step, getting in; the two other **passengers** were close behind him, and about to follow. Stir about there, now, for Concord!" The Concord bed-chamber being always assigned to a **passenger** by the mail, and **passengers** by the mail being always heavily wrapped up from head to foot, the room had the odd interest for the establishment of the Royal George, that although but one kind of man was seen to go into it, all kinds and varieties of men came out of it.

Now, which of the multitude of **faces** that showed themselves before him was the true **face** of the buried person, the shadows of the night did not indicate; but they were all the **faces** of a man of five-and-forty by years, and they differed principally in the passions they expressed, and in the ghastliness of their worn and wasted state.

There was a ridge of **ploughed** land, with a **plough** upon it where it had been left last night when the horses were unyoked; beyond, a quiet coppice-wood, in which many leaves of burning red and golden yellow still remained upon the trees.

Stir about there, now, for Concord!" The Concord bed-chamber being always assigned to a passenger by the mail, and passengers by the mail being always heavily wrapped up from head to foot, the room had the odd interest for the establishment of the Royal George, that although but one **kind** of man was seen to go into it, all **kinds** and varieties of men came out of it.

When it was dark, and he sat before the coffee-room fire, **awaiting** his dinner as he had **awaited** his breakfast, his mind was busily digging, digging, digging, in the live red coals.

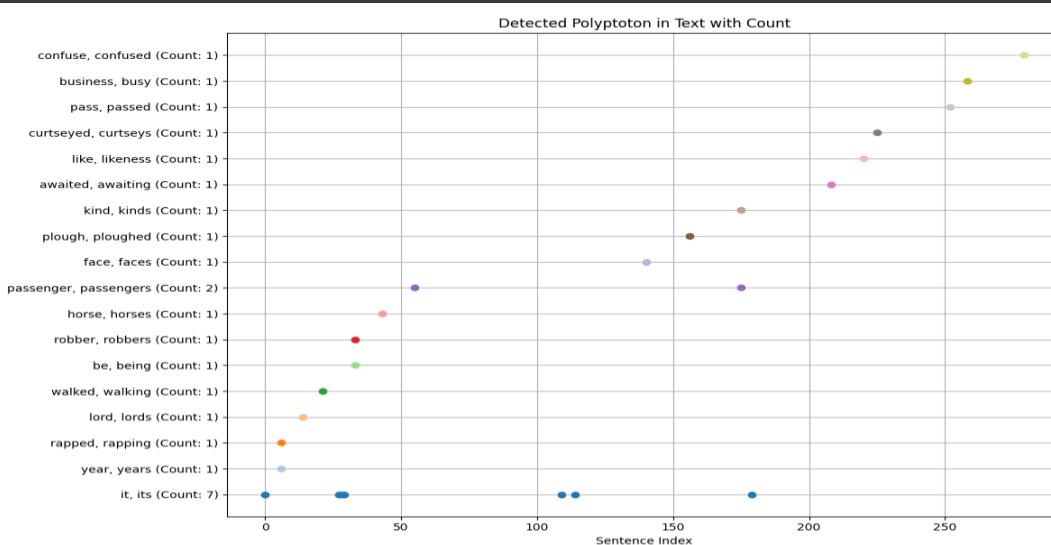
The **likeness** passed away, **like** a breath along the surface of the gaunt pier-glass behind her, on the frame of which, a hospital procession of negro cupids, several headless and all cripples, were offering black baskets of Dead Sea fruit to black divinities of the feminine gender-and he made his formal bow to Miss Manette.

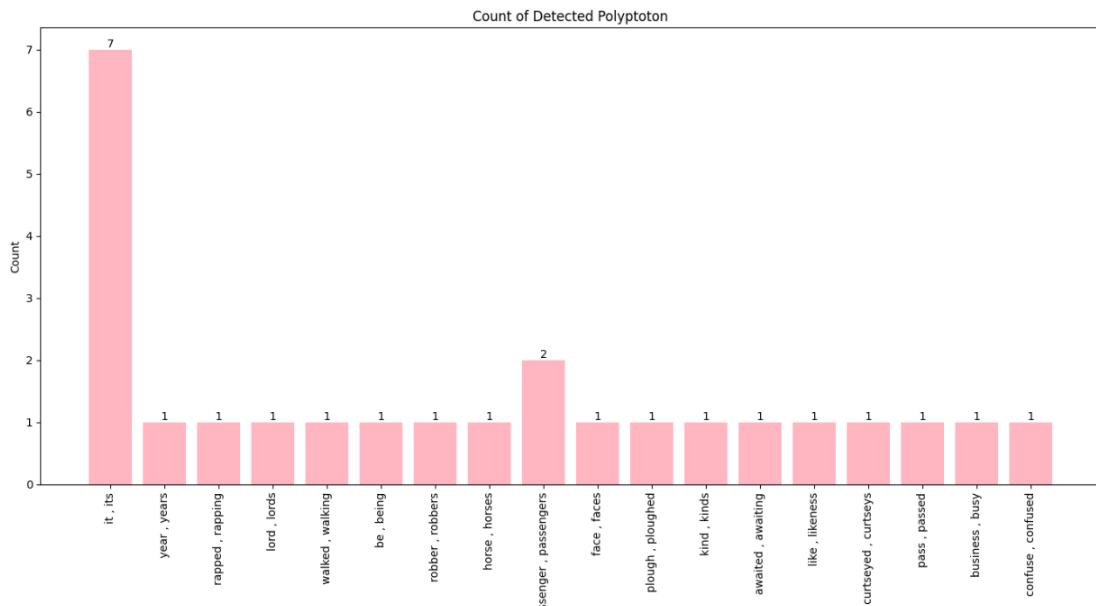
"—rendered it necessary that I should go to Paris, there to communicate with a gentleman of the Bank, so good as to be despatched to Paris for the purpose." "Myself." "As I was prepared to hear, sir." She **curtseyed** to him (young ladies made **curtseys** in those days), with a pretty desire to convey to him that she felt how much older and wiser he was than she.

I have **passed** from one to another, in the course of my business life, just as I **pass** from one of our customers to another in the course of my business day; in short, I have no feelings; I am a mere machine.

No; you have been the ward of Tellson's House since, and I have been **busy** with the other **business** of Tellson's House since.

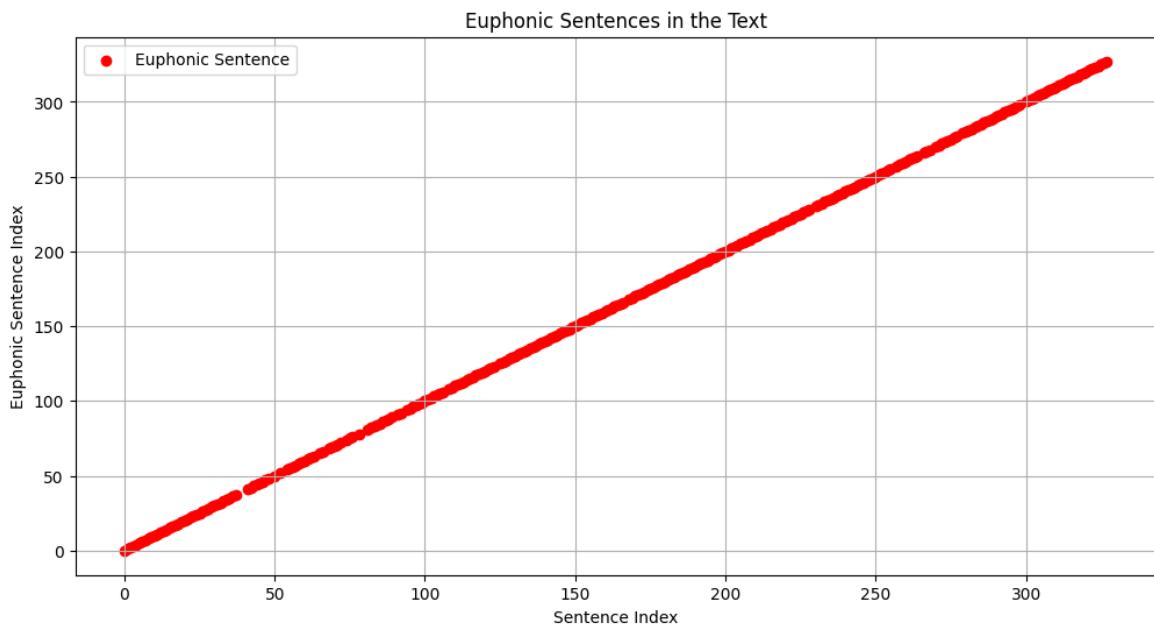
You **confuse** me, and how can I transact business if I am **confused**?





## Euphony detection

I identified 305 euphonic sentences in the text.

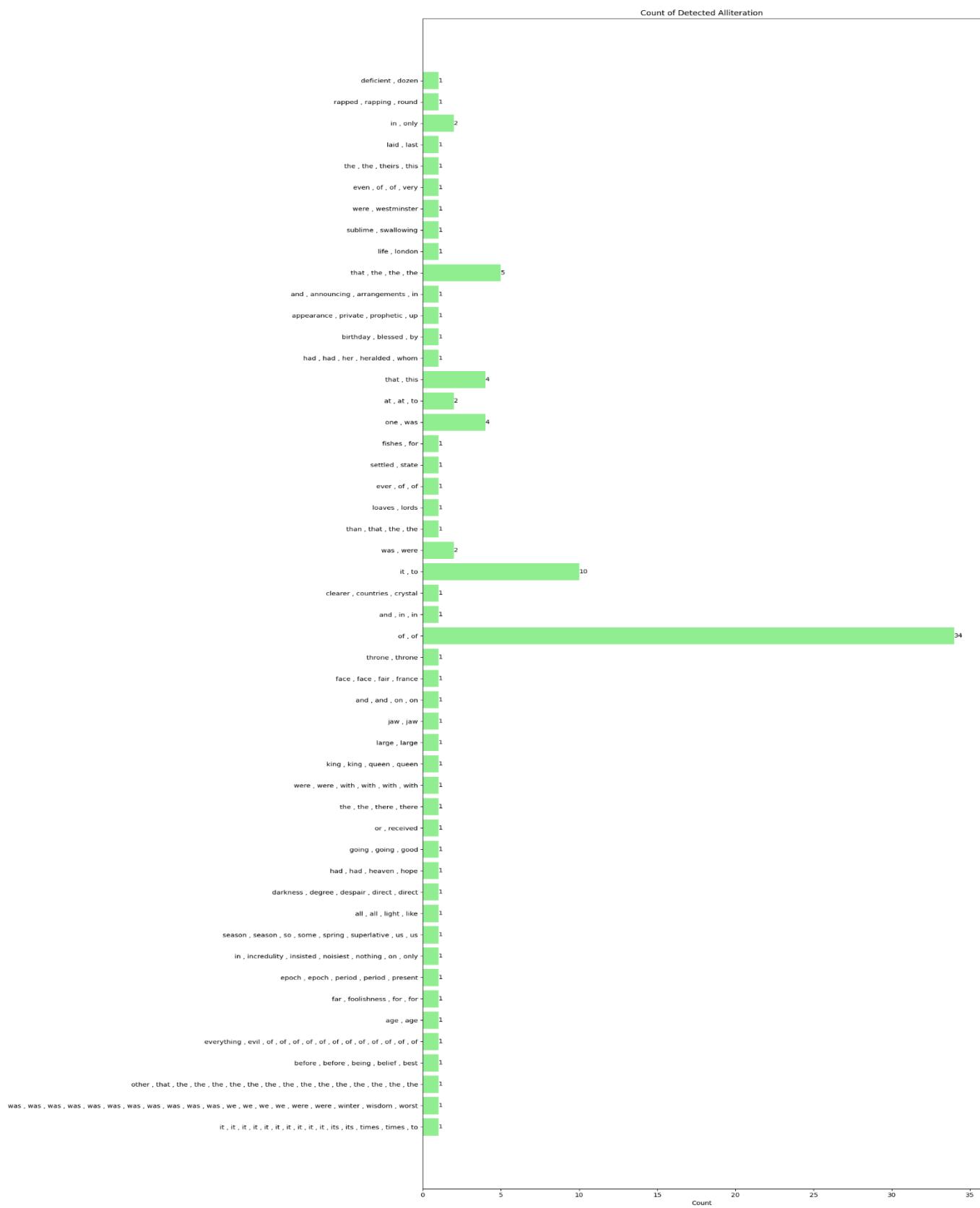


# Aliteration detection

I identified 1625 alliterations in the text.

The rider's horse was blown, and both horse and rider were covered with mud, from the hoofs of the horse to the hat of the man "Guard!" said the passenger, in a tone of quiet business confidence. "He may come close; there's nothing wrong." "I hope there ain't, but I can't make so 'Nation sure of that," said the guard, in gruff soliloquy.



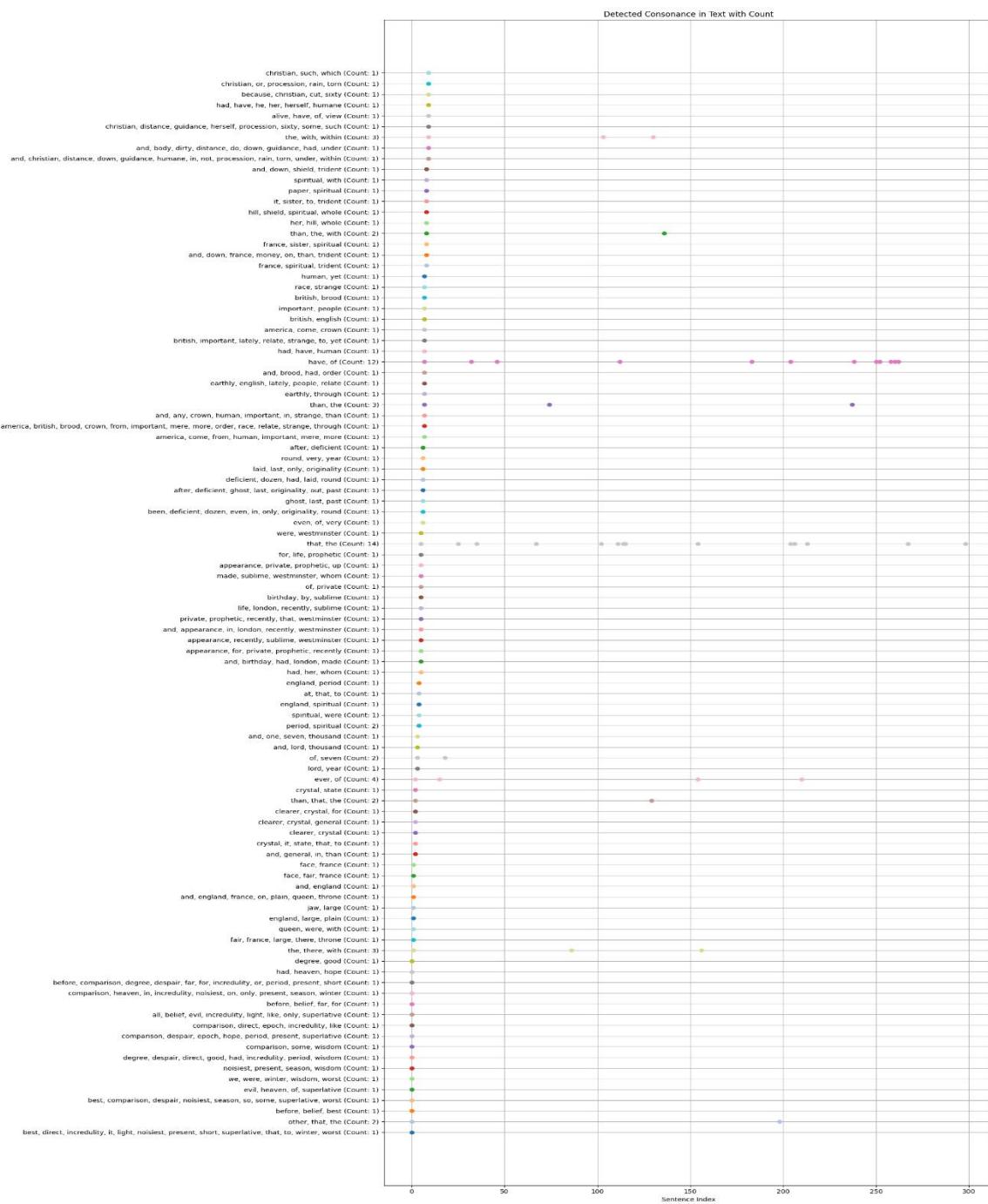


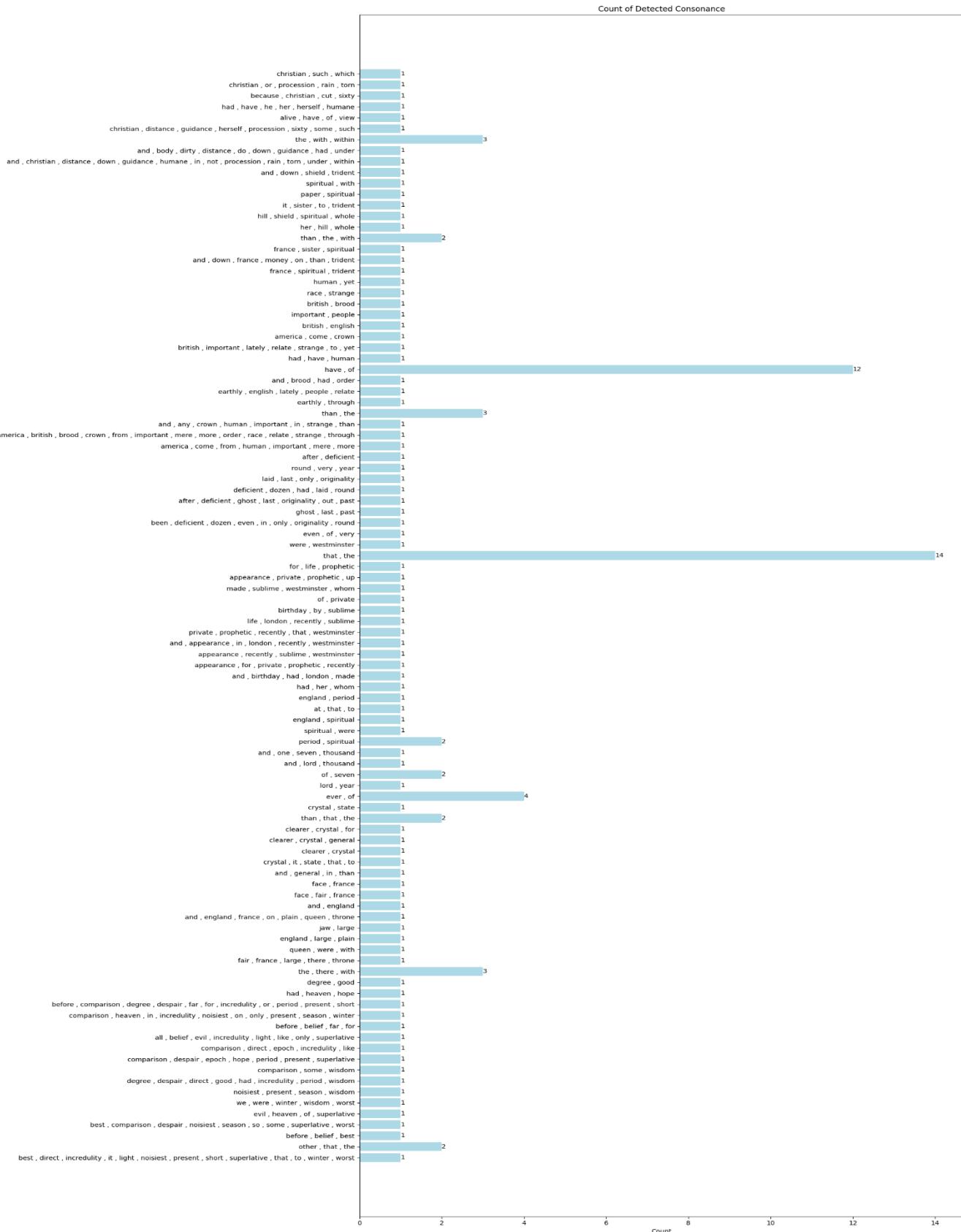
# Consonance detection

I identified 2317 consonances in the text.

The expression in the forehead, which had so particularly attracted his notice, and which was now immovable, had deepened into one of pain and horror.

She said, in a low, distinct, awe-stricken voice, as if she were saying it in a dream, "I am going to see his ghost!"



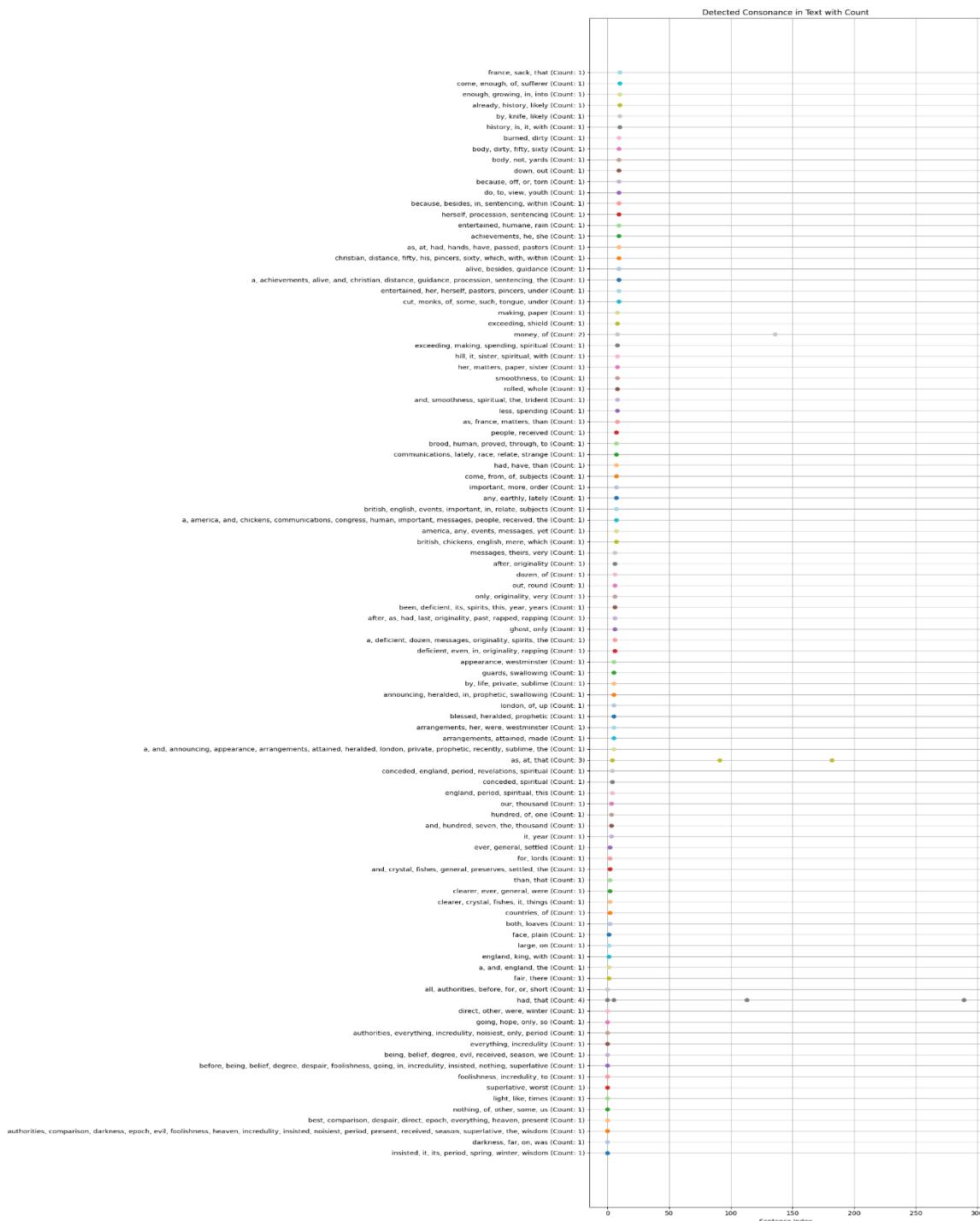


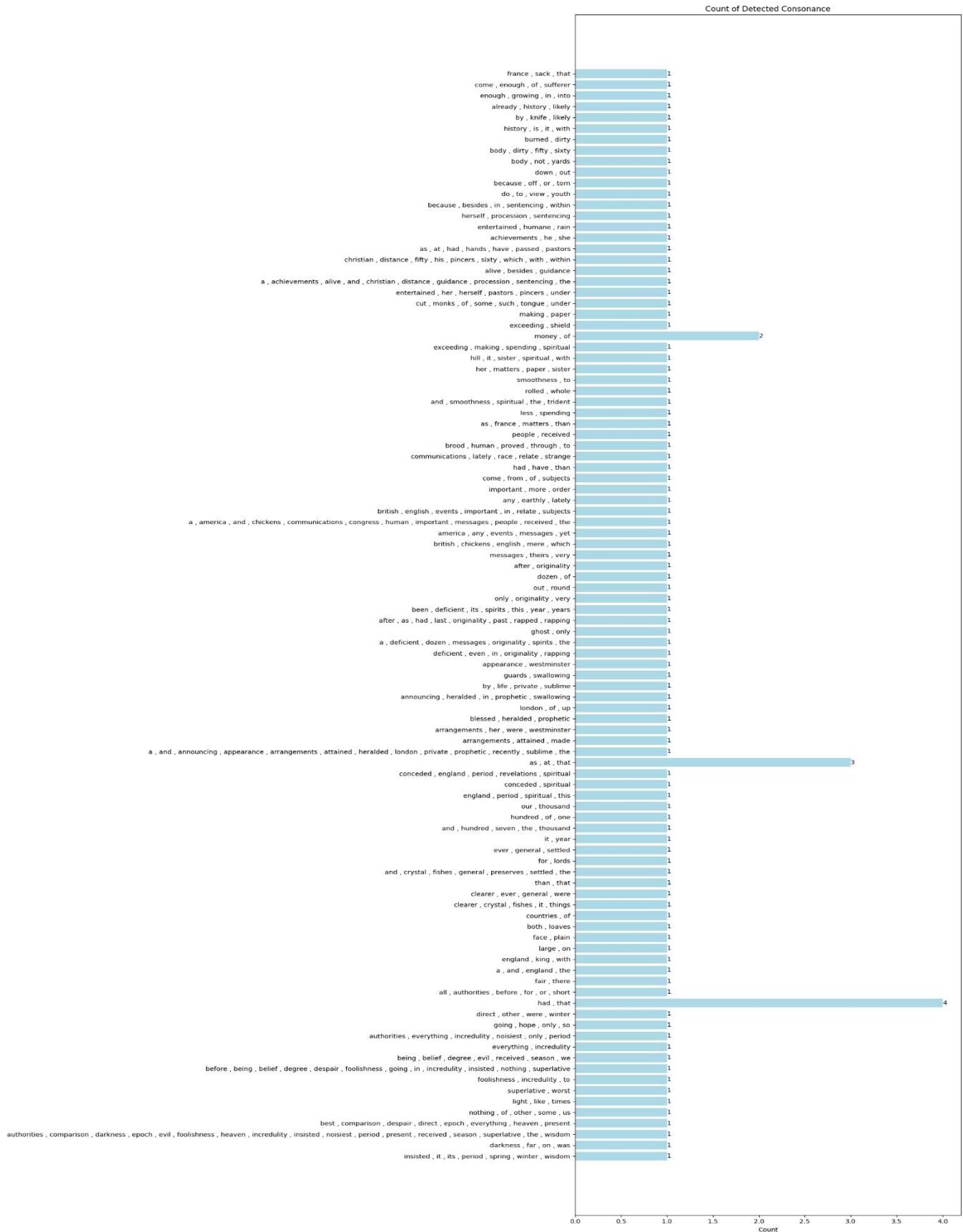
# Assonance detection

I identified 2140 assonances in the text.

"My darling pretty!" "I hope," said Mr. Lorry, after another pause of feeble sympathy and humility, "that you accompany Miss Manette to France?" "A likely thing, too!" replied the strong woman.

("I **really** think this must be a man!" was Mr. Lorry's breathless reflection, simultaneously **with his** coming against the wall.)



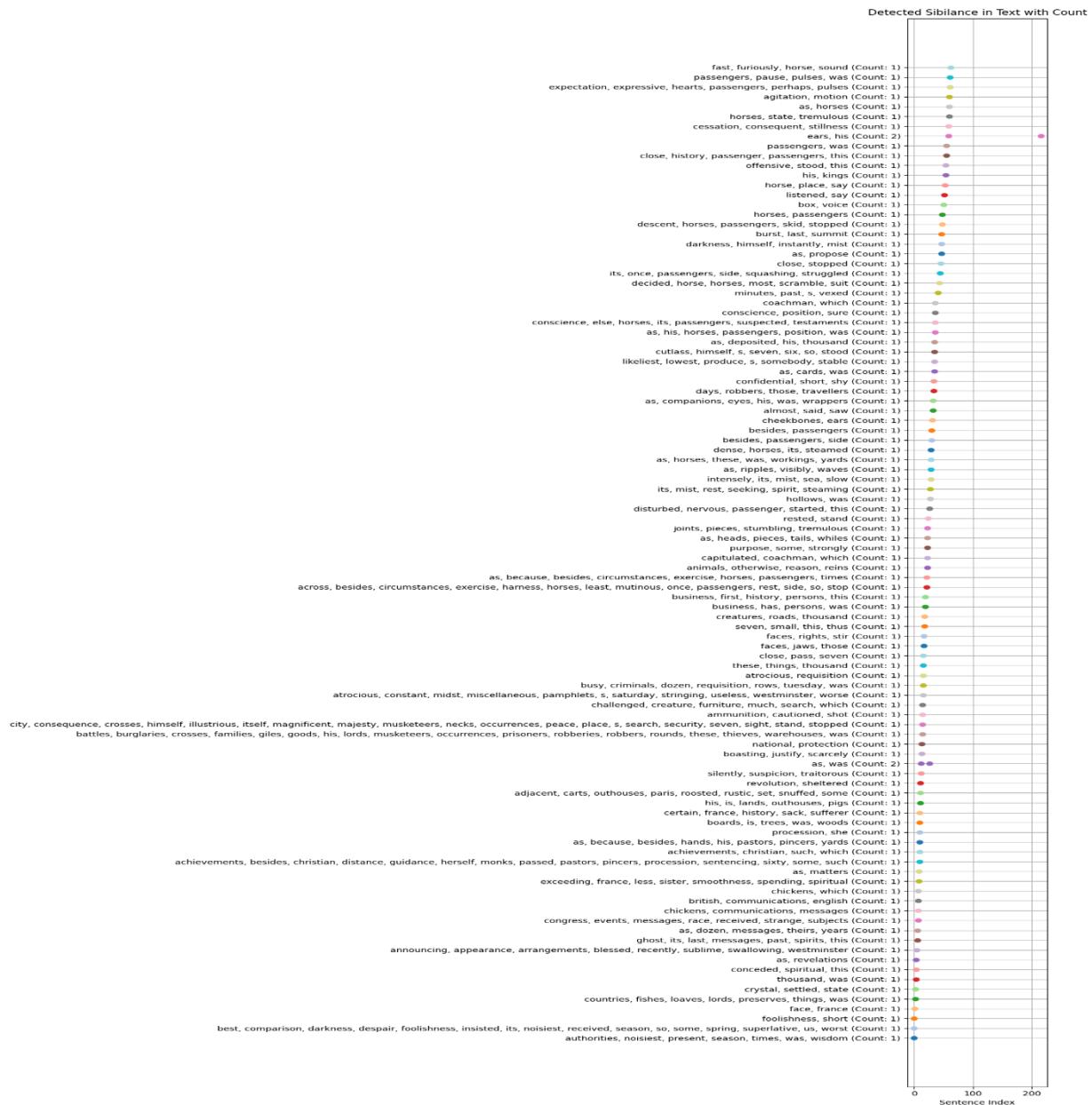


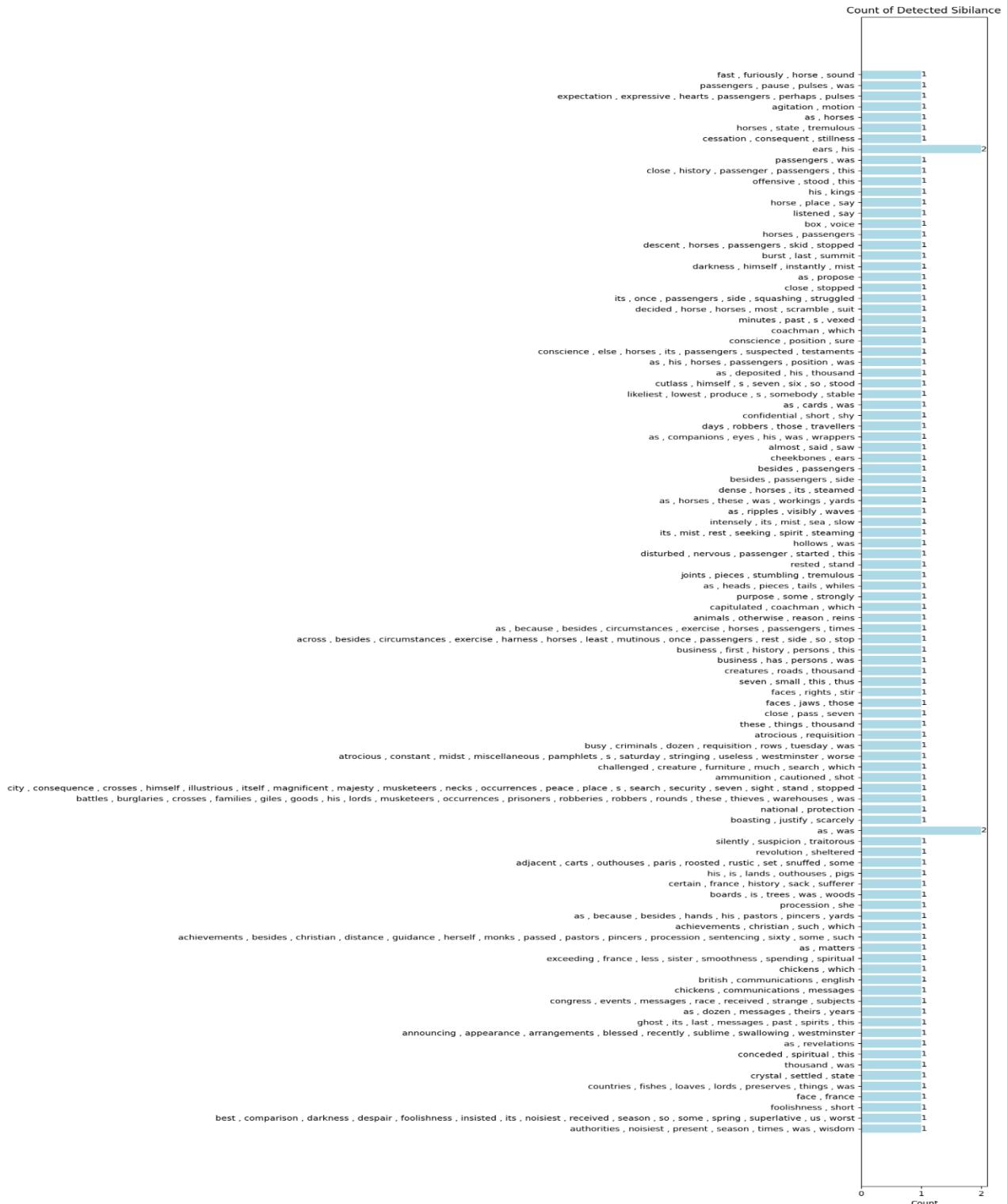
# Sibilance detection

I identified 462 sibilances in the text.

The young forehead lifted itself into that singular expression—but it **was** pretty and characteristic, **besides** being singular—and she **raised** her hand, **as if** with an involuntary action she caught at, or stayed some passing shadow.

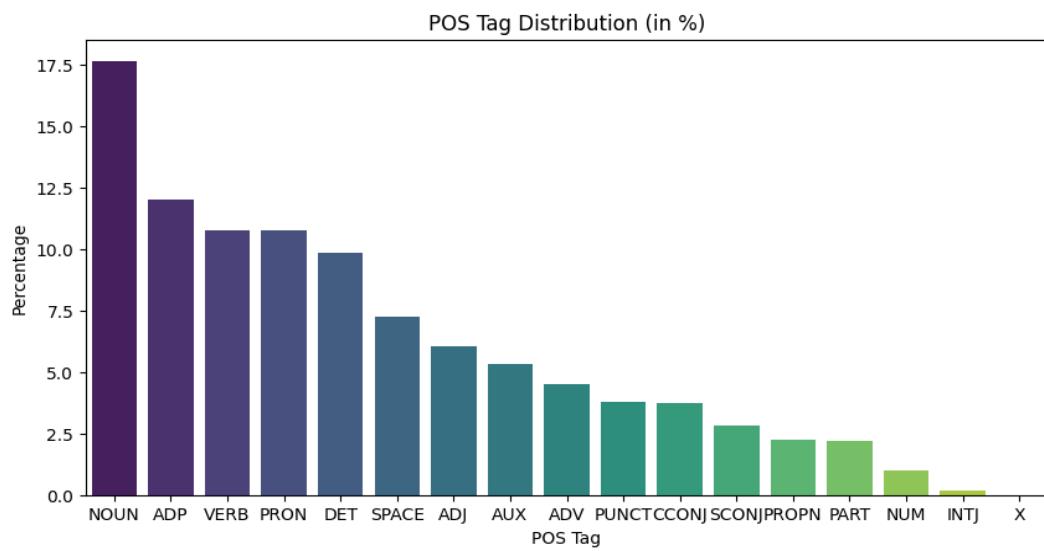
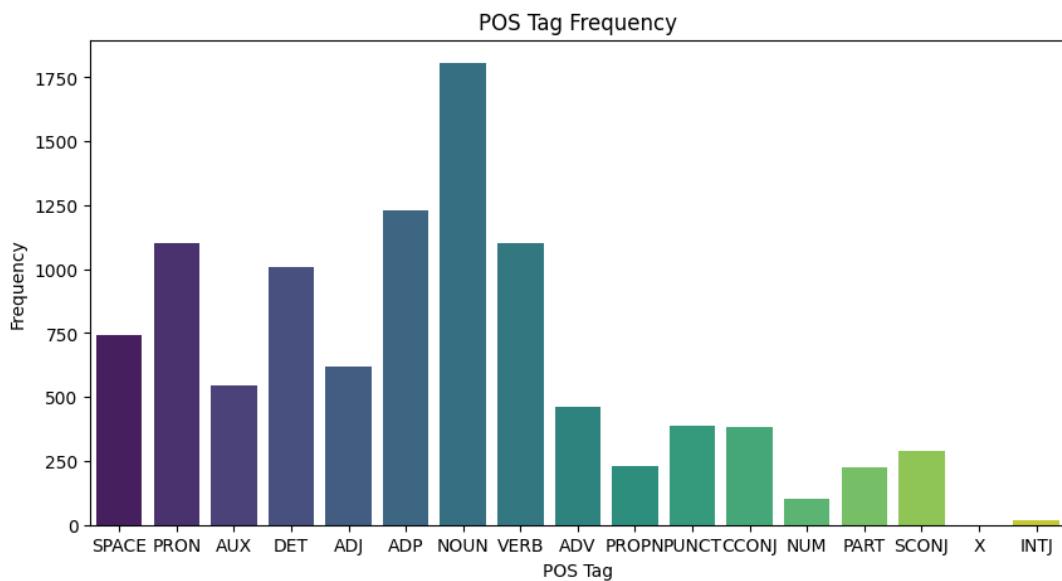
"I kiss your hand, miss," said Mr. Lorry, with the manners of an earlier date, as he made his formal bow again, and took his seat.



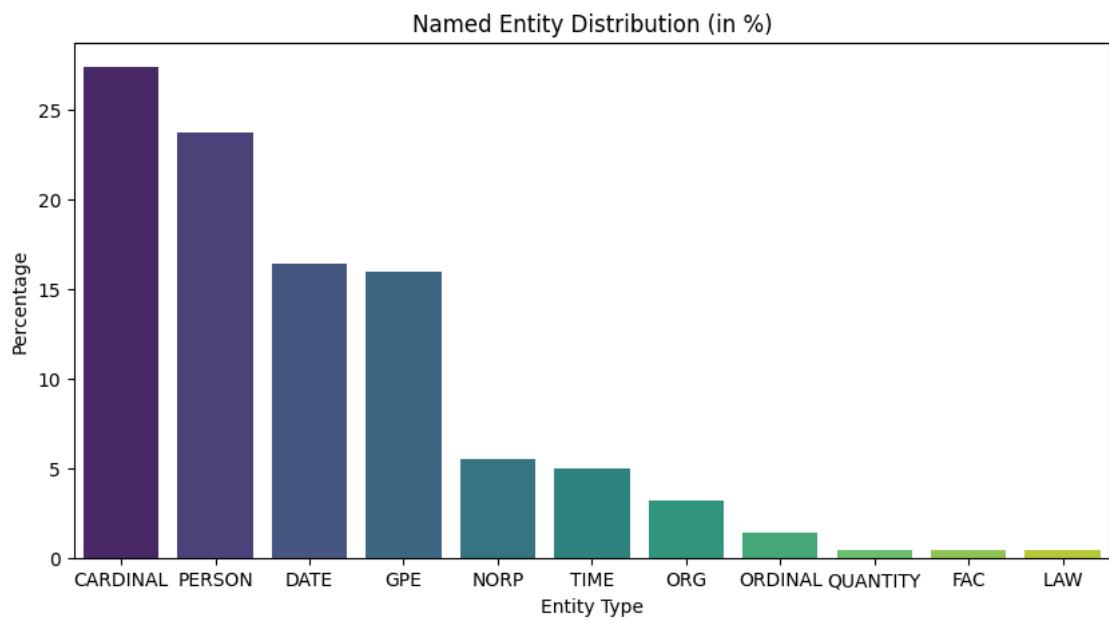
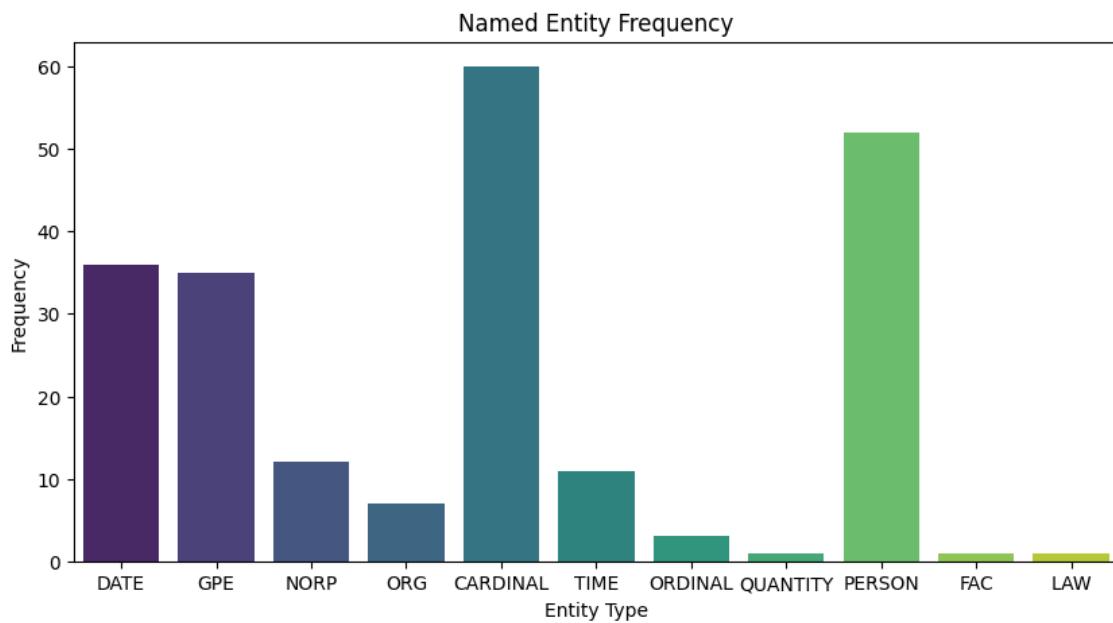


# Polyphonic analysis

## Part-of-Speech (POS) Tagging



## Named Entity Recognition (NER)



## Sentiment Analysis

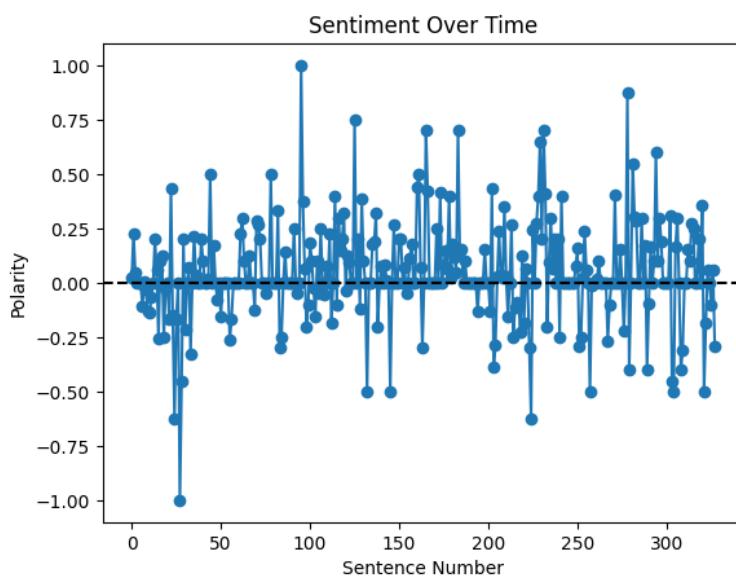
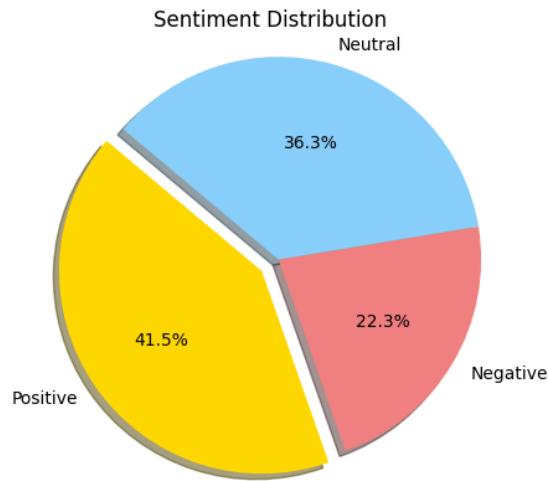
Average Polarity: 0.04

Average Subjectivity: 0.34

Positive Sentences: 136

Negative Sentences: 73

Neutral Sentences: 119



## Topic Modeling

Identified topics and their weights

```
(0, '0.064*"one" + 0.038*"last" + 0.029*"rose" + 0.024*"miss"')
(1, '0.047*"said" + 0.032*"mr" + 0.032*"see" + 0.029*"words"')
(2, '0.034*"first" + 0.030*"saw" + 0.027*"like" + 0.021*"hear"')
(3, '0.027*"wait" + 0.021*"came" + 0.020*"call" + 0.016*"mean"')
(4, '0.032*"good" + 0.028*"hair" + 0.024*"look" + 0.024*"lost"')
```

