Reading Faulkner Quantitatively

An Algorithmic Criticism of the Novels of William Faulkner

CS+English Capstone Project

English 198 / CS191W

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https://github.com/dmcfalls/Faulkner

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Introduction

"It is a curious fact that with every novel he produces William Faulkner's position in American letters becomes less easy to define."

-Helen Neville, June 1938

There is a history of disagreement in the criticism of Faulkner's novels. Both when his novels were being released and up to the present day, there has been a great deal of difference of opinion regarding which novels have been successful, which ones have failed, which ones are crucial to his novelistic project, which ones are worth reading, which ones are not. The two late-career novels which earned him the Pulitzer Prize in fiction, *A Fable* and *The Reivers*, have been retrospectively regarded as lesser or failed works, and are largely ignored by the majority of criticism, with the former called Faulkner at his "most turgid," "a restless residue of the Faulknerian imagination," and "an earnest and highminded mistake" (Emerson 248). By contrast, the novel that many consider Faulkner's *magnum opus* and the high point of his career, *Absalom! Absalom!*, met with mixed reception at the time of its publication, with some reviewers remarking that "this is his master work" and "a tremendous book, a novel of foremost importance", but other reviewers calling it a "disgusting book" and "a most elaborate inarticulateness" (Inge 141-163). *Pylon*, which preceded *Absalom! Absalom!* and met with almost uniformly warm reviews from critics, is today far less revered than its successor. On the whole, Faulkner has been characterized in the best and worst light throughout his career, with disagreements about his style, reservations about his subject matter, and delusions arising from his reputation causing extreme variances in opinion. With the advantage of a retrospective lens, and with such subjectivity affecting the history of Faulkner criticism, I hope to elucidate and clarify some of that criticism by taking a faraway, quantitative approach to analyzing Faulkner's novels. By analyzing the basic, structural features of the novels in light of the entire trajectory of

Faulkner's career, I locate some misguided intuitions about variations in his style, provide some commentary on perhaps why some novels are regarded as they are, and provide additional evidence for some of the prevailing views that have come to characterize the discussion of Faulkner's novels.

For the primary study in this project, I have gathered several basic statistics about the novels and charted them both over time and as pertaining to a few meaningful characterizations of the Faulkner's novels. The basic statistics are broken into three main categories: "basic metrics," sentence complexity metrics, and gender statistics. The "basic metrics" include all of the data that can be extracted fairly straightforwardly from the text using simple counting, tagging, and averages. I use two more complicated measures of sentence complexity to provide some insight into how the novels are characterized by difficulty. The gender statistics chart the extent to which male vs. female characters "take up space" in the novels, which while making no comment on the nature of their participation, gives a satisfactory high-level impression of how much women and femininity factor into various novels.

In addition to the high-level overviews, I use a technique called $tf\text{-}idf$ ("term frequency"-"inverse document frequency") to find the words most characteristic in a body of text, both in order to find words most particular to characters within a given work and to find the words most particular to individual novels within the corpus.

I will begin with a discussion of the algorithmic critical methods used, followed by a discussion of the corpora. I will then give a high-level analysis of the novels, charting quantitative changes over time and differences within meaningful categories. I will follow with a discussion of individual novels using a combination of the high-level data, the $tf\text{-}idf$ results and close reading, and I will end with some concluding remarks and ideas for future research.

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Overview of Algorithmic Methods

The high-level structural features of novels are limited in capturing information about the content of novels, but they can tell us something about the form. It is important not to assume that any of the chosen metrics have any inherent meaning about the text on their own, but rather that they are suggestive of certain hypotheses more than others. Regarding the measures of sentence complexity I have chosen, for example, nobody would agree that *The Sound and the Fury* is a simple novel to read, even though it ranks in the bottom two of all Faulkner's novels in both measures of sentence complexity—the metrics suggest complexity of a certain kind within a certain context, but are by no means holistic or conclusive. As Stephen Ramsay argues, text analysis "must endeavor to assist the critic in the unfolding of interpretive possibilities" (484). Following this mantra, I will use the computational results only to steer my analysis, always returning to the novels to understand the data, rather than the other way around.

When doing computational analysis of texts, there are several existing approaches for converting the raw text of the novel into a more useful format. Different statistics are concerned with different versions of the text, which are defined as follows:

- **Text**: The plain text, split into tokens by whitespace, and converted to all lower-case.
- **Sentences**: The sentences of the novel as parsed using the Natural Language Toolkit's (NLTK) sentence parsing algorithm.
- **Stemmed text**: The text, split into tokens, with words converted to stem form, such that different forms of a word (e.g. "fly," "flies," and "flew") are considered equivalent.
- **Stemmed and filtered text**: The stemmed text with the common words in English, such as articles and prepositions, filtered out.

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In the remainder of this section, I will define all of the quantitative metrics that I use in the analysis as a reference point for the reader.

Basic Metrics

- **Word count** (WC): The number of words that appear in a text.
- **Sentence count** (SC): The number of sentences that appear in a text.
- **Unique words** (UW): The number of unique character sequences in a text, ignoring case.
- **Unique words (stemmed)** [UWS]: The number of unique words in the stemmed text.
- **Average word length** (AWL): The average number of characters per word.
- **Average sentence length** (ASL): The average number of words per sentence.
- **Lexical diversity** (LD): The number of unique words in the stemmed text divided by the total number of words in the stemmed text.
- **Part of speech percentages** (Noun%, Verb%, Adjective%, Adverb%, Pronoun%): The percentage of the total words in the text of a given part of speech.

Sentence Complexity Metrics

- **Average tree depth** (ATD): The average depth (in distance from root) of the sentence tree produced by SpaCy's (a natural language processing tool) sentence parser, the result of which is analogous to grade-school sentence diagramming.
- **Average dependency distance** (ADD): The average distance of dependencies between words as tagged by Stanford CoreNLP's dependency parser. A parsed sentence looks like the below diagram, with each arrow representing a dependency, and the distance being

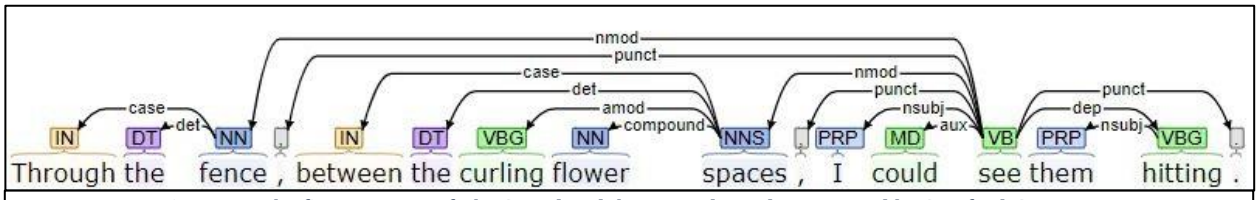

Figure 1 - The first sentence of The Sound and the Fury, dependency parsed by Stanford CoreNLP

the number of words between the two words at the endpoints of the arrows, counting inclusively. Using ADD as a measure of sentence complexity was proposed by Masanori Oya, who proposed using the Stanford CoreNLP dependency parser and noted that sentences with word counts between 10 and 20 words are the most effective measures of sentence complexity (Oya 316). In order to make ADD not dependent on sentence length, I measure ADD only across a text's sentences between 10 and 20 words.

Gender Metrics

- **Fem. word percentage** (Fem%): The percentage of words in the text that occur after a female pronoun, female name, or other female "marker word" (e.g. "woman").
- **Masc. word percentage** (Masc%): The percentage of words in the text that occur after a male pronoun, male name, or other male "marker word" (e.g. "father").
- **Gendered word percentages, strict** [Fem% (strict), Masc% (strict)]: The percentage of words in the text that occur between two female pronouns, names, or marker words without a male pronoun, name, or marker word between them.
- **Fem.-to-masc. weighted ratio** (FTMWR): The ratio between female and male pronouns/names/marker words averaged with the ratio between Fem% and Masc%.

I will include a chart of all my results in an appendix, and any metrics that appear there but not above should be self-explanatory or easily understood from the above.

A Note on the Corpora

I have limited the scope of this project to novels, and so from Faulkner's works I have selected only those that the author referred to as novels. The texts I am using are for the most part corrected versions of the original novels that Faulkner wrote. In line with this theme, I am

using the original text of *Flags in the Dust*, rather than the highly edited version published as *Sartoris* in 1929 (for chronological analyses, I will still consider this text as having been produced in 1929, and include it where one would include *Sartoris* in the ordering).

Part of the motivation for focusing on novels is that novels are typically composed of well-formed sentences and easy for the chosen NLP tools to parse. Nevertheless, Faulkner, originally a poet and often cited as indebted to the Romantic poets and Greek dramatists, and as a modernist and stylist experimentalist, blended a variety of forms, including poetry and drama, and styles, especially stream-of-consciousness, into his works. Modern NLP suites (in the case of this project, NLTK, SpaCy, and Stanford CoreNLP) are pretty good at handling input despite not appearing as plain prose, but the non-standard nature of the novels' form means that results will not always be perfect, and that some of the statistics, especially those that rely strongly on sentence-level parsing (SC, ASL, ATD, ADD), should be taken with a grain of salt.

In addition to my corpus of Faulkner novels, I am using a selection of novels from the first half of the 20th century (and a few from the second half) that are representative of Faulkner's contemporaries. The novelists represented are Fitzgerald, Hemingway, Hurston, Joyce, Nabokov, O'Connor, Pynchon, Steinbeck, and Woolf). These novelists are meant as reference points against which to compare Faulkner and his work. Though of course not exhaustive, I have tried to include authors whose works act as archetypes for some useful literary features (e.g. a plain stylist in Hemingway, or a Southern author in O'Connor).

As a final reference point, I am using twenty-one randomly selected dime novels from the early part of the 20th century as an example of "low-brow" literature. These texts are from the Norther Illinois University dime novel corpus, and were generated using optical character

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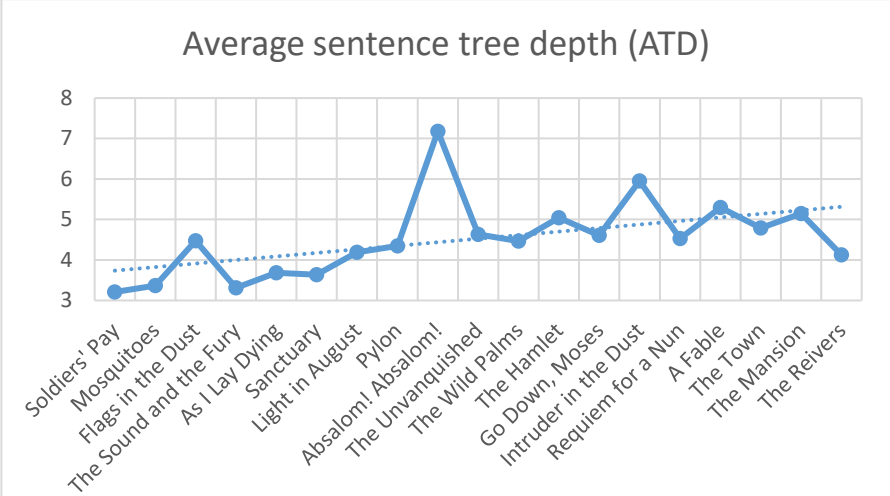
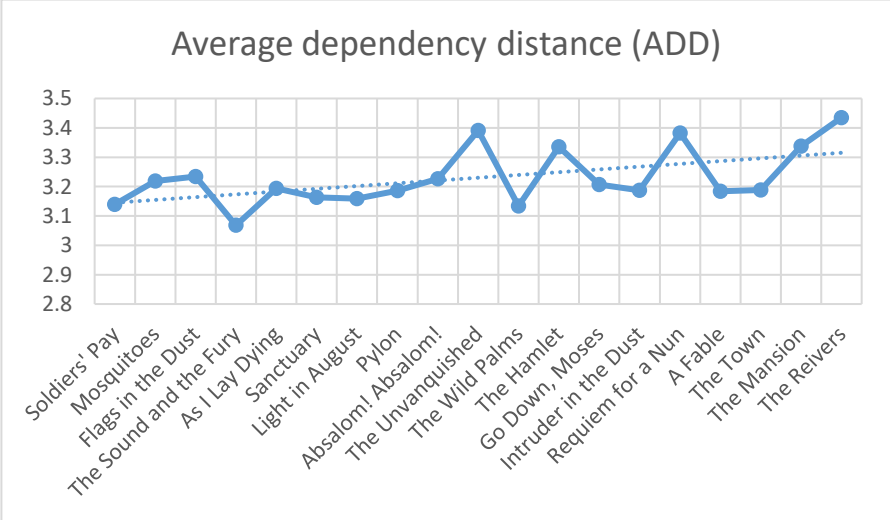
recognition (OCR), which produces a large amount of small errors in the plain text. As a result, some of the metrics are distorted for these texts, and a few (e.g. LD) are essentially meaningless.

The Analysis

Over the course of his career, Faulkner's novels increase in formal complexity at the level of the sentence. *Light in August* and *As I Lay Dying* are notable for being relatively easy novels to read as far as Faulkner's work goes, and this concords with a general phenomenon that Faulkner's earlier work is more widely read, I argue, because it is easier to read. *Even The Sound and the Fury*, which has a reputation of difficulty, quantitatively appears as one of the easiest works in Faulkner's oeuvre in terms of sentence complexity, which is likely attributable to the fact that both the Benjy and Quentin sections feature very many short, clear sentences whose individual meanings are clear but which are difficult to parse as a





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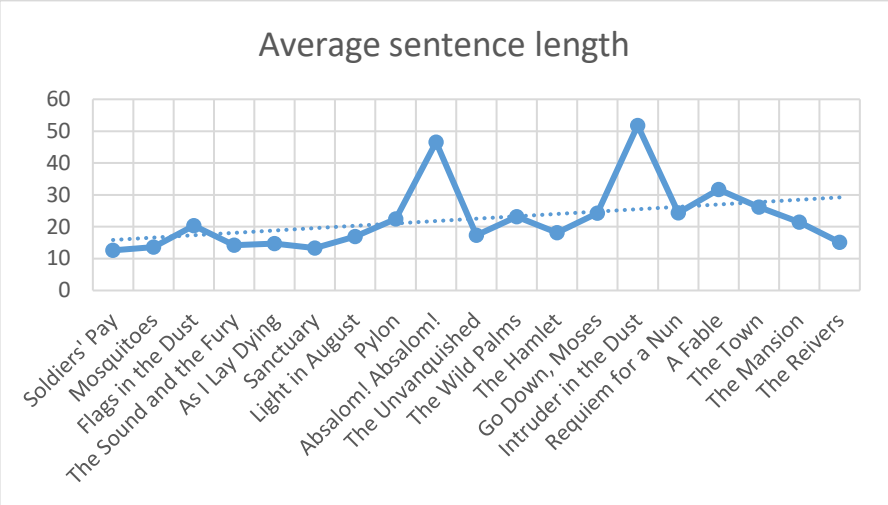
continuous whole. The average sentence tree depth (ATD) and average dependency distance (ADD) both increase on average over the course of Faulkner's career, but peak in different novels. The clear outlier in ATD is *Absalom! Absalom!*, which famously features a sentence often cited as one of the longest published in English. One might question whether *Absalom! Absalom!* has a high ATD solely because its contains longer sentences on average than Faulkner's other works. But if one examines the average sentence length (ASL) over the course of Faulkner's career, one sees that, although *Absalom! Absalom!* has the second highest ASL, *Intruder in the Dust* has the highest but does not exhibit a proportionally high ATD. This suggests that *Absalom! Absalom!* has sentences with are on average especially complex for their length[1]. This makes sense given the focalizing characters in the two novels: *Absalom! Absalom!* is largely from the perspective of the troubled, intellectual Quentin Compson, whereas *Intruder in the Dust* is from the perspective of a child, Chick, in such a way that exhibits "the objective-subjective confusion in the focus, a child in transition to an adult" (Hutchinson 39).



If one considers the ADD, the results tell a different story, namely that *Absalom! Absalom!* is not uncharacteristically complex for sentences between 10 and 20 words. This

[1] As a counterpoint, longer sentences certainly do seem to have an effect on the ATD; I ran the ATD algorithm on an excerpt from "The Green Coaster" in Jonathan Coe's *The Rotters' Club*, a supposedly 13804 word-long sentence, which SpaCy parsed as 11 sentences and which the algorithm gave an ATD of 17.58 (*Absalom! Absalom!* is 7.18)

suggests that *Absalom! Absalom!* achieves its complexity in the way that its sentences build—the sentences are on average longer than in his other novels and on average those longer sentences are relatively complex. At any rate, *Absalom! Absalom!* is a stylistic outlier among the novels most often cited as Faulkner's greatest works[2].

Perhaps the most surprising feature of the above plots of ATD, ADD, and ASL, are that they all increase over time. Given that the first half of Faulkner's career, beginning with *The Sound and the Fury*, is usually retrospectively considered his most successful, this presents an interesting possibility why. The latter half of Faulkner's career contains many works that are either outside of Yoknapatawpha county (*The Wild Palms, A Fable*) or are sequels to previous Yoknapatawpha county books (*Requiem for a Nun, The Town, The Mansion*). There is an impression that Faulkner had a continuing impulse to express himself in increasingly complex style but had a diminishing reservoir of material well-suited to its expression: namely, the central stories of Yoknapatawpha. This culminated in the laboriously conceived *A Fable*, whose plot the author outlined on the walls of his study. Leslie Fielder wrote of the novel in a contemporary review: "*A Fable* finds William Faulkner at the critical point in his career when his ideas and themes, striving desperately to open out come into conflict with his style which has been for several years closing in, rigidifying" (Inge 389). The discovery of the triumphs of his early work made critics too eager to honor and praise his later work, even if only in an attempt to give a writer overdue recognition.

Another possible explanation for the lasting success of Faulkner's earlier works is that over time, Faulkner indisputably writes less about women. The three major metrics which chart

[2] If we decide that we trust the editors of Modern Library and my Narrative and Narrative Theory instructors, these would be *The Sound and the Fury*, *As I Lay Dying*, *Light in August*, and *Absalom! Absalom!*.

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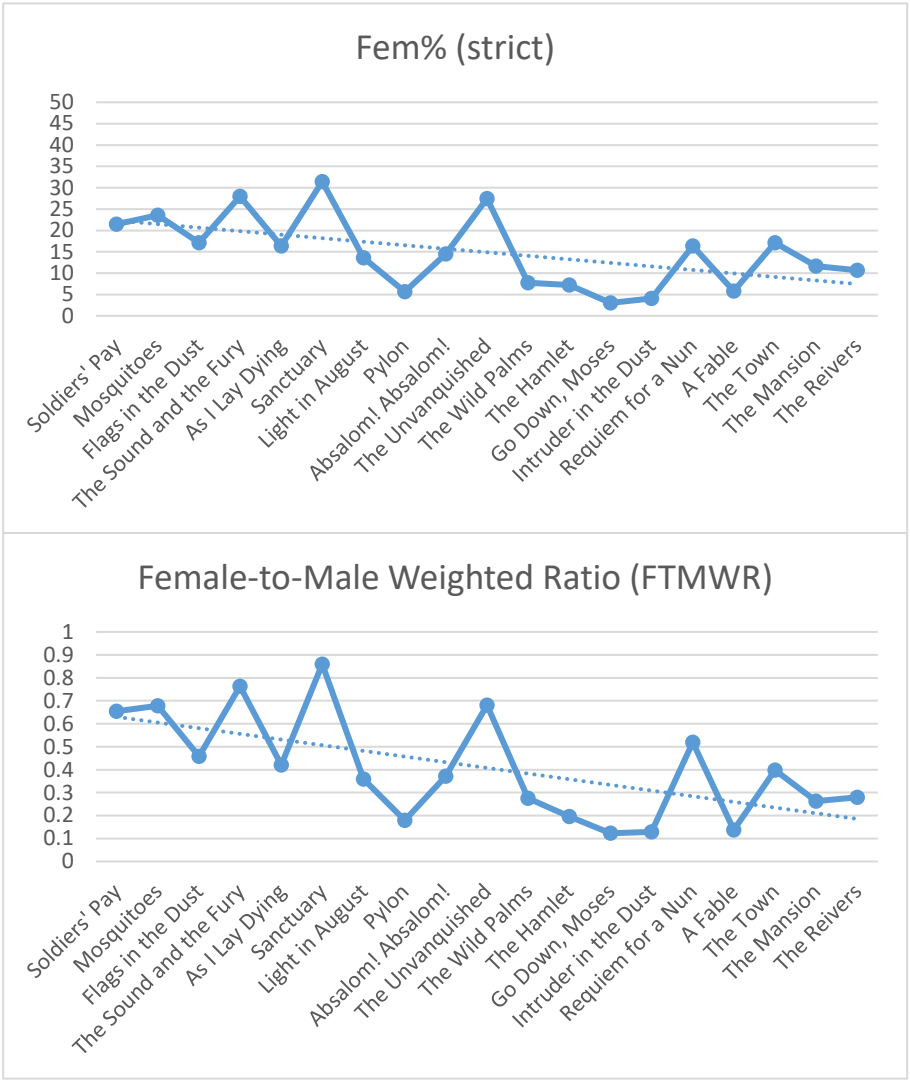

the percentage of a text inhabited by feminine presences, Fem%, Fem% (strict), and female-to-male weighted ratio (FTMWR) all produce essentially the same graph, which illustrates that, on average, the amount that Faulkner's novels include female personae drops by about half across the span of his career. The charts showing Fem% (strict) and FTMWR, a statistic that averages the ratio of female-to-male pronouns, names, and marker words with the ratio of text enclosed by such words, show a clear and significant decline, with *Sanctuary* scoring highest and three late works, *Go Down, Moses*, *Intruder in the Dust*, and *A Fable* being notably masculine novels.

Faulkner's ability to write about women, as with most aspects of Faulkner criticism, has been widely disagreed upon. And not unreasonably so—it's unclear in what light to view Temple Drake's decision to condemn an innocent man essentially to his death, or Lena Grove's relentless, naïve pursuit of the father of her child, or another future. One view says that these are

simplistic, two-dimensional characters modeled on stereotypes about womanhood, another says that they are original, perplexing characters who excise themselves from the constraints placed upon them in acts and manifestos of defiant definition. O.B. Emerson gives the especially amusing juxtaposition about the extent to which critics disagree on the matter:

> "In 1929 writing on Sartoris, J. Dana Tasker observed that Faulkner understands women better than he understands men. Twenty-eight years later Irving Malin observed that Faulkner's women are superficial, and Faulkner's fiction suffers from the author's inability to portray women because he knows so little about them." (Emerson 12).

What changed over twenty-eight years? I would argue that part of it has to do with Faulkner's novels including less female presence over time. That *Requiem for a Nun* scores about half of what its predecessor *Sanctuary* does on all the gender metrics is telling. Novels from the late career like *Go Down, Moses,* which are still relatively highly regarded critically, may suffer from reaching too much towards examples of "Great American Novels" in search of attaining status as the definitive one—*Go Down, Moses* in which "The Bear" dominates has a Fem% score of 9.84 and its major inspirational source, *Moby-Dick,* scores 9.74—thus these late works suffer from the chronic deficiency that these "great American novels" excessively tend toward a masculine flavor (Wallach). The data and criticism suggest together that Faulkner is at his best in the novels that have more noteworthy feminine presences[3].

Two other noteworthy statistics, the part of speech metrics and lexical diversity, are less provocative but help clarify some otherwise tricky questions regarding Faulkner's work. I have

[3] A note on the numbers for comparison's sake: Faulkner's highest Fem% score is 44.79 in Sanctuary and his lowest is 9.74 in *Go Down, Moses*. Among some of his contemporaries, *The Great Gatsby* scores 34.23, *The Old Man and the Sea* scores 1.70, *To the Lighthouse* scores 59.47, and O'Connor's *A Good Man is Hard to Find* scores 49.86. The highest score in the modernist corpus is Nabokov's *Lolita* scoring 69.85. Which demonstrates that these metrics only show how much space female presences take up in a novel, but they say nothing about the capacity in which they figure in the texts.

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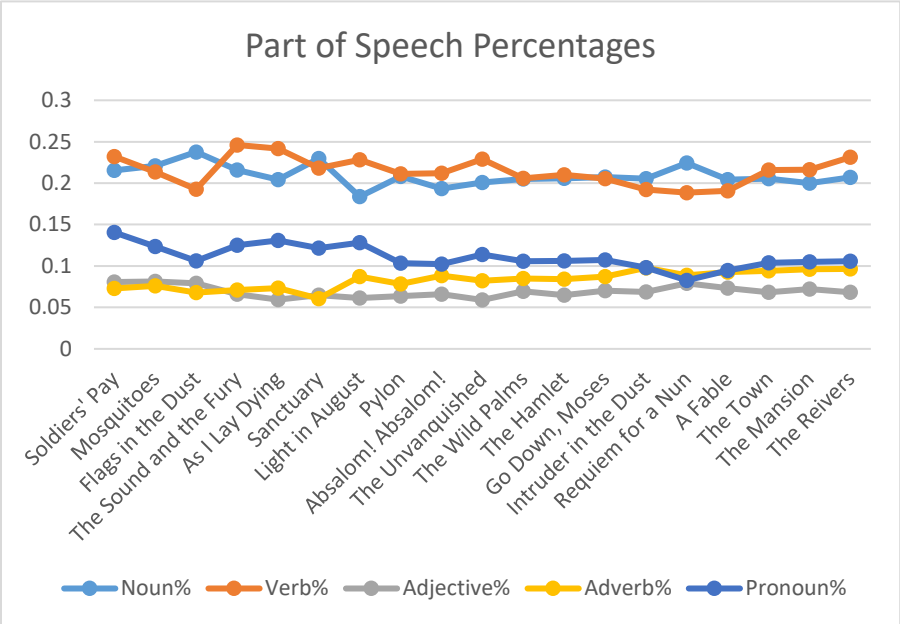
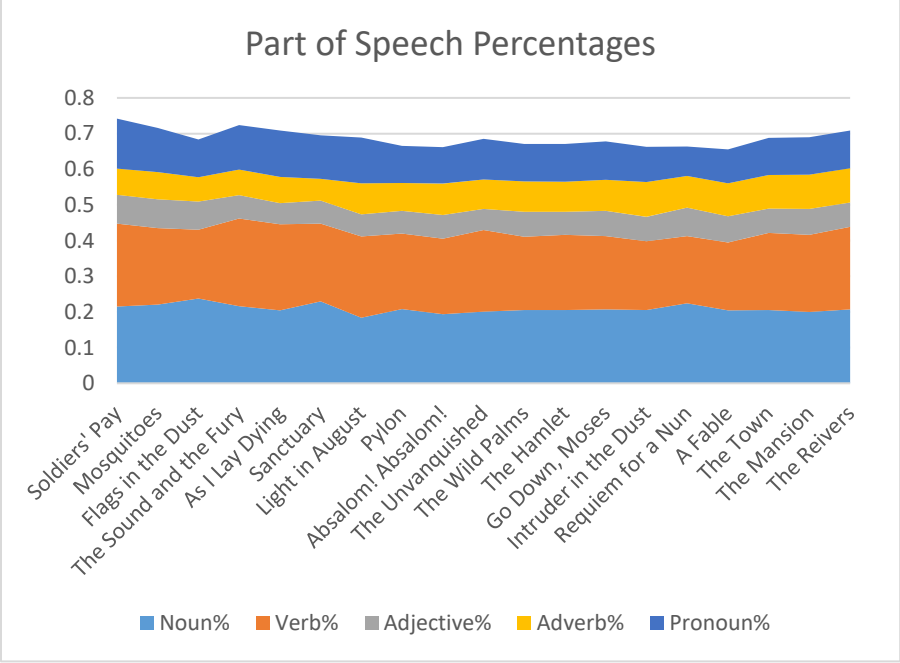
presented the five part of speech metrics in two ways: from the line graph one can discern which kinds of words are characteristics in given works, and the area graph elucidates that the percentages stay relatively consistent over time. The line graph shows a few notable outliers, beginning with *Light in August*, which has a relatively high pronoun to noun ratio. This accords with one distinctive stylistic feature of *Light in August*, characters not listening to each other and being described repetitiously in their steadfastness, as in the following description of Lena:





> "But she is not listening apparently…She is not thinking about this at all. She is thinking about the coins knotted in the bundle beneath her hands. She is remembering breakfast, thinking how she can enter the store this moment and buy cheese and crackers and even sardines if she likes" (Faulkner 26).

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The diminished amount of verbs in *Requiem for a Nun* is something of a red herring—given that a great deal of the novel is constructed as a drama, and that the words "said" and "would" are at the top of the list of most frequent (stemmed/filtered) words in nearly all Faulkner's novels, it's unsurprising to see fewer nouns in that work. *Flags in the Dust* is the only other novel in which a name ("Bayard," in this case) appears more frequently than the word "said." A contemporary review suggested that from the novel, "above all else one will remember the suffering mind and imagination of young Bayard Sartoris" (Inge 29). The obsession of the book with a single man and his thoughts comes across now instead as a weakness—in the subsequent four books that he would publish, Faulkner would find lasting power in his ability to create dynamic casts of characters, rather than singular, gravitational personages.

It is surprising that Absalom! Absalom! does not have a significantly high percentage of adjectives relative to the other texts. The novel famously opens upon Miss Coldfield's office on a "long still hot weary dead September afternoon," and the novel seems so distinctively stuffed with adjectives that one contemporary reviewer criticized the novel for having sentences "freighted with adjectives" (Faulkner 3, Emerson 37). Yet the text as a whole contains no abnormal amount of descriptors; Faulkner's style stays fairly consistent throughout his career in this regard. My guess is that reviewers and readers alike are prone to remembering distinctive passages and incorrectly extrapolate their features to the rest of the text, distorting their impressions of the novels' structural features due to a few striking exposures.

A curious fact about Faulkner's novels is that his most critically revered novels tend to also be those that are the least lexically diverse. Shorter novels tend to have disproportionately high lexical diversity, since they have fewer chances to recycle words, but *The Sound and the Fury* and *As I Lay Dying*, two of Faulkner's shortest novels, and *Light in August* and *Absalom!*

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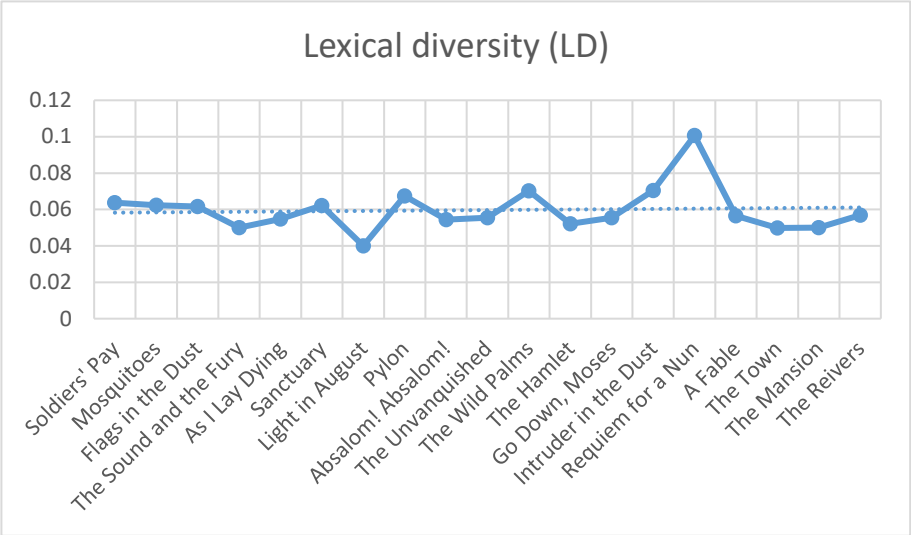

Absalom!, two of his longer ones, all fall below the average LD for his oeuvre. Also curious is the fact that the average LD for all novels set in Yoknapatawpha country is less than the average LD for all novels set elsewhere. As for why this might be, I am inclined to think that monotonous and repetitive effects that the past has upon the present for the characters in Yoknapatawpha manifests itself in the language—as words ("honeysuckle," "adze," "wisteria") accrue meaning for the characters, they gain an inertia in the text.

Character Analysis with $tf\text{-}idf$

Departing from high-level analyses of Faulkner's novelistic career, I will now briefly focus on a technique for identifying the words most distinctive to a given body of text within a corpus of texts, and how it can be applied to identify words most distinctive to given characters within *The Sound and the Fury* and *As I Lay Dying*. $tf\text{-}idf$, or "term frequency"-"inverse document frequency" is simply a measurement of how often a word appears in a particular text relative to how infrequently it appears across an entire corpus. Stephen Ramsay originally proposed using $tf\text{-}idf$ to obtain the words most characteristic to the six narrator-characters in Woolf's *The Waves*, exploiting the experimental structure of the novel, in the entire text of the novel (except for the cinematic, naturalistic introductions to the chapters) have the form of the

speech of one of the characters, indicated explicitly with "said _____". Ramsay treated the words spoken by each character as its own text, and the novel as the corpus, and applied $tf\text{-}idf$ accordingly (Ramsay 484).

Using Ramsay's article as an inspiration, I have used a similar application of $tf\text{-}idf$ to compute the words most distinctive to characters in *As I Lay Dying*, in which each chapter is composed of a character's narration, and *The Sound and the Fury*, which contains four sections each focalizing one of four major characters.

I use a simple modification of $tf\text{-}idf$ that uses logarithms to smooth the terms. Defining tf as the number of times a term appears in a section, df as the number of sections in which the word appears, and N as the number of sections, my formula is as follows:

$$tf\text{-}idf = (1 + \log(tf)) \cdot \log\left(1 + \frac{N}{df}\right)$$

Consider the twenty highest-weight terms from each section of *The Sound and the Fury*:

Benjy Section		Quentin Section		Jason Section		Dilsey Section	
Words:	Weights:	Words:	Weights:	Words:	Weights:	Words:	Weights:
versh	6.38533	shreve	8.225634	dam	8.116477	negro	6.261311
charlie	6.16931	spoade	7.463906	earl	6.853142	sheriff	6.169318
said	5.41357	gerald	6.790018	check	5.856836	breddren	5.737564
the	5.37669	anse	6.430883	i	5.750165	the	5.653430
bellering	5.31530	bland	6.348329	to	5.472870	ben	5.480959
and	5.21493	dalton	6.169318	says	5.337740	and	5.411281
you	5.21391	squire	6.071747	the	5.330024	hears	5.145734
bowl	5.14573	ames	6.071747	and	5.269712	de	5.081425
to	5.11785	julio	5.967876	you	5.261195	to	4.998007
i	5.09282	the	5.887118	telegraph	5.145734	luster	4.997227
luster	5.09279	loaf	5.737564	a	5.113157	he	4.968143
vershs	4.74125	i	5.513735	it	5.009053	seed	4.956169
branch	4.71945	and	5.484695	busy	4.956169	presently	4.956169
it	4.71904	twentyfive	5.468701	she	4.924667	a	4.932360
he	4.66943	shreves	5.315305	that	4.741571	of	4.901061
caddy	4.59888	a	5.241886	jews	4.741259	said	4.846113
on	4.51196	you	5.195322	headache	4.741259	vanished	4.741259
parlor	4.49316	to	5.175137	ford	4.741259	somethin	4.741259
overshoes	4.49316	vest	5.145734	alley	4.741259	you	4.735500
froze	4.49316	trout	5.145734	account	4.741259	in	4.702189

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Some of the words are not surprising to see—it makes sense that Shreve would be associated with Quentin's section, since he doesn't appear in any others. Some of the results are more illuminating, though: a quick glance reveals Benjy's obsession with his sister Caddy, and Quentin's obsession with Dalton Ames, her lover. It's notable that the word "presently" is so particular to Dilsey's section: it suggests an importance of the present moment and a kind of interaction with time in which the past is less intertwined with the present (given that it most certainly is for Benjy and Quentin). Knowing that "presently" appears only and distinctly in Dilsey's section and the epilogue lends a new impression to lines like these:

> "Mrs Compson returned to her room. As she got into bed again she could hear Dilsey yet descending the stairs with a sort of painful and terrific slowness that would have become maddening had it not presently ceased beyond the flapping diminishment of the pantry door." (Faulkner 268)

Thinking further about how time seems subject to Dilsey inversely to the way that it commands Benjy and Quentin, Dilsey's strange, prophetic lines take on a special weight: "I've seed de first en de last…Never you mind me…Never you mind,…I seed de beginning, en now I sees de endin" (297).

The words captured by $tf\text{-}idf$ are merely suggestive, but they provide further evidence for the pathways of inquiry we deem worth pursing in light of them. The results from *As I Lay Dying* are perhaps more intriguing, as the cast of characters for which there is analysis is more populous. I've provided a few examples below. The top words for Darl, "lantern," "motion," "glare," "moment," all point to the incident where he inexplicably sets the barn on fire. Many of Dewey Dell's highest-weight words are associated with her unwanted pregnancy: "daughter," "guts," "naked." Addie's most distinctive vocabulary—"violated," "tricked," "terrible"—makes plain the horror of her speech from the grave and her status as a victim, bringing the character of *As I Lay Dying* as a Southern Gothic novel to the forefront.

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DARL

Words:	Weights:
lantern	10.6279240877
motion	9.66221287526
glare	9.42096611271
moment	9.15671018307
rigid	8.86458880559
mack	8.86458880559
expression	8.86458880559
pas	8.53802488926
chalkline	8.53802488926
carefully	8.53802488926
alert	8.53802488926
moves	8.20333017508
returns	8.167797256
reins	8.167797256
raincoat	8.167797256
clear	8.167797256
pale	7.93547276792
lifts	7.78782345813
stoops	7.74040081959
profound	7.74040081959
gums	7.74040081959
erect	7.74040081959
coat	7.74040081959
slowly	7.62922749448
current	7.45793080415
surface	7.27172070042
yards	7.2348981274
woodenbacked	7.2348981274
stooping	7.2348981274
snuff	7.2348981274

DEWEY DELL

Words:	Weights:
tub	7.74040081959
lafe	7.27172070042
daughter	7.2348981274
guts	6.84227213506
thief	6.61621283359
sneak	6.61621283359
row	6.61621283359
moaning	6.59020864581
nuzzles	5.81858876392
mi	5.58436978214
3	5.58436978214
cow	5.51761854224
sack	5.27836240506
shake	5.10682781837
pale	5.10682781837
stint	4.69440077791
neighbors	4.69440077791
lafes	4.69440077791
eats	4.69440077791
dish	4.69440077791
cupboard	4.69440077791
clumps	4.69440077791
blotched	4.69440077791
blast	4.69440077791
darkness	4.67548508897
slope	4.49116914928
rushing	4.49116914928
naked	4.49116914928
kilt	4.49116914928
died	4.49116914928

ADDIE

Words:	Weights:
violated	5.81858876392
tricked	5.81858876392
switch	5.81858876392
deeds	5.81858876392
terrible	5.58436978214
shape	5.51761854224
school	5.10682781837
fear	5.10682781837
sin	4.94206919193
anse	4.8311709949
words	4.83110643763
worst	4.69440077791
worlds	4.69440077791
vessel	4.69440077791
revenge	4.69440077791
refused	4.69440077791
necessary	4.69440077791
invented	4.69440077791
geese	4.69440077791
flow	4.69440077791
ending	4.69440077791
echo	4.69440077791
boiling	4.69440077791
aloneness	4.69440077791
strange	4.49116914928
cora	4.2756655179
blood	4.25675736859
i	4.06706496117
father	4.06588163939
children	4.06588163939

Naturally in Vardaman's list (not shown) the word "fish" appears, but underneath the more distinctive words "track," "moon," and "train," all of which suggest a somewhat Romantic characterization of the family's youngest son. Cash's section has the words "build" and "stress" that one would expect, but also "music" at the top of the list, which is not something one might intuitively associate with the linearly-minded carpenter. There are numerous possibilities for inquiry; I leave it to the reader to peruse the lists at their leisure and decide what resonates.

Conclusion

Faulkner has made a particularly good case study because his career has clear beginning, middle, and late periods, and because he experimented with several styles and subject matters.

Other authors with more limited corpora might not have as much variation over time. Still, all the methods used in this study are easily exported to any corpora of literature. Even the $tf\text{-}idf$ analysis, which demands some kind of structure to assign words to texts, could be generalized in an approximated fashion by using a method that makes assignments statistically or using the closest collocation.

For future research, I would be interested in investigating more nuanced ways of analyzing gender in texts computationally. Generalizing $tf\text{-}idf$ successfully for novels and stories would certainly be a worthwhile goal. On the more ambitious end of things, my project has shown that even the state-of-the-art text and sentence parsers make frequent mistakes when presented with experimental literature—developing better ways of dealing with non-standard word order, association, punctuation, etc. would be a step forward for computational critics.

This study has by no means been exhaustive; rather, it has only scratched the surface of what algorithmic criticism can uncover when applied to large collections of literature. I acknowledge that there is yet more to do even with Faulkner, whose short stories I have not touched. Despite my limited scope, I have hopefully been able at least to show that Faulkner's increasingly complicated style without corresponding substance was related to his declining long-term success, and that similarly his failure to continue to write about women in the same capacity as in his early works contributed to the stagnation of his career. If only slightly, I hope that this study and future ones like it will provide strong evidence and generative material that helps Faulkner critics (and literary critics, for that matter), come one step closer to agreeing about anything.

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Appendix

All of the code, data, and corpora for this project are available on the GitHub page for the project, which can be found at the following address:

https://github.com/dmcfalls/Faulkner