

An Algorithmic Criticism of
Audience Manipulation in
Christopher Marlowe's *The
Massacre at Paris*

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Abstract

In this thesis, I apply computational stylistics methods to investigate the structural underpinnings of audience manipulation in Christopher Marlowe's *The Massacre at Paris*. By engaging an iterative process of re-reading underpinned by novel methods taken from computational stylistics and algorithmic criticism, I argue that formal features of *The Massacre* evince an intricate and intensely practical approach to the manipulation of audience response. This reading casts new light on the theatrical viability of the play itself, while simultaneously asserting the strength of digital methods in the analysis of neglected, ambiguous, and so-called corrupt or mangled playtexts. I engage this project of algorithmic criticism in three stages.

In Chapter 1, I begin with a traditional reading of the multiple audiences of *The Massacre*. Building on Julia Briggs' reading of "ritualised violence" (259), I identify a structure of 'fractal' self-similarity across the scenes of the play. With particular attention given to the spectatorial inset of scene xxi, and the critical effects of such metatheatrical modes of presentation across the entire play, I suggest that key features of the surviving text gesture towards a self-conscious realisation of genre and theatrical artifice. Moreover, I argue that this self-conscious realisation is fundamentally intertwined with, and energised by, the risk of theatrical failure. The apparent effect, I argue, is a mode of neutrality and double vision on the part of the text itself: the generation of an audience which, far from being overtly manipulated, is encouraged to freely interpret the play's action.

In Chapter 2, I deploy methods of computational stylistics to detect patterns of sentiment and syntactic fracturing in a time-series analysis of the playtext. Looking first at the presence and absence of basic syntactic coherence surrounding stage events, and later at the shifting status of positive and negative 'sentiment' language across the many character utterances, I suggest that the apparent audience freedom identified in the previous chapter may, in fact, be severely curtailed by subtler linguistic trends.

Drawing on Evelyn Tribble's notion of the "cognitive ecology" of the theatre (151), I argue that the clusters of linguistic fracturing evince a deeply pragmatic approach to the sociality of audience and stage.

In Chapter 3, I engage with the play at its most abstract level. By setting aside the analysis of spoken utterances entirely and examining character interactions, I develop a model of the play's changing social network. Here I find evidence that the structural features of the playtext's character network(s) is itself vital to the strategic manipulation of audience response. Looking first at the shape of the network—its density, clustering, and the relative centrality of its key characters—and then at the dynamics responsible for the shifting dynamics of this network over time, I argue that the violent action of the play has a decisive impact on the generation, direction, and manipulation of audience response. Even in the mangled form in which the playtext survives, I argue that the social network of *The Massacre* exhibits complex structural features that suggest a project of audience manipulation that is at once pragmatic, Machiavellian, and deeply Marlovian.

In spite of the mangled state in which *The Massacre* has come down to us, and in spite of the neutrality that appears to sit at the heart of the play, I contend that a set of the play's structural features work to curtail and control the set of responses available to an audience in performance. This project of manipulation is at once intricate, invisible, and typically Marlovian. Thus figured, this thesis offers an effective case study in the application of digital methods to literary studies. It casts new light on the theatrical viability of *The Massacre*, refigures the relation between it and other plays in the Marlovian dramatic canon, and gestures towards a productive reading practice that can be scaled to analyses of other mangled, corrupted, and forgotten plays of the early modern period.

Statement

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying, subject to the provisions of the Copyright Act 1968.

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Notes on the Text

1. Editions

References to Christopher Marlowe’s playtexts are taken from the following editions:

- *Dido, Queen of Carthage* and *The Massacre at Paris*. Ed. H. J. Oliver. London: Methuen, 1968.
- *Tamburlaine the Great*. Ed. J. S. Cunningham. Manchester: Manchester University Press, 1981.
- *Edward the Second*. Ed. Charles R. Forker. Manchester: Manchester University Press, 1994.
- *Doctor Faustus: The A- and B-Texts*. Ed. David Bevington and Eric Rasmussen. Manchester: Manchester University Press, 1993.
- *The Jew of Malta*. Ed. N. W. Bawcutt. Manchester: Manchester University Press, 1978.

For use in computational analysis, I produced modified, TEI-compliant XML versions of Oliver’s *Dido, Queen of Carthage* and *The Massacre at Paris* (henceforth *Dido* and *The Massacre* respectively). Analysis of all Shakespeare playtexts relies on the TEI-compliant Folger Digital Texts editions. References to playtext passages are given parenthetically in text with Act, Scene, and Line numbers where given, eg: (1.1.111–123). *The Massacre* playtext is limited to Scene and Line, following the Revels edition, eg: (21.36–37). Scenes are noted with roman notation in text where relevant, eg: “[...] in scene xxi of *The Massacre* [...]”. In figures, absolute line numbers are given on the x-axis (21.36 becomes 965). Discussion in text clarifies this where necessary.

2. Terminology: Play and Playtext

When discussing *The Massacre* and other texts, I use ‘playtext’ to refer to the surviving text as it exists when read on the page, and ‘play’ to refer to that text when considered in relation to its (hypothetical or actual) performance. The general movement

of this thesis is away from isolated consideration of *The Massacre*'s surviving playtext and towards a nuanced examination of *The Massacre* as a play.

3. Terminology: Spectatorial Insets and Audiences

When comparing theatrical events that are ‘inset’ to the theatrical events that frame them in *The Massacre*, it will be necessary to talk about the two plays under consideration: an inner play and an outer play respectively. A representative example is given by comparing the events of *Soliman and Perseda* to those of *The Spanish Tragedy*. Throughout this thesis, I adopt the elegant ‘inner’ and ‘outer’ terminology from Redmond O’Hanlon’s ‘Metatragedy in Anouilh’s “Antigone”’. *Soliman and Perseda* is the inner play, and *The Spanish Tragedy* is the outer play. The outer play has an audience: the people sitting in the theatre; the ‘outer audience’. Likewise, the inner play has an ‘inner audience’ composed of a set of characters. While not all spectatorial insets are plays, the distinction holds.

4. Numbers and Reproducibility

To maximise reproducibility and transparency, this thesis was written in RMarkdown, with all inline code run at time of export. Code blocks themselves are not reproduced in the body of the thesis unless critical to reader comprehension, but numbers are represented as follows.

- If a number is generated as part of computational analysis of the playtexts’ XML editions, it is represented with a numeral. The sentence “There are `nrow(massacre_cast)` unique characters in *The Massacre*.” is thus rendered as “There are 54 unique characters in *The Massacre*”.
- If the number was arrived at through non-computational means, ordinary standards apply, eg: “The Duke of Guise has one substantial soliloquy.”

5. Naming Anjoy and King Henry

Following the death of King Charles in scene xiii of *The Massacre*, the Duke of

Anjoy is crowned King Henry. For clarity in discussion and computation, I opt to refer to him as Anjoy throughout; however, some quoted critics do not. I list “[Anjoy]” in quoted passages where necessary.

6. Figures

Many of the figures produced in this thesis are necessarily complex. For readability, they have been reproduced at larger scale in Appendix D.

Introduction

Christopher Marlowe's *The Massacre at Paris* is a bad play. Rarely studied and even less frequently performed, it is regarded by many critics as a theatrical failure. It is thick with "scenes of violence that are brutal, abrupt, and noncausal" (Bowers 131) and it "reads like it was written on the back of a cocktail napkin" (Menzer 363). The manuscript itself survives as only a corrupted and "mangled text" (Shepherd 123), and as Wilbur Sanders notes, "*The Massacre at Paris* as we now have it is so dismally consistent that the putative additions would need to be of staggering quality to change substantially our estimate of the play" (21). Indeed, what is perhaps most surprising about *The Massacre* is that the surviving text retains little of that which is typically Marlovian. The dialogue is abrupt and repetitive, the characters are flat, and the plot defined by scenes of brutal violence. *The Massacre* is, in other words, bad on almost every level.

Yet within the weaknesses and corruptions of *The Massacre*'s playtext there is a valuable opportunity. The central aim of this thesis is to treat the so-called badness of *The Massacre* as a case study, a chance to explore new modes of reading a corrupted and so-called mangled text, and to demonstrate the interactive possibilities of what Stephen Ramsay terms "algorithmic criticism" of the playtext (2). While this approach uses statistical models as its starting point, "conclusions are evaluated not in terms of what propositions the data allows, but in terms of the nature and depth of the discussions that result" (Ramsay 9). Throughout the thesis, I engage in an analytic project that iteratively re-reads *The Massacre*, deploying increasingly advanced methods of computational analysis in order to abstract the essential content from the mangled playtext and explore a core feature of Marlovian dramaturgy: the systematic manipulation of audience response. By setting aside the playtext's aesthetic failures and textual corruption to examine its underlying structures, we can salvage an analysis of audience, and audience manipulation, that sheds new light on *The Massacre*, revalues its relationship to the

Marlovian dramatic canon, and contributes to a more nuanced understanding of the many successes, and failures, of early modern theatrical practice. I do so in three parts.

In Chapter 1, ‘A Close Reading of Spectacle’, I engage with the inner and outer audiences of *The Massacre* in terms of their apparent freedom to interpret. Framed as a relatively conventional close reading of scene xxi, which stages the pivotal death of the Duke of Guise and its immediate aftermath, this chapter identifies structures of metatheatrical repetition and self-similarity in the play’s violent scenes. Taking as my foundation Julia Briggs’ the reading of “ritualised violence” in the play (259), I argue that the death of the Duke of Guise in this scene resembles the structure of the play as a whole in a number of important respects. I look first at the ways in which acts of violence are framed within the play, identifying a mode of spectatorial inset that is more complex than previously identified. I then examine the way in which the parts played by characters are reversed and complicated in scene xxi, and suggest that the blurring of the roles of the Guise and Caesar has important implications in *The Massacre*’s self-conscious realisation of tragic genre and the outer audience’s realisation of the artificiality of the theatre. In the final section of Chapter 1, I reconstruct a notion of the audience in *The Massacre*. In light of the exploration of spectacle and metatheatricality, I argue that the surviving playtext is an experiment in the possibilities, and risks, of violent spectacle. Drawing on prior explorations of failure on the Elizabethan and Jacobean stage, I argue that the repetitive and mechanical depiction of violence in *The Massacre* is itself a self-conscious realisation of genre and risk in theatrical staging. I further assert that the outer audience appears to be let loose to interpret the violence of the play. At key moments of violence in *The Massacre*, I identify a tendency towards a Janus-faced double vision and neutrality in possible interpretation, and I suggest that the audience is encouraged to determine the meaning of that spectacle themselves.

In Chapter 2, ‘An Algorithmic Criticism of Utterance’, I deploy a series of computationally-assisted readings in order to further test this apparent revelation of a freely interpretable play. Taking the same structural features and verbal utterances

that underpin the previous chapter, I suggest that the apparent freedom to interpret may in fact be an illusion of the playtext. I look first at the line-by-line fragmentation and argue that, in spite of *The Massacre*'s apparent mangled status, there is a clear relationship between scenes of apparent double vision and line-by-line fragmentation. Second, I engage with recent methods for detecting sentiment and affect to map the changing affective language of the playtext. In light of the trends uncovered, I argue that basic features of the utterances in the playtext manipulate and curtail audience response. I compare this reading to that of an early Marlovian playtext, *Dido, Queen of Carthage*. Whereas *Dido* is a play centrally concerned with the ordering of emotional reaction, I argue that the stylistic trends evident across the playtext of *The Massacre* suggest a project aimed at the strategic dis-ordering and de-centralising of emotional response. Building on Evelyn Tribble's framework for understanding the 'cognitive ecology' of Elizabethan and Jacobean theatre (151), I contend that the trends present across the surviving playtext evince an approach to audience and stage that is intensely aware of, and pragmatic with regards to, the social limitations and possibilities of performance and interpretation. It is precisely this awareness of limits that is responsible for the manipulation of audience response.

In Chapter 3, 'A Topography of Social Space', I expand my focus on the sociality and practicality of staging by introducing methods of computational reading. By reducing the playtext to its most basic, metatextual form—the social network described by the interactions of the characters on stage—I model the manipulation of audience response at its most structural. I expand on Franco Moretti's work concerning the social network in *Hamlet* ("Network Theory, Plot Analysis") to account for dynamic changes in the shape of the character network depicted on stage. I suggest that a focus on the dynamics of the character networks of the play reveals an almost Machiavellian approach to the staging of violence. Staged death becomes, from a network perspective, *The Massacre*'s most powerful director of the unfolding plot. As we shall see, any character that gains network centrality or importance is culled. The unnamed messengers, soldiers, and

attendants of *The Massacre* survive as the only stable witnesses, whose primary role is the swift carrying off of bodies. I argue that the structure of violence in *The Massacre* is fundamentally generative. The fact of staged death creates a set of new events in the stage network, and the defining tension in the trends of network shape—between coherence and rupture, sociality and mechanical violence—results in an ever-narrowing set of possible affective reactions. The outer audience is forced to see the action of *The Massacre* almost exclusively in terms of overwhelming, system-level violence. Though the paradoxical illusion of a freedom to interpret remains, I argue that it is not, in any sense, a kind of freedom worth wanting.

In the Appendices of this thesis, I demonstrate an expansion of algorithmic methods. In Appendix A, I give a brief account of the detection methods used in the thesis and describe the manner in which the playtexts are prepared for the computational analysis seen in the body of the thesis. In Appendix B, I suggest a model for part-doubling that builds on the detection of character copresence and reduces analysis of possible part doubling to a set of computational methods. In Appendix C, I offer a brief account of relative scholarly popularity of plays in the Shakespeare canon, and suggest means by which the same mode of analysis might be usefully applied to Marlovian playtexts. In each case, I aim to provide further case studies in the applicability of computational reading.

At each stage of this thesis, my central methodological aim is to develop an exploratory case study in a computationally-assisted, yet fundamentally qualitative, hermeneutic. In so doing, I flex against two limitations to prior analyses of *The Massacre*. First, I acknowledge the mangled status of the playtext. I set aside all questions of memorial reconstruction or authorial intent, and instead concern myself entirely with what relationship the playtext itself, and any play borne from it, appears to have with its audiences. In this sense, any reference to Marlowe made in this thesis is simply shorthand for the hypothetical author of *The Massacre*, whether Marlowe himself or some other set of memorial reconstructors. Indeed, I set aside the role of editorial

intervention entirely for the purposes of this case study. While the fragmentation and punctuation of utterance discussed in Chapter 2 may be far removed from the intentions of Marlowe himself, it does not pose a barrier to the analysis undertaken. Second, I acknowledge the limited, exploratory, and qualitative nature of any computational findings put forward in this thesis. Lacking as they do the statistical rigour or scope that would be offered by a distant reading of a hundred early modern playtexts, the findings of Chapters 2 and 3 are fundamentally dependent upon Stephen Ramsay's mode of "algorithmic criticism" (2). It is a practice modelled after Rob Pope's notion of "textual intervention" and Jerome McCann and Lisa Samuels' notion of "deformance" (Ramsay 33–38), and adopts their guiding hermeneutic. I do not seek to provide statistically significant claims about the events in *The Massacre*. As Stephen Ramsay puts it, "the scientist is right to say that the plural of anecdote is not data, but in literary criticism an abundance of anecdote is precisely what allows discussion and debate to move forward" (9). This thesis acts to provide a generative case study that gives an anecdotal account of audience manipulation in *The Massacre* and thereby allows discussion of the play to develop.

In spite of the mangled state in which *The Massacre* has come down to us, and in spite of the neutrality that appears to sit at the heart of the play, I contend that a set of *The Massacre*'s structural features works to curtail and control the set of responses available to an outer audience in performance. This project of manipulation is at once intricate, invisible, and typically Marlovian. Thus figured, this thesis offers an effective case study in the application of digital methods to literary studies. It casts new light on the theatrical viability of *The Massacre*, refigures the relation between it and other plays in the Marlovian dramatic canon, and models a productive reading practice that can be scaled to analyses of other mangled, corrupted, and forgotten plays of the early modern period. Even in the corrupted and mangled form in which it survives, *The Massacre* retains and deploys structural features in genre, staging, and form to create the illusion of a neutral and freely interpretable play, while actually manipulating audience response

with practical, intricate, almost Machiavellian, complexity.

1 A Close Reading of Spectacle

The focus of this chapter is twofold. My first focus is an analysis of scene xxi of *The Massacre*, which takes the form of a close reading of 163 lines in the 1246 line playtext. I spend much of this chapter examining the spectatorial structure and performance of the death of the Duke of Guise in this scene. I am primarily interested in the complex relation between this single moment of violence and the structure of the overarching playtext. My second focus is a much broader concern. I intend to use scene xxi as a critical lens through which to address *The Massacre's* metatheatrical treatment of its audiences. I argue that the death of the Duke of Guise appears to enact a radical emancipation of *The Massacre's* outer audiences. I suggest that much of *The Massacre* is spent preparing the outer audiences by coaching them in the power of violent spectacles and giving staged examples of inner audiences' reactions to violence. Scene xxi is the moment in which the outer theatre audiences are finally handed the responsibility of determining the meaning of that staged violence. With the death of the Duke of Guise, Marlowe appears to give his audiences the autonomy, and the authority, to interpret the meaning of the play for themselves. In essence, I argue that *The Massacre* is a play in which Marlowe puts his audiences on what I call the bleeding edge of a developing theatre practice.

The first part of this chapter describes the structure of scene xxi and its relation to *The Massacre* as a whole. I argue that the death of the Duke of Guise constitutes a kind of spectatorial inset. I make a series of observations about the metatheatrical features of the death of the Duke of Guise and the staged interactions that frame it. I outline past suggestions, by Julia Briggs and a number of the critics that followed her, of a structure of "ritualized violence" (Briggs 259) and "internal echoes" (Marcus 153). Building on these observations, I argue that scene xxi is deeply self-reflexive, and suggest that the relation between it and the entire play is effectively fractal in its structure, in the sense that moments of violence within *The Massacre* are similar to

one another under displacement and under change of scale. In other words, scenes of violence echo each other (similarity under displacement) while also echoing the play as a whole (similarity under change of scale).¹ The consequence of this structure, I argue, is twofold. The playtext displays a radical and thoroughgoing self-awareness, coupled with a variety of interpretive instability that prefigures the metatheatricality of later plays by, among others, Shakespeare and Massinger. I draw particular parallels to Shakespeare's *Hamlet* and Massinger's *The Roman Actor*. In essence, the first section of this chapter proposes that the metatheatrical structures which underpin *The Massacre* are more nuanced and precise than previous critics have recognised; I then describe some of the implications of this structure.

The second part of this chapter is concerned with the notion of roles, and particularly the part of the Duke of Guise in *The Massacre*. With specific reference to scene xxi, I suggest that the connection between Caesar and the Guise deserves to be far more central to our understanding of the character, his death, and the playtext as a whole. I argue that, across the playtext, the connection between the Guise and Caesar is central to iterative realisations of the artificiality of the theatre. In its treatment of the Guise, *The Massacre* engages with a number of generic concerns, and at times treats the Guise as a tragic protagonist. I suggest that his death in scene xxi enacts a realisation, at every level, of his status as a distinctly modern tragic hero. I argue this point with reference to Hegel's description of late Shakespearean tragedies, and I suggest that, through the depiction of the Guise, *The Massacre* stages a self-conscious conception of violent spectacle and genre. In so doing, I suggest that scene xxi of *The Massacre* renders its audiences complicit in a nascent project of generic redefinition.

In the final part of this chapter, I reconstruct an understanding of the audiences of

¹As I will discuss in more detail below, I am not using the term fractal in the technical sense for the purposes of this analysis. Nevertheless, it is worth noting that a number of studies have explored fractal geometry at the level of the word. For example, Luděk Hřebíček's "Fractals in Language" (1994) attempts to derive the Menzerath-Altmann law regarding language system complexity and construct size from the postulates of the Mandelbrot theory of fractals, and Ali Eftekhari's 'Fractal Geometry of Texts: An initial application to the works of Shakespeare' (2006) proposes a novel method to calculate the fractal dimension and Zipf's dimension of texts.

The Massacre in light of the observations of the previous sections. I argue that scene xxi, and the play as a whole, is not just about brutal violence; it is about the part a spectator plays in constructing that violence. *The Massacre* is a violent play about both violent plays and the sociality of viewing violent plays. *The Massacre* develops a self-consciously audience-driven notion of the playhouse and the plays that are staged within it. In addition, I argue that the vision of audiences presented by *The Massacre* is a radical precursor. It is an understanding of the theatrical spectator that is taken up by Jacobean and Caroline tragedies, and finds more nuanced expression in the subtle and complex dramas of the following decades.² I argue that *The Massacre* is incoherent without its audiences. In light of this reconstructed understanding of spectatorship within the play, I argue that metatheatrical structure of *The Massacre* is centrally concerned with the creation of an appearance of neutrality, with the illusory understanding on the part of the audience that the content of the play is freely interpretable.

1.1 Structure

In ‘Marlowe’s Massacre at Paris: A Reconsideration’, Julia Briggs notes the “forms of ritualized violence” that occur across the course of the play (259). Briggs reads the playtext in terms of its ritual significance, and the structure she proposes is essentially one of mirrored repetition. As Leah Marcus puts it,

the play’s structure hinges on a series of ritualized repetitions: the second half with its ‘massacre’ of the Guise faction repeats with differences the first half with its reenactment of the St Bartholomew’s Day killings: so the soldier’s assassination of Admiral Coligny in the first half is replicated by his assassination of Mugeroun in the second half; both the Admiral and the

²For a representative account of the growing complexity and metatheatricality present in Caroline drama, and some of the forces underpinning this rise, see Ira Clark’s *Professional Playwrights: Massinger, Ford, Shirley and Brome* (2015). An evocative account of the broader development of intellectual and academic strains in early modern English drama, and the role of the Inns of Court in this tradition, can be found in Wigfall Green’s 1931 *The Inns of Court and Early English Drama*.

Duke of Guise are promised safety, then murdered, and so on. (153)

This structural account does something to explain the linguistic repetitions of the playtext, and it also hints at the value of Marlowe's 'tragic glass' as a critical metaphor. Yet as I see it, Briggs' account is primarily concerned with a linear unfolding in *The Massacre*. Talking about the play in terms of a ritual structure involves a description of the ways in which elements of earlier scenes are repeated in later ones. I wish to go further than this and account for the way in which isolated scenes in *The Massacre*, such as scene xxi, resemble the play as a whole. I refer to this as self-similarity under change of scale. As we shall see, the metatheatricality of *The Massacre* is extensive, and it is far more complex than previously suggested. This metatheatrical structure within the playtext is partially responsible for the interpretive freedom that appears to be handed to *The Massacre*'s audiences. Metatheatricality runs thick in scene xxi of *The Massacre*. I will outline three particularly strong strains: the way the scene is framed, the way the characters of the scene are circumscribed, and the smaller, scene-like units of action that constitute scene xxi as a whole.

The action of scene xxi is framed in much the same way as a conventional play-within in the sense that it is preceded by staged preparations and followed by a series of staged inner audience responses. At both the open and close of scene xxi, the outer audience is reminded that the death of the Duke of Guise is a spectacle, a sensational, dramatic, visually-affecting experience in a play already filled with violence. The effect of this framing is to make the outer audience aware of their status as an audience, and to highlight the nature of the spectacle.

Scene xxi opens with a conversation. Cossin, the Captain of the Guard, prepares the Three Murderers for the coming action. They assure him that they are "resolute" (21.1; 21.9; 21.14); he assures them that they will be paid (21.14) and instructs them to "take [their] standings within this chamber" (21.11). In fourteen lines of dialogue, violent action is promised in exchange for money, and the Murderers—the actors in the coming

spectacle—are directed in their starting positions. The outer audience is shown, in essence, the preparations for the coming spectacle: a director addressing his cast.³ With the concealment of the murderers, this preparatory mode transitions into a three line choric prologue: “Now falls the star whose influence governs France, / Whose light was deadly to the Protestants; / Now must he fall and perish in his height” (21.15–17). The Captain voices a familiar model for what is about to unfold: the tragic, inevitable fall of an apparently great man. Transitioning from a directorial to a preparatory function, the Captain signals that the audiences, both inner and outer, are about to watch a *de casibus* tragedy. Troni Grande defines a *de casibus* model of tragedy according to three features:

first, in a tragic universe, retribution overtakes all sinners, especially the ambitious or power-hungry; second, Fortune (often regarded as the servant of divine providence) reigns supreme, and her wily shiftiness can be neither controlled nor eluded; and, third, death is a spiritual as well as a physical fact, leading to self-reflection, repentance, and worldly renunciations. (54)

While the full implications of this genre signaling will be discussed in more detail below, it is necessary to note at the outset that the model of instruction and liminal prologue at the beginning of a spectatorial inset is seen, loosely, in two archetypal models of an early modern play-within: Thomas Kyd’s *The Spanish Tragedy* and Philip Massinger’s *The Roman Actor*. The spectatorial inset of *The Spanish Tragedy* (5.5) is what Lukas Erne describes as “the first play-within-a-play” (96) and it can be directly compared to *The Massacre*. In the case of Massinger’s *The Roman Actor*, direct comparison to *The Massacre* is complicated by the intricacy of the former, which contains three separate plays-within, each structured to support what Joanne Rochester calls “Massinger’s most complex examination of the process and interrelation of staging and spectatorship” (12). It is also made fascinating by the references to Julius Caesar that dot both playtexts.

³Tiffany Stern observes that “between the sixteenth and eighteenth centuries, there was no ‘director’ or ‘producer’ in charge of production” (2). Though my use of the term director is anachronistic, it is deliberately so. I am aiming to highlight a dynamic on stage, not suggest that this dynamic is mimetic.

Both comparisons offer a simple conclusion: the death of the Duke of Guise opens very much like other models of a spectatorial inset from the period.

While this metatheatrical preparation for the death of the Duke of Guise is consequential, I also note a series of staged reactions that occur after his death. The re-entrance of the Captain (21.87 s.d.), marks the beginning of a series of inner audience responses. First, Anjoy enters and remarks on the “sweet sight” (21.91) of the Guise’s body. He calls for further inner audiences, asking for the Guise’s son (21.92). In his initial response, Anjoy figures himself as an author and controlling figure in the spectacle. In the immediate aftermath, Anjoy suggests, to both the inner and outer audiences, that this spectacle has given him power (21.98; 21.115).

Importantly, Anjoy suggests, “Let Christian princes that shall hear of this / (As all the world shall know our Guise is dead) / Rest satisfied with this” (21.112–114). In his use of “hear”, Anjoy points towards the fact that, as Ruth Lunney observes of the earlier massacre scenes, “it is what the audience hears in these scenes that makes their theatrical experience so intense” (“Theatrical Sensations” 2). Anjoy’s use of the phrase “rest satisfied” (21.114) may well signal the redemptive possibilities of “making the duke of Guise a demonic scapegoat figure” (Grande 158). Yet the appearance of a second onstage audience, the Guise’s son, quickly unravels any suggestion of power and restful satisfaction. The Guise’s son does not react with submission. Instead, “he offereth to throw his dagger” (21.122 s.d.). In response to the boy’s anger, Anjoy notes a need to “kill the Duke [Dumaine]” (21.129) and “strangle the Cardinal” (21.130) before “these two [...] make one entire Duke of Guise” (21.131) and the effects of the spectacle twist out of his control. In other words, he notes the possibility of a dangerous mimetic tendency in the world of the outer play. The outer audience is reminded that both outer and inner spectacle has an infectious potential. The subsequent response from Catherine de Medici as-inner-audience (21.138–151) serves as a final epilogue to the inset. She curses Anjoy (21.146), calls him a “miscreant” and a “Traitor to God and to the realm of France!” (21.146–147). These accusations have previously been directed at

the Guise himself (19.60). The aftermath of the Guise's death, then, is marked by an iterative re-reading of the scene by inner audiences. We see a decay of the power and intentions of the inner author, Anjoy, and a series of inner audience reactions that Anjoy did not intend to produce. Much like the liminal prologue, this bears striking similarity to the model of a play-within depicted by Massinger's *The Roman Actor*, where "Paris' view of the theatre as a didactic force is too simplistic; Domitian's use of it as means of political control impossible" (Rochester 50). In essence, the death of the Duke of Guise is framed as a spectatorial inset in which the dangers and complexities of a social theatre 'bleed out' from the inset in its aftermath. While the outer audience is shown a spectacle, they are also shown the effects of that spectacle on a social space in which they, as spectators, play a vital part. In the sense that they foreground the effect of the interpretive freedom of spectators, the metatheatrical reactions to the death of the Duke of Guise provide clear evidence of a theatrical project that is intensely cognizant of the role played by *The Massacre's* outer audiences.

This structure of framing and dangerous aftermath is repeated when we compare scene xxi to *The Massacre* as a whole. Before the wholesale massacre begins, the outer audience is treated to a discussion of the planned action, including the costumes and theatrical effects to be deployed (4.30–31; 4.34, 4.36), and assurances from the actors that they will be resolute (5.1–9). The liminal prologue of scene xxi (21.15–17) serves as an echo of the descriptions of the coming massacre offered by the Guise (4.29–38; 5.10–15). The coming violence is described and set apart from the ordinary world of the play. Likewise, I track a staged aftermath. While the Duke of Guise believes, initially, that the staging of the massacre will complete the action, the effect of the inset spectacle spirals out of his control in its aftermath. As a series of audiences such as Navarre and Pleshé react (13.30–52), the cyclic violence continues, and the Guise's authorial power begins to dissipate. Much like the two henchmen tasked with disposing of the Admiral's body in scene xi, the outer audience thus notes a pervasive risk of infection. Like the body of the Admiral, the violence of *The Massacre* "will infect the fire, and the fire the

air, and / so we shall be poisoned” (11.3–4). As Lawrence Manley observes, this is “a very Marlovian moment, as the purest hatred coincides with the truest revelation: we breathe the smoke of those we burn” (126). I argue that Manley’s “revelation” is true of all framed spectatorial insets of *The Massacre*, and particularly true in the case of scene xxi. The framing of scene xxi becomes a microcosmic echo of the framing in the play as a whole. In both, the spectacle bleeds out as the inner and outer audiences react.

The metatheatricality of scene xxi extends far beyond the frame of the spectacle. Throughout the inset scene itself, Marlowe foregrounds the fact that the characters are ‘acting’ in every sense of the word. As I will show, this focus on roles is present in the treatment of the murderers, and it is also foundational to the construction of the major characters of the scene.

First, I examine the murderers. In his 1965 survey of the theatrical convention, “Forms and Functions of the Play within a Play”, Dieter Mehl remarks that

the simplest and most obvious device is of course the introduction of a company of actors within a play, who then perform some kind of play themselves before an audience made up of characters from the ‘main’ play.

(Mehl 43)

This is the model for a play-within advanced in *Hamlet’s* inset, *The Murder of Gonzago*, where the attention of the outer audience is focused, in large part, on the inner audience (Mehl 44). In broad terms, it is also how the murderers function in scene xxi of *The Massacre*. The murderers constitute a company of three characters. They exist on the stage for only two scenes (xxi & xxii), and are introduced with the sole purpose of performing the inset violence. Their function as actors is highlighted in the introduction to the scene, as I have noted above. It is also emphasised by two more subtle aspects of their performance: first, the perceived social status of the murderers, and second, the possible use of doubling.

In the space of thirteen lines, the Guise twice calls the murderers “peasants” (21.69;

21.81) and also refers to “baser men” (21.68). Even accounting for the arrogance of “proud Guise” (21.24), there is some truth to this assessment. The murderers are attendant figures in a playtext whose cast is largely composed of Kings, Queens, Lords, and Dukes. While other messengers and attendants are important to the action of *The Massacre*, they tend to be present on stage for only brief and instrumental periods. The sustained presence of the murderers marks them out as unusual figures in the scene and, by extension, marks the scene as different.

While the tension between their social status and sustained presence on stage is important, a more practical factor also serves to mark the murderers out as unusual. In performance, the roles and identities of the murderers were likely underlined and complicated by the outer audience’s recognition of doubling. The actors who play the murderers would have doubled in earlier roles. This doubling is not a certainty, yet given the population of *The Massacre* (53 characters) and the fact that the usual population of an Elizabethan company was well below that number, some doubling is almost certain. By recognising the characters in *The Massacre* that could conceivably double with the murderers, we can begin to speculate upon the possible meaning that is carried with such doubling in performance, and the effect that meaning might have on audience response. What characters in the play could double with the murderers? If we limit the set of possible doubled roles to characters who are not on stage concurrently with the murderers, and also rule out those who are on stage in a scene immediately preceding or following a scene in which the murderers are present, the list of candidates begins to narrow. If we prioritize characters that are already dead, or who served minor roles previously, the doubling takes on two interesting possibilities. On the one hand, the roles of murderers may double with lords, such as the two lords of Poland and the actor who plays King Charles. On the other hand, the murderers may be played by one of the Guise’s victims. This latter category comfortably includes the protestants, schoolmasters, and the Lord Admiral.⁴ Regardless of which roles are doubled, the mere

⁴While we can muster no firm evidence for this sort of speculation, the prospect of doubling the roles of the murderers with the Guise’s victims is certainly seductive. It would lend the Guise’s “Villain,

fact of doubling adds another layer of distance and self-reflexivity to the murderers and the spectacle violence they perform. As Stephen Booth argues, doubling offers an interesting perspective on the interplay “between our consciousness of the events portrayed and our consciousness of the actual theatrical events that convey the story” (103). Though it may be motivated out of practical necessity, doubling the murderers thus adds a metatheatrical layer to the parts they play in the death of the Duke of Guise.

The application of Mehl’s model for the play-within-a-play device to scene xxi is complicated by another factor. Although the murderers are notionally separate characters, the Duke of Guise and Anjou are not. Yet in the early movements of scene xxi, Marlowe seems at pains to circumscribe the parts that these characters play. Both the Duke of Guise and Anjou are depicted in an interlinked reversal of roles. Following the death of the Duke of Guise, this reversal dissolves through successive re-interpretations by the inner audiences. After first being shown a play-within in which the characters are sharply differentiated from the play-without, the theatre audience is then shown a deconstruction of that model: a tearing apart of the artifice of the play-within. As I will demonstrate, the only survivors of this iterative dissolution of the roles in the scene are the inner audiences that react.

In the outer play, the Guise exhibits many of the traits of a Marlovian Machevill. He is ambitious, vicious, and unscrupulous. Much like *The Jew of Malta*’s Barabas, he “fits the stereotype of the underhanded, scheming anti-Christian villain which had become popularly synonymous with Machiavellianism” (Minshull 53).⁵ Throughout the earlier movements of *The Massacre*, the Guise is a craftsman of death, orchestrating and directing the majority of the violence on stage. In this regard, I extend Andrew McCarthy’s observation in his discussion of “Marlowe’s conversance in the *ars moriendi*”

why dost thou look so ghastly? Speak.” (21.58) an interesting resonance. See Appendix B for further modelling of possible and probable doubling.

⁵The characterisation of the Guise as anti-Christian grates against modern sensibilities. Strictly speaking, he is anti-Huguenot. From a stereotypical Elizabethan perspective, however, the comparison seems apt enough.

that the depiction of Barabas is tied up in a “playful inversion of the craft of dying to crafting the deaths of others” (70). The Guise that the outer audience sees for the majority of *The Massacre* depends on an almost identical inversion. Yet in the spectatorial inset of scene xxi, this craftsmanship is nowhere to be seen. The Guise of the inset is not so much unscrupulous as he is uncertain: he is taken aback by the appearance of Epernoun at the door (21.28); he hesitates, seems to doubt himself (21.73), and even asks that his murderers “Give [him] leave to speak” (21.75) in the moment of his death. When the Guise turns to his sword (21.57) in an echo of an earlier scene (2.49; 2.92 s.d.), it is out of fear and misplaced hope more than any kind of savage craftsmanship. And while his penultimate cries repeat the earlier anti-Huguenot sentiment, Marcus suggests that the Guise’s death retains “elements of tragedy in spite of his villainy” (157). In short, the Guise of scene xxi is powerless.

Anjoy is precisely the reverse. Whereas the Anjoy of the outer play is characterised by a profound powerlessness, the Anjoy of scene xxi inhabits precisely the part of the Machevill that the Guise once held. As Catherine de Medici observes, this change is sharp: he is “a changeling” (21.145). He crafts and directs the death of the Guise (21.18–27), he assures his victim of safety (21.33–47), and he delights in the spectacle that results (21.91). In this way, Anjoy and the Guise are separated from previous depictions in scene xxi. Even in its treatment of the major characters, the spectatorial inset is distanced from the play as a whole. What makes this treatment important is the degree to which the momentary reversal of roles between the Guise and Anjoy collapses with the reaction of the inner audiences. Neither the Guise’s son, nor Catherine de Medici, recognise the validity of Anjoy-as-Machevill. In this way, the outer audiences are coached in a similar reaction. Even as he vows that he is “lawful King of France” (24.5), the outer and inner audiences recognise the futility of his protest. As Penny Roberts observes, “as with the death of Coligny, the victim, Guise, is ennobled by a martyr’s fate [...] while his murderer, Henry [Anjoy], appears sullied” (439). While Anjoy is momentarily made a Marlovian Machevill by the structure of the spectatorial inset, he

cannot sustain the fiction: the inner and outer audiences destroy that possibility.⁶

While both the framing and characterisations in scene xxi are important to understanding its metatheatrical structure and effect, a third and final feature is also instrumental in the metatheatricality of scene xxi: the way in which it is assembled as a series of micro-scenes, each of which bears similarity to a larger scene elsewhere in the *The Massacre*. Some of these parallels, such as the preparatory chorus (21.14–17), have already been discussed. Nevertheless, many of the later micro-scenes are just as valuable to our understanding of *The Massacre*'s metatheatrical project. In each case, the part-to-whole relation highlights the possibility of metatheatrical self-similarity under change of scale, not just under displacement. In the discussion between the Captain of the Guard and Anjoy, for example, the outer audience is given the opportunity to draw clear parallels between Anjoy's position (21.24–27) and the Guise's first soliloquy (2.31–105). In a more complex parallel, the conversation at the door between the Guise and Epernoun (21.28–34) is reminiscent of scene viii, in which Mountsorrell talks to Seroune's wife before the killing of Seroune. In the following conversation between the Guise and Anjoy (21.35–47), the outer audience is reminded of the conversation between the Admiral and King Charles (4.50–70). In both cases, assurances of safety eventually give way to carefully crafted violence. In the Guise's brief speech to an apparently empty stage, the Guise reflects on the powers and dynamics at play (21.48–57).⁷ This micro-scene takes on the character of the interaction between Navarre, Condé, and the Admiral in scene i. Even in the death of the Duke of Guise, parallels to past events abound. The voiced repetition "down with him, down with him!" (21.74) echoes Anjoy's earlier lines of "Kill them, Kill them!" about the protestants (6.3) and the Guise's "Down with the Huguenots, murder them!" (12.1). Likewise, the Guise's request to

⁶More than the simple dissipation of Anjoy's generic artifice, the reactions to the death of the Guise can be understood as a layered collapse into other, and perhaps more subversive, generic structures. In the case of Catherine de Medici, for example, the audience sees a movement into the feminine: in the words of Alison Bartels, "she collapses emotionally and generically from political overreacher into the feminine genre of complaint" (Findlay 244).

⁷Whether the stage is actually empty in this passage depends on staging choice. According to the playtext, the murderers are still concealed, and Anjoy, Epernoun, and the Captain only exit in a provisional sense.

speak (21.75) and the second murderer's response is an echo and reversal of interactions between Gonzago and the Admiral (5.24–29), Mountsorrell and Seroune (7.5–14), Anjoy, Ramus, and the Guise (9.38–54), and the Guise and the protestants (12.2–5). In every case, these are interactions where the victim asks to speak or pray before they are stabbed. In each of these parallels, a small moment of scene xxi—what we might call a micro-scene—bears remarkable similarity to at least one other scene or moment elsewhere in *The Massacre*. Whether this is the result of memorial reconstruction or deliberate structure is irrelevant to the analytic task at hand. The structure of the surviving playtext entails a set of effects. Taken in isolation, each of these repetitions is interesting and metatheatrically dense. Taken in aggregate, the result is that the action of scene xxi resembles a miniaturized version of *The Massacre* as a whole. We find clear evidence of a fractal structure in the surviving playtext's violent scenes. Moreover, this structure lends further focus to the general project of spectacle violence that underpins the surviving playtext and supports the notion that *The Massacre*'s inner and outer audiences are a central feature of the play's theatrical project.

Thus far, I have described a structure of metatheatricity in scene xxi of *The Massacre*. This structure is borne out in the framing of the scene, in the way in which various characters are circumscribed and performed, and in the way in which scene xxi is structured as a miniaturized version of *The Massacre* itself. In each case, I have tracked a paradoxical tendency to circumscribe scene xxi as a separate spectatorial inset while simultaneously reflecting the whole of *The Massacre* in the microcosm of the scene. The audiences of *The Massacre* are treated to a structure of repetition and self-conscious reflection. In beginning to describe the relationship between this metatheatricity and the audiences it effects, we must describe the nature of *The Massacre*'s structured repetition in more concrete terms. For Julia Briggs, the structure is that of ritual. *The Massacre* is a play in which instances of violence bear remarkable similarity to one another and, for Briggs, this self-similarity is the result of a system of

ritualized repetition. The essential metaphor is that of a mirror, in which the first half of the play is mirrored by the second, ultimately resembling “a compulsive reopening of unhealed wounds” (Briggs 278). Yet as I have shown, the metatheatricity of scene xxi is more complex and non-linear than this term suggests. I posit, instead, that the metatheatricity of *The Massacre* is best described in terms of a fractal.

In order to unpack the metaphor of fractal metatheatricity in *The Massacre*, I begin with the notion of self-similarity. The death of the Duke of Guise is a violent spectacle. This episode of violence echoes the myriad instances of violence that have occurred earlier in the play, particularly those involving the Admiral. Yet the death of the Guise also includes a reflection of the play as a whole. Much like *The Massacre* in aggregate, the death of the Guise is crafted, prepared for, and made to seem the inevitable consequence of a system of spectatorial inset. In the language of geometry, these two features would be described as self-similarity ‘under displacement’ and ‘under change of scale’ respectively. As I shall show, this language of geometry is useful in understanding the effect of the play’s metatheatricity. In the case of similarity under displacement, one episode of violence comes to resemble another elsewhere in the play: the death of the Guise is similar to the death of the Admiral. In the case of self-similarity under change of scale, the death of the Guise is similar to the play *in toto*. The former, self-similarity under displacement, is the object of Briggs’ “forms of ritualized violence” (259). The latter, self-similarity under change of scale, is a previously undervalued feature of *The Massacre*. Revaluing this feature casts new light on the relationship between the play and its audiences.

While the details and mathematics of fractals sit far beyond the scope of this thesis, it is important to note that I am using self-similarity as a relatively flexible notion. In the register of geometry, the term refers to a variety of invariance. As Mandelbrot observes,

The homogeneous distribution on a line, plane, or space has two very

desirable properties. It is invariant under displacement, and it is invariant under change of scale. When we move on to fractals, either invariance must be modified and/or restricted in its scope. Hence, the best fractals are those that exhibit a maximum of invariance. (18)

Plainly, this strict definition does not hold for most pieces of literature. The analogy breaks remarkably quickly.⁸ What I mean when I talk about self-similarity in *The Massacre* is that scene xxi refers to and mirrors features of the whole play (similarity under change of scale) and also refers to and mirrors features of other scenes in the play (similarity under displacement) at the level of the symbol, the image. While this self-similarity does not begin to approach the kind of similarity described when the term is used in mathematics, it is a more precise way of describing the formal structure of the surviving playtext. Though *The Massacre* derives a mechanistic repetition in its violence, it also offers a sense of broader significance: a resonance under change of scale. The structure, then, is not simply a mirror, nor a ritual, but a fractal. As I shall argue, this fractal structure has a number of important ramifications.

The implications of this fractal structure are twofold: thoroughgoing self-awareness, coupled with a distinctive kind of interpretive instability. I look, first, at the self-awareness that flows from the fractal structure of metatheatricity in *The Massacre*. In his influential work, *Renaissance Drama in Action*, Martin White suggests that “highlighting the obvious theatricality of the play-within-a-play serves to heighten the apparent ‘reality’ of the surrounding action and so stimulate the audience’s awareness of the way that that too has been created” (96). M.C. Bradbrook noted some time ago, in a similar vein, that

the play-within-the-play was the most useful of all these modifications of the action. It allowed for shadow work and ironic interplay in a more complex

⁸It is valuable to note that while the strict mathematical application of a fractal model breaks remarkably quickly with regards to a single text and a close-read analysis, recent scholarship has identified patterns of fractal self-similarity at the level of isolated word frequencies across large literary corpora. See, for example, the compelling application of rescaled range analysis offered in Montemurro and Pury’s 2002 paper, “Long-Range Fractal Correlations in Literary Corpora”.

way than the induction; for the characters who acted in it could be given parts which reflected upon their roles within the play proper. (44)

That is to say, by enacting a metatheatrical tension between the spectatorial inset and the play that holds it, the outer audience of *The Massacre* is made more explicitly aware of the artificiality of the play proper. While the action of scene xxi is not a play-within in strict terms, it is a spectatorial inset separated from the play at large. Moreover, the structure of metatheatricality in the spectatorial inset of scene xxi effects precisely the same kind of awareness as a play-within-a-play. The outer audience of *The Massacre* is aware of the theatricality at stake; they are aware that they are watching violent spectacle, and that the spectacle is, in Ruth Lunney's words "more brutality than ritual" ("Theatrical Sensations" 1).

More importantly, the structure of fractal self-similarity forces the outer audience of *The Massacre* into an awareness of the play's universality. The repetitious violence of the play creates what what Patricia Cahill calls an "atemporal loop of killing without end" (quoted in Lunney "Theatrical Sensations" 1). In describing the performance of *The Massacre* offered as part of the Seventh International Marlowe Conference (June 25–28, 2013), Leah Marcus suggested that "the stage violence was so overpowering that it leveled any claims of ethics and character" and that the whole play was a "festival of death, but with a savage intensity that obliterated everything except its own efficient machinery" (158). The point is that the outer audience of *The Massacre* is handed a mechanistic yet intensely theatrical view of spectacle violence. Scene xxi forces the outer audience to recognise that every death is staged. As I will argue below, by highlighting its own structure, the action of *The Massacre* demands a simultaneous awareness of the theatre itself and along with the role that the spectator plays in that theatre. In so doing, I find clear evidence of a theatrical project in which *The Massacre* foregrounds its own neutrality and the apparent interpretive freedom of its outer audiences.

While self-awareness is a critical implication of the metatheatrical structure of

The Massacre, the interpretive instability that results from *The Massacre*'s fractal structure is equally important. The layered repetition of *The Massacre* results in an oddly unstable 'aboutness'. For the outer audience, the meaning of the play fluctuates between being about the stated subject matter (the massacre at Paris and the death of the Duke of Guise) and being about the production of violent, theatrical spectacle itself. The fractal structure adds a layer of distance to the proceedings, and the playtext alone offers few clues as to whether Marlowe is, as Bruce R. Smith puts it, "playing the satirist or taunting the satirists" (206). It is unclear which side Marlowe is taking. Perhaps, as Leah Marcus suggests, Marlowe is doing "both" (156). In any case, the fractal structure of metatheatricality seems to result in remarkable instability in the meaning of *The Massacre*.⁹ In this way, the audience of *The Massacre* appears to be placed in a position of remarkable interpretive freedom.

There is also a sense in which the structured metatheatricality of *The Massacre* serves only to highlight an already-present feature of all theatrical experiences. As Jenn Stephenson observes, acts of spatial distinction between the "quotidian" and the "imaginary" create

a doubled view of persons and objects inside the newly created fictional world, allowing the audience to perceive in a kind of binocular vision both the imagined fiction and the quotidian material of its creation. [...] Without this perceptual duality, there can be no theatre. (25)

The metatheatricality of scene xxi creates a double vision, yet by this logic the double vision of scene xxi is little more than an extension of a theatrical universal. The fractal

⁹I recognise that a metatheatrical structure leading to interpretive instability is not unique to the period. Indeed, metatheatricality became more common in the years following. Jacobean and Caroline era drama exhibited a general, if uneven, trend towards greater complexity and self-conscious theatricality. Leo (Salingar) notes that by the 1610s the "idea of critical 'judgment'" finds a place "in roughly one play out of every five" (211). Likewise, James Bulman observes "introspective [...]" theatrical self-reference" in the later Caroline period (359). A variety of plays from the Caroline era go so far as to involve actors as characters and contain complex inset dramatic performances, including Brome's *The Antipodes* (1638) and Randolph's *The Muses' Looking Glass* (1630). A more detailed discussion of the use of these inset performances as rehearsed defences of the theatre, together with treatment of Massinger's *The Roman Actor*, can be found in Jonas Barish's "Three Caroline Defences of the Stage".

metatheatricity of *The Massacre* accentuates and exaggerates a prior tension between audience and play. In so doing, it permits *The Massacre* engagement with even more extreme and audience-centric modes of performance. Nowhere is the double vision, equivocal meaning, and resulting tension clearer than in the depiction of the Duke of Guise. It is this feature that I will address.

1.2 Roles

In the midst of his indictment of *The Massacre*, Wilbur Sanders admits that there is an “equivocation at the moral heart of [the play] which accounts for the equivocal role played by the Guise. It is never entirely certain what Marlowe expects us to make of him” (35). As I aim to establish in the following section, this is no mistake. The lack of certainty is not a byproduct of dramaturgical failure, as Sanders believes. Rather, it is one of the most important features of *The Massacre*. Accounting for it is a vital step in understanding the playtext. As I aim to demonstrate, the death of the Duke of Guise enacts a realisation of genre. The Guise inhabits a series of roles within *The Massacre*, and this characterisation contributes to the continuing project of metatheatrical engagement with the play’s outer audience. In the moment of his death, both the Guise and the audience become aware that the Guise is playing the part of a tragic hero. Moreover, I will argue that the peculiarities of his status as tragic hero are evidence of an inchoate Hegelian ‘modern’ that develops in later plays of the period. In effect, I aim to situate the structural features of *The Massacre*, and the play’s resulting relationship with its audience, within a broader context.

Throughout *The Massacre*, the Duke of Guise engages in a project of self-construction. I will examine this self-construction and its implications on a number of fronts. I begin with the most obvious example: the Duke’s use of the term “resolute”. In the Guise’s first soliloquy, he suggests “That peril is the chiefest way to happiness, / And resolution honour’s fairest aim.” (2.35–36). For the majority of the play’s action,

the Guise has a monopoly on ‘resolution’ in every sense. For the first fifteen scenes, he is the only character to use the word, and in the first twenty scenes it appears that the Guise is, indeed, resolutely bent towards his aims.

Yet in the opening lines of scene xxi, this trend is reversed. “Resolute” occurs five times in scene xxi – and four in the first twenty-two lines. None of these come from the mouth of the Guise. The Guise’s construction of a resolute self collapses and, as we have seen above, Anjoy effectively takes on his role for the duration of the spectatorial inset. In other words, the Guise’s resolution is strongly associated with his position as the Machevill of the outer play. The spectatorial inset is carefully circumscribed, as I have argued above, and part of this circumscription involves the loss of resolution on the part of the Guise.

More crucial to a discussion of the Guise’s generic role is the connection between his use of the term “resolute” and that of other characters in the Marlovian canon. The text of *Dr Faustus*, for example, shows eight instances of the term, seven of which come from a similarly equivocal and self-constructing Faustus. Much like the Guise, Faustus’ use of the word clusters around moments in which Faustus is concerned with defining his role in the dramatic space: in commanding Mephistopheles (A-text 341), in considering the possibility of repentance (A-text 447), and in demanding knowledge of the world (A-text 693). In each case, the concept of “resolution” occurs at a moment in which the outer audience is viewing a choice that is an equivocation of character. The most important example of this is also the first instance, in which Faustus toys with the possibilities offered by the “damnèd book” and asks “Shall I make spirits fetch me what I please, / Resolve me of all ambiguities, / Perform what desperate enterprise I will?” (A-text 99; 108–110). Both Faustus and the Guise are concerned with ambiguity. For Faustus, it is the ambiguity involved in interpreting the world. For the Guise, it is the ambiguity involved in interpreting and performing himself. Marjorie Garber describes Marlowe’s *Faustus* as a playtext of myriad, equivocal “metaphors of transformation”, all of which “participate in the writing and the unwriting—the re-signing—of Marlowe’s

text” (313). I suggest that the Guise of *The Massacre* participates in a similar system of equivocation, the full complexity of which finds expression in scene xxi.

In the same scene in which the Guise ceases to hold a monopoly on resolution, he simultaneously returns to describing himself in terms of a connection to Caesar. Briggs notes the importance of this characterisation, writing that “Caesar, with his much-debated aspirations to kingship, his personal courage, his desire for power was an equivocal figure not unlike the Guise. League pamphleteers seem to have been fond of drawing analogies between them” (266). Yet the importance of the connection extends far beyond the history of League pamphleteers. I suggest that the connection to Caesar, and the Guise’s equivocation on the issue of identifying with Caesar, is a connection to genre.

Twice in the spectatorial inset, the Guise draws a connection between himself and Caesar (21.67; 21.87), and the playtext as a whole is peppered with parallel lines between *Julius Caesar* and *The Massacre*. H.J. Oliver, and a number of scholars since him, have attributed this connection to the blurring and confusion of a memorial reconstruction.¹⁰ With *The Massacre*’s likely first performance date in January of 1593 (Bevington 259), and performances of Shakespeare’s *Julius Caesar* ranging from 1599 onwards (Smith 496), the direction of the historical indebtedness is relatively clear. Whether the parallel lines were borrowed in the original playtexts, or merely memorial confusion as Oliver suggests, remains unresolved. Even if poor reconstruction were the source of the parallels, it is nevertheless an interesting mistake to make. Confusing the role of the Guise with that of Caesar tells us something important about the reconstructors’ understanding of both. It suggests a confusion over the character’s role in the play: as Machevill, or as tragic hero. In the text that survives of *The Massacre*, this is important for the following reasons. Regardless of their source, the final lines attributed to the Guise are a recognition of his role: “Thus Caesar did go forth, and thus he died” (21.87).

¹⁰For H.J. Oliver’s discussion of the parallel, see his Introduction to the Revels, lvii-lviii. For later work that brushes on this issue, see, for example, Robert A.H. Smith’s “‘Julius Caesar’ and The ‘Massacre at Paris’ ”.

Though he has equivocated and constructed himself in a number of ways across the play, the moment of the Guise's death forces a realisation. The Guise realises his role in a structure of inevitability that finds its foundation in the doggedly consistent character of Caesar. The Guise is resolute and self-constructing. Yet in the spectatorial inset of his death he recognises that he is playing the part, not of a Machevill, but of a tragic hero. The generic implications of this played part are complex. Moreover, it draws upon *The Massacre's* outer audiences in distinct and modern ways. To unpick this process in a more granular way, I turn to Hegel's revealing description of Shakespearean tragedy.

Hegel, in his *Aesthetics*, talks of the peculiarities of the tragic hero in the 'modern' tragedies that Shakespeare's work exemplifies. As he suggests,

It is precisely Shakespeare who gives us, in contrast to his portrayal of vacillating characters inwardly divided against themselves, the finest examples of firm and consistent characters who come to ruin simply because of this decisive adherence to themselves and their aims. Without ethical justification, but upheld solely by the formal inevitability of their personality, they allow themselves to be lured to their deed by external circumstances, or they plunge blindly on and persevere by the strength of their will, even if now what they do they accomplish only from the necessity of maintaining themselves against others or because they have reached once and for all the point that they have reached. (1229–1230)

Shakespeare's tragedies, in other words, are tragedies of internal consistency "without ethical justification", not tragedies of vacillation. This is an observation that is particularly relevant in regards to his late tragedies. *Coriolanus*, for example, maintains what Matthew Proser calls an "unrelentingly singular" and "constant image of its hero", Caius Marcius (507). In his piercing essay on tragic form, 'A Huge Eclipse', Franco Moretti notes that "this fidelity to his own individuality makes the tragic hero the partial, one-sided character par excellence: one in whom all universality has been lost" (24).

This is the crux: the death of the Guise involves a realisation of the tragic hero at every level. As I have shown, the structure of *The Massacre* as a whole is one of fractalized double vision. The outer audience sees, with each moment of repeated violence, more of their role in the dynamic of the theatre. Framed as it is in a spectatorial inset, the death of the Guise gestures towards a definition of early modern tragedy in terms of a constant, partial, one-sided character. The Guise of *The Massacre* as a whole exists in a tension between what Richard Hillman calls “the Duke’s representation as either martyr or Machiavel” (155). Yet in the moment of death, the Guise submits to the nascent form and his role within it. In this, we find more evidence that the structure of the surviving playtext depends upon a theatrical project that is cognizant of the primacy of spectacle, genre, and audience.

1.3 Audience Response

What remains is to return to the question of *The Massacre*’s outer audiences directly. I have described the spectatorial inset of scene xxi, a trend of repetitious metatheatricality, and an equivocal depiction of the Guise that ultimately gives way to the realisation of a nascent ‘modern’ tragic hero. Each of these observations is directed, tacitly, at the relationship between the surviving playtext and the outer audience. In a theatre of mechanical and relentless violence, where every death comes to resemble each other and the play as a whole, every act of violence is a self-consciously staged spectacle, and even the play’s ostensible villain recognises the possibilities and limitations of his own generic role, where is the outer audience? And in the context of an intensely social theatre, how does that audience come to interpret *The Massacre*?

At the outset of this chapter, I signalled the possibility that *The Massacre* is a play in which the audience is ‘let loose’. I suggested that the repetitious and metatheatrical nature of its violent spectacles, together with the depiction of the Guise, might encourage the outer audience to engage in the interpretation of *The Massacre*’s action in an

unusually free and unrestricted way. With the evidence now mustered, I can begin to tease out some of the implications of this possibility in straightforward terms. In this, *Hamlet* is the guiding model.

One of the striking things about the relationship between *Hamlet* and its inset, *The Murder of Gonzago*, is that it fails. The inset play does not function as Hamlet intends. As Eileen Cohen puts it, the inset “makes Hamlet vulnerable to Claudius; it also makes him vulnerable to us” (543). For Hamlet, whose recourse is always to literary forms, the performance of theatre provides the most direct access to the Elizabethan metaphor of the stage as a mirror for life (Fergusson, *passim*. particularly 14, 109). Yet his careful construction of a spectatorial inset is also a project that gives power to its audiences. As Brent Cohen puts it, Hamlet “may wish to ‘make mad the guilty and appal the free’ (2.2.574), but he must measure in his performance our conviction and affirmation” (241). The contract of attention between performance and audience places demands on both sides, and has the potential to destabilise the intentions of either role. This dynamic is vital to an understanding of *The Massacre*’s audiences and their interpretive roles.

For the inner and outer audiences of scene xxi of *The Massacre*, similar dynamics are at play. While *The Massacre* lacks the studied intricacy of *Hamlet*, there is a concrete sense in which Anjoy’s spectatorial inset fails. As I have argued above, the violent death of the Guise that Anjoy crafts is not interpreted by its inner audiences in the manner that he intends. It becomes, instead, an example of unintended potential. It is a failed spectacle, a spectacle that ‘bleeds out’ in unexpected ways. For the outer audience scene xxi becomes, like *Hamlet*’s Mouse-Trap, an inexact correspondence with the ‘real’ of the outer play. If the spectatorial inset of scene xxi is a synecdoche for *The Massacre*, as I have suggested above, and the stage of *The Massacre* is a metaphor for life, then the outer audience is handed, at every level, a violent spectacle that they feel free to interpret.¹¹ The violence of the *The Massacre* repeats, becomes metatheatric, and the

¹¹That the stage of *The Massacre* is a metaphor for life is, of course, a particularly short bow to draw given the recent historical basis for the play.

audience is given example upon example of the iterative realisation of role and structure within the dynamic of the theatre. As a consequence, *The Massacre's* surviving playtext appears to lend a profound primacy and power to the audience itself.

More than simply brushing against failure in the reactions of *The Massacre's* inner audiences, the playtext foregrounds the basic risk of failure that is entailed by its foundation in spectacle. In and of itself, this feature bears vital importance on the reconstruction and manipulation of audience response. With its repetitive use of violence, with the mechanical dragging off and throwing down of actors' bodies, *The Massacre* plays with and against the basic theatrical risks of bodies and blood on an Elizabethan stage. Just as *Edmund Ironside* demands a staged dismemberment of hands and noses (2.3) and *The Winter's Tale* demands a bear, *The Massacre* demands, at bare minimum, 19 staged deaths and a full scene in which the body of the Admiral is returned and hung up by attendants (scene xi). This violence is fundamental to the play's treatment of its outer audience. It is the very demand placed on audience and actor by the presence of bodies—the very risk of failure inherent to the constant recreation of theatrical illusions of stabbing, slashing, dragging off, and throwing down of real actor's bodies—that adds further layers to the interplay of metatheatrics. The Elizabethan stage is generally understood to be a flexible space of both naturalistic and non-naturalistic representation. As Robert Weimann reflects,

a platform stage capable of sustaining both illusionistic and nonillusionistic effects was indispensable to the interplay between realistic and stylized modes of expression, and between a new consistency of *mimesis* and traditional audience awareness. (216)

Yet a key part of its dramatic flexibility lay in the use of the tensioned, ever-present risk of theatrical failure. “The success of Renaissance drama,” writes Lopez, “especially in its most spectacular, hyperbolic, theatrical moments, is fuelled by [its] potential for failure” (134). From the use of invisibility and fog, to dismemberment, to the management of

the aside, early modern theatre relied heavily on a set of conventions that stretched the limits of even the most forgiving of audience understandings. Far more than simple theatrical risk improperly averted or mitigated by cautious dramaturgy, the constant creation and movement of bloodied bodies is, in *The Massacre*, itself a kind of energetic and audience-centric metatheatricality. It is a precursor to, and extension of, a set of stage conventions that used failure as a source of dramatic energy. In its iterative realisations of role and structure and genre, and even in the mechanical bodies on its stage, *The Massacre* becomes an experiment in the possibilities, and risks, of violent spectacle.

In one sense, the dual consciousness and double vision of audience is a formal quality of the theatre medium. Unlike most other modes of artistic representation, the theatre demands that audiences accept that physically instantiated objects such as bodies, props, and spaces stand in for illusory ones. A prop sword substitutes for a real weapon, for example. A bladder of pig's blood, once burst, stands in for human blood at the site of a wound. As Maik Goth notes, "such substitutes for human blood were vital for creating the theatrical semblance of a genuine piercing of the characters' skin" (142). In a less gruesome register, an on-stage chair must stand in for an imagined throne; the felt reality of an actor's body must act as proxy for the fictional body of the character represented. And while many of these myriad substitutions appear quite minimal, they are characteristic of, and perhaps unique to, theatre as a medium. As Eli Rozik puts it, theatre is

characterized by imprinting its images on materials similar to the models of these images. This principle includes live actors and extends to the materiality of other objects on stage, such as costume, furniture and lighting. In this sense, the materiality of all objects on stage is an integral component of the text. (198)

In the metatheatrics and spectacle violence of *The Massacre* explored in this chapter, we have seen this formal quality of theatrical representation elevated far beyond the physically instantiated objects of the stage, and into the structures of audience response that underpin the play itself. Even in its opening lines, the spectatorial inset of scene xxi both enacts and mocks the model of a *de casibus* tragedy. The quasi-choric function fulfilled by the Captain (21.15–17), so reminiscent of *Edward II*'s Mortimer, “Why should I grieve at my declining fall?” (5.6.63), is at once serious and sneering. The death of the Guise, like every death in *The Massacre*, admits a range of readings: tragic, farcical, inchoate, mechanical. *The Massacre* is incoherent without its audience because the playtext itself is Janus-faced. It is a kind of necker cube in their hands: an illusion, taken for the starkness of its optical duality. Which interpretation the outer audience takes of the vision—whether they see the Guise as martyr or Machevill, for example—feels to them as if it has been given over to them wholesale. As I have shown, the structure of *The Massacre* makes its outer audiences iteratively aware of their role as spectators of the violent spectacle. The analogy, once again, is to Massinger's *The Roman Actor*, which “dramatised the dependence of the theatre on its audience; whatever power the drama has only exists through the contract of attention with its audience” (Rochester 50). *The Massacre* is not just a play filled with violence; it is a play filled with violence performed for audiences. This, I suggest, is what lends the play such a concrete sense of what Wilbur Sanders calls “a degradation of the audience” and the “[robbing] of the political of all meaning” (33). In enacting this letting loose, the audience becomes responsible for, and complicit in, the action. Paradoxically, these very same features are also what engender the impression that it “is essentially a neutral play, with free inclination to comedy and a mere necessary gesture in the direction of the political moral” (C. Leech 146). If the spectacle fails, it fails on account of its inner and outer audiences. If the Guise dies a martyr, or a Machevill, it is the audiences that decide. *The Massacre* becomes, not just a play of violence, but a play of audiences as well.

2 An Algorithmic Criticism of Utterance

In the following pages, I mark a departure from the reading offered in Chapter 1. I do not intend to wholly falsify the claims of a freely interpretable playtext. Rather, I argue that, constrained and curtailed as it is by patterns of linguistic fragmentation and an overarching system of affect, this apparent freedom is not necessarily a kind of freedom ‘worth wanting.’¹² I set aside the traditional analytic process of the prior chapter, which is defined primarily by a kind of stylised close reading. In its place, I introduce a more globalised analysis: a variety of what Stephen Ramsay calls an “algorithmic criticism” (9). This practice is constituted in a series of structured and wholesale “deformances” of the playtext (Ramsay 33–38), enacted through the use of computational and algorithmic means, and focussed primarily on readable and easily-observed linguistic features of *The Massacre*’s spoken utterances. By deploying generative tools of detection and deformation, I cast new light on *The Massacre*’s relation to its audiences.

I argue throughout that the presence of certain patterns in *The Massacre*’s playtext sets practical limits on the meaning-making of its audiences. Evidence of these patterns and subsequent limitations is present across the entirety of the playtext, and clusters around a narrow set of moments in its plot. I support this position in four parts. First, by looking to the line-by-line fragmentation in *The Massacre*, I argue that the apparent neutrality and double vision of the playtext, as present in the moments of repetitious stage violence, is closely tied to practices of syntactic fragmentation in the utterances that comprise it. More than simply reflecting the poor status of the playtext, I suggest that its uneven fragmentation is fundamentally meaningful. It exists in response to some, though not all, of the play’s violent episodes, and thereby works to direct the playtext in performance. In this way, I introduce the practice of algorithmic deformation as a generative approach to *The Massacre*’s fragmented utterances. Second, I turn to the affective language of the playtext. By detecting sentiment valence in the

¹²The notion of freedom or free will ‘worth wanting’ is borrowed from Daniel Dennett’s 1984 *Elbow Room*, which explores the notion of free will given a material and deterministic universe.

playtext—the basic positive or negative phrasing of sentences—I begin to locate the utterances of *The Massacre* within the context of an unfolding affective landscape. I argue that the changing affective language of the playtext, even when reduced to the narrow and arbitrary definitions of a computationally-detected positive or negative valence, constrains the free interpretation of *The Massacre*'s audiences and defines their possible responses. Third, I expand this understanding of fragmentation and affective language through comparison. I set the reading of *The Massacre*'s fragmentations and affectivities against another understudied Marlovian playtext, *Dido, Queen of Carthage*. In so doing, I situate the apparent project of *The Massacre* within a wider context and thereby cast the play's project of audience manipulation into sharper relief. I suggest that, whereas *Dido* is a play centrally concerned with the strategic ordering of emotional response, key moments of *The Massacre* are delineated by a practice of dis-ordering and de-centralising of emotional reaction. Finally, I position the affective and fragmentary features of the playtext in relation to Evelyn Tribble's nuanced and compelling understanding of the "cognitive ecology" of the early modern playhouse (151). In light of the evidence mustered, I argue that any hypothesized audiences of *The Massacre* can only be understood sensibly with performance in mind, and that the fragmentary and affective features of the playtext are intertwined with the essential sociality of the theatre medium. Even in its mangled status, I further argue that *The Massacre*'s playtext is self-directing in the broadest sense. The play directs both the actions of its actors and the re-actions of its audiences. It is responsive to the interactive social and cognitive labour of meaning-making in the theatre space. And, most fundamentally, *The Massacre* is found to be intensely aware of, and pragmatic with regards to, the limitations and possibilities of the medium that forms and performs it.

2.1 Fragmentation

My examination of fragmentation in the utterances of *The Massacre* is grounded in two questions. First, to what extent are basic patterns of syntactic fragmentation present in the playtext of *The Massacre*? And second, to what degree do those patterns, if present, act to constrain and curtail the apparent neutrality and double vision of the play and the free interpretation of its audiences? In answering each of these foundational questions, I look to the line-by-line fragmentation of *The Massacre*, as examined by an introductory algorithmic reading of the presence and absence of caesurae and enjambments in lines of likely blank verse. Much like the questions that guide it, the conclusion of this portion of the algorithmic study of the basic structure of utterances is relatively simple. Syntactic fragmentation occurs unevenly across the playtext, and is associated with a narrow set of plot points within *The Massacre*. On this basis, I argue that it can be regarded as a recognisable feature that constrains free performance and interpretation of the action.

For the purposes of this discussion and the subsequent analysis, I extend the classic distinction drawn by Geoffrey Leech “between ‘end-stopped lines’, in which the last syllable coincides with an important grammatical break, and ‘run-on lines’ in which there is no congruity of this kind” (123). The latter category, to which enjambment belongs, is simply detected as “the placing of a line boundary where a deliberate pause, according to grammatical and phonological considerations, would be abnormal; that is, at a point where a break between intonation patterns is not ordinarily permitted” (G. N. Leech 125). I likewise identify a caesura, following the definition offered by Leech, as any strong break in the midst of a verse line (107–8). Moreover, I regard the general impact of both caesurae and enjambments conservatively. I do not wish to presuppose in definition that their effect is one of audience constraint and thereby weight the deck of interpretation.

To begin, I model a simple detection of enjambment and caesura. Enjambment

detection results in a boolean value (True or False) for each uttered line in *The Massacre*. Caesura detection, by contrast, is a matter of degree. A line such as Catherine de Medici’s “My son? Thou art a changeling, not my son.” (21.145) is heavily fragmented, with 2 strong pauses detected in a blank verse line. Another utterance from Catherine de Medici two lines later, “Traitor to God and to the realm of France!” (21.147) yields a count of 2. The raw values, given without regard to whether lines are prose, are displayed in Figures 2.1 and 2.2 below:

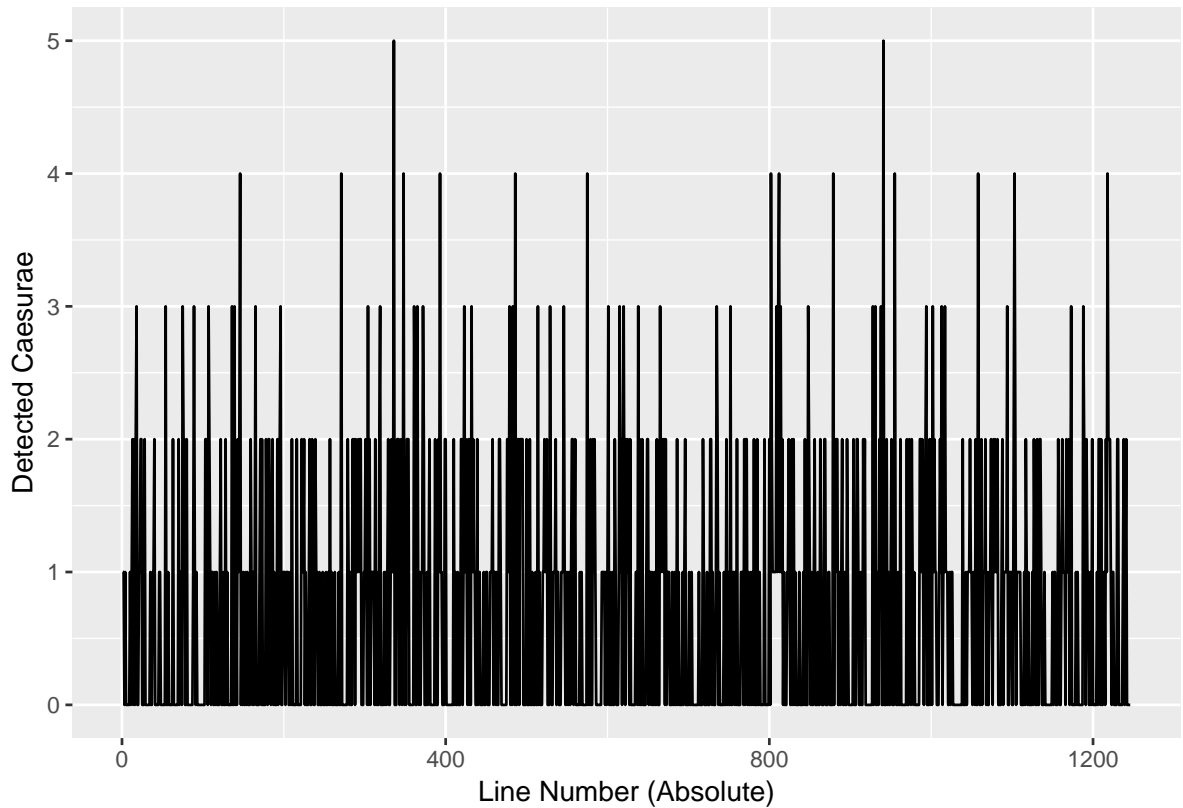


Figure 2.1: Raw Caesura Detection in *The Massacre*

As Figure 2.1 shows, raw caesura detection provides a relatively unrefined account of line-by-line fragmentation. The methodology does not isolate verse lines in which a caesura is a meaningful feature of the language. Moreover, unprocessed line-by-line display does not allow us to easily view apparent changes in the language across the playtext. At most, a careful observer can identify the peaks of 5 caesurae (7.1; 21.14), or

guess generally at the mean caesurae per line (0.7182986). A similar problem is present in the raw enjambment detection shown in Figure 2.2:



Figure 2.2: Raw Enjambment Detection in *The Massacre*

In both cases, the raw detection displays a remarkable degree of noise that confounds possible analysis. Figure 2.3 displays the boolean values for the narrower subset of lines that are likely verse, and that contain evidence of both enjambment and caesura. This is regarded as broadly indicative of line-by-line fragmentation of a meaningful kind:

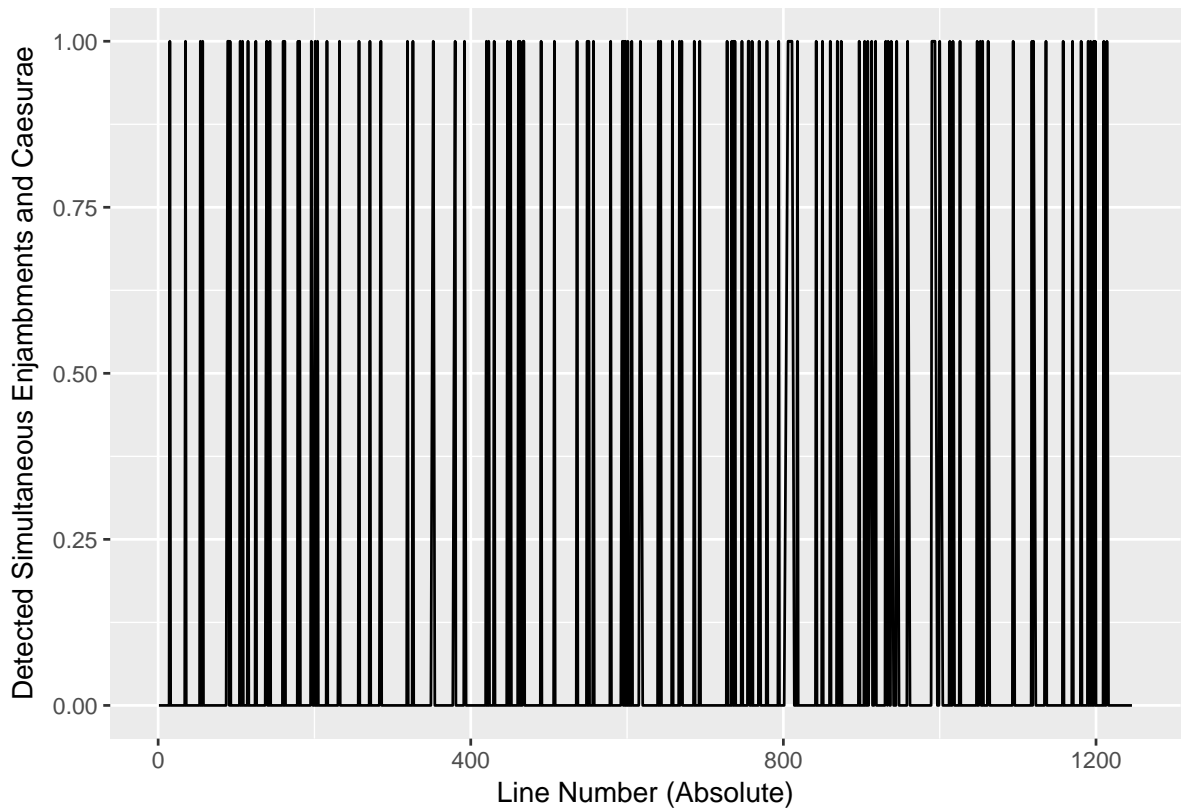


Figure 2.3: Likely Verse Lines with both Caesurae and Enjambments

In and of themselves, these raw results are almost as hard to comprehend as the raw results displayed in Figures 2.1 and 2.2. The difficulty of analysis is itself an important feature of *The Massacre's* potential tendency towards fragmentation. Both enjambments and caesurae are incredibly frequent across the playtext. Of the *The Massacre's* 1246 lines, only 954 are end-stopped and 568 contain at least 1 detected mid-line pause. Figures 2.1 and 2.2 offer a general sense that while *The Massacre's* playtext may contain clusters, the noise of the dataset makes it difficult to identify such clusters definitively, and certainly precludes analysis of what they may attend. By limiting the display to likely verse lines, Figure 2.3 indicates a possible reduction in noise, yet it ultimately does little to help in the assessment. There is a compelling sense in which Figure 2.3 simply highlights another source of obfuscation. In defining which lines of *The Massacre* are most likely to be blank verse, as opposed to prose, I am forced to confront a little of

the playtext’s mangled status head on. In this, I agree with H.J. Oliver’s assessment:

An editor is often not sure whether verse or prose is intended—and the effect is frequently of clumsiness and is quite different in kind from the freedom to which one is accustomed in the later Shakespeare and the Jacobeans. Although there are exceptions, one’s general impression is that many of the lines were originally in blank verse that has been mangled—indeed, that the text has somehow come through an agent whose own ear for verse was poor. Sometimes, too, there seem to be relics of imagery that may originally have been striking but is in its present form confused. (liii)

In light of such a textual status, editorial decisions of verse and prose are hard enough for a human eye; in embarking on their detection algorithmically, I am even more limited. As the digital copy I prepared for this thesis is essentially a TEI-compliant XML rendering of Oliver’s Revels edition, some of the problem of verse identification is handed off to Oliver. Yet the problem remains to a limited degree. For my purposes, I have chosen to be somewhat generous: any line with an estimated syllable count between 8 and 12 is regarded as possible verse. Even in this, the mangled status of the playtext resists easy analysis. Accurate syllable detection in English natural language is non-trivial. I deploy the `syllable_sum` function from the `qdap` R package. This function implements a dictionary lookup, which is based on the classic `NETtalk` Corpus (Sejnowski and Rosenberg), together with a backup algorithm. While there are inherent limitations involved in syllable detection, I limit the degree to which my argumentation is pinned to the nuances of specific detected syllable counts for *The Massacre*.¹³ All subsequent figures remove all likely prose lines from discussion of enjambment and caesura, as both syntactic events are specific to prosody. All preparatory modelling

¹³I recognise the inherent limitations of a syllable-count approach, particularly given the poor fit of the `NETtalk` Corpus to the language of a mangled Elizabethan playtext. Nonetheless, proper technical treatment of syllable detection in English is a complex problem in natural language processing. It has itself comprised a number of theses, most recently in Andrew Wilson Howitt’s ‘Automatic Syllable Detection for Vowel Landmarks’. Given the complexity of the problem, and the scope of this thesis, the partial solution offered by the `qdap` package proved necessary. Of the 1869 tokens in the playtext, 411 required the use of the backup algorithm.

was repeated with and without removal, and no significant effect was identified. We are tempted to conclude, given a text in which even prose and verse cannot be clearly differentiated, that the project of wholesale deformation and analysis of syntax is forlorn. It is not. Frequency is the primary cause of the noise of the raw enjambment and caesura detection results, not inaccuracy of measurement. Close reading of the playtext confirms that *The Massacre* does indeed have roughly as many enjambments and caesurae as the modelling suggests. In unpicking this frequency, and the factors leading the fluctuations within it, we can begin to assess formal features of the surviving playtext that are indicative of possible constraint and manipulation of audience affect and interpretation.

Perhaps the easiest way to glimpse the fluctuation of syntactic fragmentation, at least initially, is through the use of a rolling mean. In this, I take a moving window of 50 blank verse lines within the playtext. The average amount of caesurae and enjambments in that period is then computed, with a given point in the figure representing the mean number of caesurae or enjambments of that line and the previous 49. It is, in effect, a simple model of the immediate memory of the stage, and provides a general sense of the patterns of caesura and enjambment within a finite period of utterances. Figures 2.4 and 2.5, below, display caesurae and enjambments respectively, with the positions of stage character death marked in red. First, I look to the effect of caesurae:¹⁴

¹⁴One of the more obvious concerns that emerges from this kind of modelling, and that which follows, is the lack of any possible control group. Ordinarily, given this kind of time series analysis and the question of an event's impact, we would seek to apply some variation of a technique ordinarily referred to as Causal Impact Analysis. A representative example of this is found in William Martin's recent paper, "Causal Impact for App Store Analysis", which applies the methodology to a study of release strategies for mobile applications and their effects on user-submitted ratings. The premise of this study is that a timed event (the release of a new application version) may have a significant causal impact on user ratings of the application going forward. To apply the same technique to the unfolding fragmentation (or, as I discuss later in this chapter, sentiment valence) of *The Massacre*, we would view a given stage death as the subject event and then model its causal impact on the fragmentation after its occurrence. Of course, the problem is that every playtext is its own world. We cannot find any control group in which linguistic fragmentation would be unaffected by the stage death, because the events occurring in other plays are not of the same theatrical world. While the performance of plays in the real world could perhaps be studied using this technique, events within a specific play cannot. The stage event exists in, and impacts upon, the totality of the theatre system that forms and performs it. In light of this, my analysis is limited to the mode of algorithmic criticism undertaken. Incidentally, a promising possible application of causal impact analysis lies in the data found in Henslowe's diary, as the historical record of recorded theatre profits provides a useful basis for analysis of the impact of historical events on the theatre economy.

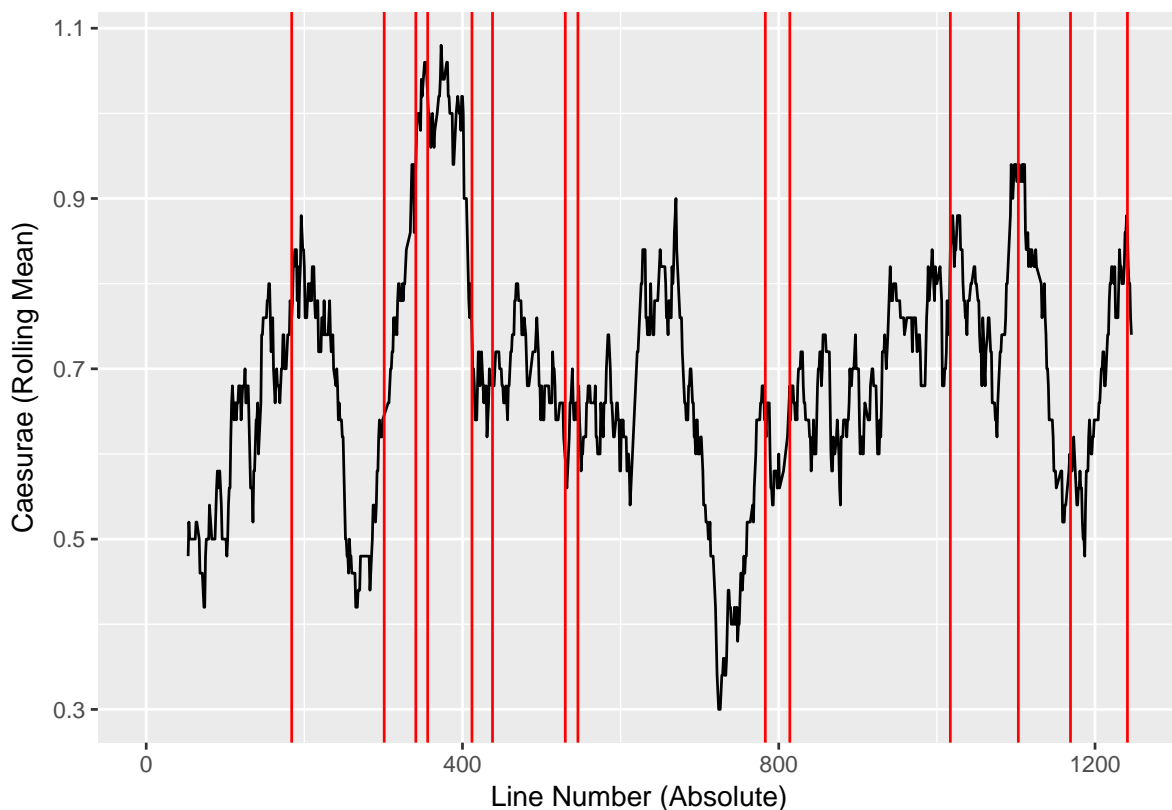


Figure 2.4: Rolling Mean of Caesurae in *The Massacre*

I observe two precipitous movements in caesura frequency associated with plot. First, I note the sharp uptick, seen at the beginning of the massacre proper in scene v. Second, I note the sharp downwards movement, ending in the nadir of caesura frequency during scene xvi.¹⁵ I will discuss the implications of both in turn.

The second death of *The Massacre*, that of the Lord Admiral, is associated with a sharp increase in average caesura frequency. The average detected caesura count shifts, within the space of just over 100 lines, from 0.42 during King Charles' scene iv speech of false comfort to the Admiral (4.65–67), to a height of 1.08 in the midst of the massacre proper (9.17). At least in terms of detected mid-line pauses in blank verse utterances, the staged murder of the Admiral marks a sharp turning point in the playtext. It does

¹⁵The 'massacre proper' is defined as the series of deaths that occur on St Bartholemew's Day itself. This sequence begins in scene v and ends in scene xiii: lines 271 to 582 in Figure 2.4.

so, more critically, far more than the Admiral's initial injury (3.31) or the death of the Old Queen that precedes it (3.20). In understanding the impact that this sharp rise in caesura frequency might have on either the staging or interpretation of the Admiral's murder, or indeed the massacre sequence as a whole, I hold a conservative view. I do not overstate the role of any single piece of read evidence in a playtext, and certainly it bears repeating that the aim of an algorithmic criticism is not to make any statistically significant claims. Instead, I regard the impact of caesurae as broadly temporal. I follow David Baker's observation that

syntax establishes time. And a poem's difficulties, its tactics and impediments, slow it all down. [...] devices such as caesuras and hyphenates enhance the effects of impediment. (35)

While the sharp increase of mid-line pauses could be attributable to any number of factors, not just the death of the Admiral, the studied effect is that atmosphere of utterances during the violence works to delay and detain our ability to process the action. Whether such linguistic patterns enact a slowing-down in performance is not, of course, found in the evidence provided thus far. Certainly, the repetitious violence of the massacre scenes unfolds "presumably within a small expanse of performative time" (Poole 13). In noting this tendency towards fragmented blank line utterance, we are again reminded of Marcus' observation of a "savage intensity that obliterated everything except its own efficient machinery" (158). In the preparatory movements and the scenes of violence themselves, the line fragmentation extends in a number of cases to caesurae that cross between character utterances and are broken by voice and syntax, as well as the entrance and exits of characters onto the stage. *The Massacre* playtext contains six instances in which a line of apparent blank verse is broken across two speakers (4.39; 9.69; 9.78; 11.28; 15.1; 21.32), along with two instances in which movement into an aside, or a change of speaker direction, enacts a similar effect (Anjoy in 14.36; the Guise in 19.61). Even if we set aside the possible fragmentary cognitive effect of these syntactic disruptions, the slower unfolding of experienced time in the delivery of verse is

likely to result in a certain kind of attentiveness in staging and spectatorship. It is as if, at the very least, the Admiral's murder begins a period of violence that is closely associated with a kind of utterance that places even more attention upon the repetitious and overwhelming nature of the violence itself. We need not hold the position that caesurae are indicative of affective fragmentation in order to note that a sudden rise in their frequency has some bearing on the apparent neutrality and double vision of *The Massacre*, as shown in Chapter 1.

Just as the sharp rise in caesura frequency may be read conservatively as indicative of some general kind of alteration in the unfolding of speech, the reverse might be said for the sharp fall during scene xvi. This might also be said to narrow the apparent free interpretation of audience suggested by the close reading in Chapter 1. More so than any other scene transition in *The Massacre's* playtext, the contrast between scene xv and xvi in content and atmosphere is profound. Scene xv contains a high average detected caesura count and is constrained in its on-stage population and apparent domesticity. Yet it is not constrained in its syntax or repercussions on unfolding plot. It opens with the Duchess Guise and her Maid, then catalogues the Guise's discovery of the Duchess' infidelity. The revelation begins with the heavily fragmented and arguably preparatory "What, all alone, my love, and writing too?" (15.13) and finds its development in the early-line fragmentation of "Hence, strumpet, hide thy head for shame" (15.34). By contrast, scene xvi is a scene of constrained language and massive impact. It opens with "the King of Navarre, Pleshé and Bartus, and their train, with drums and trumpets." (16.sd). And while scene xvi presages the onset of further violence, it is, at least in terms of general line-by-line syntactic fragmentation, the last period of smooth and integrated language before the regeneration of violence leading to the death of the Guise and Anjou. If we extend the same reading of the temporal effect of caesurae, we observe a kind of dark mirroring. Whereas the utterances associated with the killing of the Admiral and subsequent massacre might be seen to enact a limited kind of attentiveness, the sharp fall in average caesurae during scene xvi might be seen to enact a skipping over

and fast progression towards further brutality. While the two scenes are of remarkably similar length, with 40 lines in scene xv and 45 in scene xvi, they do not feel that way. In apparent pacing alone, an audience may be subject to the beginnings of limitation.

Just as study of the shifting frequency of detected caesurae reveals a certain set of possible limitations that may impact performance or an audience response to *The Massacre's* apparent double vision, attention to the average detected enjambment in the playtext, even in the basic form visible through a rolling average model, is indicative similar trends. These trends can be seen in Figure 2.5 below:

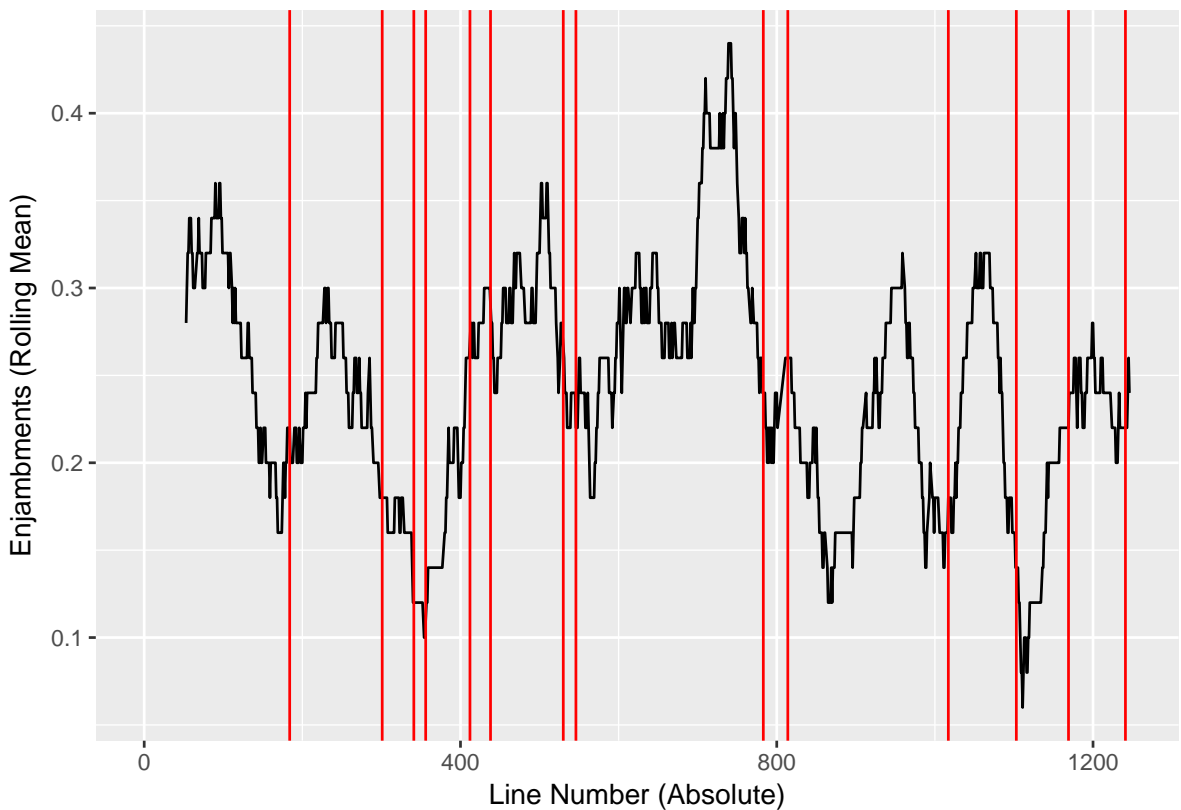


Figure 2.5: Rolling Mean of Enjambments in *The Massacre*

The Figure 2.5 model of enjambment is unusual in the sense that, given enjambment presence in a line yields a boolean value, the maximum possible value is 1, representing an instance in which neither that line nor the previous 49 are end-stopped. The highest period detected is a clustered group of enjambments leading to the close of scene xvi,

with just under half of the scene's blank verse lines enjambed. Much like the caesurae of scene xvi, the heavy enjambment is further evidence of a kind of temporal effect that may hasten performance and interpretation of this portion of the playtext. Yet the implications are more complicated than this. I regard the effect of enjambment as principally one of overflow, and thereby a kind of vital prosodic tension. As Preminger and Brogan memorably note:

In reading, the noncoincidence of the frames of syntax and meter in [enjambment] has the effect of giving the reader "mixed messages": the closure of the metrical pattern at line-end implies a stop (pause), no matter how infinitesimal, while the obvious incompleteness of the syntactic period says, go on. The one scissors the other. (359)

It is tempting to imagine that in performance a large cluster of enjambed lines is indicative of emotional outpouring, and that it captures in syntax an inability to contain the content. Such a view is an extension of the position that an enjambed line pulls against the weft and warp of the natural fabric of Marlovian blank verse. When the integrity of the line is impinged, it is done so almost exclusively for reasons of decorum, as in the prose speech of the soldier at the opening of scene xix, or for the unavoidable significance of affective content. Yet I need not defend this view or any variant of it to suggest that the shifting enjambment of *The Massacre* casts doubt on the apparent interpretive freedom and neutrality of the playtext. To advance the general notion that the utterances of *The Massacre* impact on and curtail the apparent double vision of the playtext, we need only accept two premises: that an enjambed line has at least some bearing on possibilities in performance and interpretation as compared to an equivalent end-stopped one; and that fluctuations in enjambment can be correlated, however loosely, to instances of double vision in *The Massacre*. The nature of the effect need not be a settled question at this point in the argument. All I wish to advance is that a basic algorithmic deformation of enjambment and caesurae detection shows the curtailment in principle.

With regard to the second premise, I note that no staged death occurs near the local maxima of enjambment frequency. Though end-stopped lines are comparatively rare across the surviving playtext, they are certainly more common before staged deaths than elsewhere. Particularly noticeable is that the murder of the Admiral, the paired murders of Ramus and Seroune, and the murders of the Guise and Cardinal all occur in plainly visible periods of the lowest average enjambment. The staged sociality that connects the murders of the Admiral and the Guise will be treated in more depth in Chapter 3, much as they have been treated in terms of their close-read structures in Chapter 1, but the obvious connection between all of these staged deaths is precisely the degree of theatrical double vision within them. In the treatment of Ramus and in each death, we see captured the strange tensions of what Kristen Elizabeth Poole, responding to Briggs, refers to as the “translating [of] massacre into carnival” (14). We can see simultaneous indications of martyrdom and executions that are “striking in [their] erasure of martyrdom” (Poole 14). In noting the shifts of end-stopped lines presaging these moments, I thus regard the premise that fluctuations in enjambment are correlated to instances of apparent double vision to be supported. While the playtext may appear neutral in these moments, even a conservative reading of the general trends in enjambment suggests a shift, and thus a weighting of the interpretive deck, one way or another.

While neither Figure 2.4 nor 2.5 represent an unfettered case for the constraining role of syntactic fragmentation at line-by-line granularity in *The Massacre*, they do share one key feature: they unfold with a profound and noticeable unevenness. Fluctuation in syntax is an ordinary feature of natural language. A mangled playtext is described as mangled, at least in part, because those fluctuations are more significant and confusing than we would expect. Yet given a “neutral play, with free inclination to comedy and a mere necessary gesture in the direction of the political moral” (C. Leech 146), we do not expect such fluctuations to be so visibly associated with stage death. Certainly, we do not expect the relation to be so plainly visible in even the simple visualisations

offered above. The changing syntax of *The Massacre* augurs and responds to the events of the stage. It does so in a way that, far from random or mangled, is indicative of a project of meaning-making. Some deaths are treated, in utterance, differently to others. I hold to a conservative view of the impact of such syntactic fluctuations, and I do not intend to hang from these observations alone any argument regarding the precise nature of the audience constraint. Yet the deformation of their detection forms a productive observational basis for discussion: in these two syntactic fragmentations, there is an apparent correlation that may be indicative of an atmospheric leaning in the utterances that comprise *The Massacre* playtext. I do not claim any particular causal relation in this regard. It may simply be the case that the syntactical trends of *The Massacre* fluctuate as a direct result of its mangled status. One could mount the case that a project of memorial reconstruction, conducted in a period even a few years further along a trend towards “mimicking closely the rhythms and syntax of colloquial speech” (Taylor and Lavagnino 92), is at least partially responsible for the flexibility and fragmentation observed, and that such a trend is expressed differently in the parts of the playtext that may have been more memorable. One could mount a similar case, crediting Marlowe’s development over and above the linguistic trends of the period as a whole, and suggest that a memorial reconstruction might mangle and radicalise the movement “away from long speeches and towards true dialogue” (Oliver liii) that Marlowe was already engaged in. Yet we need not commit to either explanation. The source of the fragmentation need not be defined. What matters, and what must be treated in greater depth, is the suggestion that an audience’s free interpretation of *The Massacre*’s central events might be curtailed by unfolding, global patterns in the utterances that comprise the playtext.

2.2 Valence & Affect

While the fragmentation of utterance in *The Massacre* is certainly revealing, I aim to demonstrate that it is best understood within a wider context of linguistic constraint. As I have suggested, the fact of syntax fragmentation supports the claim of constraint

and curtailment but does not necessarily make plain the effect or direction of such utterances. Moreover, such a deformation says little about the actual content of the utterances. Every aspect of the uttered language of the playtext constrains and curtails the free interpretation of the play’s audiences. It is time to apply the same tools of algorithmic criticism to the affective language of the playtext: to apply the same mode of computational deformation to possible trends in the meanings of its vocabulary, and thereby unearth the limited beginnings of an understanding of *The Massacre*’s affective landscape.

I apply the model of sentiment detection offered by Matthew Jockers’ `syuzhet` R package. The bulk of Jockers’ research project is directed at what he terms the “macroanalysis” of literary corpora, which attempts to investigate trends across the whole of accessible, surviving literature (*Macroanalysis* 24). In this sense, his position that “at the risk of giving offense to the environmentalists, what is needed now is the literary equivalent of open-pit mining or hydraulicking” (9) stands in sharp contrast to the microanalytic project of analysis undertaken in this thesis.¹⁶ The tools of sentiment analysis offered in the `syuzhet` package can nevertheless be equally applied to the isolated text. Named as it is for the Russian formalist term describing the unfolding presentation of narrative events in discourse, the package is ideal for the study of utterance undertaken.¹⁷ The modelling reveals a certain set of trends across the playtext, and these trends in utterance provide evidence of limitation and constraint in the affective unfolding of *The Massacre*.

Figure 2.6, below, displays the raw sentiment valence of each line, as detected using the default `syuzhet` algorithm and the custom sentiment dictionary developed by the Nebraska Literary Lab:

¹⁶If nothing else, the critical lens of a ‘cognitive ecology’ treated below makes this contrast plain.

¹⁷I am conscious of the many criticisms of `syuzhet` and *fabula*, of Propp and Shklovsky, and the conceptual foundations of narrative grammar generally. I agree, wholeheartedly, with many of them. I find Jonathan Culler’s critique of the contradictions in the formulation to be particularly compelling (190–192, 202). In spite of these critiques, the approach offers a productive deformation inasmuch as it allows us to translate the line-by-line sentiment of *The Massacre* into analysis of the playtext as a whole.

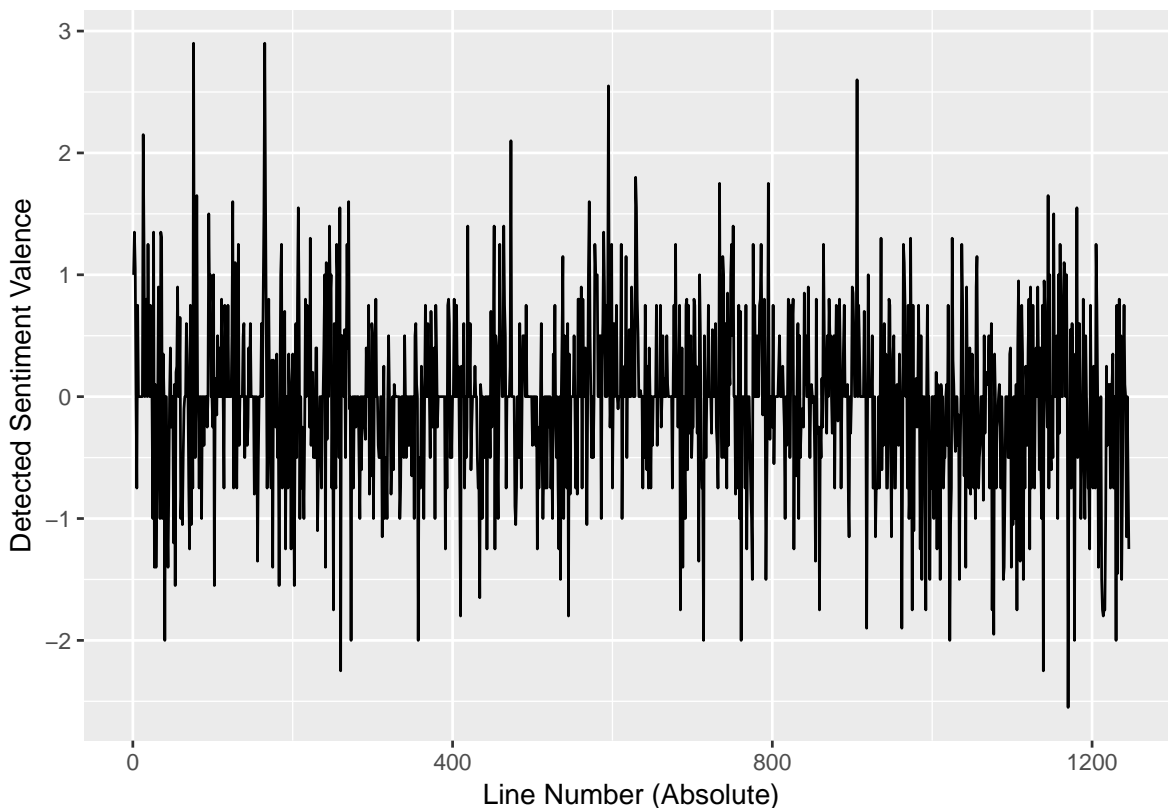


Figure 2.6: Raw Sentiment Valence in *The Massacre*

This modelling is limited in a number of ways. It reduces a landscape of affect and utterance to the artificial simplicity of valence. It is blind to the historical inflection of meaning, bound as it is to an isolated dictionary of token sentiment valences the detected interactions among those tokens. And like the modelling earlier in this chapter, it is bound to the content of the corrupted playtext over and above the content of a possible performance. Nevertheless, it offers a revealing foundation against which to test the notion of a freely interpretable text.

Much like the raw values of detected caesurae and enjambments seen in Figures 2.1, 2.2 and 2.3 above, the sentiment valence seen in Figure 2.6 is difficult to interpret. Although we can identify general movements and fluctuations in the apparent valence of the playtext on the basis of this data, the specificity of those trends is unknown. Much like the detection of caesurae and enjambments, this is attributable to the noise

and mess of natural language as well as, perhaps, the corrupted status of the surviving playtext. Application of a Fourier transform, however, allows us to process the noise of this sentiment signal to identify the wave shape of the sentiment trends within *The Massacre*.¹⁸ More elegantly for the analytically generative purposes of the algorithmic deformation, the size of the low pass filter of this transformation allows us to adjust the sensitivity of the trend displayed. In effect, it allows us to view the movement of sentiment in the plot at lesser, or greater, degrees of abstraction. In Figure 2.7, below, I begin with the default of 3. This offers a broad account of sentiment change across the playtext:

¹⁸Detailed discussion of Fourier transforms and signal processing is well beyond the scope of this thesis. It is important to note that its application to sentiment analysis in the `syuzhet` package was, at least initially, not without controversy. The majority of the initial debate is catalogued in a series of blog posts and public exchanges between Matthew Jockers, the `syuzhet` package author, and Annie Swafford, the principal critic. These are, in order of publication: Jockers’ “Revealing Sentiment and Plot Arcs with the Syuzhet Package”; Jockers’ “The Rest of the Story”; Swafford’s “Problems with the Syuzhet Package”; Jockers’ “Some thoughts on Annie’s thoughts . . . about Syuzhet”; Swafford’s “Continuing the Syuzhet Discussion”; Jockers’ “Is that Your Syuzhet Ringing?”. See, also: Schmidt, Benjamin M. ‘Do Digital Humanists Need to Understand Algorithms?’ *Debates in the Digital Humanities*. Ed. Matthew K. Gold and Lauren F. Klein. Minneapolis: University of Minnesota Press, 2016. 546–555.

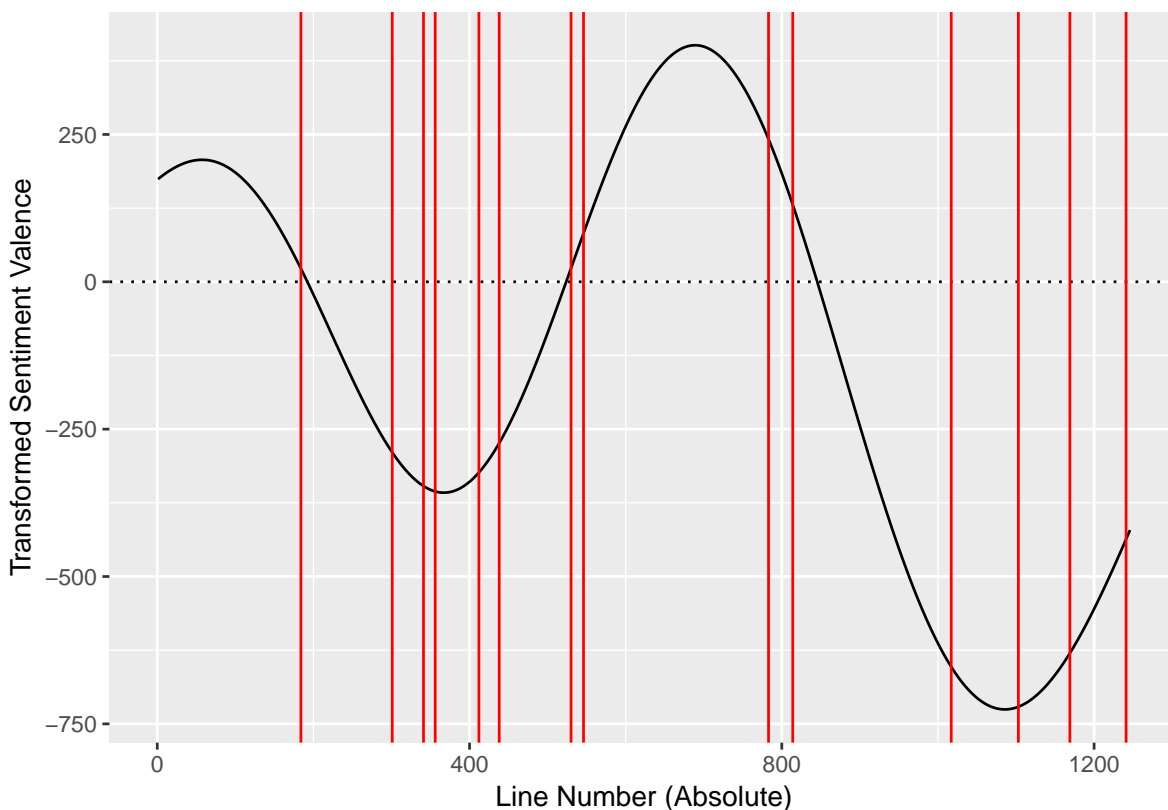


Figure 2.7: Transformed Sentiment Valence in *The Massacre*; Low Pass Size = 3

Figure 2.7 marks a visible, albeit very general, trend. The reading of syntactic fragmentation offered above is borne out in the general terms of affect within *The Massacre*. While the playtext’s utterances begin in a slightly positive register, this quickly changes. The murder of the Admiral and the subsequent deaths during the massacre occur close to the local minima of sentiment valence. The deaths that end *The Massacre*—those of the Guise, Cardinal, Friar, and Anjou—are surrounded by some of the most negative utterances of the playtext. While we see a little of the apparent mirroring of the playtext and the metatheatrical similarity of the core staged deaths discussed in Chapter 1, we also note the brute impact of uttered language. If the character of detected speech surrounding a stage event is negative, then it is tempting to conclude that the death will be interpreted, or at least performed, in similarly negative terms.

What does this general trend say about the apparent neutrality of *The Massacre*?

Viewed in this way, the deaths of the Guise and Cardinal are not positive scenes. In terms of their detected sentiment in utterance, they are the darkest of *The Massacre*. Yet at first glance, they are not unique. The trend in detected sentiment is towards similarly negative utterances surrounding the deaths of the Admiral and Anjoy. And while the view is of a deliberately low granularity, such a finding would seem at first to support the neutrality of the playtext. The Guise, his key victims, and the author of his murder, Anjoy, are all treated with almost equally negative sentiment.

Yet near-equality is not the same as textual neutrality. While it is important that each of these key deaths is surrounded by an affective climate that tends towards negatively phrased utterance, it does not necessarily mean that audience of *The Massacre* is truly let loose to freely interpret the events of the play. In precisely their broad trend towards negativity, the utterances of *The Massacre* take up a position in relation to the actions that they form, perform, and surround. Any staged death set within an uttered affective atmosphere of profound and thoroughgoing darkness is likely to be understood in a profoundly different way to stage action that is set within a climate of positive utterance. The general deformative reading of sentiment offered in Figure 2.7 may still allow the position that *The Massacre's* playtext is neutral with regards to its treatment of the key deaths. It may still support the notion that an audience can interpret the death of the Guise within a similar affective atmosphere as the death of the Friar, the Admiral, or Anjoy. Yet the playtext is not found to be neutral with regards to stage death itself. If it were, sentiment would trend similarly in the scenes of the massacre as in the playtext's opening, or scene xvi discussed above. This is not the case.

What, then, of a more granular approach to detected sentiment valence in *The Massacre*? Are the same features present? What might a less filtered transformation of the same raw detected sentiment scores offer? Does a more nuanced deformation of the playtext bear out the observations made thus far? Figure 2.8, below, uses a low pass size of 15:

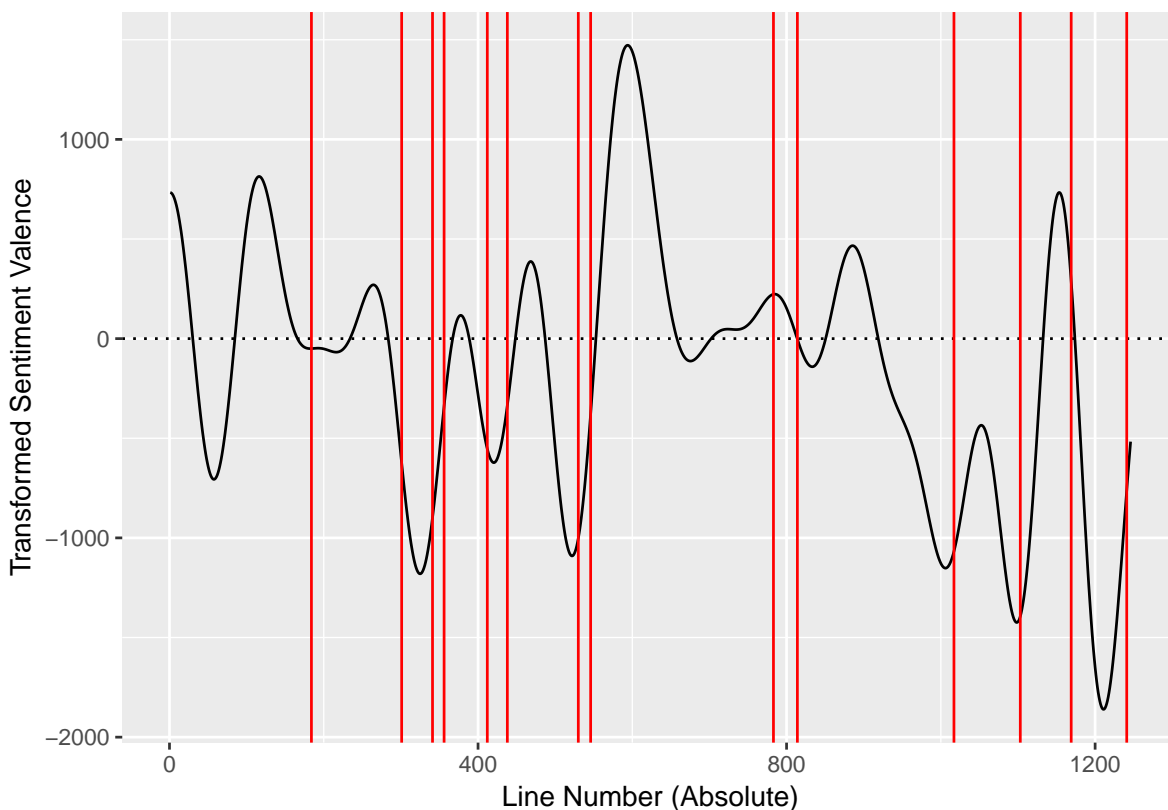


Figure 2.8: Transformed Sentiment Valence in *The Massacre*; Low Pass Size = 15

I mark, at first, the same features as those identified in Figure 2.7. With the same partial exceptions of the Old Queen, Joyeux, and Mugeroun, deaths are loosely tied to periods of negative utterance. In the visualisation's increased fidelity to the line-by-line features of *The Massacre*, I also note many of the same trends in relation to more specifically identifiable moments and movements in the playtext. Just as the deformation in Figure 2.7 generates a set of insights about the near-equality of negative utterance surrounding many of the stage deaths, in Figure 2.8 I identify that the foundations for these insights are just as visible. This is further support for my claim that negative utterances surround many of the stage deaths, and thereby weight the understanding of stage death itself.

One insight into the potential audience limitation and curtailment offered uniquely by the granularity of Figure 2.8 is a tendency towards the use of affective utterance

as a device for decentering sustained emotional response. In her treatment of *The Massacre in Marlovian Tragedy*, Troni Grande notes that the titles of both *The Massacre at Paris* and *The Jew of Malta* “particularize the social setting and hence imply the social dimension of tragedy’s sacrificial deaths” (141). She argues that the Guise and Barabas respectively function as “parodic scapegoats” in the plays (141), and suggests on this basis that Marlowe’s “texts encourage the crossing of boundaries, the tracing and retracing of outside and inside” (162). In light of the trends in affective utterance identified in *The Massacre* playtext, Grande’s argument poses a useful contrast to my analysis. On the one hand, I reject Grande’s suggestion that the Guise is a “parodic scapegoat” within *The Massacre*. The evidence mustered thus far makes it difficult to view the Guise as unique and separable. As I have suggested, the Guise is just as embedded in the playtext’s utterances and affectivities as any other victim or perpetrator in the play. If we were to accept Grande’s claim, we would be forced to conclude that parodic sacrificial death, with all its many critical implications, occurs across the totality of violence in *The Massacre*. This would pose a fatal challenge to the logic of such scapegoating, inasmuch as scapegoating implies exceptionalism in the construction of the scapegoat. On the other hand, I agree that Grande’s focus on the social setting itself is apt. In the interplay of playtext and performance, the sociality of *The Massacre* is key. Acknowledging such sociality, and its interface with the deformance of Figure 2.8, is vital in understanding the central shock of *The Massacre*’s affective utterances: no single stage event wholly removes the possibility of positive utterance. Measured by the detected sentiment, the climate of stage death may tend towards the deeply negative, yet not one of the deaths studied results in sustainedly negative utterances from that point onwards. While the social impact of stage death may be profound, the patterned affective utterances of the playtext do not sustain that impact for very long. In this regard, *The Massacre* appears to resist the possibility that any single death should halt the action, or that the voices on the stage, or the interpreters in the theatre, should be allowed to respond to violence with a prolonged a negative response. In affect of

utterance, there is no protracted *de casibus* fall. Far from being a core component of *The Massacre*'s structure, emotional response is presented as an isolated and, crucially, isolatable feature of the playtext.

Much like the detection of caesurae and enjambments discussed in the previous section of this chapter, a study of computationally-detected sentiment valence does not provide a total explanation of the manipulation and curtailment of audience interpretation on its own. Moreover, it is a purely correlational study. Negative valence sentiment may be a product of stage death, or it may be a cause; it may be a product of cognition and memory in a project of memorial reconstruction, or it may be an artifact of some other process of textual corruption. Yet the argument I wish to establish holds regardless of the causal relationship. To cast doubt on the apparent double vision and free interpretation of *The Massacre*'s violent action, all that is required is to note that there is a difference between the kind of utterances surrounding the stage deaths and the other utterances of the playtext. In this difference alone, there is limitation and constraint. To fully understand the nature of that limitation and constraint, I turn to situating the apparent uttered features of *The Massacre* within a wider context and critical view, that of *Dido*. In placing the prosodic and affective trends of *The Massacre* in context, the sharp contrast between it and *Dido* clarifies much of impact and interpretive importance of the linguistic patterns outlined above.

2.3 *Dido, Queen of Carthage*

As Robert Logan notes, Marlowe's *Dido* is the playtext, "which along with *A Massacre at Paris* remains the most neglected play in the Marlowe canon" (17). Beyond their shared critical neglect and their conjectured authorship, the plays are an unusual choice for comparison.¹⁹ And while Sara Munson Deats acknowledges certain thematic

¹⁹In mentioning the 'conjectured' authorship of the plays, I do not intend to cast doubt on the presence of a Marlovian hand in either playtext. Authorship studies lie far beyond the scope of this thesis, as does treatment of the absurd conspiracies that sometimes slip into discussions of Marlowe and authorship. I would nevertheless note the compelling value of a number recent applications of

“similarities” in this “odd couple”, she suggests that the two plays “represent polarities within the Marlowe canon” in a number of respects (193). For my purposes, it is important to note that *Dido* and *The Massacre* possess substantially different patterns of utterance in terms of both syntactic fragmentation and sentiment. These differences are revealing.

The starkest distinction between *The Massacre* and *Dido* lies in speech length. Figure 2.9, below, shows the distribution of character speech length, in words, in *The Massacre*:

computational stylistics to authorship questions. Of particular importance are the contributions of *Shakespeare, Computers, and the Mystery of Authorship*. While the methodology underpinning such authorship studies can be strongly distinguished from the qualitative mode of algorithmic criticism that I undertake in this thesis, it is intensely valuable to questions of authorship. One of the more interesting and unsettled questions, in the field of early modern authorship, is the possible contributing hand of Thomas Nashe in the authorship of Marlowe’s *Dido*. Techniques of modern computational stylistics are well positioned to settle this debate. Thomas Merriam, in 2000, used isolated word frequency to suggest Nashe’s hand in the first two acts. Ruth Lunney, in her recent survey of *Dido* scholarship, cites an unpublished 2013 paper from Hugh Craig and Marcus Dahl which uses “more complex computational stylistics than Merriam and a larger data base of texts” to support an assessment of wholly Marlovian authorship (“*Dido, Queen of Carthage*” 16).

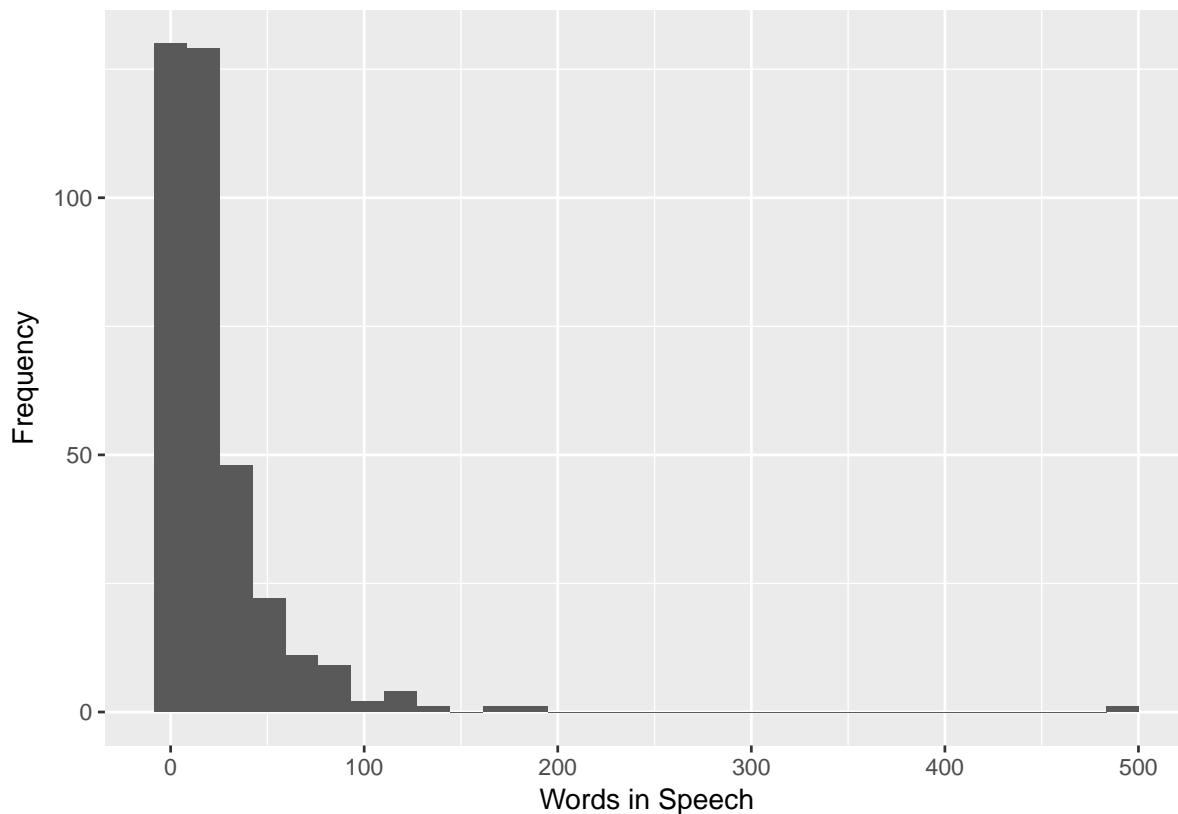


Figure 2.9: Speech Length (Words) in *The Massacre*

In the case of *The Massacre*, the distribution is strongly positively skewed. A full 38 of *The Massacre*'s 359 speeches are 3 or fewer words long. In other words, over ten percent of the times a character speaks in *The Massacre* playtext without interruption, they do so for 3 or fewer words. *The Massacre* averages 23.3203343 words, and 3.4707521 lines per speech. Moreover, only 1 speech is longer than 200 words: the Guise's scene ii soliloquy (2.31–105), which totals 493 words in 75 lines, making it a clear outlier in the playtext.

Figure 2.10 displays the same speech length, in words, for *Dido*:

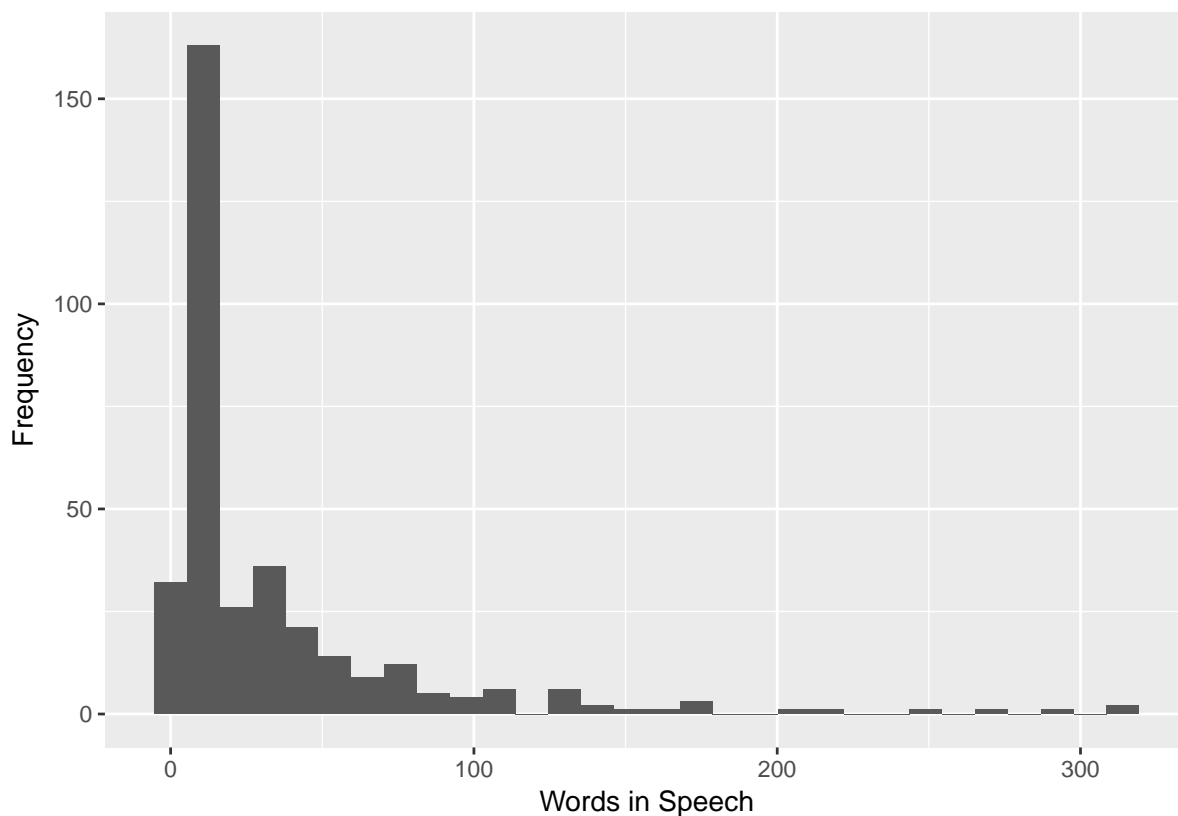


Figure 2.10: Speech Length (Words) in *Dido*

While the *Dido* playtext has a similarly strong skew in speech length, this tendency is less extreme. This difference is important. Whereas *The Massacre*'s playtext indicates roughly ten percent of speeches below 4 words in length, only 7 of the 348 speeches in *Dido* are that low. This is roughly two percent. The average number of words spoken in a speech in *Dido* is 33.8045977, in an average of 4.9913793 lines. Perhaps most importantly, there is no strong outlier analogous to the Guise soliloquy. 7 of the speeches in *Dido* are over 200 words in length. The two playtexts engage so differently with the simple act of speaking on stage that their shared heritage seems, at times, entirely obscured. H.J. Oliver notes a Marlovian development “away from long speeches and towards true dialogue” (liii). Yet the brevity of speech in *The Massacre*, even in comparison to other mangled and corrupted playtexts from the period, is remarkable.²⁰

²⁰Leah Marcus observes that “with our revised understanding of the customary fluidity of playtexts,

The effect of *The Massacre*'s short speeches on audience response is hard to judge. The contrast to *Dido* is illuminating. *Dido* is a play of strong verse language and stunning classical foundation. Many of *Dido*'s longest speeches, such as those found in Aeneas' narrative of the fall of Troy in Act 2 (2.1.121–288), track and react to the emotional nuances of the principally Virgilian source.²¹ Even those speeches that do not react directly to the source text follow a similar logic in the sense that they unfold nuanced emotional movements in structured and uninterrupted blank verse. Sentiment within the utterances of the playtext certainly fluctuate, as I will show, but a consequence of longer average speech length in *Dido* is that many of the fluctuations occur within a single character's speech rather than across many. *The Massacre* denies this practice of play-making in every case except the Guise's soliloquy (2.31–105). In so doing, the playtext limits the degree to which actors uttering the speeches, or audiences reacting to them, are able to structure the unfolding affect. The audience is forced, instead, to react to the action of the play without as much of a social or linguistic buffer. Set within a context of long speeches and measured affective movement, the violence of *The Massacre* might be different. Set within the context of short and fragmentary speech, the same violence appears to both affect and exist within a landscape of far more dis-ordered emotional responses.

That same practice of strategic dis-ordering is visible in a comparison between the syntactic fragmentation of *The Massacre*, explored above, and that of *Dido*. Figures

the distinction between 'good' and 'bad' quartos has largely been discarded" (146). Nevertheless, a number of surviving playtexts are garbled to some degree not attributable to the fluidity of early modern theatrical practice—a fact frequently remarked upon by modern editors. In introducing the famously corrupted text of Heywood's *1 If You Know Not Me*, for example, Madeleine Doran warns that "much of the verse is not merely mislined but metrically degenerate, it often makes no sense, and it is full of repeated phrases" (xvi). A playtext with a well-regarded and "probably authorial" providence such as Jonson's *Every Man in his Humour* still receives a cautionary introduction indicating that the quarto "lacks the usual signs of authorial presence" and is supported by only "evidence on balance" (Miloa 37). To read the introductory notes for recent Revels Plays editions plays such as Chapman's *An Humorous Day's Mirth* and Lyly's *Mother Bombie* is to hear complaint of "the very poor quality of this text, filled with errors and corruptions" (Edelman 36–37) and the "probability that the text has been subject to misguided intervention" in at least a handful of places (Scragg 3). All this, of course, still focuses on playtexts that are popular and well-regarded enough to be reprinted.

²¹For discussion of the Virgilian/Ovidian debate in *Dido* scholarship, see Lucy Potter's "Marlowe's *Dido*: Virgilian or Ovidian?"

2.11 and 2.12 display a rolling mean of caesurae and enjambments detected in the *Dido* playtext, under the same conditions outlined above. Green vertical lines indicate the Act breaks in the Revels Edition:

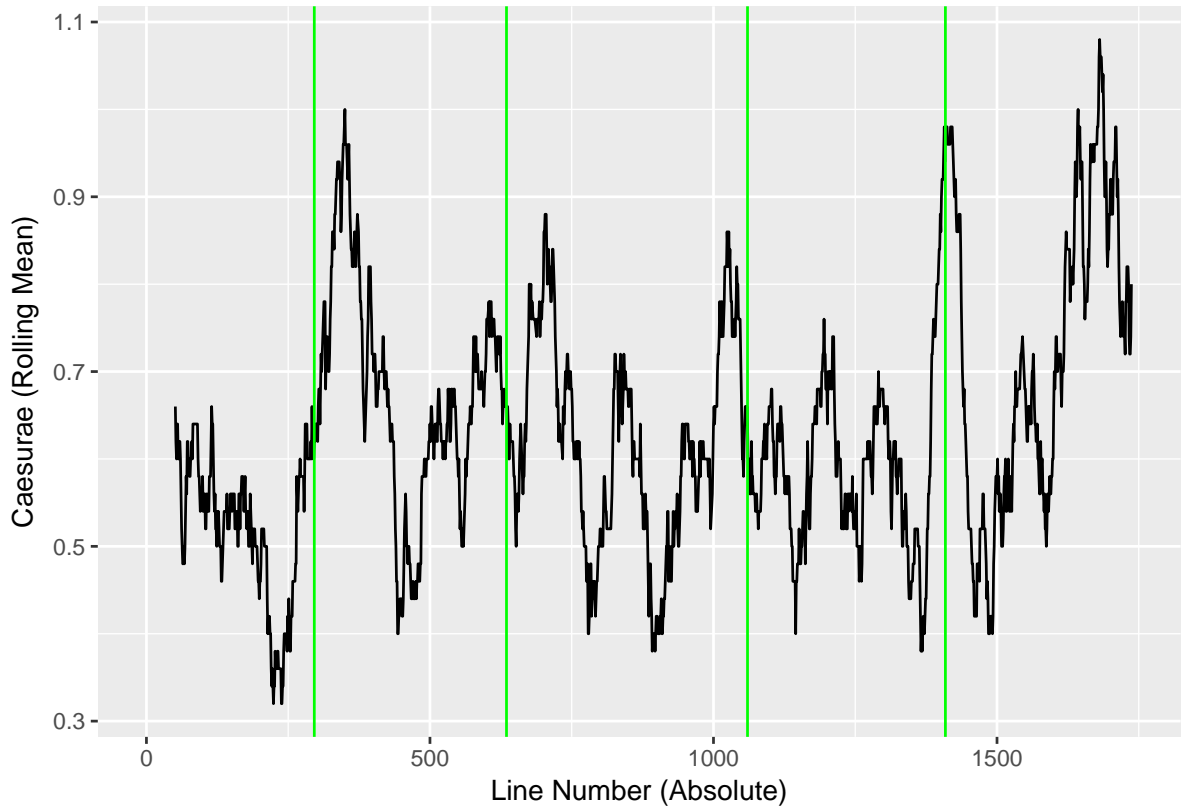


Figure 2.11: Rolling Mean of Caesurae in *Dido*

In a general sense, Figure 2.11 reflects the narrative of *Dido* as a whole. In the first Act of the play, we see a general downwards movement towards fewer mid-line pauses and greater blank verse line integrity. In Act 2, we see dramatic fluctuation, beginning with an intensely fragmented cluster and a brief period in which there is an average of at least 1 caesura per line. While there are clear peaks and troughs in caesurae detected, fluctuation continues apace until the end of Act 4, in which we see again a sudden rise. This is followed by a precipitous fall, and then a ramping-up of mid-line fragmentation that continues unevenly until the final action of the playtext. Enjambment, displayed in Figure 2.12 below, is in some sense a mirror image of this:

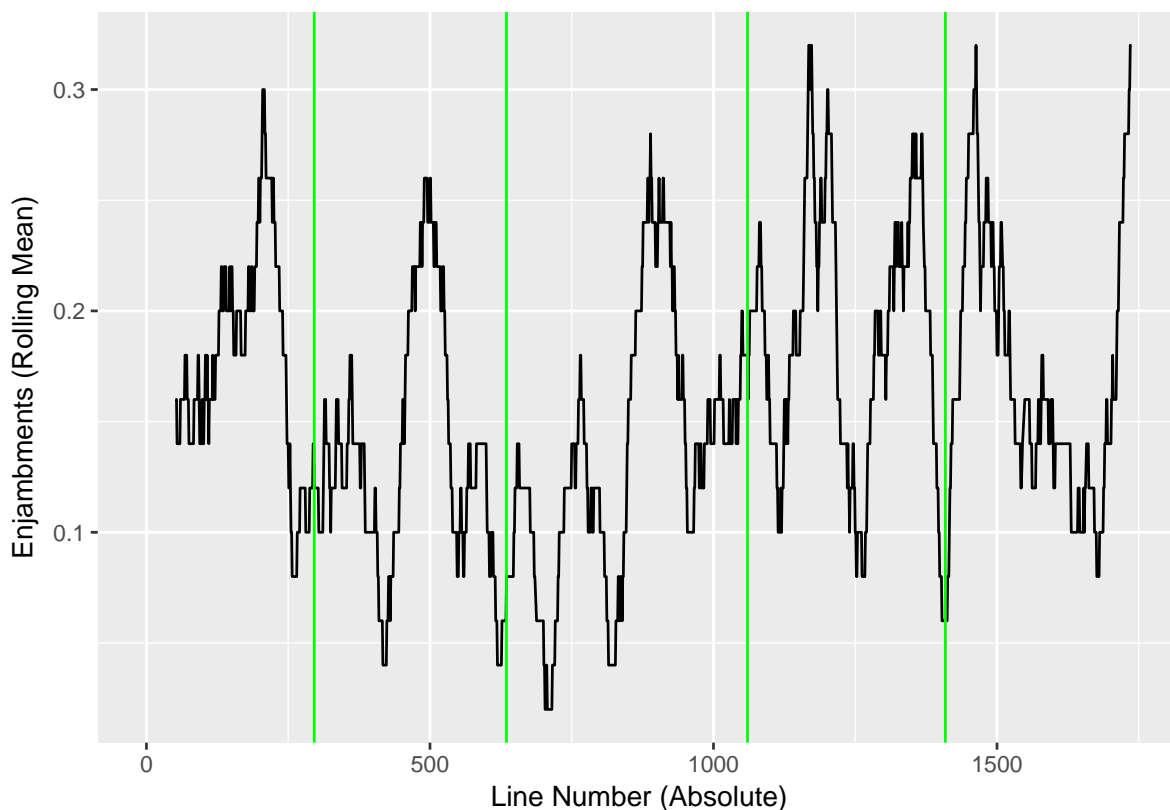


Figure 2.12: Rolling Mean of Enjambments in *Dido*

The enjambments and caesurae identified in Figures 2.11 and 2.12 can be profitably read in combination. In the changing frequency of detected caesurae and enjambments in the *Dido* playtext, I note three striking cases of structured fragmentation and ordering of emotional response. First, at the opening of Act 2 there is a striking peak and then fall in caesurae directly associated with Aeneas' emotional reaction to the Priam statue and the integrity of blank verse lines seen during the Troy narrative. Even in the simple trending presence and absence of caesurae and end-stopped lines, the syntax of the text correlates strongly to a structured emotional transformation in Aeneas' character and, as a natural extension, the interpretation of audience. Second, in the sudden rise and fall of average caesura frequency and co-occurring reversal in enjambment measured at the opening of Act 5, we see depicted the sharp contrast between the final scene of Act 4 and the action of the final act. Whereas Act 4's comic end is defined by a

heavily-paused and end-stopped exchange between Cupid and the Nurse, Act 5 opens with flowing and narratively vital language. Much like the movement that opens Act 2, we see emotion and plot integrated with the basic syntax of utterance. Finally, we also see this same integration in the rise and fall leading to deaths that halt the action of *Dido*. Each peak and trough in the *Dido* syntax model can be directly aligned with structured events in the narrative of the playtext. In each case, the close relationship between the emotional and syntactic trajectories of the playtext lead us to read a kind of global coherence in *Dido*: a tendency to centre and structure emotional response both on and off the stage. *The Massacre*, in again denying this pattern, creates a kind of global disintegration. While patterns of caesurae and enjambments are associated with death, they are not associated with the unfolding and alteration of emotion. In so doing, the playtext places staged violence and death at the forefront of the play's structure. Simultaneously, by totalising this effect it also devalues, in utterance, the possibility of unfettered interpretation of the spectacle. The repetitious and self-similar deaths of *The Massacre* may indeed be metatheatrical, as I argued in Chapter 1. Yet it is, as Ian McAdam writes, "wrong to see *The Massacre* as centered wholly on the Guise" (175). It is also wrong to see the surviving playtext of *The Massacre* as centred on anything. While the playtext retains a kind of freedom in this lack of structure, a kind of neutrality, this reading of syntactic patterns casts doubt on whether it is a freedom of audience or incoherence. In blurring its syntactic effect across the aggregate, the shifting fragmentations of caesurae and enjambments within *The Massacre* undercut the double vision and realisation of genre that I suggested were present in the close reading of Chapter 1.

When compared to those of *Dido*, the syntactic patterns of *The Massacre* reveal a pattern that strategically disorders audience interpretation and thereby undercuts the apparent double vision of the playtext. Comparison between the detected sentiment valence of the two playtexts highlights a similar project to de-centre emotional response in *The Massacre*. Figure 2.13, below, displays the same transformed sentiment valence

as Figure 2.7, above, for the *Dido* playtext:

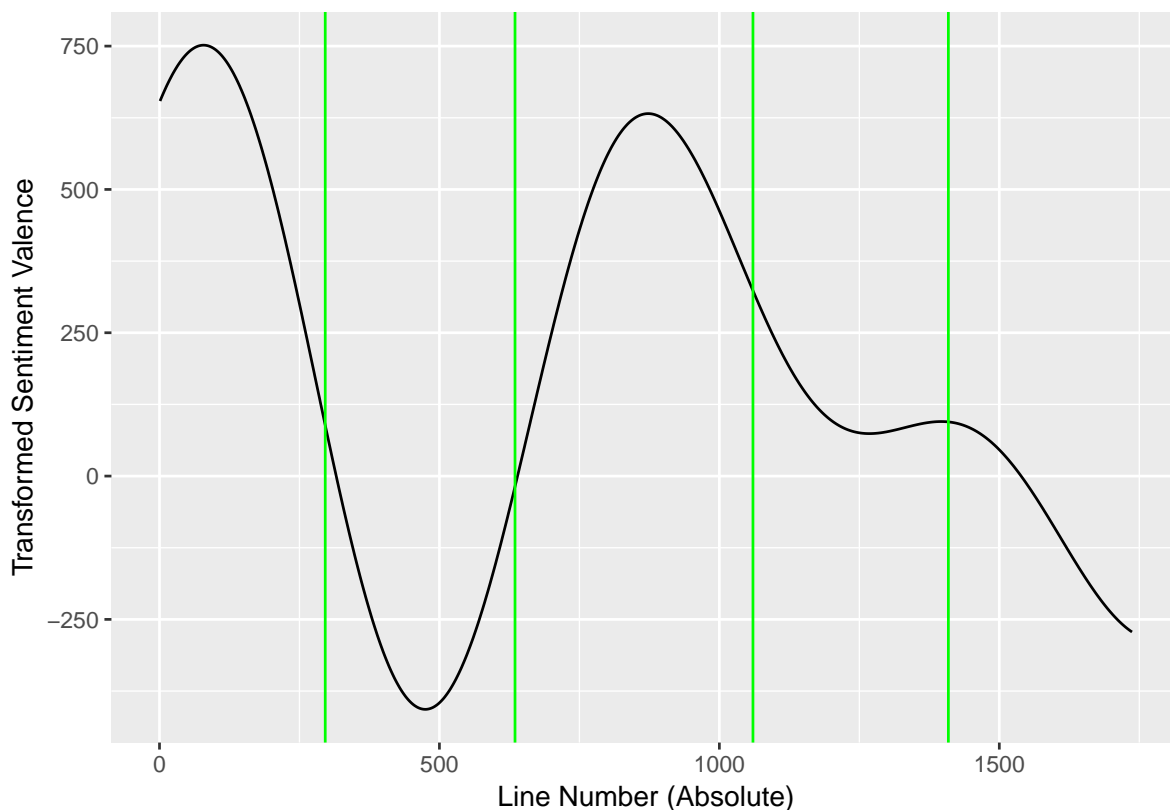


Figure 2.13: Transformed Sentiment Valence in *Dido*; Low Pass Size = 3

The critical observation offered is that, unlike the modelling of *The Massacre* seen in Figures 2.7 and 2.8 above, detected sentiment valence in the utterances of *Dido* is once again coherent with syntax and plot. This coherence is fundamental even in the highly stylised form in which it is represented in Figure 2.13. The marked fall and rise in affect of Act 2 of *Dido*, of which any audience is at least partially conscious, is visible in the deformation. The height of Act 3, along with the winding down and triple deaths in Act 5, are likewise captured in this view. In its coherence, the uttered sentiment of *Dido* provides further evidence of a narrativising and ordering process. The *Dido* playtext captures, in the structures of its utterances, its own structured ordering of emotional and interpretive response. It stands in sharp contrast to the affective forces at work within the mangled playtext of *The Massacre*, which act in relation to one another and against

the apparent double vision, thereby working to limit free audience interpretation.

The trends in syntax and sentiment of *The Massacre* are not simple and the certainty of their meaning is far from definitive. No comparison to *Dido*, or to the Marlovian theatrical canon generally, can fully erase this. Yet even a conservative and basic algorithmic reading of the playtext's patterns of utterance unearths the beginning of a project that limits and curtails free interpretation of the action. As Gibbard rightly observes, "Marlowe's verse, especially in his *Tamburlaine* plays (ca. 1587–88), is characterized by the integrity of the line. [...] Lines are end-stopped and, for the most part, unbroken by strong pauses" (312). And as Gibbard surveys briefly, critics have also agreed in general terms on a development across the Marlowe canon away from the strict line integrity of the *Tamburlaine* plays and towards more complex modes of versification.²² *The Massacre* playtext represents a radical departure from this trend. In its syntactic fragmentation, its affective language, and in the length of its speeches, *The Massacre* displays a profound and thoroughgoing unevenness. It is this unevenness that is responsible for the curtailment of the apparent free double vision of the text. In light of these patterns, I now intend to reconstruct of the notion of audience in *The Massacre*.

²²In his comparatively recent study, Russ McDonald is admirably cautious in ascribing a narrative of unproblematic development to such observations, yet he too recognises a trend of one sort or another. If nothing else, I acknowledge the nuance of McDonald's treatment in comparison to earlier studies of Marlovian versification. In discussing the apparent movement away from line integrity across the canon, and the "complementary impulses" of "the transgressive and the conventional" and the apparent manifestation of this tension "in the productive opposition between poetic diversity and regularity", he writes that "the lack of certain chronology makes it difficult to construct a developmental argument, but much of the verse in *Doctor Faustus* and *Edward II* sounds more diverse, more 'advanced', more various than that of the other plays" (66). I am similarly cautious with regards to the chronology of the Marlovian canon, and do not pin any argument in this chapter or thesis to any detailed or strict timeline of composition. I merely echo the observation made by H.J. Oliver in the introduction to the Revels Edition: "the probability that one [*Dido*] is the first and the other [*The Massacre*] is the last of Marlowe's plays in order of composition" (Oliver xix). In recognising a division between the two playtexts, both in terms of line integrity and affective language, the analysis offered by this chapter adds some weight to such a claim.

2.4 Audience Response

Constance Kuriyama has suggested that “to offer a more coherent reading of *The Massacre*” would be to “seriously misrepresent a play that is not itself very coherent” (94). Like Kuriyama, I must “be content to suggest why the play is incoherent” (94). In reconstructing the audience of the play in light of the linguistic patterns discussed above, and in rejecting the apparent revelation of a freely interpretable text suggested in Chapter 1, I must also give a limited account of *The Massacre* in its performance. On the basis of the playtext alone, I must explain how the patterns of fragmentary language and syntactic fluctuation work to manipulate the response of an audience.

Evelyn Tribble’s theory of a cognitive ecology of the early modern playhouse can help us here. She suggests

that a complex human activity such as theatre must be understood across the entire system, which includes such elements as neural and psychological mechanisms underpinning the task dynamics; the physical environment(s), including the relationships between playing and audience space; cognitive artifacts such as parts, plots, and playbooks; technologies, such as sound or lighting; the social systems underpinning the company, including the mechanisms for enskillment; the economic models by which the company runs; the wider social and political contexts, including censorship, patronage, and commercial considerations; and the relative emphasis placed upon various elements of the enterprise, including writerly or directorial control, clowning, visuality, and improvisation. (151)

Tribble’s theoretical contribution is a natural extension of the study of distributed and system-level cognition in early modern theatres, offered in the body of *Cognition in the Globe*. Moreover, the approach is an analytic framework scaffolded upon Edwin Hutchins’ compelling ethnography *Cognition in the Wild* and, before it, Gregory Bateson’s *Steps to an Ecology of Mind*. Each of these studies is primarily concerned with separating an

understanding of cognition from its “reduction to internal symbolic events” (Hutchins 3) and re-integrating social context into our analysis of cognition.²³ As Tribble and Sutton phrase it in their methodological defense, the perspective offers an “anti-individualist approach to cognition”, as it is premised on the foundational observation that “mental activities spread or smear across the boundaries of skull and skin to include parts of the social and material world”, and the many dimensions that contribute to and comprise such mental activity are “wildly heterogenous” and are “hybrids, unevenly distributed” (94–95). In other words, if we are to understand the cognition that comprises the representation and meaning-making activities of the theatre, we are obliged do so with the whole system in mind.

Within such a system, the playtext of *The Massacre* makes a kind of sense. It makes sense partly because of an anachronistic concept: direction. It is common, in discussions of early modern dramaturgy, to talk about “self-directing” parts. Simon Palfrey, talking of the absence of any “modern-style director, imposing their vision upon an already existing work”, notes that the system places “extraordinary stress upon the specifics of each particular [played] part” (4). The play, Palfrey argues, is generated “by the decisions of actors”; “the interpretations they adduce in the process of learning the part”, and also “the decisions made by the actors during the course of performance” (4). To put this in terms of the cognitive ecology, we could say that the meaning-making project of a played part is stretched between author, actor, and audience, together with many other artifacts and cognitive artifices. *The Massacre* is meaningful, understandable, and ‘a play’ only when it exists within the dynamic social

²³While the term ‘cognitive ecology’ was coined by Hutchins, the analytic approach can be traced to a wider set of works within anthropology and philosophy of mind. Tribble and Sutton trace the hypothesis of “extended mind” to a movement of “post-connectionist” philosophy (94). They specifically cite Andy Clark’s seminal work, *Being There: Putting Brain, Body, and World Together Again* (1997), along with the immediate successor works of Susan Hurley’s *Consciousness in Action* (1998) and Mark Rowlands’ *The Body in Mind: Understanding Cognitive Processes* (1999) and, far more recently, Rowlands’ *The New Science of Mind: From Extended Mind to Embodied Phenomenology* (2010). In tracing the direct impact of Hutchins, they likewise cite works on situated cognition by David Kirsh (1995; 2009) and Lucy Suchman’s influential *Human-machine Reconfigurations: Plans and Situated Actions* (2007). While I do regard the claims of later post-connectionist philosophy of cognitive science as partially-separable from those of cognitive ecology scholarship, the general traced connection is certainly valid.

system of stage and theatre.

In light of this fact, The playtext of *The Massacre* represents an intense kind of pragmatism. Aware of the limits of performance, *The Massacre*'s syntax dis-orders emotional response in favour of a staging practice of mechanical and overwhelming violence. Free audience interpretation is curtailed by the overwhelming nature of the violence and the uneven patterns of utterance further ensure that no cohesive narrative of martyrdom or tragedy can be built. Instead, the side taken by *The Massacre* in performance is the denial of both. To centre and structure affective response to each of the staged deaths of *The Massacre* would be to render the playtext unperformable as it would require that every aspect of the theatre system sustain what Rick Bowers calls "an intolerable moral position" (140). By highlighting the mechanical nature of the play's violence in performance, *The Massacre* narrows the range of affective reactions available. It de-centers and dis-orders emotional response, and in so doing carves out a space for the mess and indeterminacy of performance itself. Once more, as Marcus so perfectly captures it, the action "obliterate[s] everything except its own efficient machinery" (158). The incoherence of *The Massacre* itself enacts a limitation.

There is a sense in which, in her assessment of *The Massacre*, Sara Munson Deats is accurate:

despite its stripped verse and stark characterizations, *The Massacre* retains a trenchantly ironic tone and an intriguingly interrogative mode that identify it as Marlowe's handiwork. Moreover, in a historical period wracked with religious terrorism *The Massacre*, with its brutal depiction of sectarian violence and realpolitik manoeuvring, seems painfully contemporary. (204)

What *The Massacre* does not retain, with its global patterns of utterance and with its audience in mind, is neutrality of interpretation. While it may possess an interrogative mode, that mode is at least partially undercut by consciousness of the system that that playtext exists within. In the form in which it survives, *The Massacre* cannot

sustain a position of double vision and freely interpretable spectacle in the key moments of the play's violence. To do so would be to risk placing actor and audience at odds, and to thereby put in jeopardy the intersubjective sociality of theatrical performance—the system-level process that creates the play itself. The utterances of *The Massacre* instead form an ecology at every level, one which centres the mechanical staging of violence while denying coherent emotional reaction. Seen from the global view offered by the algorithmic criticism of this chapter, the playtext flexes against its audience, against its performance, and against itself. In so doing, the playtext limits free audience interpretation. Yet it is also generated by that same tension within the dynamic system. However mangled and corrupted the surviving playtext of *The Massacre* is, the basic trends within it show clear evidence of an approach to audience and stage that is intensely aware of, and pragmatic with regards to, the social limitations and possibilities of performance and interpretation.

3 A Topography of Social Space

In this chapter, I trade analysis of the patterned utterances of *The Massacre* for a more basic feature of drama, namely the essential sociality of the stage. Though I will continue to engage with an algorithmic mode of criticism, the aim of this chapter is to reconstruct a notion of audience, and audience manipulation, that is distilled to the essential metadata of the playtext. I am no longer concerned with the content of what the characters utter. Instead, the focus of this deformance is the basic fact that they interact. I reduce the play to its most basic components: characters, on a stage, interacting with each other. I discuss the forms and functions of the social network of *The Massacre*. I chart a topography of violence and social connection, a landscape through which the audience moves, across which the cognition of the Elizabethan theatre is stretched and smeared, and within which we can see *The Massacre* as a dynamic and at times uncomfortably dangerous playtext. Even from this distanced perspective on *The Massacre*, I aim to demonstrate that a Machiavellian project of audience manipulation is in clear view.

When viewed at the level of abstraction offered by the metadata of *The Massacre's* social network, with performance in mind, I argue that the mangled text of *The Massacre* visibly retains an underlying practice of structural audience manipulation. Within this structure, inherent features of both play and playtext are used to set limits on the affective responses available to audiences in performance. Moreover, close analysis of these features offers an opportunity to partially resolve tensions in extant criticism. In light of its social network, *The Massacre* is neither “a crude spectacle of sensationalist propaganda” (Cole 155), nor is it “essentially a neutral play, with free inclination to comedy and a mere necessary gesture in the direction of the political moral” (C. Leech 146). It is, rather, a play centrally concerned with the practical and pragmatic limitation and manipulation of affect through structured and socially demanding performance. On the page, the playtext admits a range of readings. Yet in performance, with its

audience in view, in the only analytic space in which *The Massacre* playtext can be understood coherently, that range of readings collapses. The unfolding action of the play, set within a peculiar and shifting social network of character interactions, institutes a regime of violence. Set within this social and spectacle regime, the dynamics of the play act to powerfully constrain the sense-making capacities of its audiences. Moreover, the brutal content of *The Massacre* becomes generative and self-sustaining. Though the paradoxical illusion of a freedom to interpret remains, I demonstrate that it is not, in any meaningful way, a kind of freedom ‘worth wanting’. The primary tool for this reading is social network analysis.

3.1 Character Interaction Networks

At its core, the idea of a network is a very simple one. Objects are represented as ‘nodes’ or ‘vertices’, and the connections between them are represented as ‘edges’. A node could be almost anything, of course: a person, a place, a research paper. Whatever the subject matter, the mathematics that underpins the analysis remains the same. We can ask questions about a given node in the network: about the number and kind of connections it has, and about its centrality in the network as a whole. We can ask questions about the edges in the network: about the strength and basis of the connections, and the extent to which the connections represent reciprocal relationships. And we can ask broader questions about the form and function of the network as a whole: about its density and form, about the flow of information through it, or about its robustness and fluidity over time. At their most basic level, all of these are simply questions about objects and the connections between them. In network analysis, we trade the complexities of the world—the nuances of objects interacting with one another over time—for an elegant, essentially spatial model of dots and lines.

In the world of a playtext, the application of network analysis is (at least, at first) appealingly simple. Each character on stage is a node connected to other characters

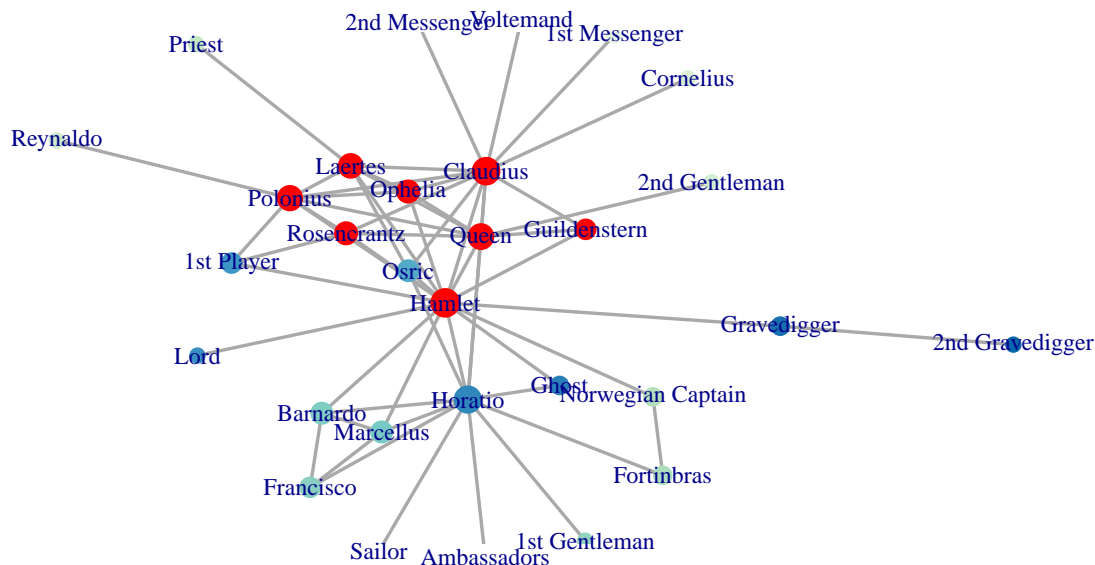
by way of an edge. Ordinarily, no single character interacts with all the others. In the technical parlance, no single node displays maximum degree centrality.²⁴ At the same time, some characters have more interactions than others, and some are more central to the structure of the network as a whole.²⁵ In the representative example of Marlowe's *Dido*, used in the previous chapter, the Nurse interacts with far fewer characters than Dido, and speaks far fewer lines. The Nurse possesses 4 edges and speaks a total of 268 words, as compared to 13 edges in 3666 words in the case of Dido. Some characters are on the periphery, other characters are at the core. Some die while others survive, and a topology of plot unfolds. In this way, network analysis offers the opportunity to see the play from a radically different perspective. Franco Moretti's reading of *Hamlet* in "Network Theory, Plot Analysis" can help us here.

For Moretti, *Hamlet* is fundamentally a play of center and edge. At the core of the play is a "region of death" (*Distant* 218). This is a space of interactions in which all nodes, all characters, have been killed by play's end, as seen in Figure 3.1 below:²⁶

²⁴Degree centrality is a raw measure of the number of first-order connections a node has to others. If we assume that a node cannot be directly connected to itself (a 'loop'), then the maximum degree is given simply as $n - 1$, where n is the number of nodes in the network. The theoretical maximum degree centrality for a character in a playtext such as *The Massacre* is therefore 52. In practice we observe no character in *The Massacre* with a degree centrality higher than 47.

²⁵For a broader introduction to the idea of centrality in a social network, taken from a well-known historical example, see Shin-Kap Han's "The Other Ride of Paul Revere: The Brokerage Role in the Making of the American Revolution.". For a representative introduction to the role of social network analysis in literature, see: Graham Alexander Sack's "Character Networks for Narrative Generation: Structural Balance Theory and the Emergence of Proto-Narratives".

²⁶For the sake of consistency, I have chosen to model this and all following Figures using the igraph package in R, rather than reprint Moretti's originals among my own. I have not changed Moretti's network in any way. The observations are the same; only the style of the visualisation has changed.

Figure 3.1: Moretti's *Hamlet* Network

While Moretti recognises that “individual agency” and responsibility in many of the deaths is “muddled”, he argues that “what is truly deadly, is the characters’ position in the network, chained to the warring poles of king and prince” (*Distant* 217). The basic structure of the character interaction network in *Hamlet* is, in this view, defined by the unbalanced dynamic between “Court” and “anti-Court” (*Distant* 223). Moretti makes some fodder of the apparent “total disproportion” in the dynamics of *Hamlet*, and whether or not network analysis can (as a mode of thought) speak to the reasons underpinning it. He suggests that the power imbalance of *Hamlet* stands in contrast to the usual structure of Shakespearean tragedy “in which an initial Figure of legitimacy is ousted by an usurper, who is in his turn defeated by a second Figure of legitimacy” (*Distant* 223). This pattern is evinced in the “basically balanced” “two fields” of *Macbeth* and the “scattering of sovereign power” in *Lear* (*Distant* 223). I take Moretti’s general claim, that “Shakespeare’s major tragedies are reflections on the nature of sovereignty” (*Distant* 223), to be a sound one. I also note the clarity and depth with which he explored a variant of this position in a work published some 31 years prior: “A Huge Eclipse: Tragedy and the Deconsecration of Sovereignty”. I disagree with Moretti on the paired claim that “*Why* the balance is not there—why choose a Ghost and a Norwegian

as Figures of legitimacy—is a different question, on which network theory probably has nothing to say” (*Distant* 223 fn 6, emphasis in original). As I will establish in the coming pages, the careful application of network theory to a play offers compelling, audience-centric reasons for this sort of imbalance. Network theory has a great deal to say on these sorts of questions. And while the disproportion of *Hamlet* may not be immediately evident in traditional modes of reading, it is nevertheless a structural feature of the play, and it is a feature that effects certain changes in meaning and audience response. Inasmuch as network analysis of a play is about identifying a certain subset of structural features and their causes, this question is absolutely within the bounds of the critical perspective. Clustering is at its highest in the region of the Court, surrounding Claudius, and finds its nadir in the ambassadors, gravediggers, and representatives of what Moretti calls “the world *beyond Elsinore*” (*Distant* 227, emph. orig.). This observation of *Hamlet*’s dramatic core alone constitutes a compelling foundation for a discussion of the causal factors in a practice of audience-centric structural manipulation.

Yet what happens at the periphery of the *Hamlet* network is, for Moretti, just as critical as the clustering and regional interaction displayed at its centre. Moretti has much to say about what he calls the “centrifugal threads” and “tendrils” that form the “periphery of *Hamlet*” and “contribute to the uncanny feeling that Elsinore is just the tip of the tragic iceberg” (*Distant* 227–228). There is one point in particular that is critical to the reading of *The Massacre* with which I engage. In Moretti’s view, the unexpected hero of *Hamlet* is Horatio. In his action and speech, Horatio has “no aim, no emotions—no *language*, really, worthy of *Hamlet*”, and yet he is also the primary character that connects the wider social world to the space of the Court (*Distant* 229, emph. orig.). His is the region of weak ties and tragic tendrils. The flat language and structural position of Horatio thus “announces what will soon be called, not Court, but State” (*Distant* 228). Gesturing towards further study, and engaging a concept from Francesco Orlando, Moretti suggests a possible correlation between “Figurality rate” and centrality: “style, integrated within plot as a *function* of plot” (*Distant* 229, emph.

orig.).²⁷ This is the core of Moretti’s contribution: a mode of reading, of viewing, that encourages a set of novel intuitions about the text. In the case of *Hamlet*, we can see the topology of tragedy, and the birth of bureaucracy, captured in a single view.

I begin by replicating Moretti’s approach, with the same assumptions and methodology to enable comparison. I start with a list of character interactions. These constitute the edges between the character nodes. Much like Moretti’s model of *Hamlet*, all are “explicit connections” identified through conventional close reading in which “two characters are linked if some words have passed between them: an interaction, is a speech act” (*Distant* 214). For ease of comparison to Moretti’s model at the outset, I also use unweighted and undirected edges. Any character who speaks to another is linked to them. This link is not weighted to account for the amount of words spoken or the importance of those words. Moreover, the link does not contain any information about which character ‘does the speaking’ that forms the link, nor whether that interaction is reciprocal. The resulting network, seen in Figure 3.2 below, bears only a superficial resemblance to Moretti’s model of *Hamlet*:

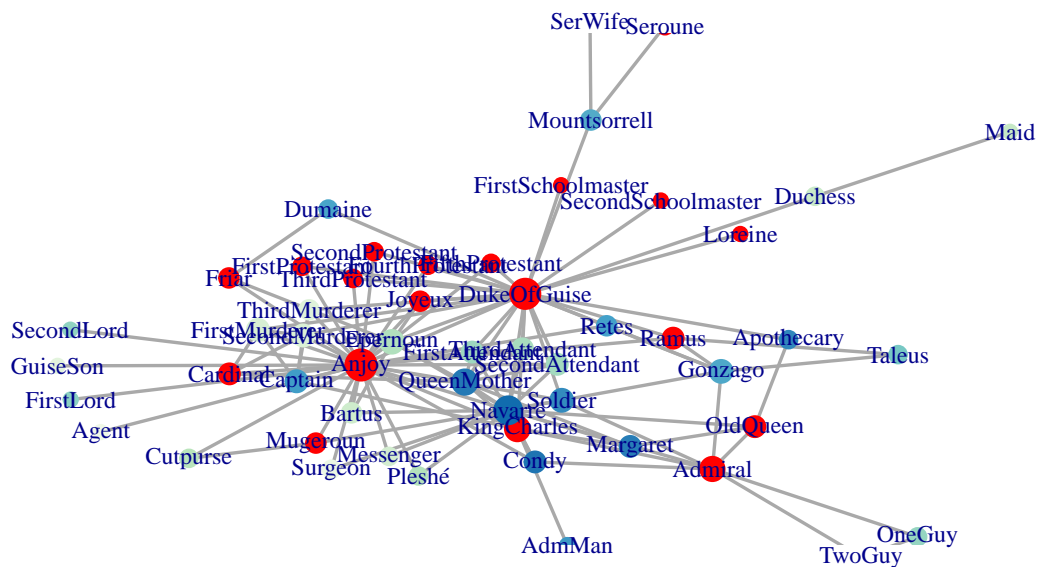


Figure 3.2: *The Massacre Network*

²⁷Moretti engages with this concept from Francesco Orlando in a number of works. It can be traced to Orlando’s *Towards a Freudian Theory of Literature*, pp. 164 ff.

The set of intuitions that arises out of this view of *The Massacre* is certainly interesting, particularly when compared to Moretti's *Hamlet* model. First, and perhaps most obviously, is that *The Massacre* is a far denser and more populous play, and one which lacks a clear division of centre and edge in its representation of violence.²⁸ Moretti's model of *Hamlet* shows a clear regionality. That is, the well-defined region at the centre of the network in which all characters are dead by the play's end. These deaths are marked in red in Figure 3.1. Such is not the case in *The Massacre*. Rather, what we see is more akin to, well, a massacre. The apparent shape of death in the play parallels less to the structured projects of Shakespeare's later works (for example, *King Lear*, *Macbeth*, *Coriolanus*), and more to the bloodier examples of the Elizabethan revenge play (for example, *The Spanish Tragedy*, *Titus Andronicus*).²⁹ Whether this is a result of generic features or some other set of concerns is hard to determine without broader comparison, yet in this simple intuition alone we see the beginnings of a project of audience manipulation. Reflected in the overall shape of *The Massacre*, and the relative centrality of its characters, I note what Meridith Skura terms its "bloody soldiers and scheming women" (79). In the distribution of violence across the static model, Troni Grande's observation about the end of *The Massacre* is partially supported: "The violence of tragedy breaks down the walls we erect to separate Us from Them, chosen from unchosen" (159). When viewed in comparison to the character interaction network modelled by Moretti, even this most basic view of *The Massacre* is indicative of a certain relation between the play and its audiences.

The second intuition that arises from the model of *The Massacre*'s character interaction network is the recognition that it has no equivalent Horatio figure. Much of Moretti's argument hinges on the relative importance of Horatio. While he speaks

²⁸In terms of population and density of stage action, *Hamlet* contains a total of 25564 words, spoken by approximately 40 unique characters (30 in Moretti's model) and 8 deaths. If the population and stage action of *The Massacre* were expanded to the length of *Hamlet* and its density of action were maintained, it would contain approximate 165 characters and 58 stage deaths.

²⁹This parallel seems to bear out the observation, made briefly in Chapter 1, that *The Spanish Tragedy* is a good precursor example of a spectatorial inset that bleeds out and coaches the plural audiences in the manner of its bleeding out.

comparatively few lines, and has no great speeches, Horatio retains high centrality. Though he does not explicitly state it, Moretti seems primarily concerned with ‘betweenness centrality’, which measures the number of shortest paths from all vertices to all others that pass through the node, and thus effectively measures his role as a social connector. In this, Horatio scores at 129.85, second only to Hamlet himself at 171.8. The two other relevant and subtly distinguishable measures of centrality discussed in this chapter are ‘degree centrality’, discussed above, and ‘eigenvector centrality’. Eigenvector centrality is a measure of the influence that a given node has within the network as a whole. The essence of eigenvector centrality is the notion that a connection to a central and influential node weighs more heavily than a connection to a peripheral and non-influential node. The maths underpinning such a measure is understandably complex. As Wasserman and Faust note, “An actor’s rank depends on the ranks of those who do the choosing; but note that the ranks of those who are choosing depend on the ranks of the actors that choose them, and so on” (206). The value for a given node in the eigenvector is an “actor rank prestige” index, where “large rank prestige indices imply that an actor is chosen either by a few other actors who have large rank prestige, or by many others with low to moderate rank prestige” (Wasserman and Faust 207). In the context of Moretti’s *Hamlet*, Horatio scores 0.6342791. He is the first character below the ‘big four’ of Hamlet, Claudius, Gertrude, and Polonius. Moretti’s observation is again borne out. The trouble is that when we look for a parallel to Horatio in the static model of *The Massacre*, we find not one but many. Even the characters that rarely speak contribute to the structure of the network to a surprising extent. Figure 3.3 below, which depicts the relationship between words spoken and betweenness centrality, speaks to this with remarkable clarity. There is no strong, outlying character, nor is there any kind of statistically significant relationship between words spoken and betweenness centrality.³⁰

³⁰This graph does not include the four most disproportionately ‘talkative’ characters: the Duke of Guise, Anjou, Navarre, and the Queen Mother. While these characters are certainly critical to the analysis of *The Massacre*, and I will have more to say regarding their shifting centrality in the coming pages, they are not relevant to the point at hand regarding the absence of any minor but

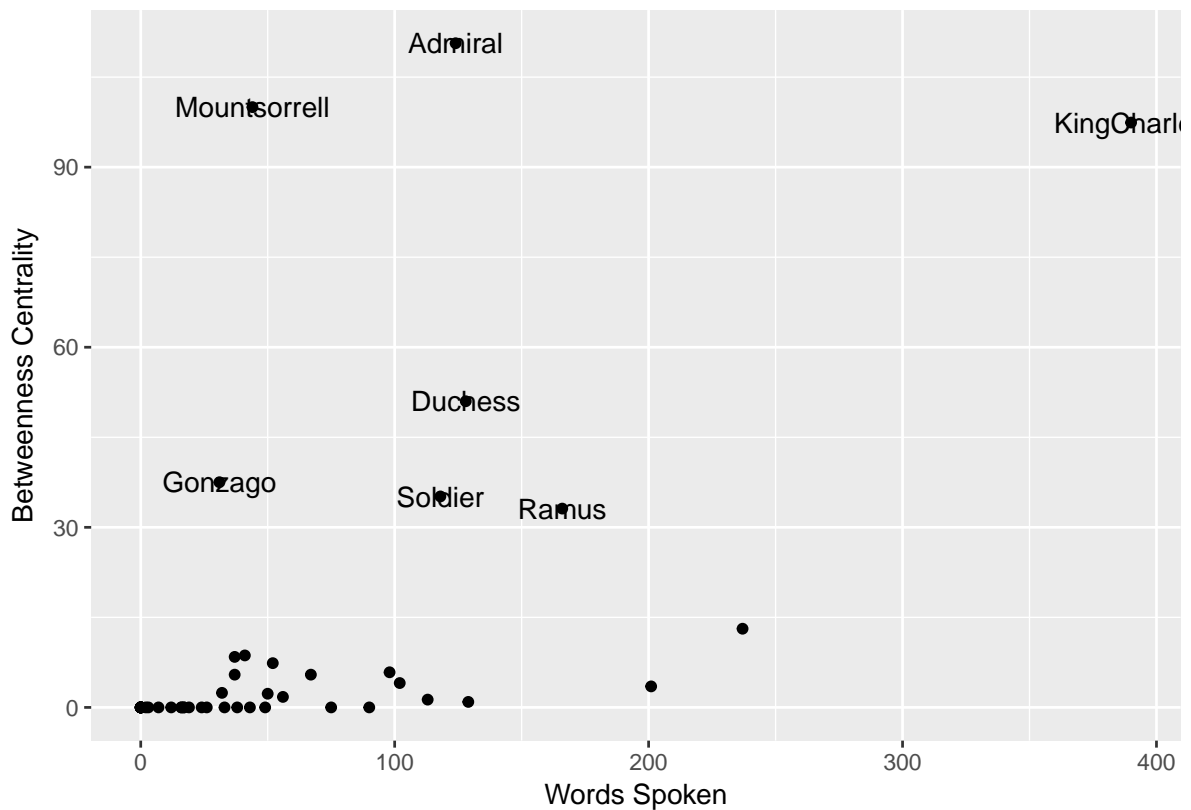


Figure 3.3: Betweenness Centrality and Words Spoken in *The Massacre*

All but 4 of the playtext's characters speak fewer than 500 words, yet 7 of those minor characters display betweenness centrality above 30. Moreover, all are intimately tied up with the actions of the Duke of Guise: four act as agents in the massacre (King Charles, Gonzago, Mountsorrell, the Soldier), two are the massacre's most notable victims (the Admiral, Ramus), and the last is his wife (the Duchess of Guise). Rather than the figure of bureaucracy given by Horatio, the unexpectedly central characters of *The Massacre* are instead figures integral to the violence itself. Inasmuch as this view of the play's social network is representative of the play's underlying thematic concerns, it is almost as if the blurring and 'bleeding out' of violence discussed in Chapter 1 is in fact mirrored in even its most minor figures of social cohesion.

The last intuition that this view of *The Massacre* encourages is by far the most bureaucratically and socially critical roles.

shocking: the play has no real centre to speak of. Certainly, there are two well-connected figures in the play, with Anjoy and the Duke of Guise speaking far more, and possessing much higher centrality, than any other characters. Unlike *Hamlet*, the distribution of these main characters does not construct any sensible centre/edge topography. They are not the defining poles around which the network gravitates. Rather, they are heavily enmeshed in their own, and each other's, social worlds. Whereas a play such as *Hamlet* distributes the bulk of its minor figures as what Moretti calls the "tragic tendrils" of the social network, *The Massacre* constructs a space of flat connection. On the one hand, for example, attendant figures such as Epernoun and the Soldier are thickly embedded in the social structure of the play, with connections to Anjoy, the Duke of Guise, and many of the key casualties of *The Massacre*. On the other hand, these connections are thin and unremarkable in the context of the play as a whole.

While this mode of reading the social network of *The Massacre* is certainly interesting on its face, it is in some sense insufficient. It accounts for the socially-networked audience manipulation in its broadest strokes and structure, yet it does little to describe the unfolding of this manipulation in the moment-to-moment events on stage. Much of this is a consequence of weaknesses in Moretti's methodology that I will go on to address. Addressing these methodological problems allows us to move beyond the global intuitions offered above and develop a more granular, compelling account of audience manipulation in *The Massacre*.

Moretti's approach suffers from a number of key problems. First, it does not account for weight or direction in interaction. As Moretti himself acknowledges, "when Claudius tells Horatio in the graveyard scene, 'I pray thee, good Horatio, wait upon him', these eight words have in this Figure exactly the same value as the four thousand words exchanged between Hamlet and Horatio. This can't be right." (*Distant* 214). Second, based as it is on traditional close-read observations, Moretti's method is also impossible to replicate at scale. Indeed, the observations made above are profoundly uncertain for this reason alone. I cannot compare the shape of *Hamlet* or *The Massacre* to the normal

shape of an Elizabethan or Jacobean play, because to do so would require the manual encoding of every character interaction in every surviving playtext. Most fundamentally, though, Moretti's reading assumes that the social network of a play is fixed, and that network analysis necessarily entails, as he puts it, "turning space into time" (*Distant* 215). This assumption is simply inaccurate. We can, and should, regard a play as a fundamentally temporal depiction of a social network; we can, and should, regard the theatre as a complex and dynamic cognitive system. Network analysis does not require the rejection of either premise. At this point, I return to the view of Evelyn Tribble in *Cognition in the Globe*, explored in Chapter 2: the theatre is best understood as a "cognitive ecology", defined by interplay, and "always dynamic—as one element changes, others may take up the slack, so to speak" (151, 153). So, given only the surviving playtext, how can we model the dynamic sociality of *The Massacre*, in performance, more accurately?

In the remainder of this chapter, I implement two alterations of Moretti's method: first, the introduction of algorithmic, rather than close-read detection of character-to-character interaction; second, the application of this method over time, and the creation of line-by-line awareness of the character interaction network. The subsequent reading will be used to examine the role of violence in the coherence and changing density of the social network, developing a more granular understanding of the role of relative character centrality in the targeting of that violence and its likely affective impact, and ultimately reconstructing a more complex and practically-grounded notion of audience response and manipulation in light of these observations. Before engaging this project, I note the limitations of these alterations.

In the first alteration, I introduce the notion of computational detection of character-to-character interaction. Rather than relying on close-read identification of character connections to form edges in the network, I use copresence on stage, a stand-in metric common to existing scholarship.³¹ In this metric, if a character is on stage with another,

³¹Perhaps the most influential use of copresence edge formation is found in Stiller, Nettle, and

an edge is formed. The number of lines for which that is the case determines the weights given to the edge. A large amount of time spent on stage together means a strong connection; two or three lines means a far weaker connection. The effect of copresence detection is that characters are probabilistically connected to one another in a manner that provides the opportunity to examine the social network, and dynamic changes within it, on stage.³² To what degree does this automated detection of the character interaction network, via a stand-in metric of character copresence, produce a similar view to the close-read network explored above? Figure 3.4 shows the static character interaction network of *The Massacre* detected by way of copresence:

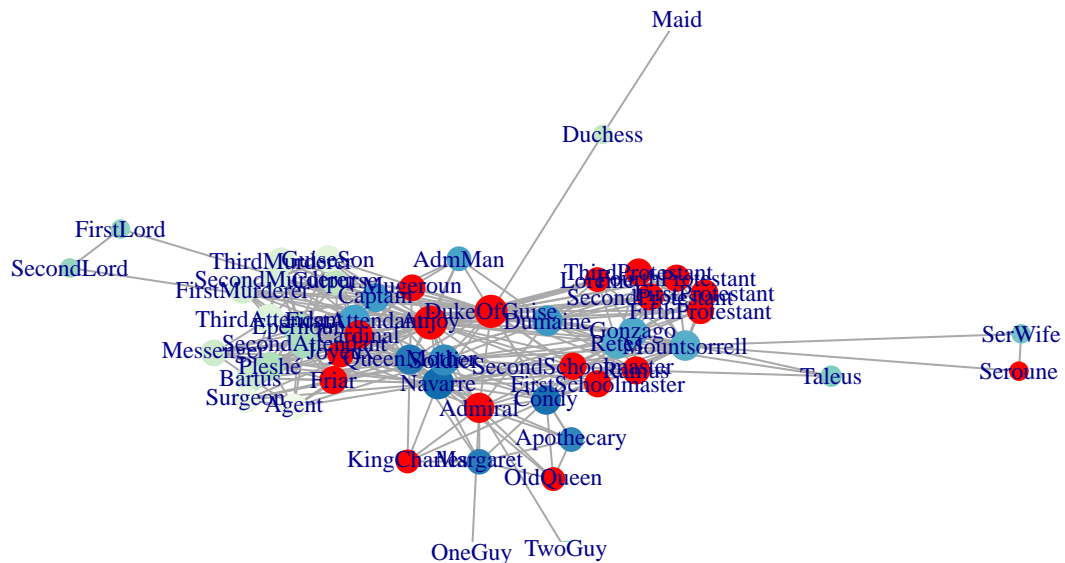


Figure 3.4: *The Massacre* Character Network (Copresence)

While the network seen in Figure 3.4 is certainly much denser than the close-read network modelled in Figure 3.2 above, the general shape of the network remains remarkably similar. In terms of relative centrality, the majority of characters rank in essentially the same place. Much of the core structure is retained. Edge figures (such as the Duchess' Maid, Seroune and his Wife, and Taleus) remain edge figures. The population of unexpectedly central characters (such as the First Attendant and Soldier) remain

Dunbar's "The Small World of Shakespeare's Plays".

³²Discussion of the method by which this detection is achieved is in Appendix A.

unexpectedly central. The greater density is somewhat expected given the method of detection, yet the shape is preserved. Copresence connection can thus be regarded as a useful and, crucially, detectable stand-in metric. Though the greater density must be borne in mind in analysis of the whole, and certainly precludes direct comparison to close-read networks such as Moretti's *Hamlet* model, copresence offers a way in which to identify changes in the social network on stage.

In the second alteration, I deploy detection of connection in a way that accounts for changes over time. Rather than viewing the network as a static whole, I suggest that the social network of the play is both built and fragmented with every passing line.³³ Perhaps the most obvious challenge posed by this is that it makes a discussion of part-to-part network density incredibly difficult. Unless each scene is regarded as a separate network, or some method of modelling edge strength decay or vertex removal is introduced, the network will naturally grow in complexity and density over the course of the play. The more lines that are included, the more opportunity for copresence there is. We would expect longer scenes to be denser and more complex, with the population of present characters being the primary factor. Despite this, line-by-line detection will show itself to be in many senses the ideal way to approach a mangled text such as *The Massacre*. With the need to normalise in mind, line-by-line detection permits us to reconstruct a notion of audience manipulation and response that is faithful to the “cognitive ecology” of the theatre itself: the negotiated, constantly-changing social space that exists between actor, audience, playwright, and stage, rather than simply the social space depicted on that stage. This is simultaneously faithful to what Tim Fitzpatrick regards as “a certain audience competence” in interpreting the “spatial sign-making strategies in performance” (10) and to a dramaturgy that, “especially in its most spectacular, hyperbolic, theatrical moments, is fuelled by [its] potential for failure” (Lopez 134).

³³It is not practical to provide, in print, a separate figure of the character interaction network for each subsequent line in the playtext. With this in mind, I will be using a number of summary statistics in order to display dynamic changes in the network structure.

3.2 Disruption & Coherence

Let us first examine the notion of disruption. This is the idea, developed out of the observations of Chapter 2, that stage deaths are associated with disruption and fragmentation in the language of the playtext, and that such fragmentation is responsible for the creation of a certain set of limitations in the range of audience responses. The question is this: to what extent does this mode of audience manipulation extend to the features of the character interaction network? The answer is to a remarkable, if somewhat complicated, degree. Inasmuch as we can regard the staged social network as modelled in the mind of audience and acting company, stretched and smeared across the activities and affectivities of the theatre, stage violence disrupts the action of the play, alters the appearance of coherence and the dynamics of character centrality, and thereby has a decisive impact on audience response.

In a basic analysis of the overall network density in *The Massacre*, we see natural fluctuations as the social structure of the playtext changes in performance. In a more detailed analysis of character death impact, this understanding of density gives way to an unexpected set of features. The majority of deaths do not substantially disrupt or rupture the social space of the play. In and of itself, the lack of disruption has an important impact on its affective landscape. Seen in terms of their changing density and centrality, the deaths of the two most important figures, the Guise and Anjoy, likewise represent a mode of affective manipulation. In their case, the manipulation is also closely tied to a set of generic concerns—bearing out some of the observations of Chapter 1—while signalling the possibility that violence in *The Massacre* is self-sustaining. This possibility of self-sustaining violence is further supported by an analysis of the death of the Admiral, a character whose loss is the most rupturing and disruptive of *The Massacre* and whose body, even after staged death, supports an unfolding project of dissolution and affective deconstruction:

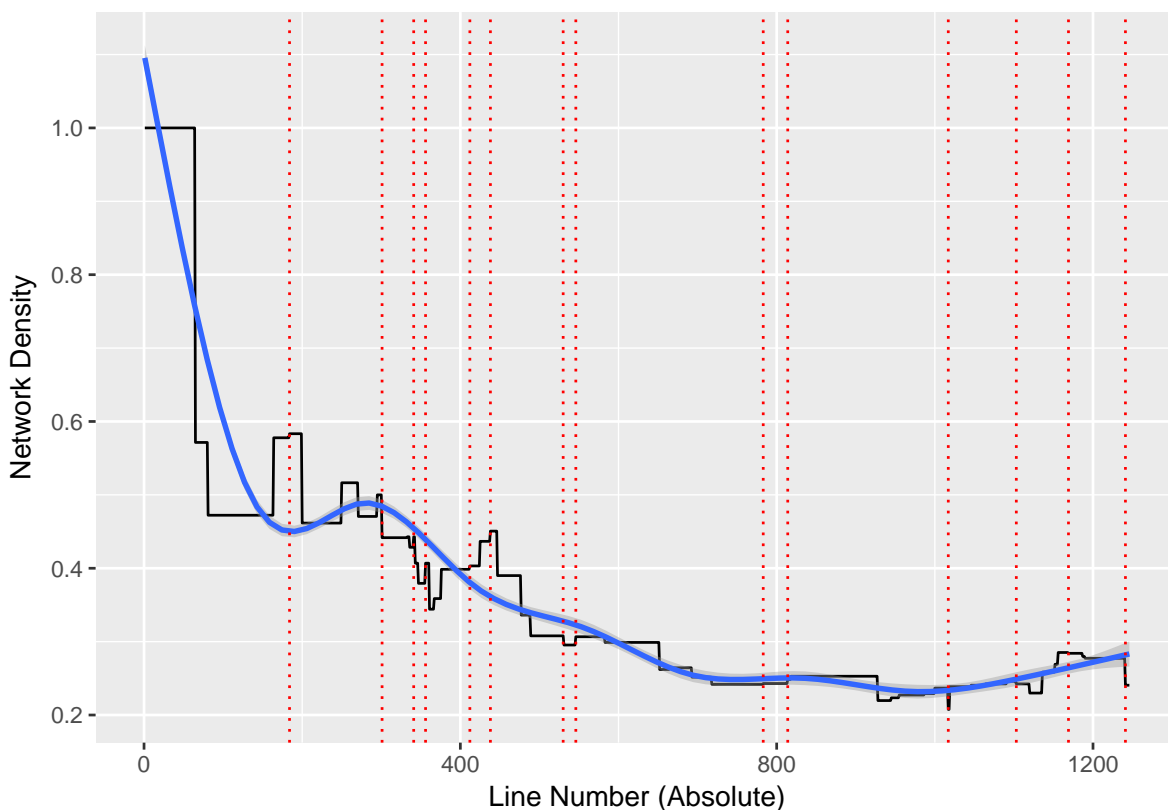


Figure 3.5: Density Over Time (Deaths Marked)

To begin, I turn to network density over time. At first, we can produce a naïve reading of the changing density over time. Figure 3.5, which maps the overall network density, with deaths marked in dotted red, assumes that death removes a node from the network. As with all character interaction networks in which character connection is detected through copresence, the play begins with a density of 1. A group of characters enter in the first scene, and no other characters exist in the social space of the play at that moment. The initial group of characters are all copresent with one another, and are thus interconnected at their maximum possible density (constituting, in the technical parlance, a ‘clique’). As some or all of those characters exit and others enter with the unfolding action, this state of complete copresence and connection is lost. On this basis, almost all plays thus exhibit an early drop in network density, and the drop seen at the

beginning of Figure 3.5 is unique in neither presence nor magnitude.³⁴ The result of this modelling is that we can see a change in overall network density immediately following each of the staged character deaths, and immediately following the introduction of new characters. In and of itself, this is a simple consequence of the model assumptions, and we must be careful to avoid the construction of a logically circular reading: if we regard a death as removing a node from a network then, trivially, the network is disrupted. Moreover, a network's density is defined as the ratio of the number of edges to the number of possible edges giving, in the case of an undirected network, $D = 2t/n(n - 1)$ where t is the number of edges ('ties') present in the network, and n the number of nodes (Wasserman and Faust 101). Unless the dead node contributes a number of edges that is exactly equivalent to the one required to maintain the overall actual-edges to possible-edges ratio, the network will display a change in density as a result of node removal. In the context of a naïve reading of network density, basic observation of 'network disruption resulting from violence' is less a feature of the text itself and more a feature of the model built to read the text. Moreover, the entrance onto the stage of a new character shifts the balance of possible edges at a non-linear rate. Circularity abounds.

Yet behind the brute observation of disruption in density is a less obvious and substantially less circular argument to be made. From the perspective of the character interaction network, most of the deaths in *The Massacre* simply do not matter. Of the 19 characters that die in *The Massacre*, only 5 are paired with a reduction in network density, while the remaining 14 in fact marginally increase network coherence. Figure 3.6, which shows the line-by-line change in network density from scene three onwards, with death positions marked, in fact indicates a compelling lack of fluctuation. The first two scenes are removed from this view primarily for reasons of clarity, as the massive fluctuations in density seen in the first two scenes are a product of the initial creation

³⁴The exact pattern for such change, of course, varies from play to play. We can imagine, for example, a play in which one character enters, and then another, and another, and none exit in between. Such a play would exhibit a constant density of 1.

of a character network that occurs at the opening of all plays, mentioned above. As is the case with almost all plays modelled in this way, the sudden drop and re-coherence of *The Massacre's* network density across the first two scenes accounts for the largest fluctuation. This need not distract from the valuable reading available after it:

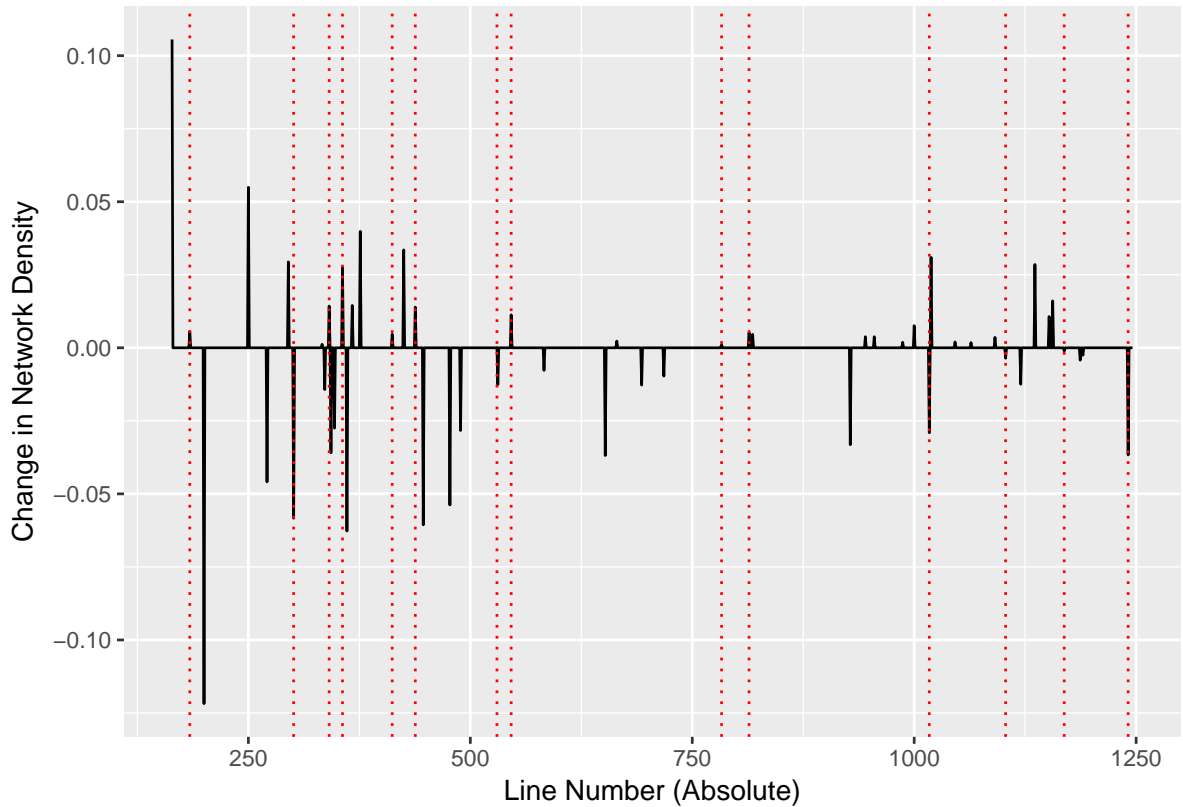


Figure 3.6: Line-By Change in Network Density

As Figure 3.6 shows, the biggest changes in network density from scene iii onwards result from new character entries and subsequent edge formation. Given the model outlined above, we would expect noticeable disruption with each stage death, yet this is not the case. When viewed line-by-line and moment-by-moment, the average network density of *The Massacre* is 0.3652142, yet stage death effects only an average fluctuation in density of -0.0016268. On balance, the social network of the stage is only marginally less cohesive after a stage death than before. Viewed in terms of the magnitude of their effect, the many violent deaths in *The Massacre* can thus be divided into three broad

categories. Figure 3.7 provides a histogram of density change at each stage death:

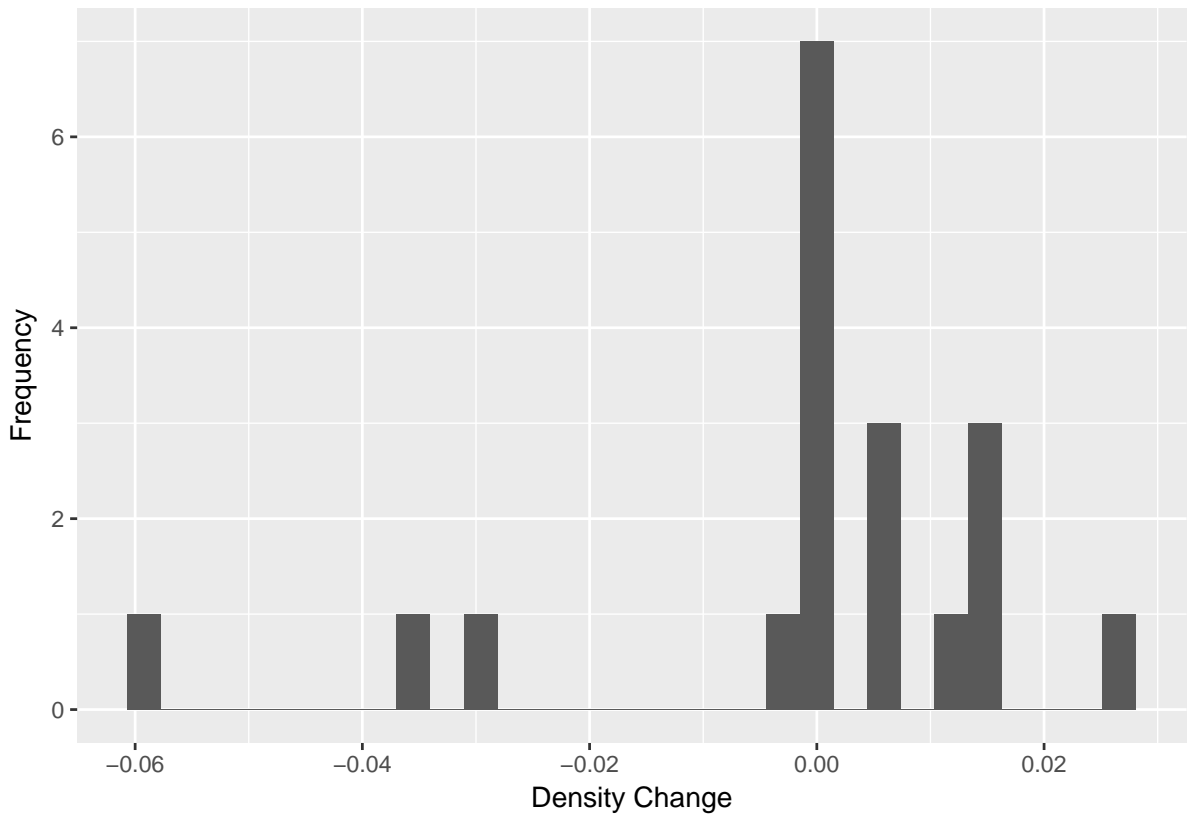


Figure 3.7: Density Change from Stage Deaths

First, there are what we might call the backdrop deaths in the play, which are the character deaths that have a negligible effect on the social network as it is modelled. This is a category to which all but 3 of the stage deaths in *The Massacre* belong. Density change is above -0.01 as a result of the death, meaning that the network is minimally disrupted and, in the case of a character such as Seroune, often more cohesive after the violence than before.³⁵ Second, there are the paired deaths of Anjoy and the Duke of Guise, both of which have a negative and disruptive effect on network coherence. Density change is between -0.02 and -0.04. Finally, there is the Admiral, whose death is the second one in the play after that of the Old Queen, the first of the massacre proper and, along with the death of the Guise himself, the most exceptional event of the play.

³⁵Seroune possesses an associated density delta of 0.0274798

While the close-read death of the Duke of Guise is certainly exceptional in a number of structural and affective senses, the Admiral's impact on the network is remarkable. Though the death of the Admiral was treated in some detail in Chapter 2, it is also exceptional in a number of network-centric senses not yet discussed, and I will return to the implications of this in much greater depth below. The death of the Admiral is associated with a density change of -0.0583333. In terms of their disruptive and cohesive effect, each of these three categories of violence set powerful limits on the available range of audience responses in performance. And while we must be cautious in extending limited findings regarding network density to a comprehensive reading of audience manipulation in *The Massacre*, unpicking the structural features that underpin each of these categories allows us to contribute substantially to a reading of *The Massacre's* affective atmosphere. In rendering this affective atmosphere, each category of spectacle violence has distinct effects. In each case, I find clear evidence that the underlying sociality of *The Massacre* curtails audience reaction and thereby manipulates audience response.

In light of the revelation that the majority of *The Massacre's* 19 deaths are mere backdrop from the perspective of network density, it is valuable to note the ease with which we can view the effect of *The Massacre's* bulk stage violence in a way that is coherent with prior critical readings of the play. In commenting on the 2013 American Blackfriars revival for the Seventh International Marlowe Conference, Leah Marcus noted that "the stage violence was so overpowering that it leveled any claims of ethics and character that we might see the playtext as asserting", and that the staging effected "a funny-macabre festival of death, but with a savage intensity that obliterated everything except its own efficient machinery" (158). While this reading is certainly accurate, it is no happenstance of staging. Such an effect is supported, at least in part, by the play's shifting network density. The first category of violence, the backdrop deaths of little direct disruptive or cohesive consequence, enacts violence in an essentially static mode. Death is ever-present in the play's stage action, and yet much of the *The Massacre*

is seemingly numb in its social impact. Whereas the Act V deaths of *Hamlet* destroy the social space of the play in a profound and largely immitigable way, and are thus marked out as exceptional events, the atmosphere created by the 16 backdrop deaths of *The Massacre* is one of relative constancy. What the research methodology shows is that the majority of stage death in *The Massacre* is practical and effective in the sense that, as action develops, the developing stage deaths circumscribe an affective climate of violence without rupture: a savage theatrical space of “efficient machinery”. In the dynamic social space of a performance, the backdrop deaths allow the play, and its audiences, to operate within a domain of staging in which Marlowe’s broader tendency towards spectacle brutality, once memorably described by S.J. Ervine as a “singular affection for wholesale slaughter” (186), might be given unrestricted reign. It is precisely because a given death does not substantially destroy the character interaction network that this atmosphere can be so effective and encompassing. Moreover, an audience experiencing the play within this context is forced to reconcile itself with the fact that, beyond being extremely violent, the unfolding spectacle of *The Massacre* does not appear to regard wholesale violence as necessarily exceptional or important to the social landscape of which they themselves are an intrinsic part. The affective ecology of *The Massacre* is, to borrow a phrase from Patricia Cahill’s reading of the *Tamburlaine* plays, a “death-clogged atmosphere” (179). Yet, unlike the *Tamburlaine* plays, the theatrical direction of *The Massacre* retains no aspirations towards cartographic empire, and hence no reprieve from the atmosphere of death. The space mapped by the play is almost exclusively one of small-scale and mechanistic violence. From the perspective of network density, the stasis afforded by the backdrop deaths is thus partially responsible for the creation of the encompassing atmosphere of mechanistic violence identified by extant criticism.

In this second analysis, I draw attention to the fact that the paired deaths of the Duke of Guise and Anjou are uniquely positioned within the broader topographies of power and control in the plotting of *The Massacre*. Much like the backdrop deaths

that constitute the majority of the *The Massacre*'s deaths, these deaths contribute to a project of affective manipulation in the performance of the play. Unlike the backdrop deaths, the treatment of the Guise and Anjoy is best understood through a direct analysis of their respective positions in the network immediately preceding their deaths, not through metaphors of affective atmosphere and climate. Both deaths are concretely predicted by a broader set of structural features within the playtext. And while it is an analogy that seems somewhat far afield at first, the closest metaphor for this structural dynamic is a practice known loosely as 'counter-network' operations within modern intelligence analysis and counter-terrorism theory: a practice "whereby knowledge of the system supports targeted attacks (internal and external) to achieve the most significant system-level impact" (Maher 61).³⁶ In these terms, the two victims under discussion are targeted in the play's stage action in ways that are highly responsive to the affective dimensions of their social positions and thus maximise impact on the system of the theatre. In this sense, the deaths of the Guise and Anjoy are extraordinarily efficient. In both cases, we see violence directed at a precise time, in a precise location within the social network, to effect a precise social and emotional response. Figures 3.8 and 3.9, below, depict the line-by-line degree and eigenvector centrality of both characters from their first entrance in the play until their respective deaths. In each case, the centrality measure itself is marked by a simple line graph, with a LOESS curve fitted on top (in the same colour) for ease of comprehension. The two Figures are best understood together:

³⁶I use this term advisedly. The term has specific meaning within complexity theory, and its application to counter-terrorism is similarly precise. Moreover, in utilising this metaphor, I do not wish to draw any politically-inflected connection between the content of *The Massacre* and the activities involved in modern counterinsurgency/counterterrorism operations. The former is a theatrical and fictionalised depiction of horrific religious violence. The latter are, in most cases, examples of restrained tactical action undertaken in complex and dangerous circumstances in support of clear goals.

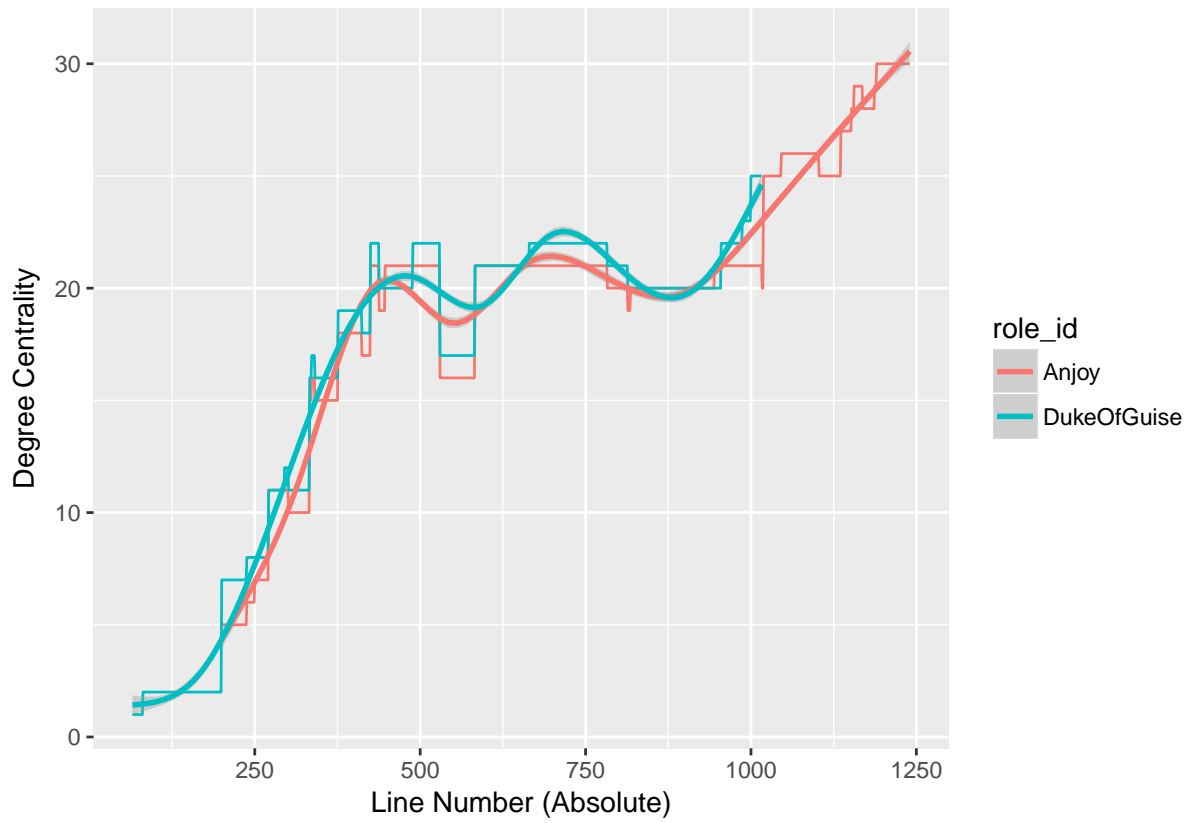


Figure 3.8: Line-By-Line Degree Centrality: Guise and Anjoy

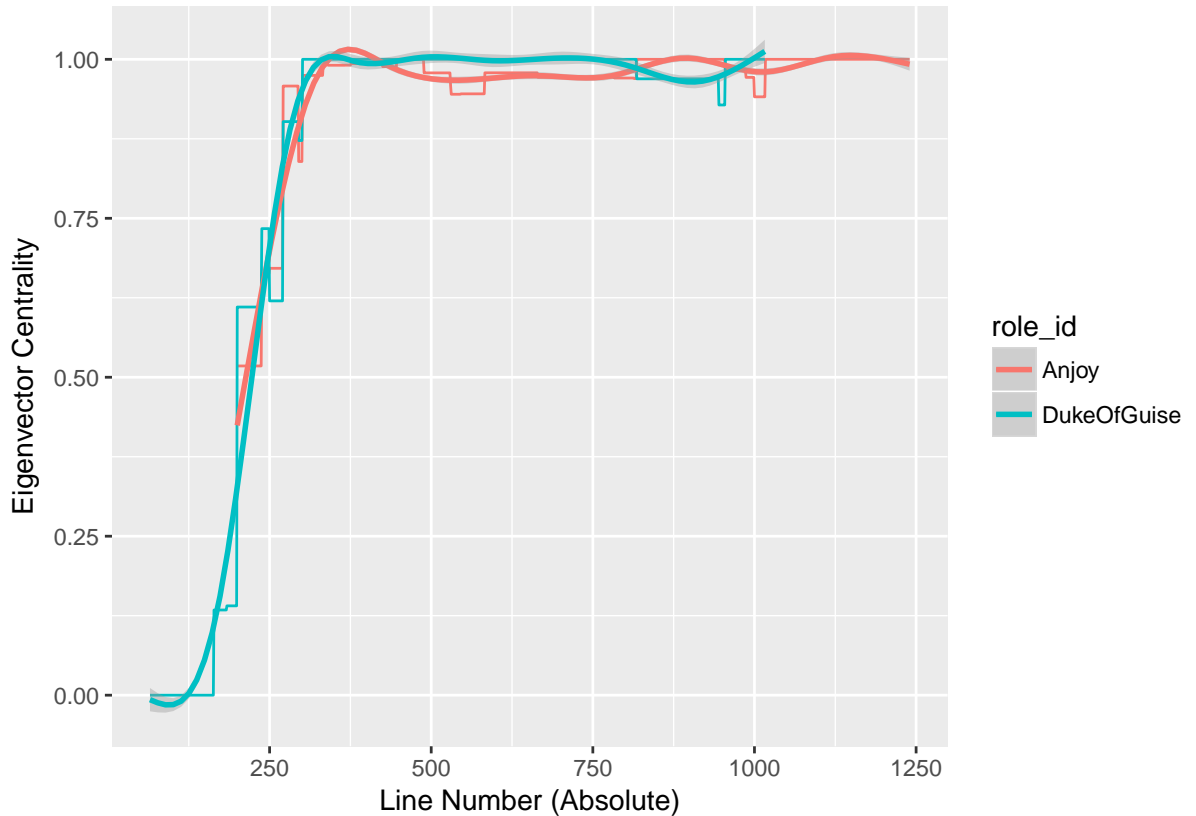


Figure 3.9: Line-By-Line Eigenvector Centrality: Guise and Anjoy

In both Figure 3.8 and 3.9, and according to both measures of node centrality within the network, we see a noticeable spike in the hundred lines immediately preceding their deaths. At the moments of their stage deaths, both the Guise and Anjoy are perfectly positioned to shock the social space and the audiences that sit within it.

We may regard this pattern of targeted disruption at moments of heightened centrality as a kind of spotlighting within the social network of the stage. Through presence and interaction alone, two already-central characters are brought more clearly into focus before their deaths. The sociality of the stage reshapes around them so that the audience can more fully comprehend and be affected by their deaths. In this view, it is unclear which way this logic runs. It may be that the Guise and Anjoy are brought to the fore of the character interaction network because they are about to die, or it may be that they die because they have become more central. In either case, if the

repetitious nature of violent action in *The Massacre* does indeed enact a metatheatrical realisation of genre, as I argued in Chapter 1, then we may regard this dynamic as a kind of networked reflection on the generic contest for legitimate sovereignty. Recall, as above, that Moretti regards the structure of Shakespeare's major tragedies as one "in which an initial Figure of legitimacy is ousted by an usurper, who is in his turn defeated by a second Figure of legitimacy" (*Distant* 223). While it is certainly not as well defined as the project of Shakespeare's late tragedies, a similar, nascent project is visible in Figures 3.8 and 3.9. In the initial period of *The Massacre*, legitimacy sits with a set of other characters and a defined cultural norm, represented by the marriage that opens the play. Once the Admiral is dead and the violence of *The Massacre* has begun in earnest, the usurper Guise holds a place as the figure of legitimacy. In scene xix, the Guise is subtly defeated and, as he himself observes in an aside, he "must dissemble" (19.51). His role is deconstructed within the dynamic network. He regains centrality and legitimacy only in the context of the momentary, reversed, spectatorial inset of scene xxi, during which he is targeted and killed by attendant figures who are themselves largely invisible within the social and physical space of the stage. The subsequent death of Anjoy, who can be read as the "second Figure of legitimacy", thus necessarily halts the action outright. With the loss of Anjoy, actor and audience are thrust into a social space in which no legitimate sovereign survives. Following the logic of this line of questioning, it is notable that the only character with an eigenvector centrality of 1 in the brief aftermath of Anjoy's death is the First Attendant. This character is the very definition of a minor figure, a witness, a representative of audience in the generic project of tragedy that Moretti himself once termed "the parable of the degeneration of the sovereign inserted in a context that *can no longer understand it*" ("A Huge Eclipse" 19, *emph. orig.*). In light of such a dynamic effect on the social network of the play, the deaths of the Guise and Anjoy signal the limited recognition that, as David Scott Kastan once observed, "however much it insists upon its audience's admiration and respect, sovereignty's visible presence demands and authorizes an audience of commoners

as a condition of its authority” (466). In two precisely targeted and relatively brief moments of socially-framed violence against two specific characters, the action of *The Massacre* maximises the effective disruption of the underlying network, simultaneously foregrounding and constraining the play’s audiences, and thereby razing any nuanced claims of freely interpretable ethics. Regardless of which way the logic runs—whether the Guise and Anjoy are brought to the centre of the character interaction network because they are about to die, or whether they die because they have become more central—the death of each character is timed and targeted in a way that optimises the shock and generic implications of *The Massacre*’s action. In so doing, the play’s structure provides further evidence to support my claim that the underlying sociality of *The Massacre* deploys violence to destabilise its audiences’ affective reactions and thereby manipulates audience response.

To discuss the network rupture and its possible effects on audience, I turn to the treatment of the Admiral’s death. The impact that the Admiral’s death has on the network’s density seems at first to be strange and disproportionate. He speaks 124 words in the entire play, and spends 300 lines alive on stage, and yet his death has the largest impact on network density of any character. Why is it that the death of the Admiral effects such a disruption? In returning once more to the social structure that underpins the unfolding action of *The Massacre*, we find the beginnings of explanation for such an impact on the stability of the play, together with additional evidence of a project of structurally-founded audience manipulation. Much like the other deaths in *The Massacre*, the treatment of the Admiral is staged in a way that maximises its spectatorial impact and minimises the range of interpretive responses available to the audience in performance.

In terms of the concrete content of the playtext, the parallels between the treatment of the Admiral and the Guise are plainly visible in the promises made to each character immediately preceding their deaths, in the murders themselves, and in the on-stage treatment of each character’s body. As Julia Briggs notes in comparing the Guise scene

to the historical pamphlet accounts, “the alterations he [Marlowe] makes are all designed to remind the audience of something they have seen before” (267). And as she notes in the subsequent paragraph,

The Admiral Coligny’s fate is itself significantly echoed in the Guise’s murder. Both die bravely, while the Guise’s triumph over Coligny is ironically echoed in [Anjoy’s] triumph over the Guise; [Anjoy], in his turn, will fall victim to the Friar a few scenes later. (267)

Broadly, this connection is supported by the social network modelled in this chapter. Like the Guise and Anjoy, the Admiral is, in the moments immediately preceding his death, among the most central characters of *The Massacre*, with an eigenvector centrality of 1, and with a precipitous spike in degree centrality in the prior lines, as seen in Figure 3.10:

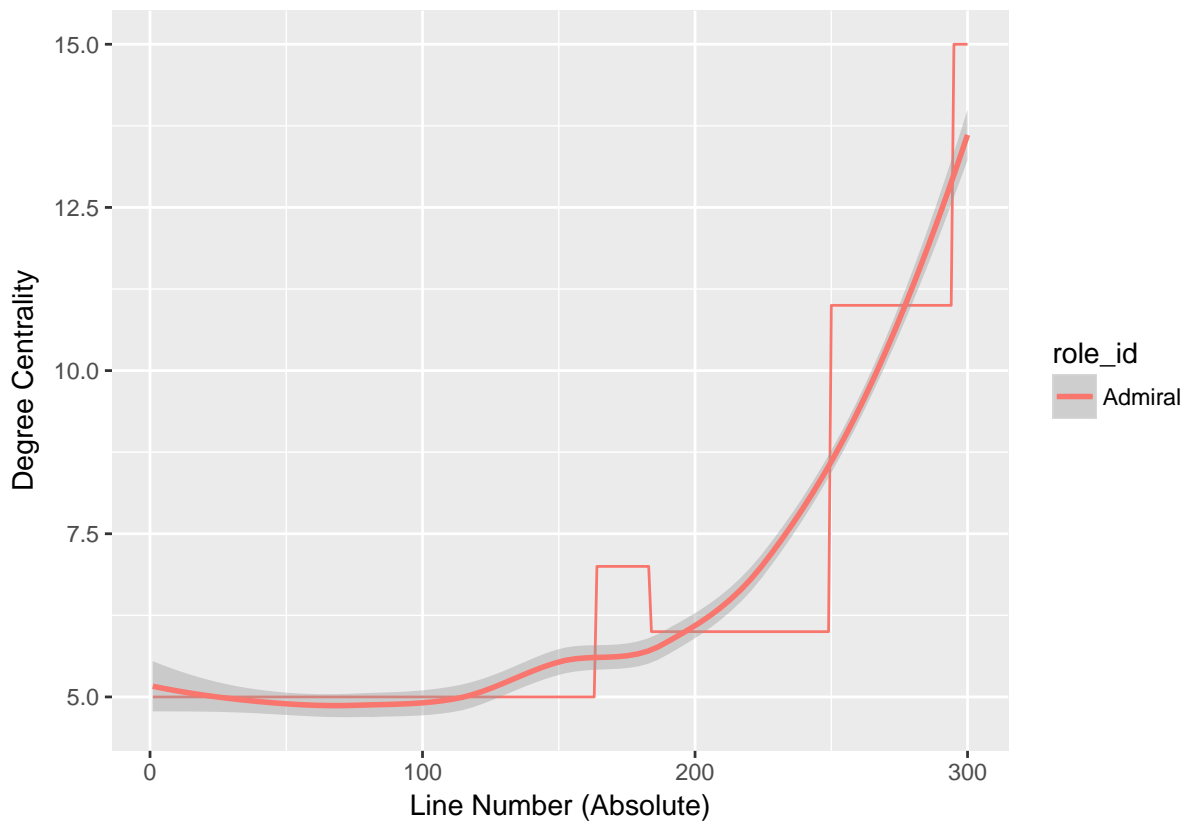


Figure 3.10: Degree Centrality: The Admiral

The Admiral spends a total of 57 of *The Massacre*'s lines with an eigenvector centrality of 1. In all other cases, he does not retain this position for more than three contiguous lines. Only in his death scene is the Admiral at the centre of the social network for a sustained period. In these terms alone, Briggs' observations are supported.

Yet unlike the Guise and Anjoy, the Admiral is a figure constructed primarily through his verbal interactions. While he may not be present or even alive for much of the play, he is nevertheless spoken both to and about with uncommon frequency. Moreover, he is a character who names and addresses others. Of the 19 lines in which he speaks, he says a variation on "My Lord", "Your Grace", or "Your Royal Majesty" in 6 and makes some explicit mention of formal sovereign powers in 11. The characters that interact with him do likewise: in the 300 lines before his death, he is named 16 times by 8 characters.³⁷ The Guise and Anjoy are independently given verbal and narrative opportunity to develop as distinct characters with distinct motivations, and, as reflected by their changing network positions above, distinct roles as victims. By contrast, the Admiral is presented as a one-dimensional character whose definition is almost exclusively relational. The consequence of such victim naming is that the Admiral is positioned consistently towards the centre of the spoken network of the play. If we build a static network on the basis of characters explicitly naming other characters, as in Figure 3.11 below, we see this plainly:

³⁷In descending order of frequency: KingCharles, DukeOfGuise, Retes, AdmMan, Anjoy, Condy, Gonzago, Navarre.

action to Catherine, the Queen Mother, the Guise is explicit about the overt theatricality of it:

They that shall be actors in this massacre
Shall wear white crosses on their burgonets
And tie white linen scarfs about their arms;
He that wants these, and is suspected of heresy,
Shall die, be he king or emperor. Then I'll have
A peal of ordinance shot from the tower,
At which they all shall issue out and set the streets;
And then, the watchword being given, a bell shall ring,
Which when they hear, they shall begin to kill,
And never cease until that bell shall cease,
Then breathe a while. (4.29–39)

In ten lines, the Guise directs the unfolding, titular massacre as a sustained stage spectacle.

It is a stage spectacle that is metatheatrically complete with costume, scene, and sound. In such a context, the Admiral's social position and the subsequent rupturing effect of his death seems both logical and necessary. His death is, and is to be, fundamentally generative. As Ruth Lunney observes in her valuable and revealing paper, "Theatrical Sensations: *The Massacre at Paris* and *Titus Andronicus*", the death of the Admiral occurs "before the signal for the massacre [...] the explosive climax to the scene of the Admiral's murder is the stage direction: 'The ordinance being shot off, the bell tolls.' Both effects were uncommon and distinctive" (2). From the perspective of the dynamic social network, Lunney's observations are supported at every point. The network rupture offered by the Admiral's death mirrors perfectly the "aural assault" of the ordinance, "most probably the loudest sound available in the playhouse" ("Theatrical Sensations" 2), and certainly in both a literal and metaphorical sense the

loudest, and most shocking, death on *The Massacre* stage. With the backdrop deaths of the massacre scenes, too, “the tolling begins: measured, predictable, inescapable” (“Theatrical Sensations” 2). The Admiral is more than a mere victim of this play. Understood within the sociality of *The Massacre* in performance, the Admiral is the ur-victim of the play, the first that matters, and the condition of possibility for the violence of *The Massacre* itself.

Partially obscured by the copresence network modelling of the Admiral is perhaps the most curious feature of *The Massacre*. The Admiral is the only character that links the clown figures of scene xi to the play as a whole, yet what is really meant by this is the Admiral’s body: the two attendants are tasked with disposing of and ultimately ‘hanging up’ his body (11.10–11).³⁸ By scene xi, the Admiral is already dead. While the static model above (Figure 3.2) marks a connection in spite of this, the dynamic modelling I have undertaken does not. Indeed, the contrast between *The Massacre* and other plays of the period is starkest at this point. Unlike *Hamlet*, for example, which positions its clown-like characters (Rosencrantz and Guildenstern, the Gravediggers) close to the social centre of the drama, *The Massacre* connects humour and affective reprieve only by way of a body that is figured as infected.³⁹ From the perspective of a reader intimately familiar with *Hamlet*, and with Moretti’s model of the same, above, we imagine the same gravediggers’ dialogue refashioned: possessed of the same dark comedy,

³⁸The two attendant characters of scene xi are assigned numbers in the playtext. In my model, they have been marked ‘OneGuy’ and ‘TwoGuy’ in Figure 3.2 and all subsequent modelling. It is almost certain that these roles would be filled by two of the attendants required by *The Massacre*. The sequence of entrances and exits demanded by scene xxi requires that the play be staged with, at minimum, three attendants on stage simultaneously. A conservative reading of scene xi may necessitate four attendants: the two that hang up the Admiral’s body and leave, and then two separate attendants who enter with the Guise, Queen-Mother, and Cardinal and take the body down at the Guise’s command (11.18). A more extensive discussion of doubling is offered in Appendix B.

³⁹Parallels can be drawn between the discussion of the symbolically infected body of the Admiral in scene xi and the image the tar-filled lake offered by Techelles in *2 Tamburlaine*, 5.1.201–207, in which the ecology of the lake is disrupted by brutal massacre. In the case of Techelles’ spectacle narrative, the water is corrupted and the fish are “fed by human carcasses” (5.1.204) before floating up to their death in the air. One wonders to what extent the similar observation of the second attendant in *The Massacre* (11.7) is, in effect, a kind of metatextual warning. In the case of *2 Tamburlaine*, Patricia Cahill builds on Techelles’ account by noting that, “just as the slaughter has upset the ecology of the lake, [...] so too has the staging of siege disrupted the narrative of conquest otherwise inscribed in Part II, generating only a fecund realm of the dead” (178). The treatment of body of the Admiral is likewise inscribed, and is similarly disruptive and generative.

yet somehow one-sided, the body of Ophelia substituted for the walking, talking, acting body of Hamlet. As Robert Watson memorably writes of the *Hamlet* burial sequence,

as the surface is scraped off the graveyard, the play exposes the shallowness of its culture's fabric of denial (however richly brocaded) beneath which it hides its dark obvious secrets. Culture is a shroud [...] reminding us that, from one perspective, all our works and days constitute singing at grave-making, enabled by habit and cultural customs that insulate us from the overwhelming facts of death that are always around and ahead of us.
(214–215)

In a sense, *The Massacre*'s scene xi is a similar scene. Yet it is set within a play that lacks any structured social centre and, indeed, denies the possibility of any interactive liaison with the social whole. The consequence is that scene xi enacts a starkly different effect. Andrew Kirk, in “Marlowe and the Disordered Face of French History”, observes that the play “has recreated French history as a series of meaningless violent acts” (193). In light of the social network that embeds or, more accurately, fails to embed the attendants of scene xi, the set of features which must be taken as “meaningless” is far broader than Kirk himself explores. It is not simply that the subject matter of the playtext can be “measured by its resistance to being ‘Englished,’ by Marlowe” (Kirk 195). In displaying openly and graphically its lack of centre, the social network of the playtext repeatedly defies the possibility of socially-inscribed meaning-making. In the handling of the Admiral's body, *The Massacre* makes overt the social horror of the project which is about to be undertaken. The deaths of *The Massacre* do not matter, and cannot be made sensible. Whereas *Hamlet* has a surface that can be “scraped off” by singing at grave-making, *The Massacre* offers the audience no such possibility. Short of the effects of doubling, the only staged connection between the affective reprieve of scene xi and *The Massacre* as a whole is a bloodied artifact of prior violence.⁴⁰ The audience is denied the insulation of cultural customs because the only cultural customs present on

⁴⁰Again, see Appendix B for an extended discussion of doubling possibilities.

stage are alien, alienated, and fragmentary. Instead of mediation and coherent meaning, there is a body returned to the stage, not even buried. Without a clear division between centre and edge, without a Horatio-like figure to mediate between the violence of the sovereign and the world beyond, without even a coherent social centre that can insulate against or interact with the shape of the whole, the social landscape of *The Massacre* appears profoundly unstructured and uninsulated.

It is hard, in this context, to imagine an audience being able to view the violence of the play with a steady eye. All that the audience of *The Massacre* has, all that it can possibly have, are “the overwhelming facts of death that are always around and ahead of us” (Watson 215). The very social structure depicted on stage becomes itself a kind of audience manipulation, weighting the deck of interpretation. And in essence, this is the view offered by a dynamic extension of Moretti’s approach: while *The Massacre* uses the inherent sociality of the stage to remove the possibility of cohesion and coherence in an audience’s reaction, this strategy unfolds over time and across a series of social events. Much like the affective patterns identified in Chapter 2, this view seems to suggest a mode of audience manipulation that undercuts the apparent double vision and freedom to interpret, gesturing towards a text defined by fragmentation at every level.

3.3 Audience Response

In this chapter, I have traced a set of structural features in the character interaction network marked out by the action of *The Massacre*. Each of these features is indicative, in one way or another, of a project of audience manipulation. In a static mode, following Moretti, I noted a set of intuitions about the general shape and what we might call a geography of the close-read social network in performance. I also noted, in comparison to *Hamlet*, a lack of division in *The Massacre* between centre and edge in the distribution of violence. Further, I identified a comparative lack of correlation in the relation between speech and character centrality. Unlike *Hamlet*’s Horatio, *The Massacre* lacks any single

bureaucratic connector or, indeed, any such structural division. Finally, I suggested a broader revelation offered by the static model in which the performance of the play does not depend on separable poles of power, but rather on a topography of socially-enmeshed and interconnected characters. The Guise and Anjoy compete for centrality and, by analogy, social dominance, yet they do so while being heavily connected to one another, and to a large population of attendant figures that is itself interconnected. I regard the overall topography of *The Massacre*'s social network as representative of a pervasive and embedded regime of violence, a frequently observed expression of what Leah Marcus calls the "festival of death" (158).

I then charted two alterations of Moretti's network model. First, the use of character copresence on stage as a scalable stand-in metric for character connection. Second, the introduction of line-by-line computational detection of character interaction over time. With these changes in mind, I began to map the unfolding sociality of *The Massacre*'s stage in concrete terms. I offered, at first, a basic and deliberately naïve reading of the dynamic changes in the network. I marked a shift in density across the play from the coherence that starts the play to its nadir with the death of the Guise, and thence to the beginnings of recoherence that are cut short by the death of Anjoy. I then examined the impact of staged death and violence itself, noting the paradoxical lack of disruption effected in the character interaction network by the majority of character deaths. With this in mind, I sought to categorise the many violent actions of *The Massacre* and thereby understand their varied impacts on audience response.

I first marked out the majority of deaths, which serve as a backdrop to the narrative of the play, have a negligible effect on the unfolding social network, and thereby act to create an overwhelming and pervasive climate of violent but not socially impactful action. I identified the networked expression of what Cahill memorably termed a "death-clogged atmosphere" (179). Within this atmosphere, audiences are afforded mechanistic violence without reprieve.

I then turned to the treatment of the Guise and Anjoy. I argued that both are targeted, marked and brought forward by the dynamic social space of the stage. Their deaths are efficient vehicles of affective impact. Each is tied strongly to the generic concerns that underpin the play. Each is perfectly timed to level any claims of unequivocal morality within *The Massacre* in performance. I suggested a similarly manipulative, though far more reflexive, structure in which the treatments of the Guise and Anjoy stage a contest for sovereignty, yet they also stage the incoherence of that contest. The structures of power are laid bare by such a networked staging; that the targeted violence acts equally on both the Guise and Anjoy defies all reasoned sense-making on the part of audience. Death, and death alone, directs the action.

Finally, I turned to the Admiral. I argued that the disruption associated with his death, and the staging that surrounds it, is fundamentally generative and essential to *The Massacre* as a whole. The death of the Admiral marks the beginning of wholesale violence within the play. In performance, it is closely tied to the beginning of a sustained soundscape intended to assault and disorient the audience. Even after his staged death, too, the treatment of the Admiral's body is vital to a dramaturgical strategy that denies the very practices of cultural and social sense-making. Set within the regime of pervasive staged violence, the audiences of *The Massacre* certainly are 'let loose' in a sense, yet they are not 'let loose' to freely interpret the text. They, and we, are cut off from the possibility of interactive liaison with a cultural context that can mitigate and make sense of *The Massacre's* violence. The Admiral is always-already murdered; his body, always-already thrown down, dragged off, and hung up. The affective response demanded by his death infects the playtext, the play in performance, and the intensely-social theatre it is staged within. In responding to this dynamic, the staging of *The Massacre* systematically denies any possibility of reprieve.

In light of *The Massacre's* regime of violence and its socially-inscribed pattern of overwhelming spectacle and affective disruption, where does the audience stand? Can they truly be said to have a meaningful freedom to interpret what Clifford Leech called

“essentially a neutral play” (146)? When the dynamic tensions of violence, rupture, coherence, and affective denial are considered within the unfolding of that play, can any performance retain its neutrality? And if it cannot, and the audience cannot retain the freedom first ascribed to it, how can we describe the implicit structures that deny them that apparent freedom? How can we, as critics, situate *The Massacre* when it is so understood?

Writing in *Marlowe, Shakespeare, and the Economy of Theatrical Experience*, Thomas Cartelli notes that

Marlowe was responsive not only to the theatrical possibilities of the Machiavellian character-type—with which he works overtly in *Edward II*, *The Jew of Malta*, and *The Massacre at Paris*—but also to the seductive potential of a Machiavellian approach to his audience, which he realised by making the manipulation of audience response a virtual policy of playmaking. (122)

It is easy, especially when handling the mangled playtext of *The Massacre*, to set aside that “policy of playmaking” in analysis. The mess and incoherence of *The Massacre* admits a range of readings. As Rick Bowers, in his fine treatment of the play’s “consensus narrative”, concludes, “two distinct audience reactions might be considered” (140). On the one hand, Bowers suggests, we can consider the audience that chooses “to identify with the victims” (140). Doing so “is to elicit headshaking disdain for sick, ongoing violence” (Bowers 140). On the other hand, “to identify with the oppressors—especially the Guise as villain-hero—is to maneuver the audience into an intolerable moral position” (Bowers 140). What is notable about the surviving playtext, as Bowers rightly notes, is that “within the play, the two options are presented as simultaneously complementary” (140). The playtext works, or at least seems to work, “like a mirror, reflecting not only what one is and what one sees but, moreover, what one does as an Other” (Bowers 140). This is a fine reading of the playtext. It is, in essence, the conclusion offered by Chapter 1 of this thesis: a conventional, formally-minded and historically-grounded close-reading

of *The Massacre*.

Yet in light of the dynamic and unfolding sociality of stage described above, such readings are ultimately short-sighted. The abstraction offered by an algorithmic criticism of *The Massacre* is valuable precisely because it strips away at least a little of the equivocation and ambiguity of the playtext. In this, it does not offer any greater claim to truth or any great revelation of reading practice, only that it does so systematically. It shows a structure that is otherwise lost within the mangled text that survives: a set of practices, grounded in the simple facts of character-to-character copresence and interaction, that enact pervasive limitations and manipulations on the affective responses of *The Massacre*'s audience. Such a structure is visible and effective regardless of the quality of the surviving verbal utterances. Such a structure is evidence, moreover, of a Machiavellian approach to audience at its most basic. It is a dynamic that depends on power drawn from the affective interplay between playgoer and performance, for *The Massacre* is a play that plays on and with the basic reactions and sense-makings of its audiences. Cognizant of what Katherine Rowe terms the "affective contagion" of the early modern theatre (176), the Marlowe we identify as the author of *The Massacre* is as pragmatic and practical with the essential sociality of the stage as Machiavelli's own figure of a perfect tyrant: "whence it arises that those Tyrants who have the general public as friends and the Nobles as enemies, are more secure, because their violence is sustained by a greater force" (*Discourses* 41.4).

Conclusion

Roughly three thousand commercial plays were staged in England in the seventy-five year period from 1567 to 1642; of these, approximately five hundred and forty-three survive in some form into the present day (McInnis and Steggle 1). The combined extant work of Christopher Marlowe, William Shakespeare, and Ben Jonson constitutes less than four percent of the plays staged in the period. A given play, such as the one that I have concerned myself almost exclusively with over the course of this thesis, offers a glimpse at only 0.03% of the theatrical landscape.

What is the value of such a narrow glimpse at early modern playmaking? How can the case study analysis of *The Massacre* provided by this thesis distinguish itself from a thousand other such glimpses and narrow texts about texts? Jonathan Culler once wrote of the “many things we need to advance our understanding of literature” that “one thing we do not need is more interpretations of literary works” (6). In developing from Culler, Franco Moretti likewise suggested that, “a lot of good work has been done on the relation between meaning and meaning; far too little on meanings and forces” (*Distant* 154). I agree with this line of reasoning. The compelling research questions in literary studies are questions of transformation, generation, and degeneration over space and time: the birth of the novel; the death of the chorus; the impact of the diverse affordances of theatre across culture.

Unfortunately, in order to do good work on the “meanings and forces” of the early modern theatre, we must view the extant literature as accurately, and as honestly, as possible. We do not yet have an accurate view. The bulk of those 543 playtexts, though extant, have been largely ignored in recent criticism. The surviving playtexts of early modern England do not constitute “the great unread” in the sense that Margaret Cohen uses the term (23); unlike the nineteenth century canon to which Cohen refers, a single scholar can conceivably read each of the 543 playtexts before embarking on a research project. Yet they are profoundly and sustainedly under-read and under-analysed. *The*

Year's Work in English Studies, for instance, divides the scholarship into two categories: "Shakespeare" and "Renaissance Drama: Excluding Shakespeare". There are 38 plays in the former category and over 500 in the latter, yet the state of the scholarship is such that each are given roughly equal attention in the yearly survey. Even within the latter category, the majority of studies mentioned in the past ten years have addressed what McInnis and Steggle tellingly call "Jonson, Marlowe and the rest" (1). And at the level of a single author, the unevenness continues: in a 2011 bibliography of Marlowe scholarship from 2000 to 2009, Bruce Brandt noted that 21.1% of works were on *Doctor Faustus*, while only 2.2% addressed *The Massacre at Paris* (194).⁴¹ Even if plays are to be given critical attention proportional to their importance to the culture that created them, it is difficult to regard *Doctor Faustus* as ten times as important as *The Massacre at Paris*—particularly given that they appear to have met with approximately the same degree of commercial success in early performances (Carson 86, 90). It is hardly an even spread.

These numbers may be indicative of a brute unevenness in critical attention, but they also belie a more subtle imbalance in the existing scholarship: the degree to which the under-read plays are understood primarily in terms of their relation to the canonical few. Fundamentally, the vast majority of the three thousand plays once written and performed are, in a Deleuzean sense, almost minor today. While they are not necessarily of lesser quality, they are marginalized and subsumed into the structures of the canonical few. Approximately 543 plays may be available for study, yet we build our understanding on, and in terms of, far fewer texts than that.

This is a poor way of writing cultural history. If one assumes that cultural production reflects and shapes the culture that creates it, and if one's aim is to account for a culture in all its complexity, one must necessarily attend to all cultural production—not merely Shakespeare and a handful of others. Likewise, it is a mistake to read the majority in

⁴¹For a brief discussion of relative scholarly attention in Shakespeare's dramatic canon and its relation to early modern playtexts as a whole, see Appendix C.

terms of the fraction that constitutes the existing canon. Shakespeare may indeed have been, in Jonson's words, "for all time", but that does not render his works sufficient for full understanding of the culture that created them. As Matthew Jockers puts it, "the study of literature should be approached not simply as an examination of seminal works but as an examination of the aggregated ecosystem or 'economy' of texts" (*Macroanalysis* 32). In other words, critics should examine everything: every text on its own terms, and every relation among texts in its own right.

Throughout this thesis, I have undertaken a narrow case study, and at times this anecdotal approach has been far removed from the so-called economy of texts. I have focused on a single neglected playtext and a single critical concern: the structural manipulation of audience response in *The Massacre*. In a methodology modelled after Stephen Ramsay's "algorithmic criticism", I have engaged in a sequence of critical and computational deformances. The founding hermeneutic of the project has been one that, as Ramsay puts it, "does not oppose the practice of conventional critical reading, but instead attempts to reenvision its logics in extreme and self-conscious forms" (32). Yet at each stage of the thesis, I have sought to model algorithmic criticism as a scalable, flexible, and generative approach to a mangled, corrupted, and under-read playtext. While I have argued for a novel reading of *The Massacre's* approach to audience and spectacle in this way, I have also demonstrated the generative potential of a set of analytic and computational tools. With this methodology, we can begin to revalue the neglected playtexts of early modern England and thereby view the ecology of early modern playmaking in a more nuanced light.

In Chapter 1, I began with a stylised close reading of *The Massacre*. I identified a metatheatrical project in the repetitive violence of *The Massacre*. In light of this observation, I argued that *The Massacre* aimed towards the realisation of a neutral and freely interpretable drama. The essential deformative reading of Chapter 1, and

the conclusion that was borne from it, was a metaphor of optics: in handling the roles and responsibilities of *The Massacre*'s myriad audiences, the evidence of Chapter 1 supported an analytic project concerned with the visual inscriptions and implications of *The Massacre*'s most confronting physical actions. In such a view, the double vision inherent in the theatre medium is elevated to a policy of playmaking itself. I argued that *The Massacre* takes seriously the notion that theatre audiences ought to be aware of their status as theatre audiences. And I suggested that *The Massacre* is structured by the idea that the theatre system as a whole ought to hold the generic implications and potential for failures of its subject matter in clear view. Upon these two notions, I argued that *The Massacre* appears to generate an intensely pragmatic free vision for its audiences. The playtext is centrally concerned with modelling, in metatheatrical terms, the unrestrainable responses of audiences to spectacles. Chapter 1 accounted for the foundational structures underpinning the surviving playtext. It described the manner by which the repetitive violence of *The Massacre* contributes to its metatheatrical vitality and thereby appears to lend interpretive freedom to its audience. In so doing, Chapter 1 modelled a deformative reading in which the tension between *The Massacre*'s apparent neutrality and overwhelming violence could be partially resolved.

In Chapter 2, I developed a global account of fragmentation and sentiment valence in the utterances that comprise the playtext of *The Massacre*. I constrained and partly falsified the claim of a freely interpretable playtext. I set aside the critical metaphors of optics and self-similarity in favour of a far more technical, procedural approach to the affective language of *The Massacre*. I focussed on the shifting syntax of the playtext, and suggested that the line-by-line variations in language are themselves evidence of a project of audience manipulation. Seen from this critical vantage, *The Massacre* shows signs of strategic engagement with affective language in the basic utterances that comprise the playtext. In the fluctuating frequency of caesurae and enjambments, the language of *The Massacre* resists lucid audience sense-making. In its sharp shifts in sentiment valence, the playtext cuts at the possibility of coherent affective response.

Understood within the context of a socially and cognitively demanding theatre practice, the patterned utterances of *The Massacre* curtail audience interpretation significantly and lend primacy to the overwhelming and mechanical staging of violence. The audience may retain a kind of freedom to interpret, but Chapter 2 cast serious doubt on whether it is indeed a kind of freedom ‘worth wanting’. Chapter 2 thus fashioned an algorithmic deformation in which the unfolding utterances of *The Massacre*, however corrupted, could be understood in terms of their effect and role within a dynamic system of theatrical practice.

In Chapter 3, I reduced the action of *The Massacre* to its most essential feature: the metadata of character interactions. Setting aside the utterances of the playtext, I modelled the social network of *The Massacre*. Beginning with a static model of the play’s character interaction network, I charted the topography of violence and social interconnection in *The Massacre*. In accounting for dynamic changes in the shape of this network over time, I argued that staged death is the central director of unfolding plot. The changing social network of *The Massacre* reacts and responds to each death, generating new actions and disrupting the very possibility of social stability. In so doing, the essential sociality of *The Massacre* is itself the key factor in the near-Machiavellian manipulation of audience response. Though the paradoxical illusion of a freedom to interpret remains, Chapter 3 concluded that it is not in any sense a kind of freedom worth wanting. In this way, I demonstrated the profound potential of an algorithmic reading practice. By focusing on features of the playtext that were simultaneously essential to its performance and difficult to identify through non-computational means, I re-read the structural underpinnings of the playtext in its performance. I revalued the relation between *The Massacre* and its audiences, between the repetitive, spectacle violence of the play and the dynamic, intrinsically social theatre system that renders it. And, most critically, the algorithmic deformation undertaken enabled me to do so in a way that was not limited by the mangled, corrupted, or ‘bad’ state of the text.

The Massacre at Paris is a bad play. It is “maimed and deformed” (Kirschbaum 30), and its essential components are “at times so confused as to be hardly intelligible” (Greg x). Yet it is far from unique in this respect. There are hundreds of surviving early modern playtexts like *The Massacre*: just as corrupted, ambiguous, and fragmentary. As this thesis has demonstrated, their ‘badness’ need not render the project of their critical study forlorn. By deforming these playtexts, abstracting and reenvisioning their basic features through diverse critical and computational means, we can muster new evidence and open up productive new lines of enquiry. In so doing, we can begin to move beyond isolated interpretation. We can give an account of early modern playmaking that is built upon diverse foundations. And we can, finally, move from ‘meaning and meaning’ to ‘meaning and forces’ in a way that is faithful to the forces under discussion.

I return, again, to the two attendants of scene xi as they discuss the problem of the Admiral’s body:

2: Why, let us burn him for an heretic.

1: O no, his body will infect the fire, and the fire the air, and so we shall be poisoned with him. (11.2–3)

On the stage of criticism, our treatment of early modern playtexts is at times a lot like the treatment of bodies in *The Massacre* itself. In the pace of action, most characters—most playtexts—are culled too quickly from discussion, their bodies unceremoniously dragged off or strung up for fear they might infect. Yet if the methodology of algorithmic criticism modelled by this thesis offers anything, it is this: perhaps we ought think of corrupted playtexts like something of a *pharmakon*. It is true, as Manley writes, that “we breathe the smoke of those we burn” (126). Yet a little of that smoke may be more remedy than poison.

A Character Interaction Network Detection Methods

For the purposes of the computational analysis in this thesis, I prepared TEI-complaint XML versions of each of the three major playtexts discussed: *The Massacre*, *Dido*, and *Hamlet*. While the details of the TEI standard is beyond the scope of this thesis, it is important to note that TEI is a structured document format that allows for ‘markup’ on of text, indicating that a given text string is, for example, <1> (a line) contained within <sp> (a speech). In this brief appendix, I describe the manner in which the character interaction networks discussed in Chapter 3 is generated from the TEI-complaint playtexts.

To begin, I extract node-level data from the playtext in order to generate three distinct data frames.⁴² The first is a line-by-line data frame in which each row represents an uttered line in the playtext. This constitutes the principal unit of analysis in this thesis. Given the structured nature of playtexts as documents, and the attributes encoded, this line-by-line data frame inherits a number of reliably-structured features, including the line number, line content, and character speaking. For example:

line_num	speaker	line_content
20	DukeOfGuise	Go, then, present them to the Queen Navarre:
21	DukeOfGuise	For she is that huge blemish in our eye
22	DukeOfGuise	That makes these upstart heresies in France.
23	DukeOfGuise	Be gone, my friend, present them to her straight.
24	DukeOfGuise	Soldier!
24	Soldier	My Lord?

This is then augmented with a number of variables that can be computed from the content of each line, including the number of words spoken in that line, the estimated

⁴²A ‘data frame’ is a standard R object: a two-dimensional array-like structure, akin to a spreadsheet or table. Consistent with the precepts of tidy data, each column represents a variable and each row represents an observation.

syllable count, and the presence or absence of punctuation at various points in the line.

The second data frame that is procedurally extracted from the playtext is a stage direction data frame. This encompasses all nodes in the playtext with a `<stage>` tag. As they do not have the same positional features as utterances in the playtext (i.e., stage directions do not themselves have line numbers), these are positioned through the use of ‘prior line number’ and ‘subsequent line number’ variables. For a given stage direction, I detect the details of the spoken line preceding and following it. In addition to this, the stage direction inherits reliable attributes, such as scene number and encoded type (‘entrance’, ‘exit’, ‘business’, etc.).

Finally, a data frame is extracted from the playtext that captures the content of whatever cast list is available: the `role_id` of each character, which is used to reliably identify the speaker of a given line, along with a full name, description, and any group membership.

Following the basic extraction of these three data frames, I use the content of the stage directions and cast list to augment the line-by-line observations already made. For example, the cast list allows for the detection of character names in each uttered line. If a character’s name appears in the line, it is listed in the `mentions` variable, resulting in:

line_num	speaker	mentions
20	DukeOfGuise	Navarre
21	DukeOfGuise	NULL
22	DukeOfGuise	NULL
23	DukeOfGuise	NULL
24	DukeOfGuise	Soldier
24	Soldier	NULL

This connection alone allows for the generation of the ‘network of names’ described in Figure 3.11, in which any character who explicitly names another forms a connection between them.

In a more complicated mode, interface with the stage direction content allows for the detection of character presence on stage for each given line of the play. In order to assist in this, I make a number of basic assumptions. First, I assume that the end of a given scene indicates the clearing of the stage: by default, no character remains on stage during scene change. Second, I assume that any character who is present on stage is either named in a prior stage direction as entering or identified as being on stage through subsequent speech. Finally, I assume that stage presence is a binary state: a character is either on stage or off. In light of these assumptions, and the position of each stage direction according to the stage direction data frame, I generate an additional variable in the line-by-line data frame:

line_num	speaker	present
20	DukeOfGuise	DukeOfGuise, Apothecary
21	DukeOfGuise	DukeOfGuise, Apothecary
22	DukeOfGuise	DukeOfGuise, Apothecary
23	DukeOfGuise	DukeOfGuise, Apothecary
24	DukeOfGuise	DukeOfGuise, Soldier
24	Soldier	DukeOfGuise, Soldier

The static copresence network for *The Massacre*, initially offered in Figure 3.4, is a direct result of this modelling. At each line, all characters listed in that line’s **present** variable are regarded as being copresent with one another, as they spend (at least) that line on stage simultaneously. By combining the edges formed in each separate line, a complete network of copresence can be generated.

Dynamic copresence networks are generated through the addition of an additional detected variable: character death. Much like entrance and exit from the stage, the murder of each character is indicated in stage direction. By detecting the presence and position of each, I generate a variable indicating the list of characters who have been killed on stage up to that line of the play. In generating a line-by-line account of the social network, the **dead_so_far** variable thus allows for the removal of all of those

characters from the network at that point.

B A Model for Part-Doubling Possibilities

Whether read as a specific instantiation of broader metatheatrical trends, or understood on its own terms as part of a dynamic staging practice, part doubling has a significant effect on the range of audience responses available for a playtext in performance. The practice of doubling manifests an interplay “between our consciousness of the events portrayed and our consciousness of the actual theatrical events that convey the story” (Booth 103), and “open[s] opportunities for subtle dramatic effects that would not otherwise be possible” (Meagher 194). Yet any project that seeks to develop understanding of this consciousness, these opportunities and effects, is entirely dependent upon our ability to accurately model the mechanical doubling possibilities provided by the particular playtext: which characters could, in practical terms, be doubled? Given the timing of each entrance and exit, and given the average company size, which doubled (or tripled) relationships are most likely?

Computational modelling of the character copresence appears to offer a scalable methodology with which address to these questions. It is the aim of this appendix to demonstrate this modelling in practice, and to briefly explore both its initial insights and practical limitations. I do so primarily through the use of *The Massacre* as a continuing case study in the potential of algorithmic criticism as a methodology.⁴³ In the following pages, I will define the practical limits of part doubling, then apply those limits sequentially to a network model and explore the subsequent ‘possible doubles’. I offer no definitive account of the most likely doubled parts in *The Massacre*, but suggest that the technical inability to do so is itself an important insight into the dynamics of the theatre.

A ‘possible double’ is defined as a pair of any two on-stage roles that could, given the practical limits of Elizabethan staging, be played by the same actor. The necessary conditions for ‘practical’ are as follows:

⁴³While a more detailed explanation of character copresence detection itself is found in Chapter 3 and Appendix A, above, this Appendix assumes and requires no prior knowledge of the detection method.

1. At no point are the two characters present on stage simultaneously;
2. At no point are the two characters present on stage sequentially; and,
3. At no point are the two characters present on stage within 20 lines of one another.

Condition 1 is relatively self-explanatory. Condition 2 ensures that one player is not required to exit and then immediately enter as another. The ‘five or six protestants’ required by scene xii of *The Massacre*, for example, are not strictly copresent on stage with the King Charles, Queen Catherine, or the Cardinal at any point, yet it would be impractical to expect two of the protestants to double as King Charles and Queen Catherine: scenes xi and xiii require the presence of the three characters, and such doubling would thus necessitate that a single player exit the stage as Catherine, immediately re-enter as a protestant, die, be dragged out, and then immediately re-enter as Catherine once again. Condition 3 is likewise aimed at reducing the friction involved in doubling. While 20 lines is an arbitrary and relatively conservative measure of passing time on stage, it removes the possibility, as in the transition between scenes ix and x, that the recently-murdered schoolmasters would almost immediately reappear as the two Lords of Poland: though they are never copresent, nor are they sequentially present, I regard a period of eight lines (9.81–10.1) as insufficient to change from a recently-deceased schoolmaster to a Lord of Poland without significant risk of theatrical failure. The “spectacular effects of Elizabethan and Jacobean drama” may involve, in the words of Jeremy Lopez, “a vital tension and the potential for failure” (216), but Condition 3 draws a line at which potential becomes near certainty.

To model the limitations of a possible double, we begin with the simple co-presence network of characters in *The Massacre*. Figure B.1 shows all characters that are present on stage simultaneously: each character is represented by a point, and each line indicates that those two characters are, for at least one line of the playtext, simultaneously present on stage:

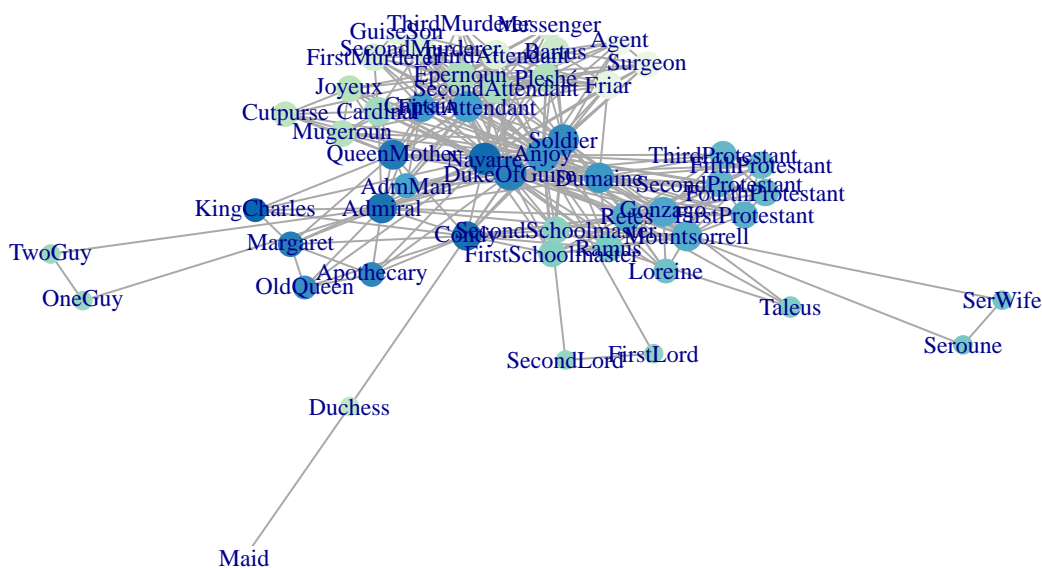


Figure B.1: *The Massacre* Character Co-Presence

By taking the position and content of each stage direction in the playtext that is between spoken lines, as well as any named characters who speak between two stage directions, the detection algorithm generates a distinct list of characters present on the stage for each of the 1246 lines in the playtext of *The Massacre*. By taking the set of 2-combinations for each line, and binding the named-pair edges to a list representing all co-present edges in the playtext, I sequentially generate a list of all edges for the network. In the case of line 166 of the playtext (3.3), for example, the following characters are detected as present on stage:

Navarre, Condy, Admiral, OldQueen, Margaret, Apothecary

With this system of network modelling, the connections between characters for line 166 alone are as follows:

V1	V2
Navarre	Condy
Navarre	Admiral
Navarre	OldQueen
Navarre	Margaret
Navarre	Apothecary
Condy	Admiral
Condy	OldQueen
Condy	Margaret
Condy	Apothecary
Admiral	OldQueen
Admiral	Margaret
Admiral	Apothecary
OldQueen	Margaret
OldQueen	Apothecary
Margaret	Apothecary

The doubles that fulfill the requirements of Condition 1 would be given by the inverse of co-presence network mapped in Figure B.1: that is, each ‘edge’ connecting two characters would represent the fact that at no point in the play are those two characters on stage simultaneously. By removing every co-present edge from the complete list of possible edges—which, given an undirected network of 53 unique characters, is 1378 possible edges—the network mapped in Figure B.2 results:

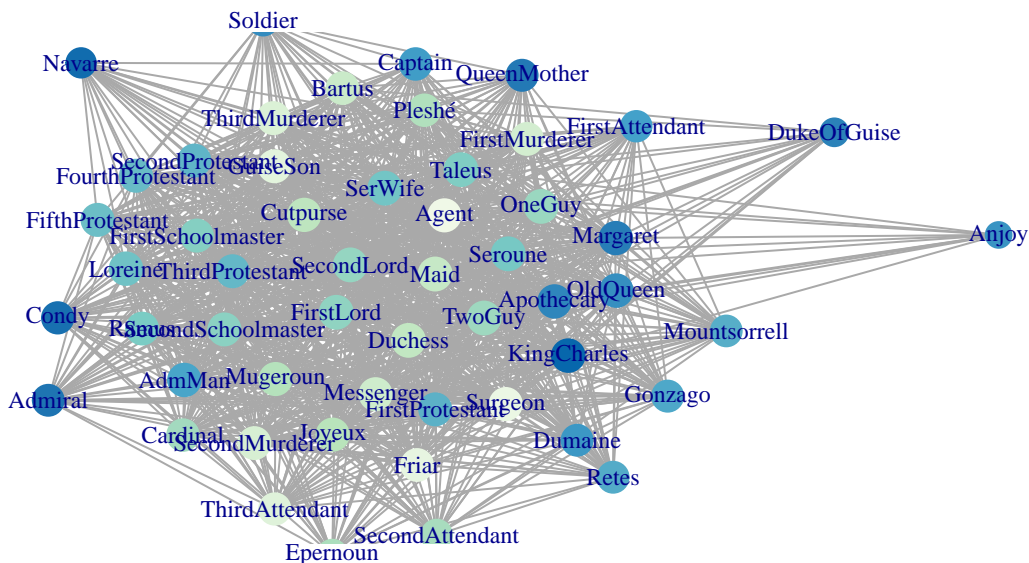


Figure B.2: *The Massacre* Character Non-Presence, Condition 1

The density of Figure B.2 bears out the general observation that Condition 1 is a necessary but not sufficient condition for possible part doubling. Indeed, with a total of 1061 unique edges between 53 unique characters, the doubling possibilities are massive. It is thus necessary to introduce the subsequent conditions and limit the field of doubled parts to a more practical and less dense network. Whereas the copresence network can be inverted with relative simplicity in the case of Condition 1, detecting the ‘near miss’ copresence of Conditions 2 and 3 requires a slightly different approach.

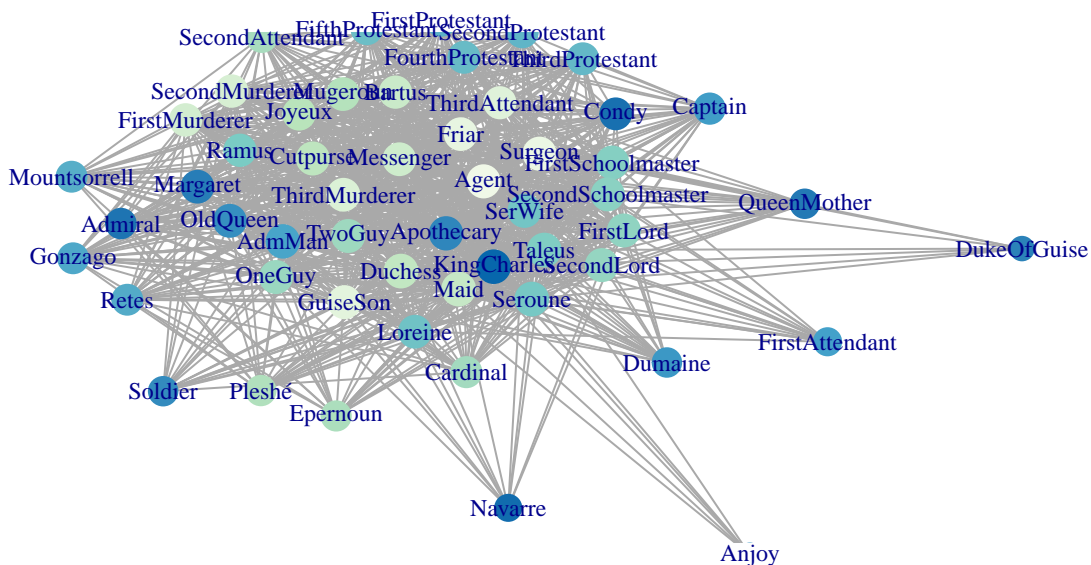


Figure B.3: *The Massacre* Character Non-Presence, Conditions 1 and 2

Condition 2, sequential presence, is fulfilled by taking the rolling sum of characters present at each line with the characters present in the line prior and inverting the resulting network. Figure B.3, which models this condition, depicts a field of possible doubles only marginally less dense than that of the prior network. By taking a rolling sum of all characters present in the current line and prior 20 lines, Figure B.4 provides a set of possible doubles that is narrower again:

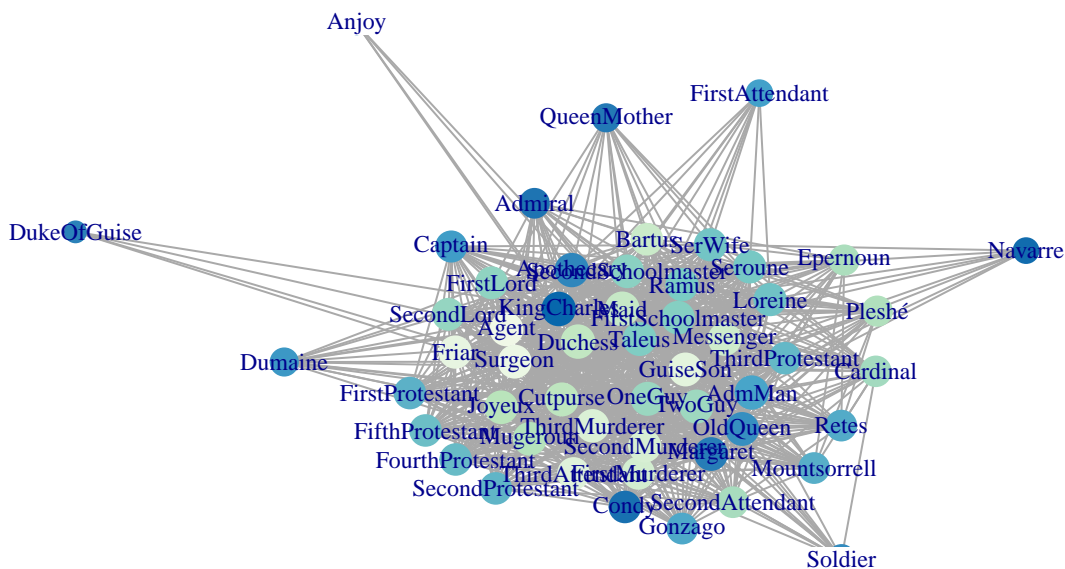


Figure B.4: *The Massacre* Character Non-Presence, All Conditions

While this is certainly a compelling set of possible doubles, and the methodology that underpins it is useful in the sense that it places concrete and consistent boundaries on any discussion of doubling in any given playtext, it is still, in a powerful sense, insufficient: with 847 edges, even the most conservative model of ‘possible doubles’ provides too large a set. In what follows, I constrain this model further by moving from ‘possible’ doubles to a concept of ‘likely’ or ‘probable’ doubling.

At this point, we can begin to make a certain number of editorial choices about the likelihood of doubled characters. First, it is highly unlikely that the most central characters of the stage will be doubled. This is particularly true if they die late in the play, or not at all. Therefore, I remove Anjoy, the Guise, Navarre, and Epernoun from the network, together with all their associated edges. I set a number of further optimisation requirements for answering questions of doubling. Given the economic constraints of the theatre, for example, it is likely that a playtext would be staged using close to the minimum number of necessary players, and that each player would play as many separate roles as practical.

In order for a player to play as many separate roles as possible, the roles must be joined in the above network in a form that is, in graph theory, referred to as a ‘clique’: a subgraph (a section of the network) within which each node (each character) is connected to every other node. Searching for all cliques within a given network is a complex and difficult problem in computer science, for which only a limited solution is available. The category of problems within which my exploration of ‘doubling’ sits is called a ‘clique problem’. The more precise question—finding the minimum number of players necessary to fulfill the performance of a given playtext—is underpinned by a graph theory problem called a ‘minimum clique cover’ problem. This problem is, in technical terms, NP-Hard; when rephrased as a decision problem, it is NP-Complete.⁴⁴ The technical definitions of these categories of problem complexity lie beyond the scope

⁴⁴NP-Hardness and NP-Completeness refer to the classes of complexity in problems. Minimum clique cover is one of the original 21 problems given in Richard Karp’s famous 1972 paper, “Reducibility Among Combinatorial Problems”.

of this thesis. What is important to note, however, is that minimum clique cover is a problem of remarkable complexity that scales in solve-time at a non-linear rate. As the subject network gets larger, the hypothetical time to solve increases far more rapidly than one might casually expect.

For example, assume that we intend to search for viable doubling models through a process of degeneration. At the first generation of the search, we list all maximal cliques: all of the largest cliques available in the network. At the second generation, we model the reduced network of the playtext in each case and repeat the process. That is, for each of the maximal cliques identified in the first generation, we remove that clique from the initial network and list all maximal cliques found in the new, reduced network.

In principle, this search would eventually yield a solution: in a subsequent generation, the remaining ‘un-doubled’ population would eventually reach 1 or 0. The sequence of cliques that arrives at this state in the least number of generations would be the minimum cover. The number of generations taken to arrive at this state, plus whatever un-doubled characters remain, would constitute the minimum population necessary to perform the play. Yet in practice, the combinatoric explosion is prohibitive. In the case of the modified network of *The Massacre*, with its 49 nodes and 807 edges, the first generation of the search alone yields 1280 unique possible maximal cliques, each containing 12 nodes. The second second generation yields a total of 265760 viable combinations, each containing 8 nodes. By generation three, the number of permutations has reached comfortably into the millions. And while we would ultimately discard the vast majority of these permutations upon the realisation that they do not lead to a minimum clique cover, it would necessarily take an unknown number of generations before that solution was found.

In a sense, however, the computational infeasibility of part doubling calculations is a useful insight into the process itself. While it is in-principle possible to determine the minimum number of actors, practical factors intervene. The choices made in a real

performance of a play depend not upon choices that are ‘optimal’, but upon choices that are ‘good enough’. In the shifting, dynamic cognitive ecology of the theatre, part-doubling depends on a great deal of intersecting factors. The model offered in Figure B.4, above, allows us to determine whether a given choice is possible and practical, but not whether a given choice is ideal.

C Relative Popularity in the Shakespeare Canon

The JSTOR Labs “Understanding Shakespeare” tool offers valuable insight into play-to-play disparity in criticism. By matching lines of Shakespeare plays against the JSTOR database, the tool attempts to track citations of every line in every Shakespeare play and thereby offer an estimate of the attention each line is given, as measured in the number of articles quoting the line. By aggregating these results, we can also approximate the relative attention given to each playtext as a whole. For example, we can compute a ratio of scholarly attention: the number of citations for each text against the playtext’s length in words. By comparing the playtexts of the entire Shakespeare canon, we can begin to recognise instances in which scholarly attention is directed disproportionately at one playtext over another.

As a representative example, I take a minimum match similarity score of 0.9 and 18 characters. This provides a conservative estimate of scholarship matches. By such a measure, *Hamlet* receives 0.9986898 citations per word while *Love’s Labour’s Lost* receives approximately 0.0436.⁴⁵ The mean number of citations per word in the canon as a whole is approximately 0.2513.

More general features of the scholarship are also visible. Figure C.1 shows playtext length against matches, with the First Folio genre category represented by colour:

⁴⁵Word counts are generated using the Folger texts on which the JSTOR tool relies.

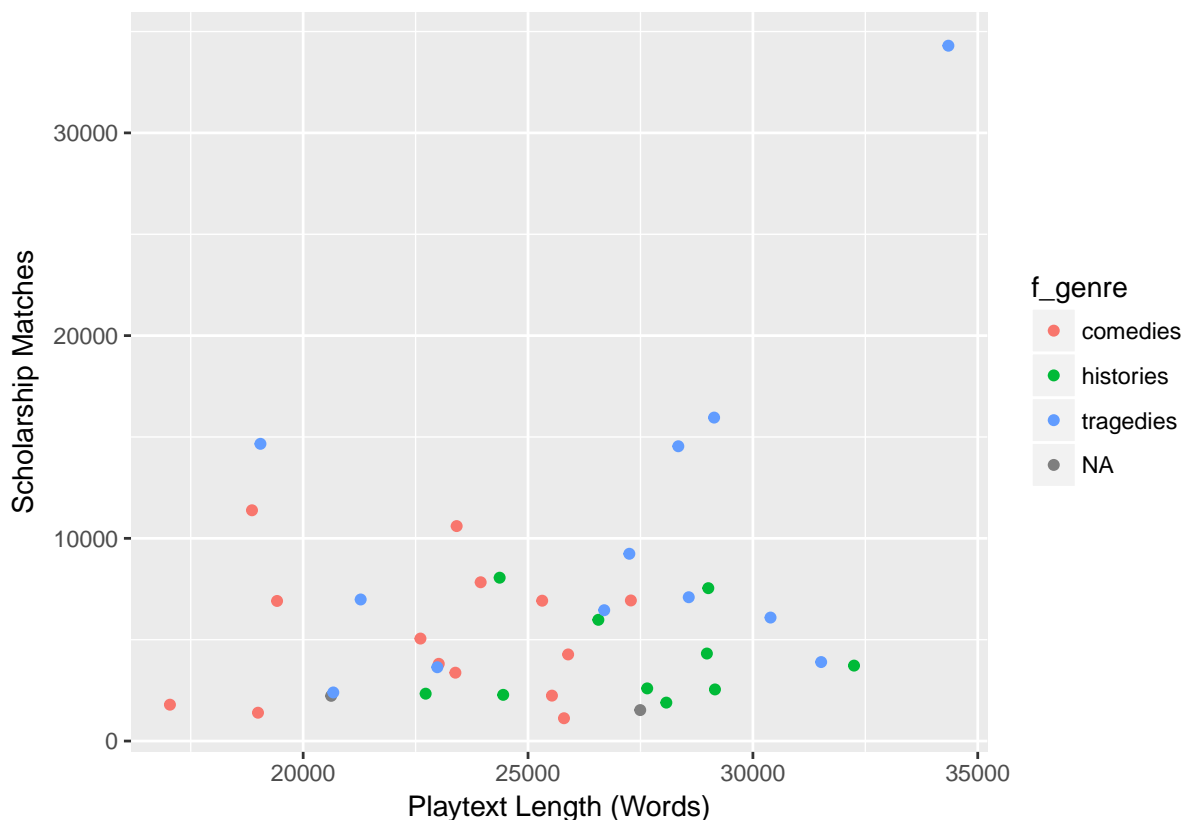


Figure C.1: Playtext Length and Attention in Scholarship

As one would perhaps expect, there is no obvious correlation between scholarly attention and playtext genre in the Shakespeare canon. *Hamlet* is the longest and most cited. Attention follows soon after to *King Lear*, *Macbeth*, and *Othello*. All of five playtexts are tragedies, but the overall correlation between First Folio categorisation and scholarly attention is vanishingly slim. Length is likewise a poor predictor, as is the conjectured date of first performance.

While these findings are not remarkable, and have been partially catalogued by JSTOR Labs itself, I suggest that a generalisation of the approach would be far more revealing. If an open source database of early modern English playtexts were available, the JSTOR Labs ‘matchmaker’ tool could be directed at the content of all extant works from the period. The apparent imbalance in scholarship could be understood at a global level. Ironically, the imbalance itself prevents this: because so little time is spent

studying *The Massacre*, no equivalent to a Folger digital edition exists for it; because so little attention is given to playwrights such as Heywood, Chapman, and Lyly, we cannot even begin to study the nature of that inattention. In a world of minor, mangled, and corrupted texts, even inattention is understudied.

D Figures

Figure 2.1: Raw Caesura Detection in *The Massacre*

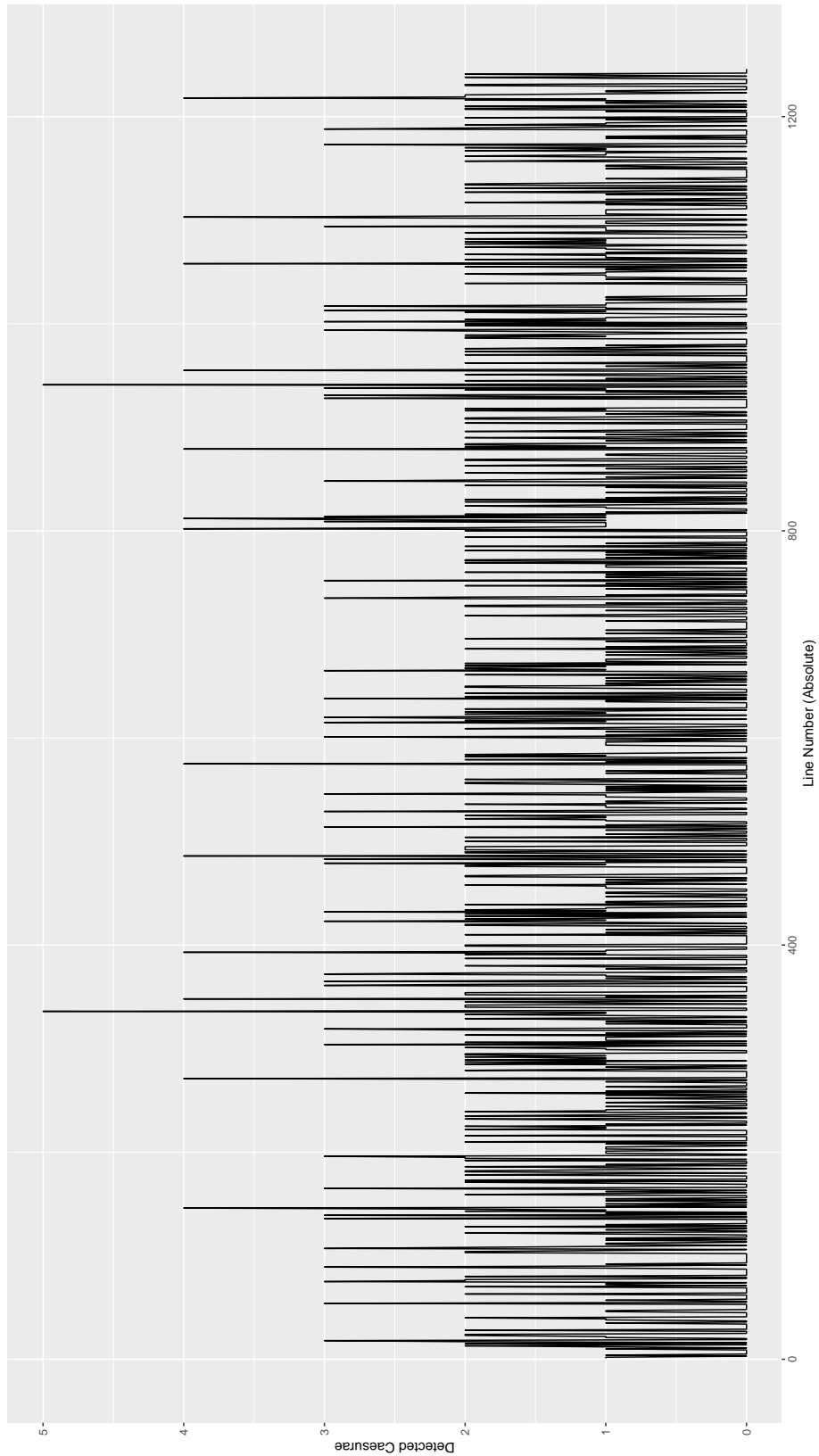


Figure 2.2: Raw Enjambment Detection in *The Massacre*

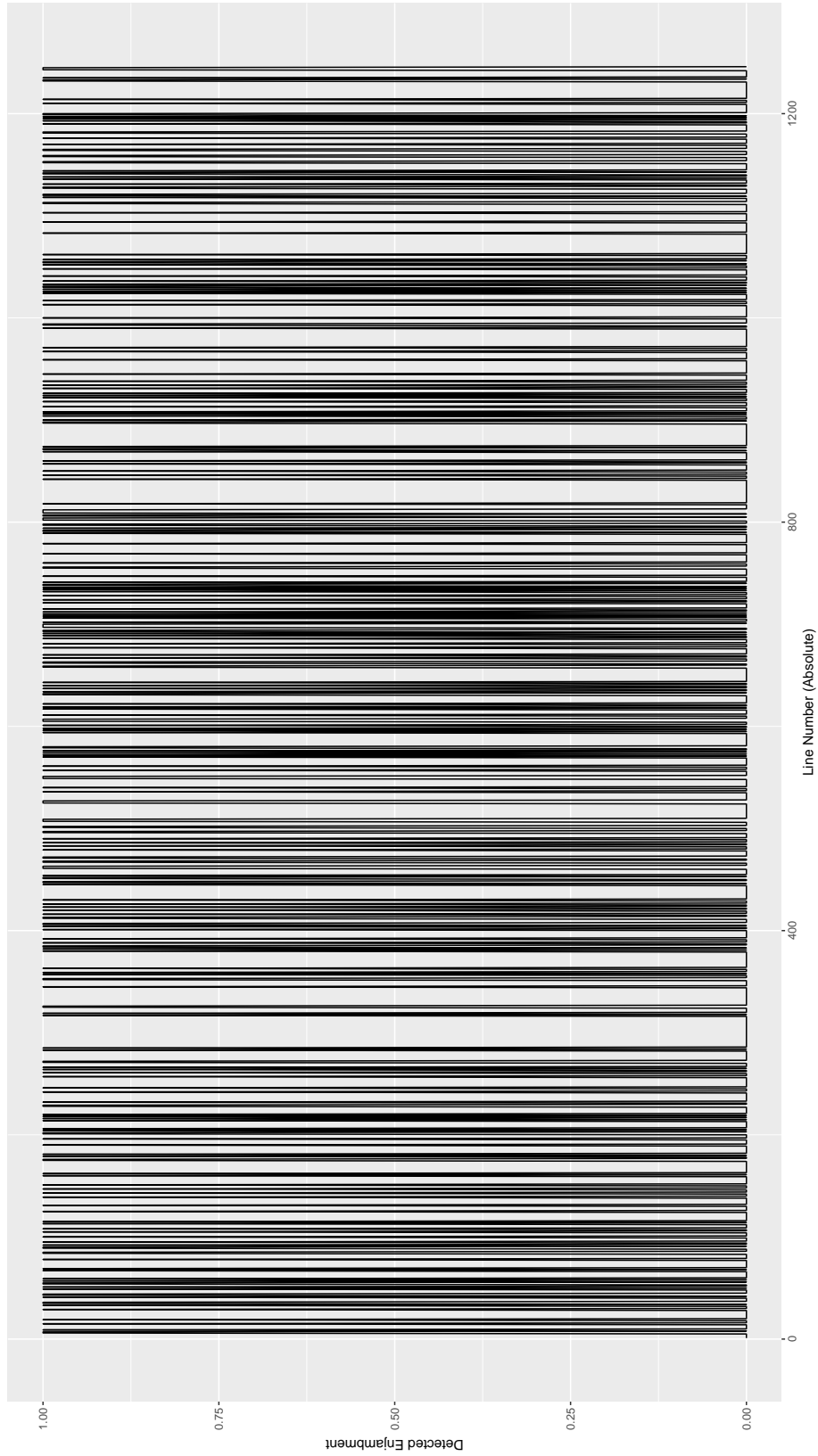


Figure 2.3: Likely Verse Lines with both Caesurae and Enjambments

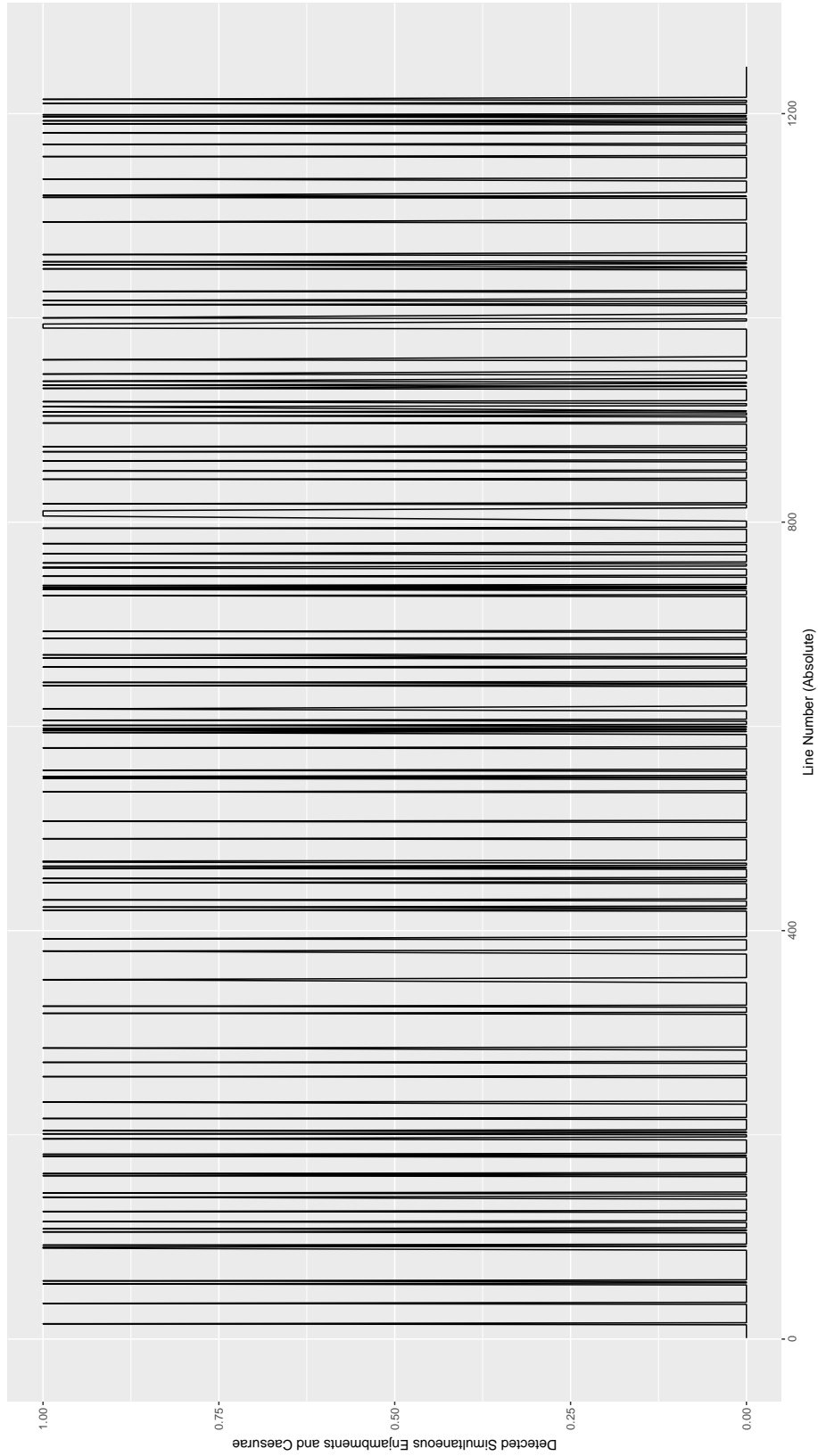


Figure 2.4: Rolling Mean of Caesurae in *The Massacre*

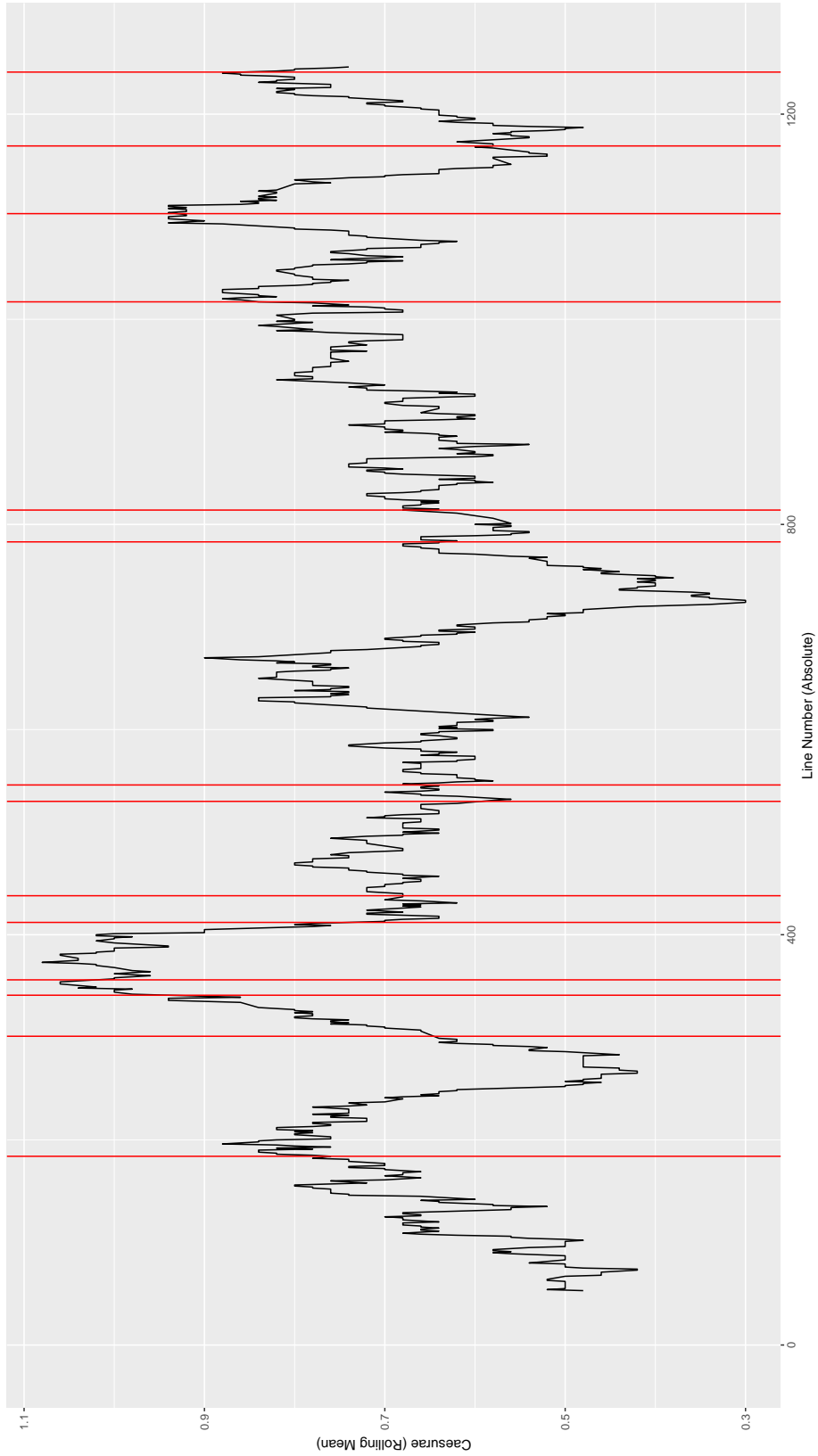


Figure 2.5: Rolling Mean of Enjambments in *The Massacre*

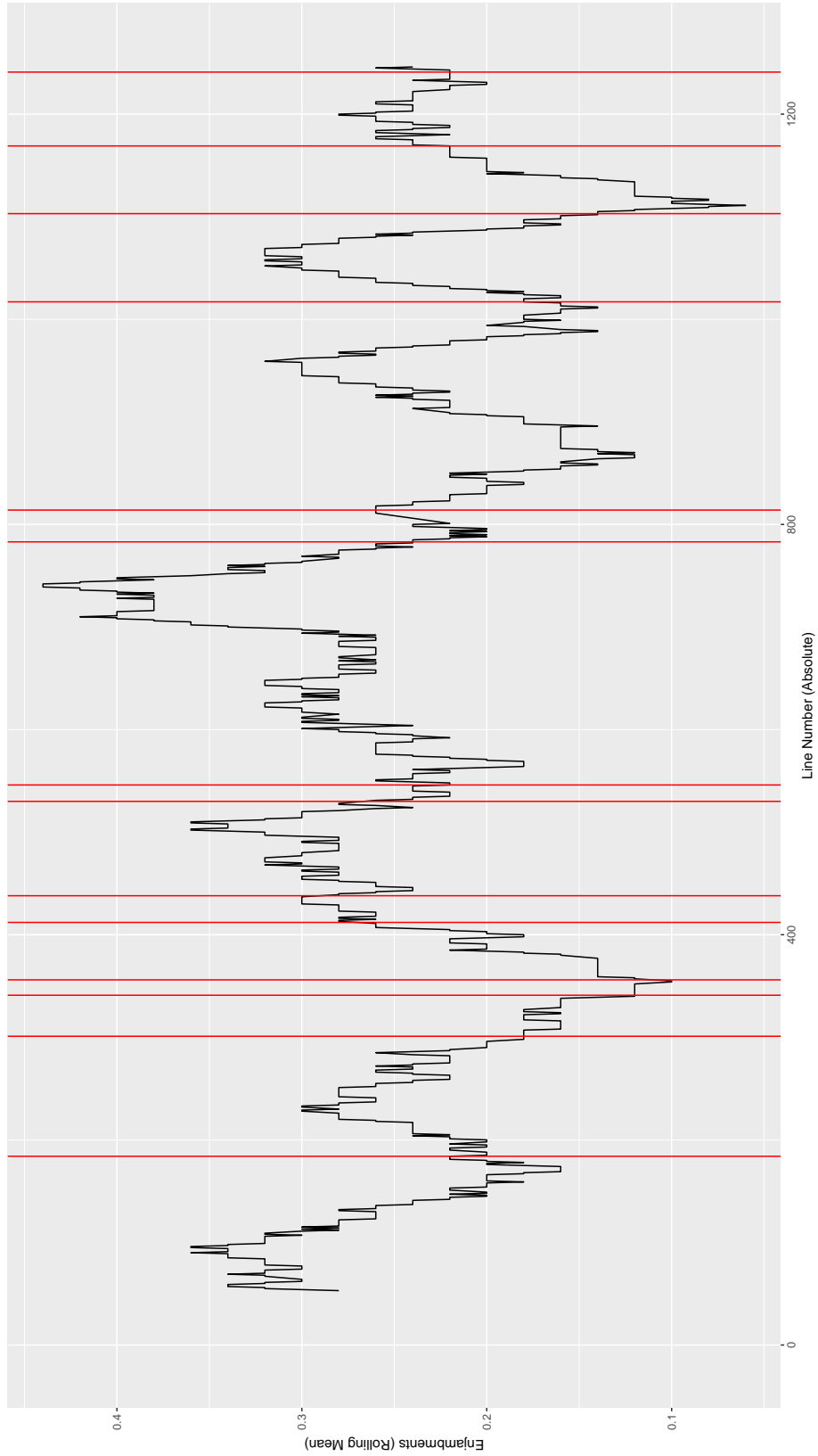


Figure 2.6: Raw Sentiment Valence in *The Massacre*

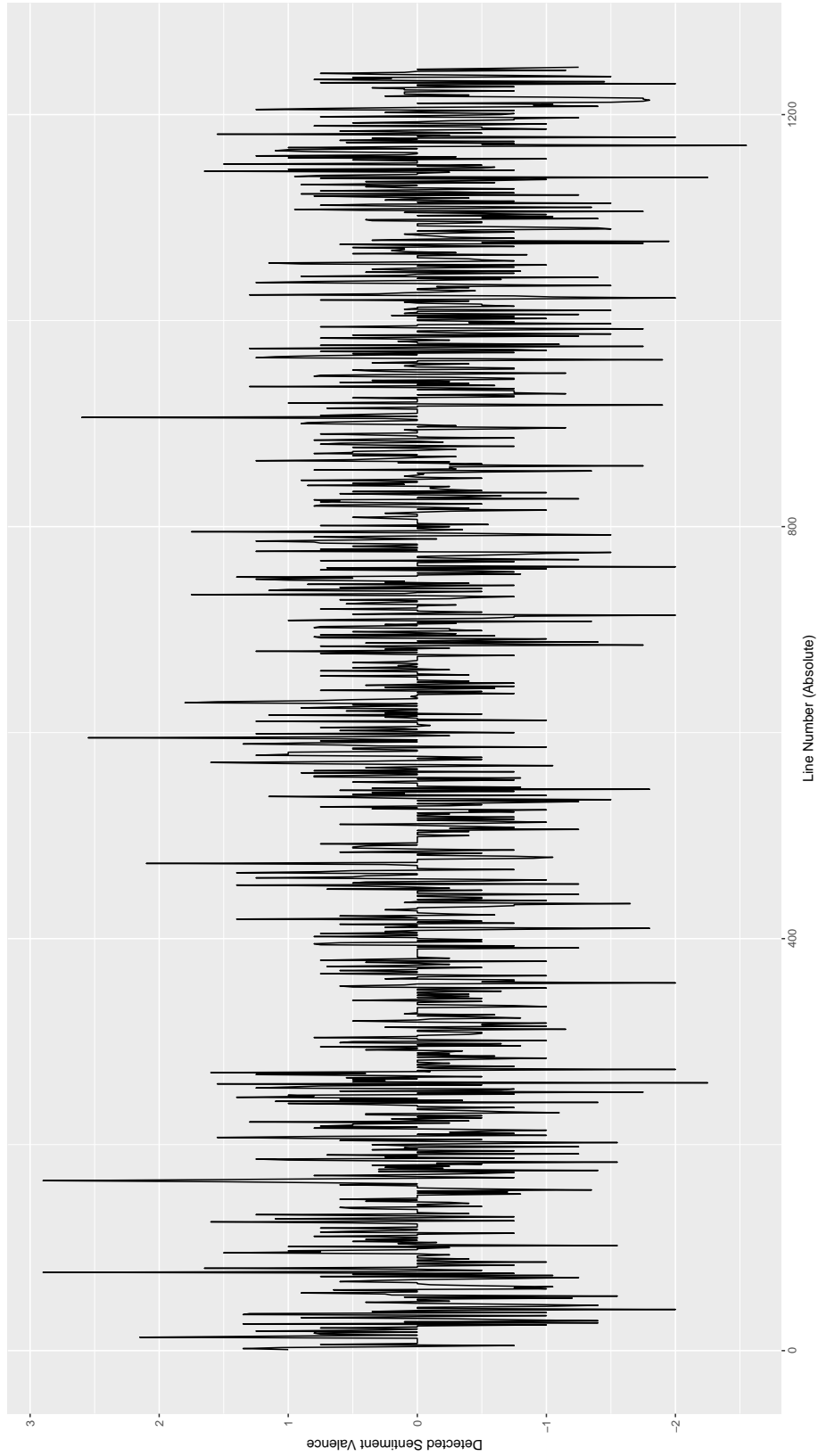


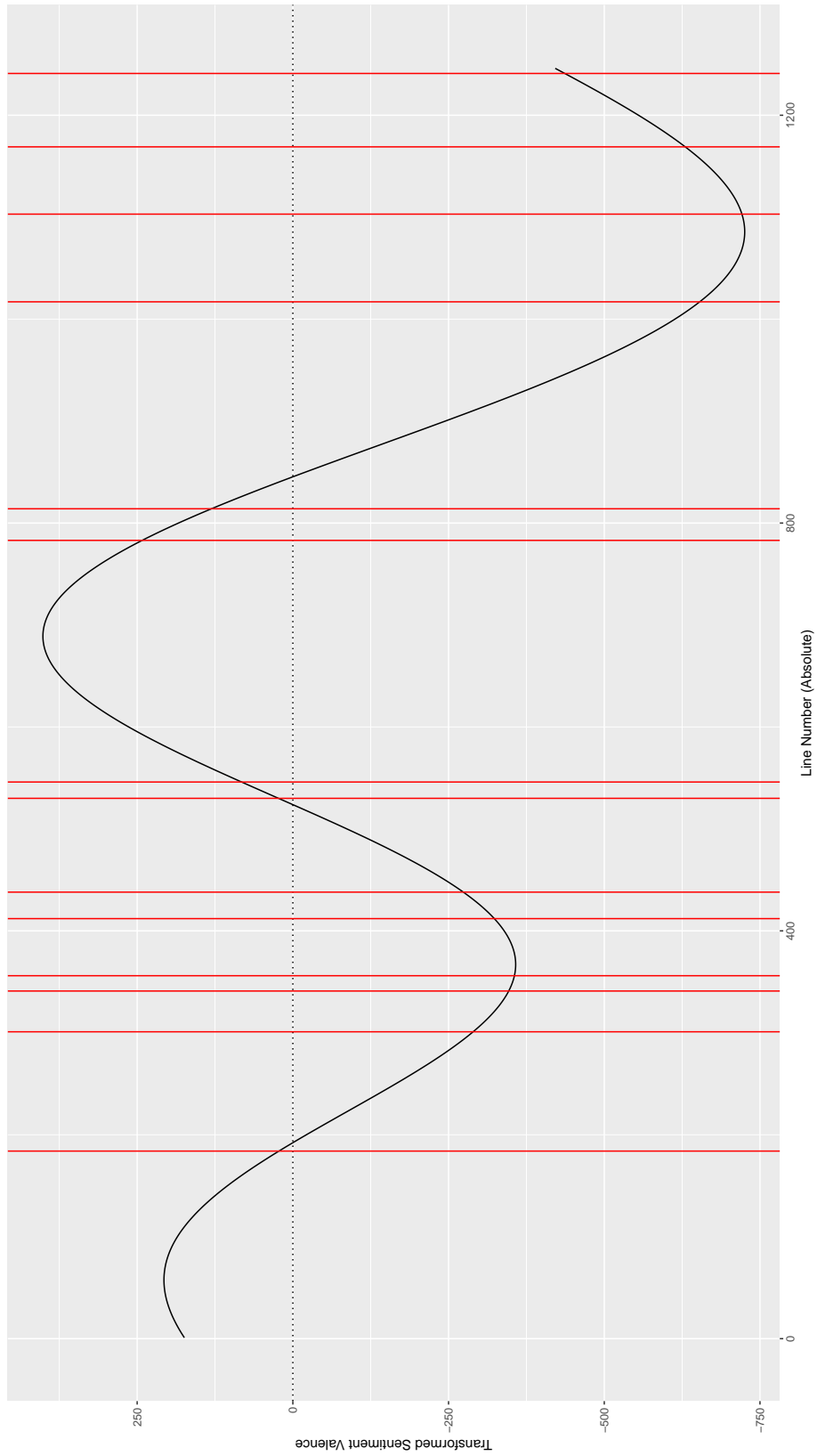
Figure 2.7: Transformed Sentiment Valence in *The Massacre*; Low Pass Size = 3

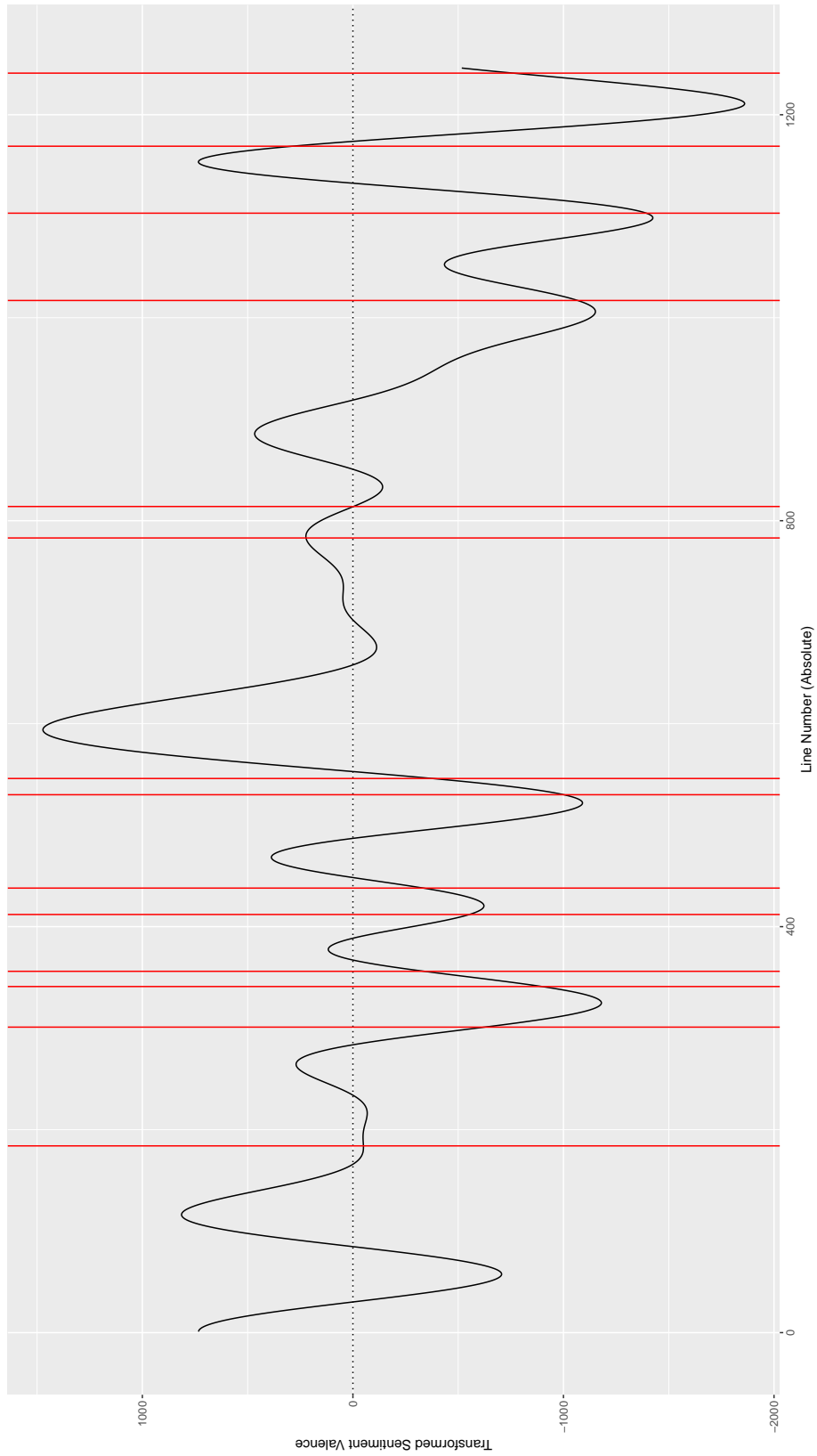
Figure 2.8: Transformed Sentiment Valence in *The Massacre*; Low Pass Size = 15

Figure 2.9: Speech Length (Words) in *The Massacre*

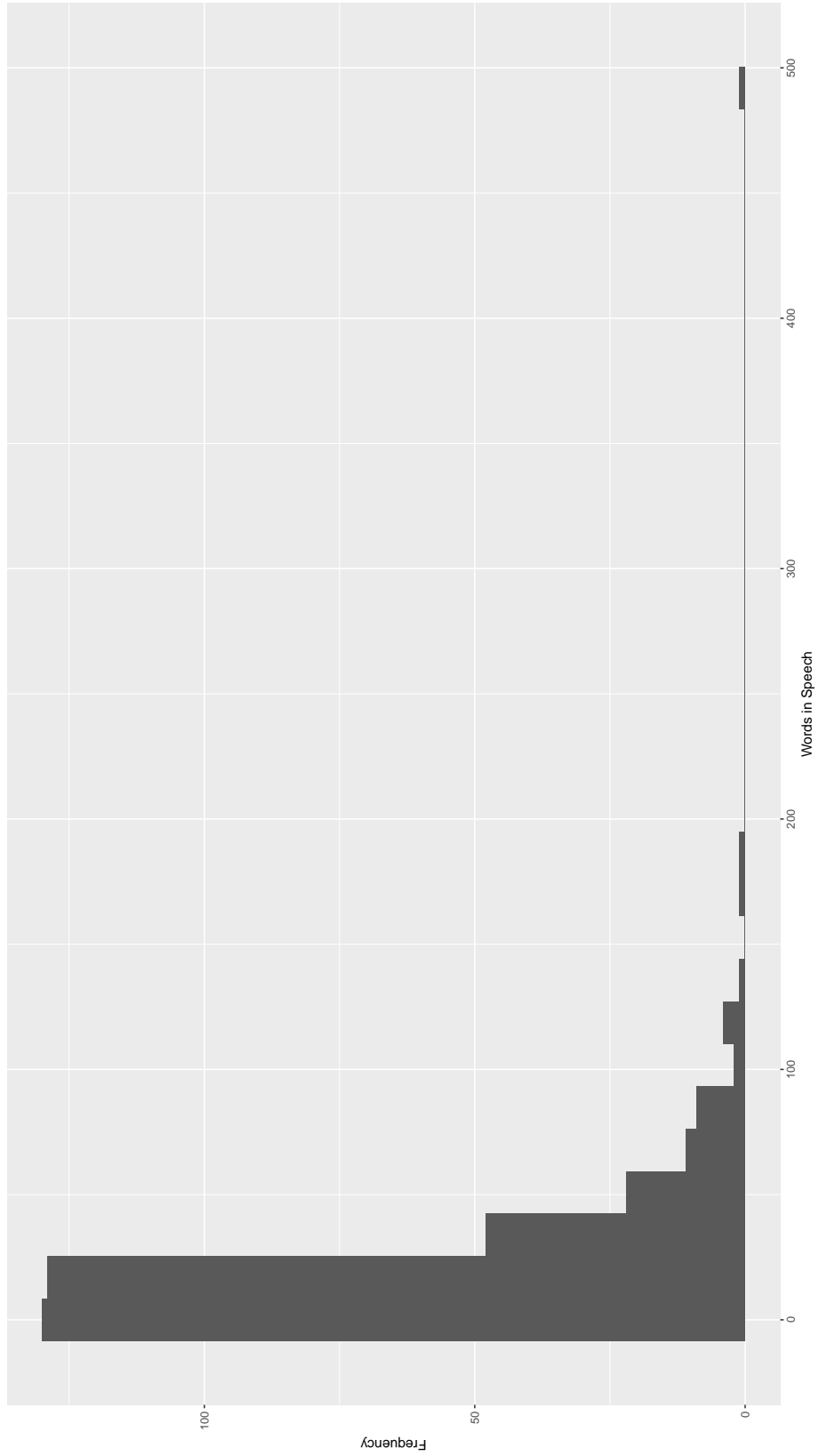


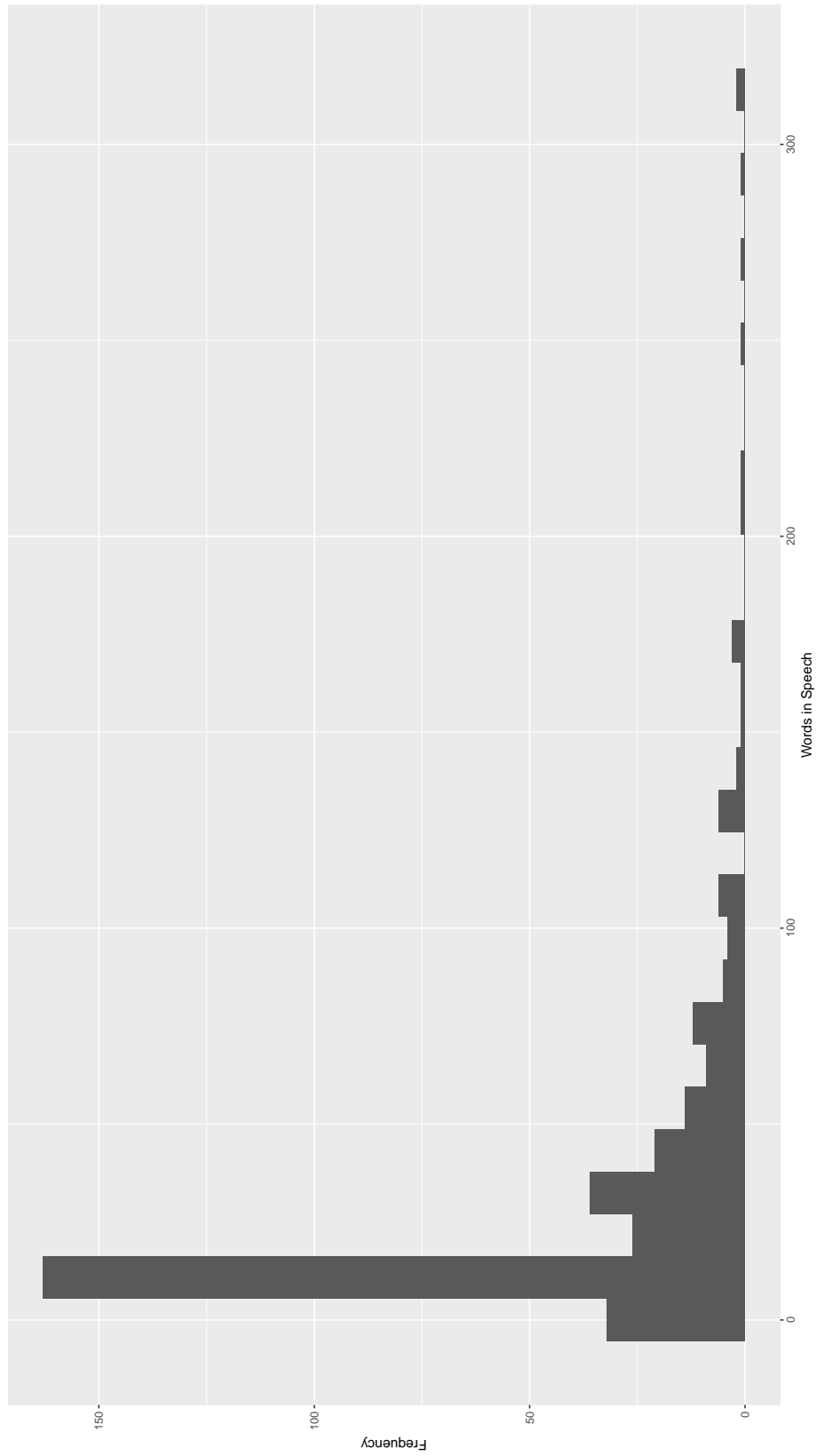
Figure 2.10: Speech Length (Words) in *Dido*

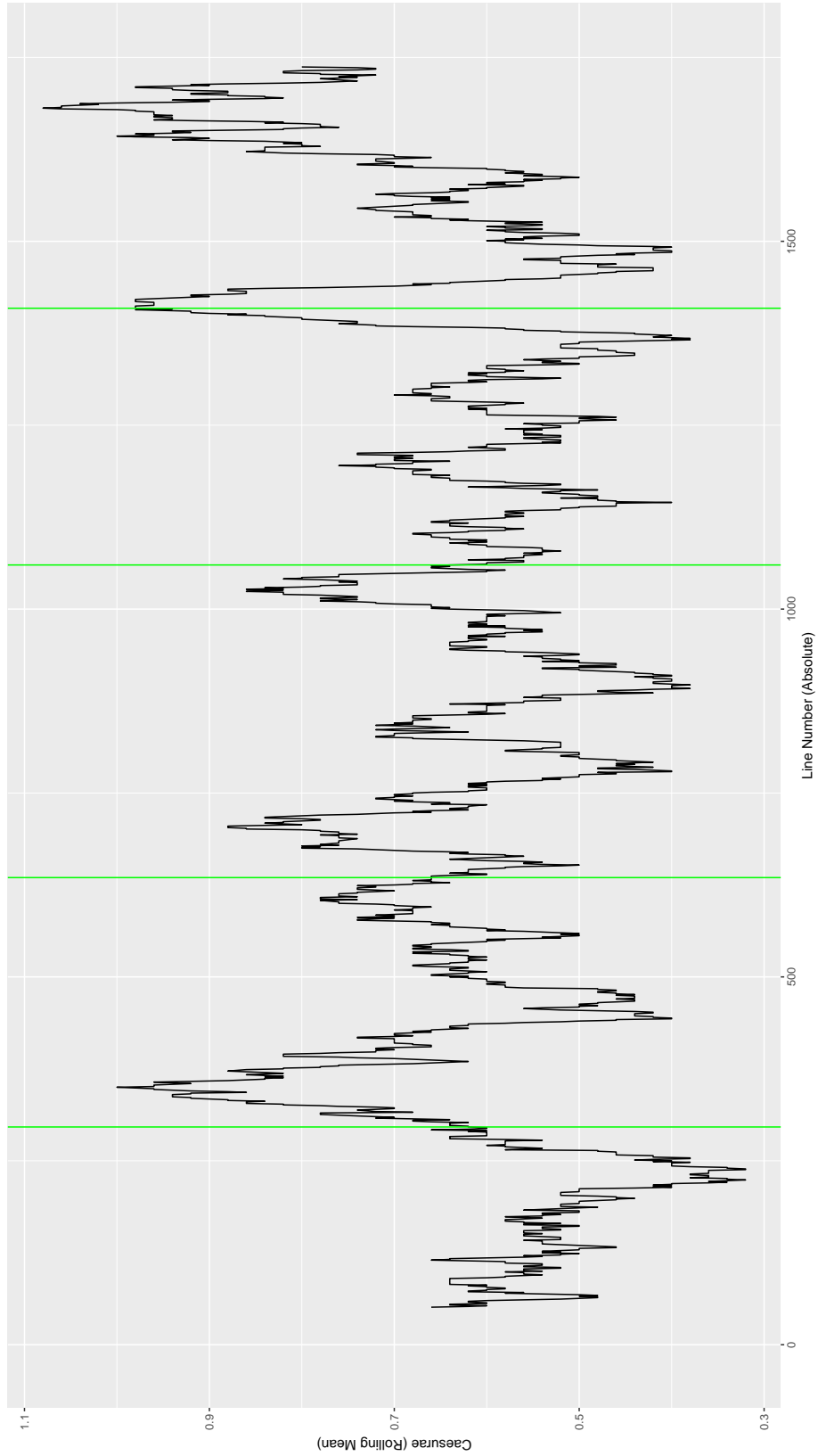
Figure 2.11: Rolling Mean of Caesurae in *Dido*

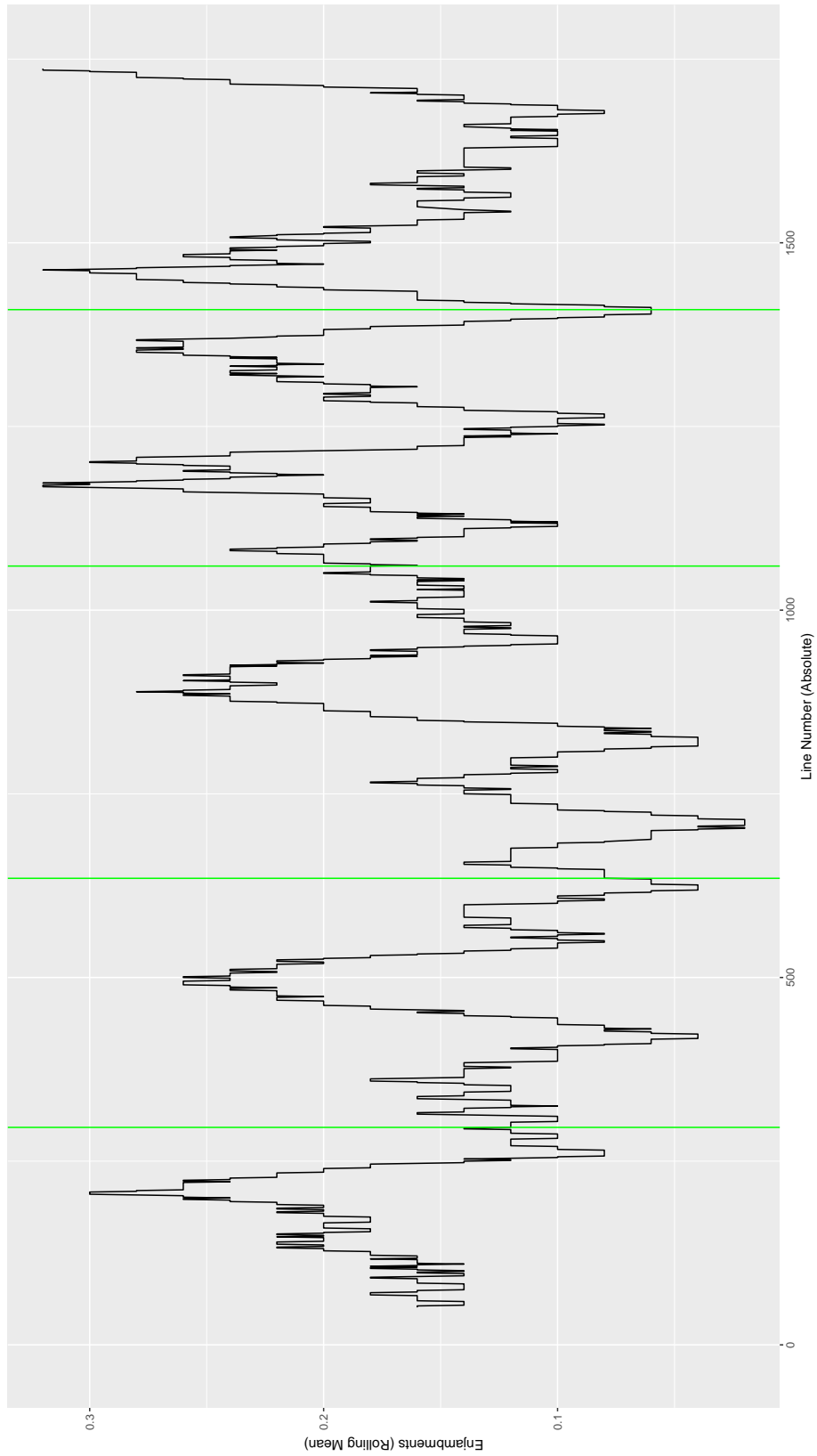
Figure 2.12: Rolling Mean of Enjambments in *Dido*

Figure 2.13: Transformed Sentiment Valence in *Dido*; Low Pass Size = 3

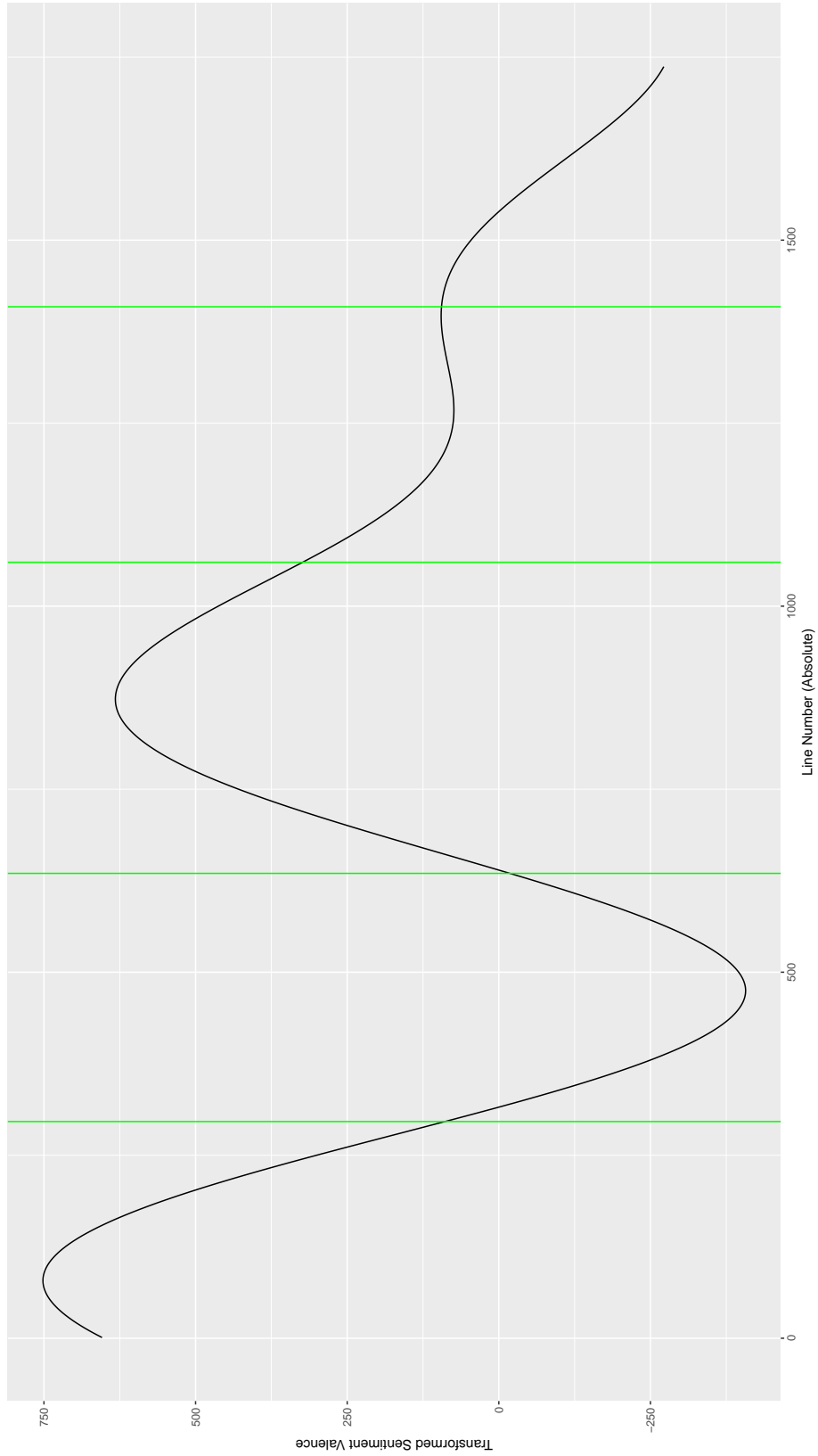


Figure 3.1: Moretti's *Hamlet* Network

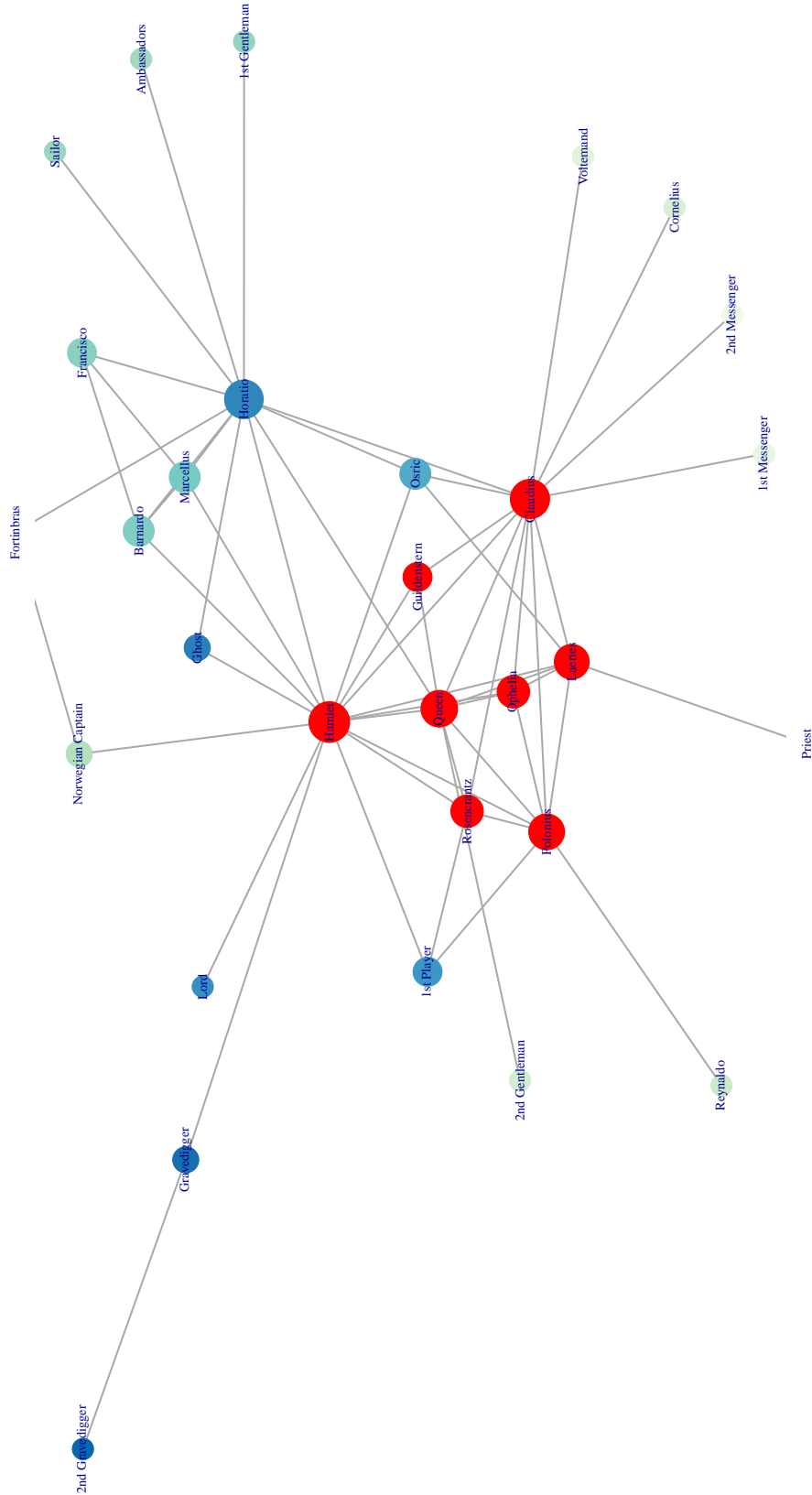


Figure 3.2: *The Massacre Network*

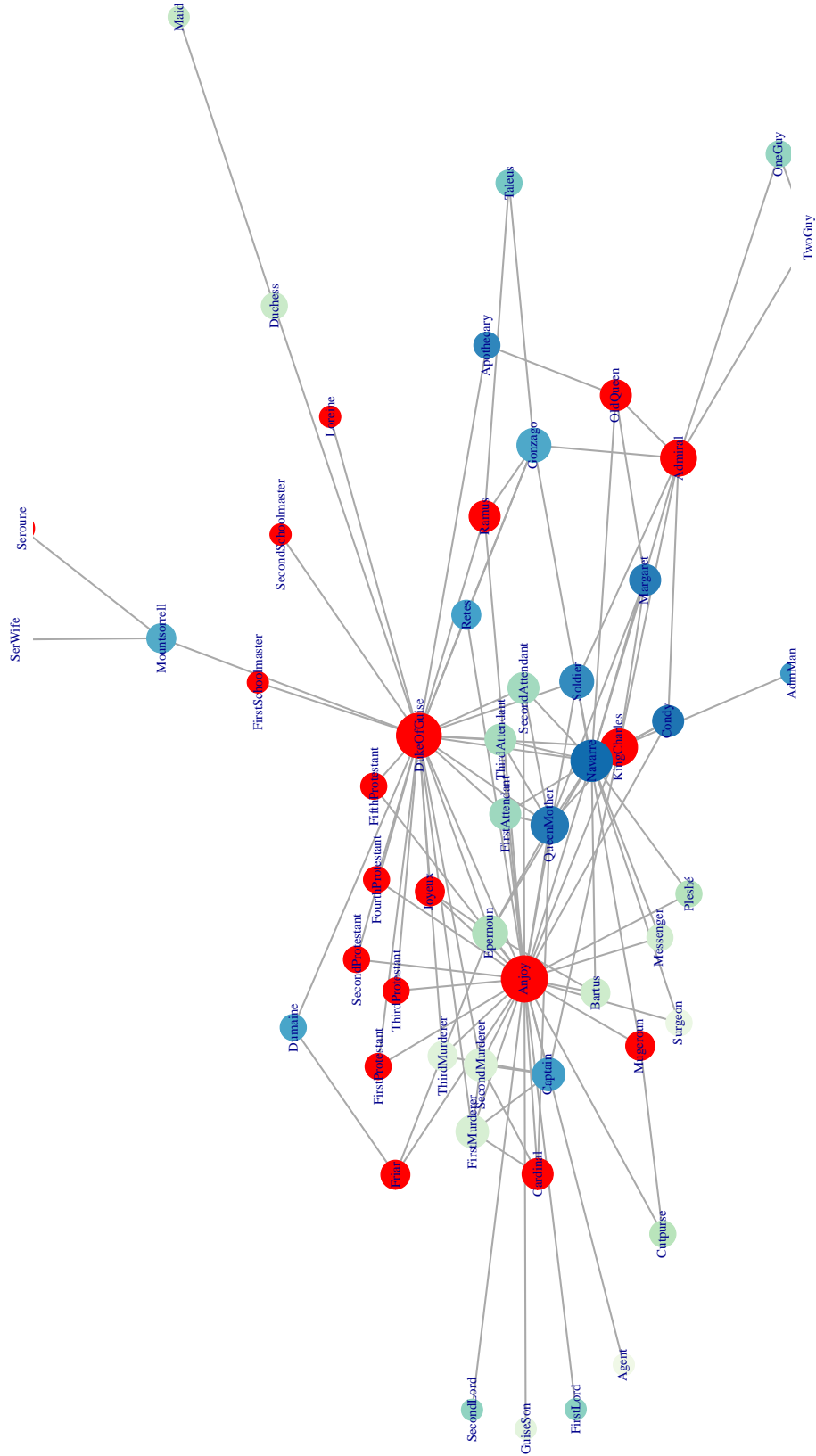


Figure 3.3: Betweenness Centrality and Words Spoken in *The Massacre*

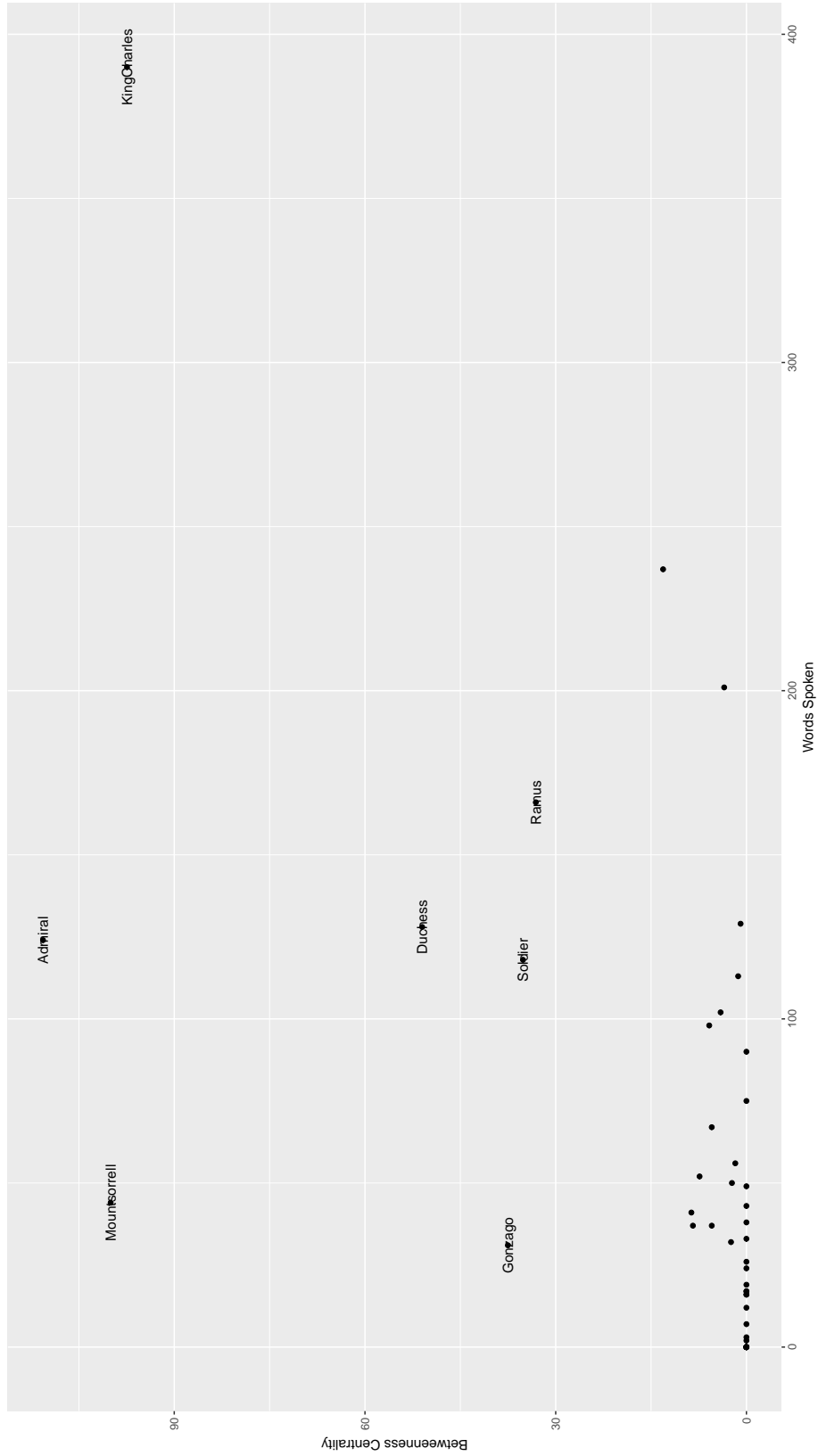


Figure 3.5: Density Over Time (Deaths Marked)

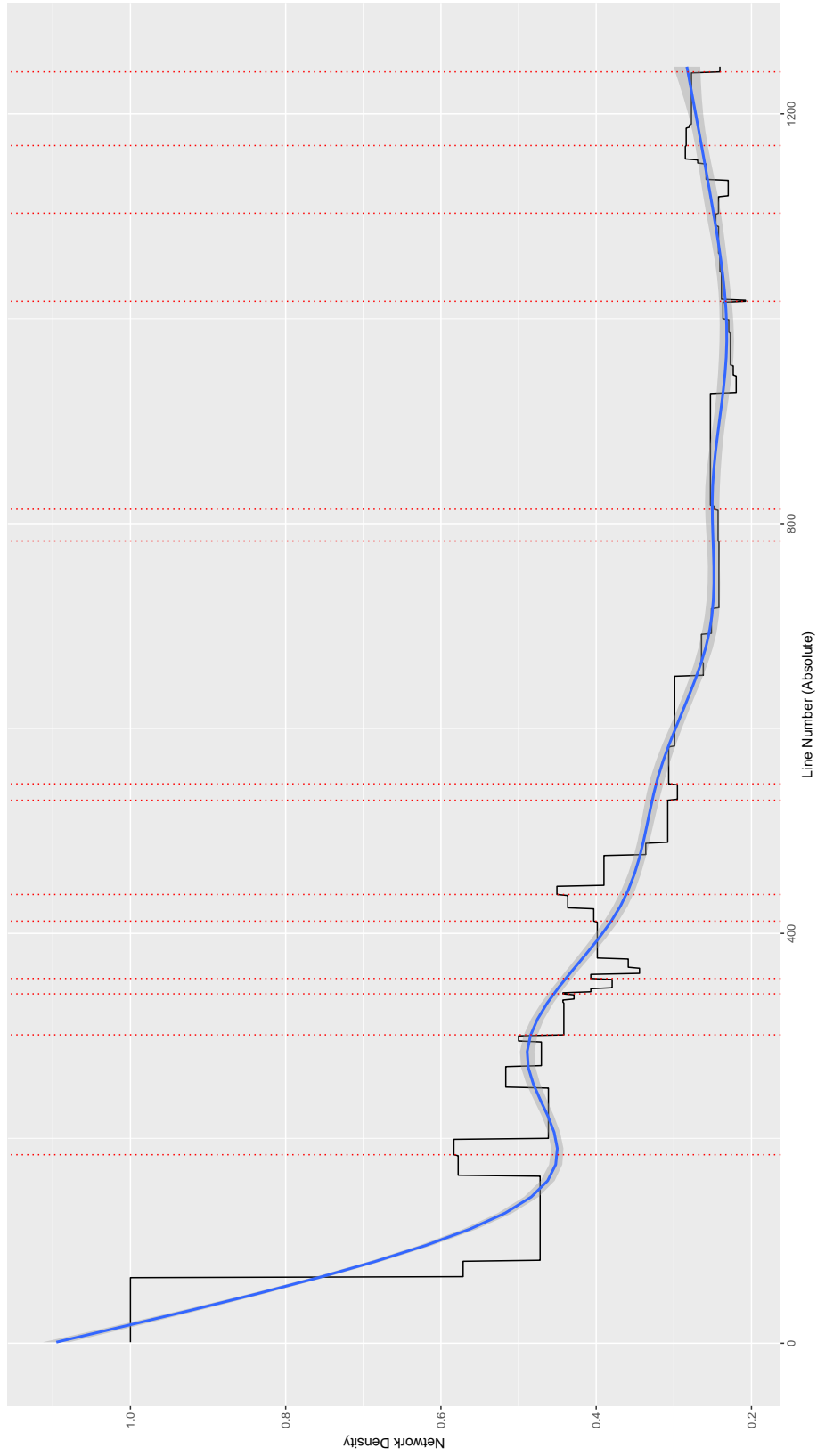


Figure 3.6: Line-By Change in Network Density

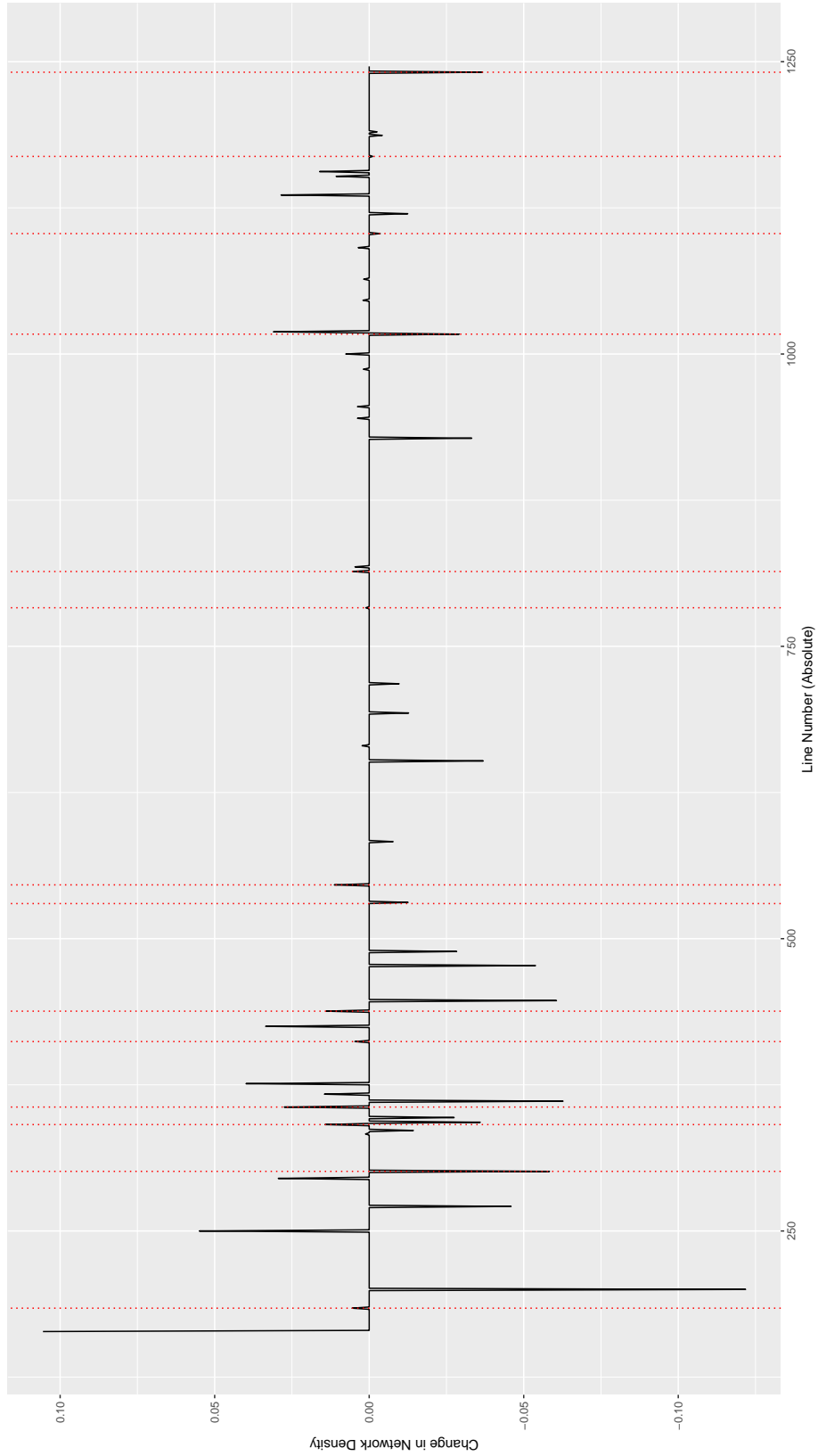


Figure 3.7: Density Change from Stage Deaths

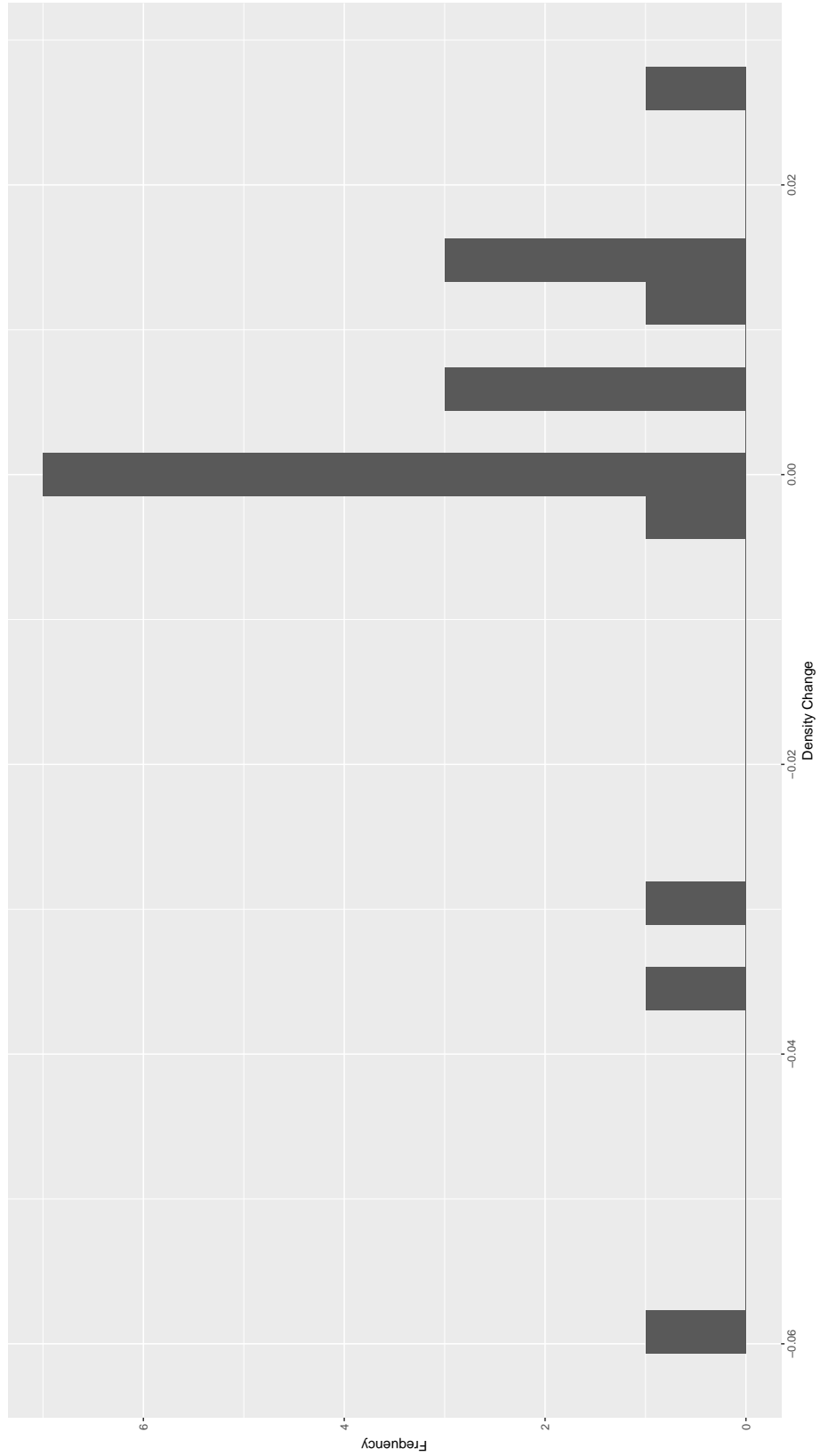


Figure 3.8: Line-By-Line Degree Centrality: Guise and Anjoy

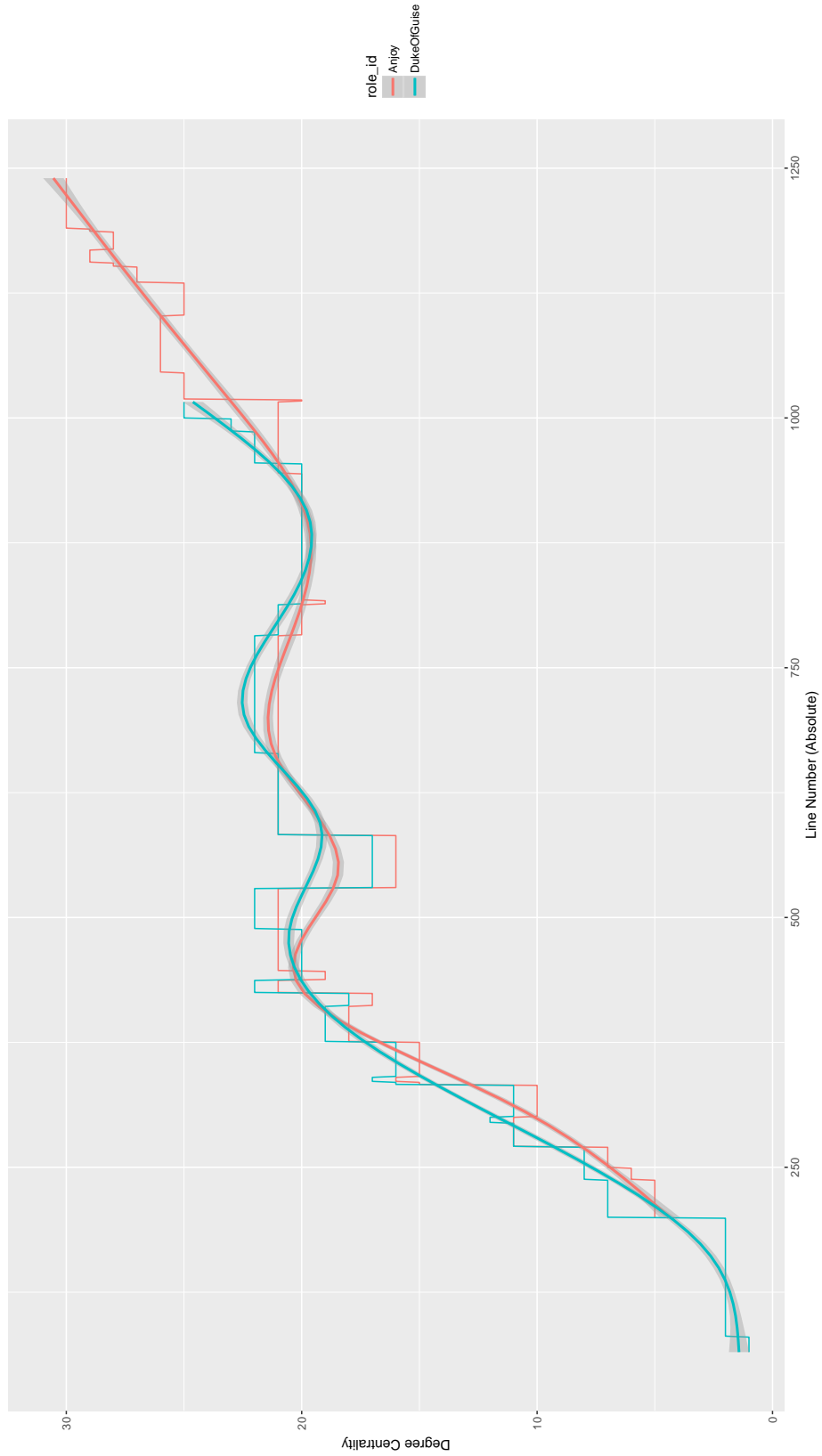


Figure 3.9: Line-By-Line Eigenvector Centrality: Guise and Anjoy

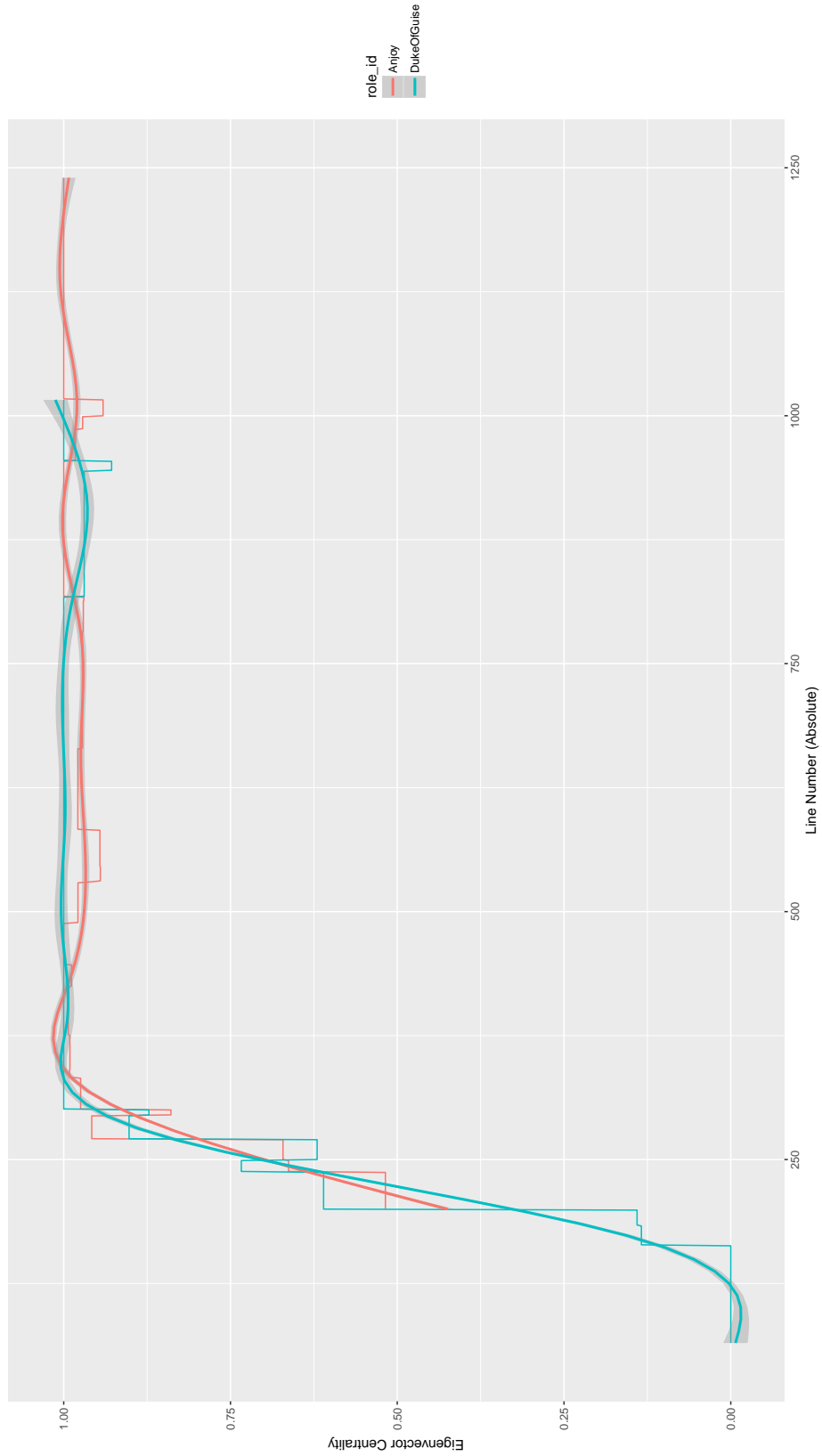


Figure 3.10: Degree Centrality: The Admiral

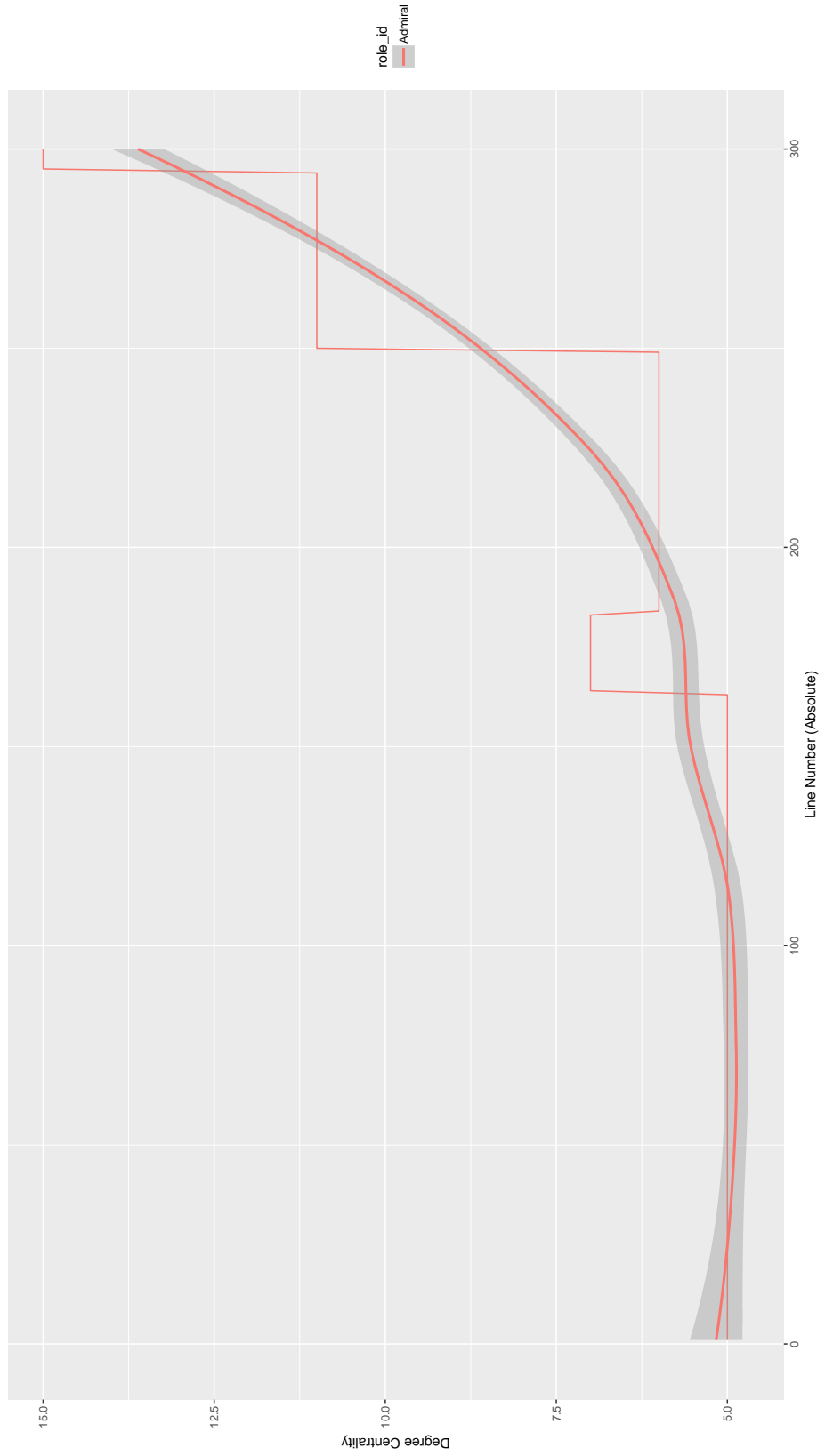


Figure B.1: *The Massacre* Character Co-Presence

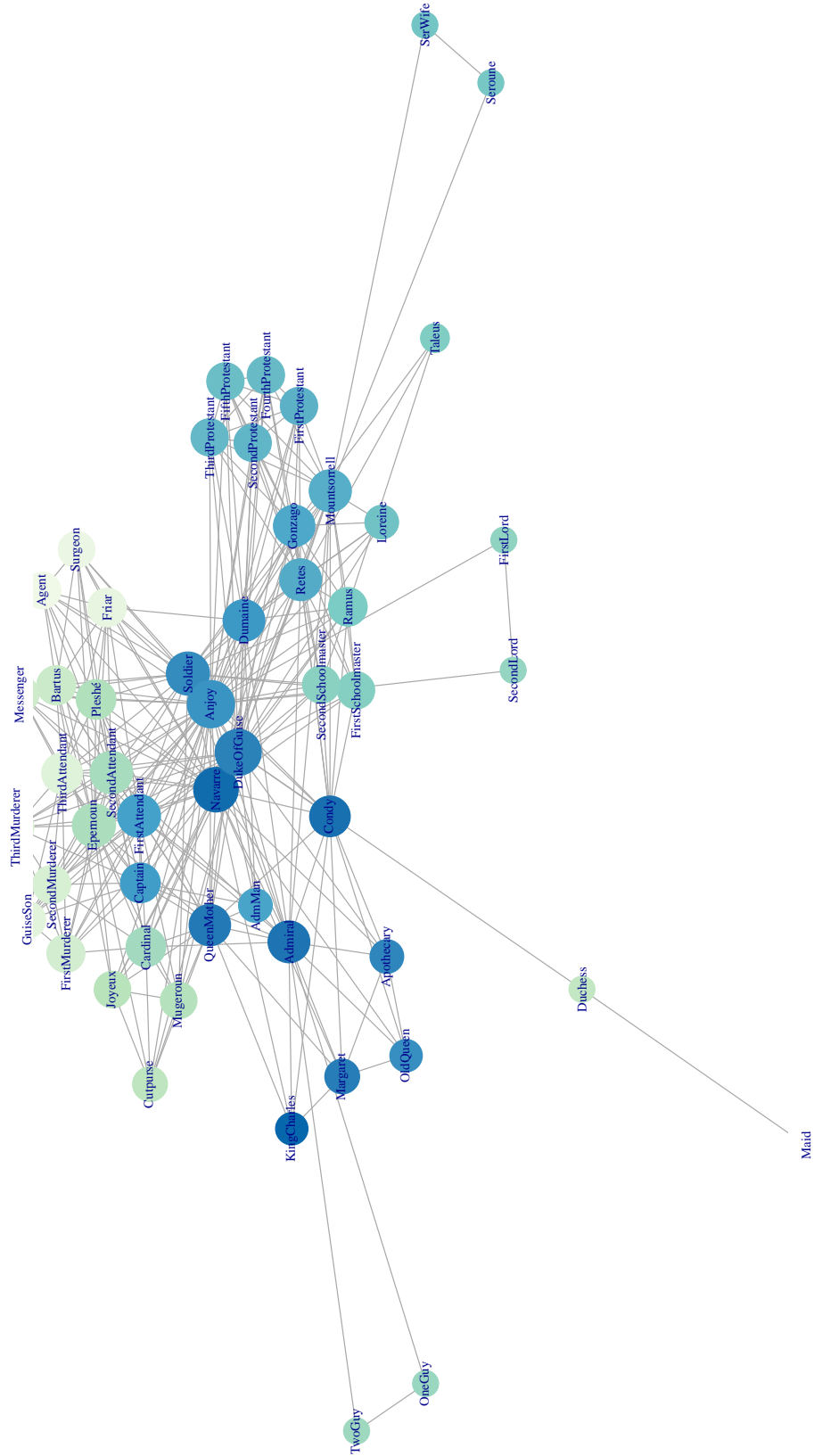


Figure B.2: *The Massacre* Character Non-Presence, Condition 1

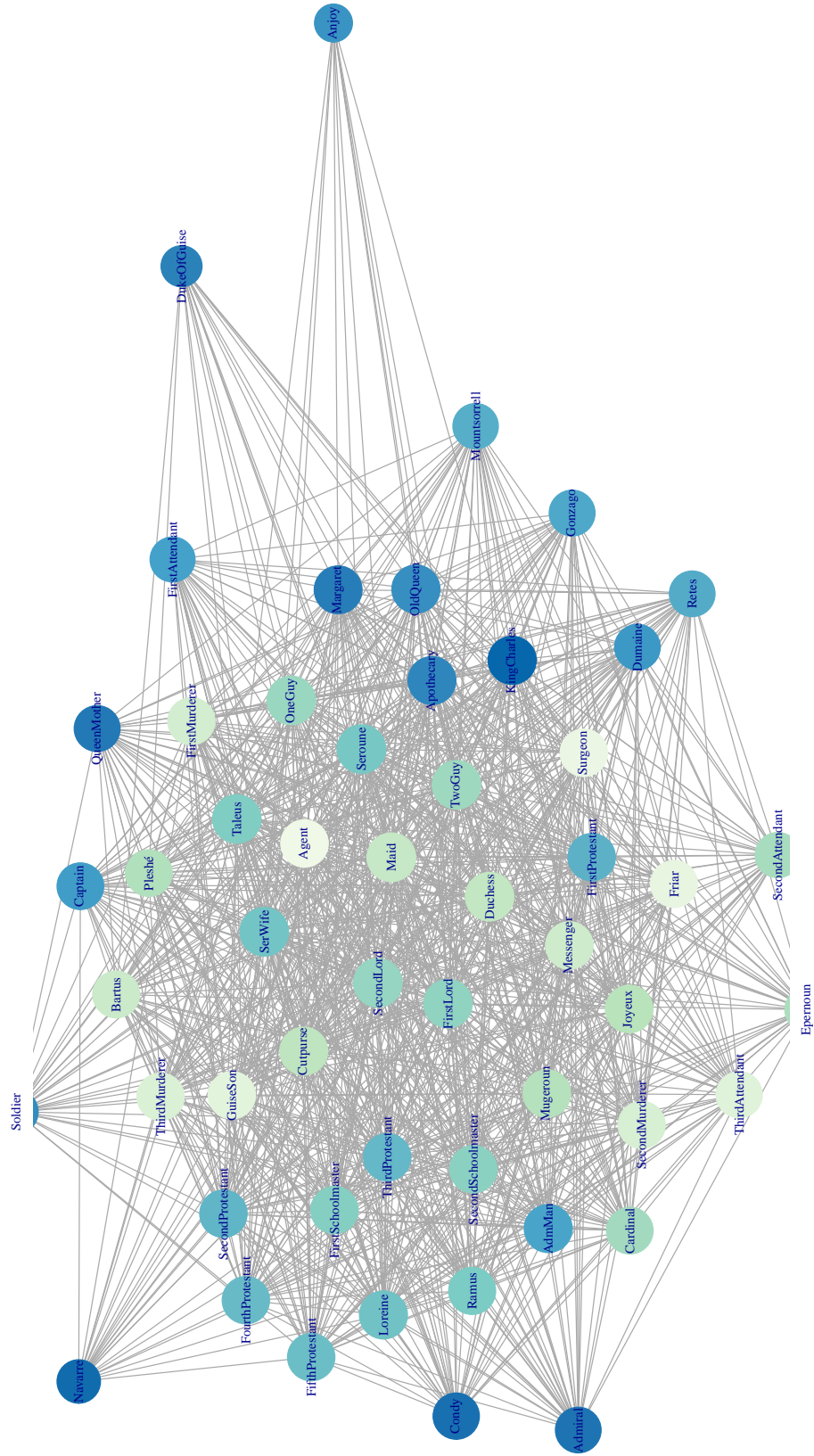


Figure B.4: *The Massacre* Character Non-Presence, All Conditions

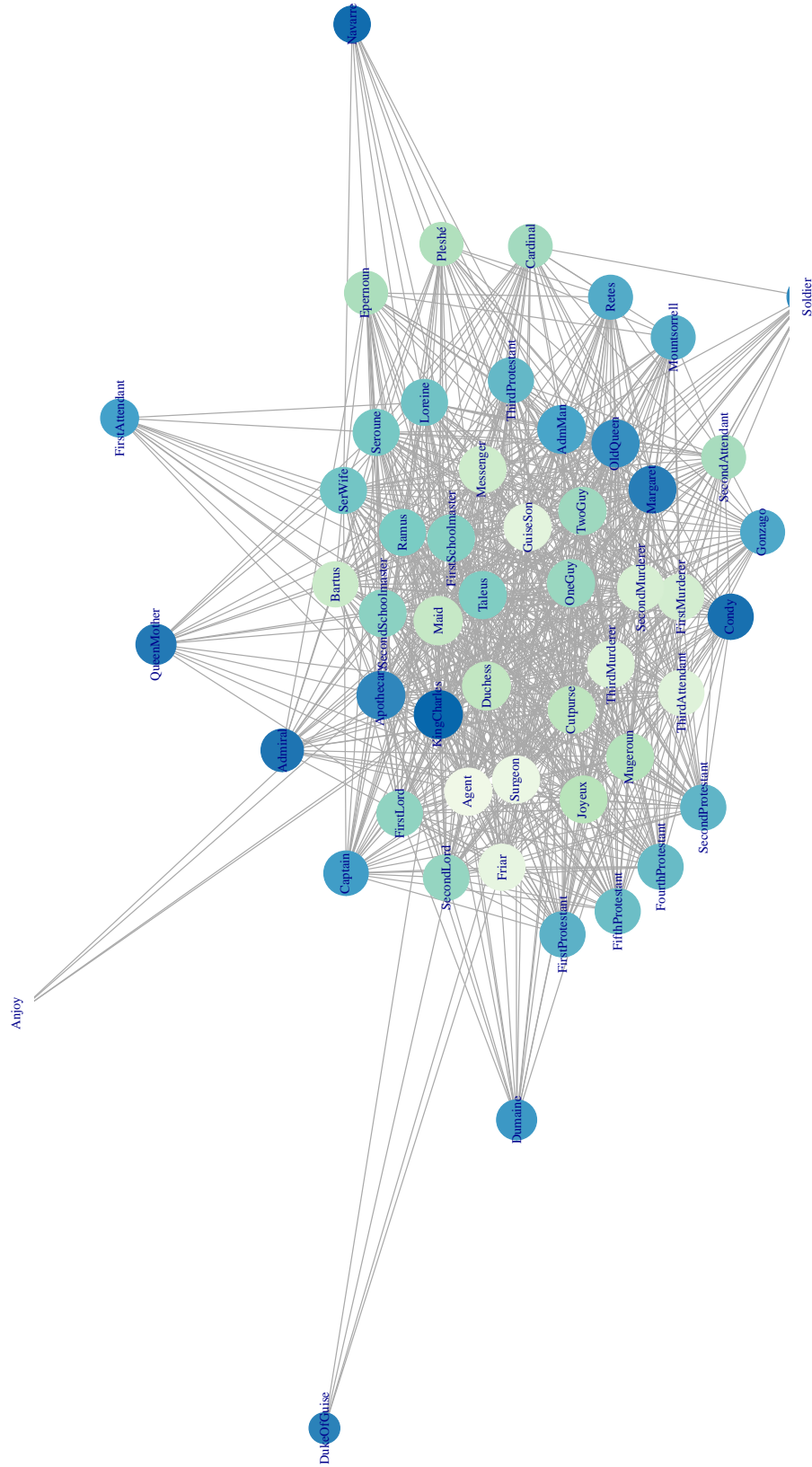
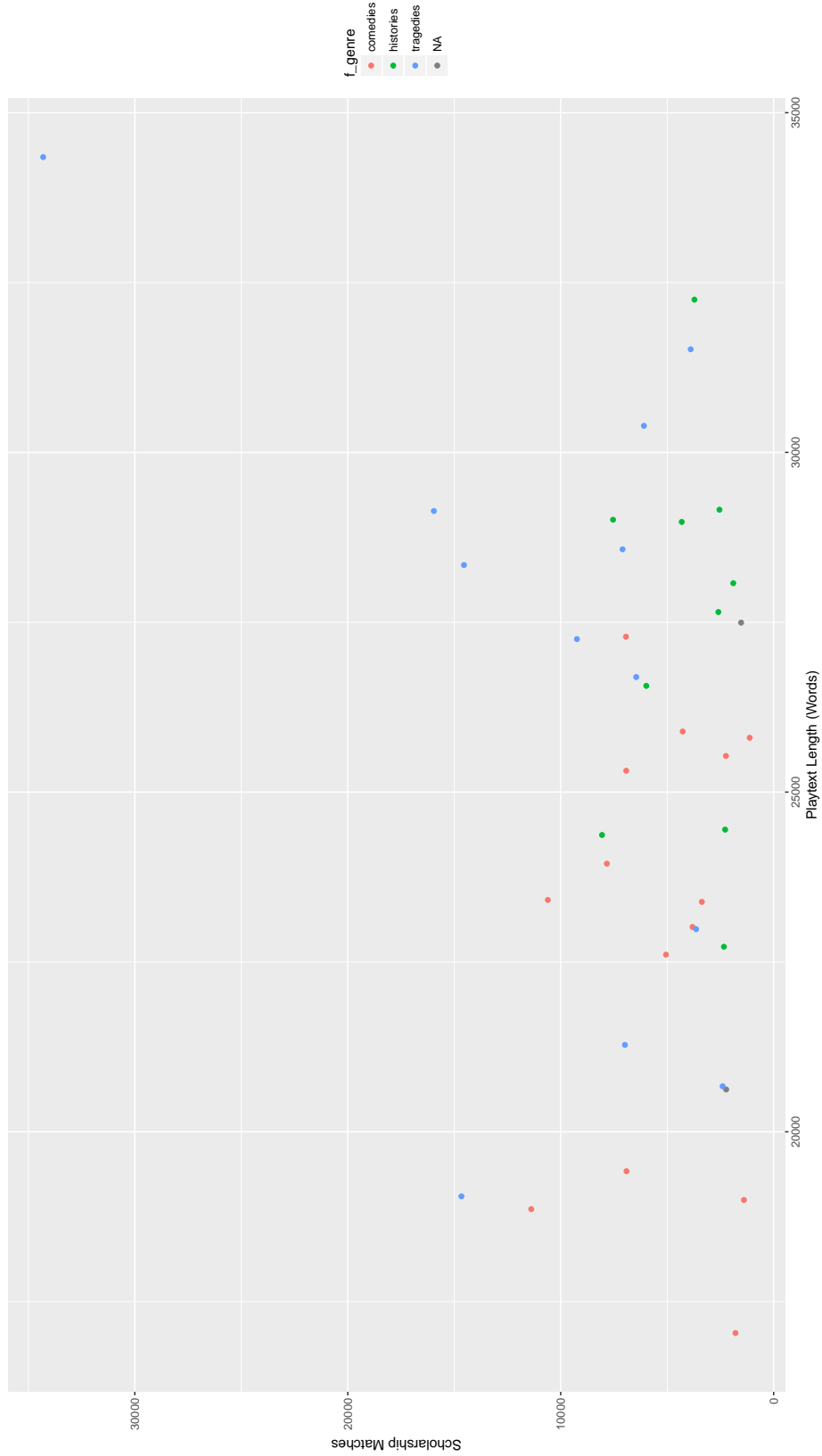


Figure C.1: Playtext Length and Attention in Scholarship



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