Computational stylistics, Cognitive Grammar, and the *Tragedy of Mariam*: combining formal and contextual approaches in a computational study of early modern tragedy

Louisa Connors
B.A. (Hons) (Newcastle)

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Declaration

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(Signed)___________________________
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Abstract

The aim of this thesis is to articulate a theoretical framework that will support the application of Burrows-style computational stylistics in a more interpretive context than has previously been the case, and then apply the framework to an area of literary enquiry that up to now has only been considered using traditional critical approaches. My study integrates two, previously unrelated practices, namely Burrows-style computational stylistics and Langacker’s Cognitive Grammar. I argue that the latter offers a theoretical explanation at the linguistic level for the results that are produced in a Burrows-style stylistic analysis, providing a framework for the types of authorship studies that have dominated computational stylistics, and also offering a way of extending the results into more interpretive terrain.

The second part of this thesis uses computational techniques to analyse function words in sixty tragedies printed in England between 1580 and 1641. The study compares twelve closet tragedies loosely associated with Mary Sidney, Countess of Pembroke, with forty-eight tragedies written for the commercial stage, before exploring one of the closet texts – Elizabeth Cary’s *The Tragedy of Mariam* – in more detail. Critical responses to *Mariam* have been somewhat contradictory and I aim to show that the results of a computational stylistic study provide insights that complement criticisms arising from more orthodox approaches.

Burrows-style computational stylistics shows that function word analysis highlights differences as well as points of intersection between diverse early modern dramatic traditions. The combination of Cognitive Grammar and computational stylistics shows that although *Mariam* is identified as a closet play, the text reveals a distinctive use of particular auxiliary verbs, modal auxiliaries, and conjunctions. Using Cognitive Grammar, these features in *Mariam* can be analysed as part of a rhetorical strategy that contributes to a reading of the play as an exercise in moral philosophy and an exploration of epistemological uncertainty.

Keywords: computational stylistics, authorial style, Cognitive Grammar, early modern closet drama, Elizabeth Cary, *The Tragedy of Mariam*
Chapter 1. Introduction

We ought to say a feeling of and a feeling of if, a feeling of but, and a feeling of by, quite as readily as we say a feeling of blue or a feeling of cold. (James 245-6)

1.1 Background

Studies in the computational analysis of texts have been successful in distinguishing between authors and in linking anonymously published texts with their authors but computational tools have yet to be accepted as mainstream techniques in literary analysis. Criticisms are generally centred on the belief that computational analyses make false claims about scientific objectivity and are in fact no less subjective than any other critical approach. This is perhaps because the formalism that is an inherent aspect of computational projects is in conflict, at a fundamental level, with assumptions that underpin contemporary literary theory arising from Saussurean linguistics. These assumptions are concerned with the quality of arbitrariness that characterises the link between signs and symbols, and the role of discourse in the construction of subjectivity and meaning.

This thesis argues that objections to computational stylistics rest on assumptions about language that need to be examined in light of developments in linguistics and cognitive psychology, and that Cognitive Grammar has the potential to bring a more interpretive framework to Burrows-style computational stylistics, a practice that has traditionally been applied in a fairly narrow empirical way. This thesis proposes that Computational Stylistics can provide insights into the sorts of questions that are asked in more orthodox literary studies, and that the application of Langacker’s Cognitive Grammar to Burrows-style computation stylistics can explain why the Burrows method works and how the results of Burrows-style computational stylistics can be used in more interpretively.

I apply this hybrid approach, which combines computational stylistics and Cognitive Grammar, to a study of early modern closet tragedy and, in particular, the earliest extant original play written in English by a woman, Elizabeth Cary’s Tragedy of Mariam
The results of a computational stylistic analysis of *Mariam* highlight similarities and differences between related texts from the period. Cognitive Grammar provides a framework that justifies the counting of function words and also allows the results to be linked back to the text and its contexts, complementing critical responses arising from more orthodox approaches.

1.2 Outline of the study

This study takes a somewhat unconventional linguistic and theoretical approach to the analysis of literary texts in that it combines a strongly formalist approach with a more interpretive analysis. I argue that the results of a computational study based on function words can be linked to a discussion of more general literary concerns and can also shed light on questions that are of interest to humanities scholars, such as those concerned with gender, genre, and critical interpretation more generally. A cognitive approach provides a theoretical framework that supports attribution studies through Cognitive Grammar’s foundational assumptions, which validate a view of language – and more specifically grammar – as constrained by the cognitive processes and perceptual systems of the language user. Language thus reflects some form of agency as well as the context in which discourse participants operate. It also provides a framework in which the results of a computational study based on function words can be used interpretively, since Cognitive Grammar views function words as making a semantic contribution to the constructions they appear in, even though this contribution may be fairly schematic.

The second part of the thesis is a case study that applies the conceptual framework discussed in the first section to an investigation of early modern tragedy. The study is modelled on Burrows and Craig’s computational stylistic analysis of the differences between Romantic and Restoration drama ("Mountebanks") but the sample for the present study compares forty-eight tragedies written for the commercial stage with the twelve closet tragedies loosely associated with Lady Mary Sidney, the Countess of Pembroke. The closet set includes the first extant original play in English written by a woman, Lady Elizabeth Cary, the Countess of Falkland, the *Tragedy of Mariam* (1613), which is the focus of more detailed analysis. Much of the criticism relating to *Mariam* is somewhat contradictory, reading the play in the context of a biography known as *The Lady Falkland, Her Life*, written by one of Cary’s daughters (*Life*). The results of a stylistic study problematise the binaries that have emerged in the critical literature concerning *Mariam* and highlight the extent of Cary’s engagement with intellectual,
political, and social debate, suggesting a way of repositioning the text within the
divergent male-authored traditions with which it connects.

1.3 Contribution to the literature

The apparently formalist aspects of computational stylistics and the historicist focus that
characterises much contemporary literary criticism has made it difficult for there to be a
productive engagement between the two approaches. The focus on attribution in
computational stylistics runs counter to the more collaborative view of authorship that
prevails in critical literature, especially in the field of early modern drama. The
empirical nature of computational methodologies means that computational stylistics
appears to ally itself with “dated theoretical models” such as formalism, new criticism,
and structuralism (Rommel 91). In this context, computing humanists have been
cautious about discussing the results of their studies more interpretively. Ramsay notes,
for example, that Burrows and Craig found patterns in world frequencies in Romantic
and Renaissance drama that were “simply astonishing” (Ramsay 173) but that they do
not use these patterns to do literary criticism. Rather, they “note that their results do not
contradict the impression of earlier critics, as if there had been no net gain to their work
at all” (Ramsay 173).

Although Burrows-style computational stylistics “seems to ‘work’” (Holmes 114) there
has been no integrated theory of language that is “inclusive, unified, and plausible” to
explain why this is so (Ohmann 425). My study attempts to address this problem by
integrating two, previously unrelated areas of literature, namely Burrows-style
computational stylistics and Langacker’s Cognitive Grammar. I suggest that this hybrid
approach can help explain the contribution function words make to authorial style, and
provide a theoretical connection between literary studies and computational stylistics.
Cognitive Grammar provides insight into how function words operate in language, and
their role in shaping style and the perception of style. Cognitive Grammar also points to
an understanding of function words as part of a communicative strategy that is socially
and culturally embedded. It thus goes some way towards closing the interpretive gap
between raw counts represented in the data and the complexity of language as it is used
in literary, social and textual contexts.
1.4 Key concepts

1.4.1 Computational stylistics

Computational stylistics combines the practice of stylistics and the study of literature with statistical and computational methods of analysis. Holmes notes that the use of statistics in the analysis of style has typically focused on questions of authorship and/or chronology as opposed to interpretive analysis. In spite of sound results in attribution and authorship studies there has been little interest in computational stylistics in the wider literary community. Burrows-style computational stylistics has produced striking results in studies of style and authorship and is described as the “standard” when dealing with problems of authorial attribution (Holmes 114). It begins with a focus on the formal linguistic features of a text – such as function words in the case of a Burrows-style study – and as such most humanists assume that stylistics in general, and computational stylistics in particular, is “concerned with the formal and linguistic properties of the text” in isolation from its historical and social context (Clark 4). This view leads to the conclusion that computational approaches are fundamentally disconnected from the purpose of literary studies, as it is currently understood.

These criticisms reflect assumptions about language that need to be examined in light of developments over the last several decades in linguistics and cognitive psychology that question orthodox theoretical positions regarding issues that are central to literary studies. These issues include views on the arbitrary nature of language, the relationship between form and meaning, and notions concerning subjectivity and authorial agency. The success of attribution studies, for example, points to the possibility of subjectivity that is more coherent than some theoretical approaches imply. Craig has shown that “writers … can’t help inscribing an individual style in everything they produce” ("Style" 3) and that “the author effect” has a surprising “strength and consistency” ("Style" 7). The success of function-word stylistics in other areas of literary interest, such as gender (Hota, Argamon and Chung; Hota et al.), translation studies (Rybicki, "Burrowing"; Rybicki and Eder), characterisation (Craig "Speak"; Tabata), and genre ("Mountebanks") also point to the questions about the theoretical assumptions that inform literary criticism.

A major obstacle to using computational stylistics for more interpretive analysis relates to the fact that function words are typically viewed as being semantically empty.
Function words are the elements of a text that are typically overlooked in literary analysis. As Craig comments, “over the centuries, those interested in English Renaissance drama have wasted little energy on these fundamental but more or less invisible aspects of language” (Craig, "Modality" 32). Further, although researchers continue to refine computational methods of analysis and develop new approaches, there is no definitive understanding of how and when particular procedures – or variations of a procedure – should be used in a computational study of style. Studies in computational stylistics, however, consistently point to the fact that function words make a significant contribution to an aspect of authorial style. The principal aim of this thesis is to demonstrate that Burrows-style computational stylistics based on function words can be used in a more interpretive context than has previously been assumed.

1.4.2 Cognitive Grammar

Langacker’s Cognitive Grammar provides a theoretical explanation at the linguistic level for the striking results in the area of authorship attribution that are produced in a Burrows-style computational stylistic analysis. Cognitive Grammar also suggests that function word variables that are responsible for distinguishing between authors in a Burrows-style study can be seen as meaningful and can be understood in terms of their contribution to linguistic expressions. In Langacker’s words “grammatical morphemes contribute semantically to the constructions they appear in, and that their occurrence has a semantic rationale even when conventionally determined” (Langacker, *Theoretical* 19). Through its insistence that grammar and functions words are meaningful, Cognitive Grammar suggests a way in which the results of a Burrows-style study can illuminate more interpretive questions.

Cognitive Grammar is part of the wider movement known as cognitive linguistics, which is itself part of the functionalist tradition in linguistics (Langacker, "Cognitive Grammar" 422). Functional accounts of language are founded in a view of language as a system of communication that must be understood in the context of usage, in contrast to formalist or objectivist accounts of language that view language as autonomous and rule driven. Cognitive Grammar reflects an increasing tendency “in the analysis of language and mind, away from a mechanistic conception and towards a conception more appropriate for biological systems” (Langacker, *Theoretical* 5). Cognitive Grammar is cognitive because it assumes that language is a product of cognitive processes and
meaning is therefore “a cognitive phenomenon and must be analysed as such” (Langacker, *Theoretical 5*).

As with Saussurean linguistics, Cognitive Grammar takes the view that “language is symbolic in nature” (Langacker, *Theoretical 11*). It suggests, however, that the implications arising from the arbitrary link between the sign and signifier are overstated and that this is easily demonstrated through the way in which “any polymorphemic linguistic sign (this includes the vast majority of expressions) is nonarbitrary to the extent that it is analysable” (Langacker, *Theoretical 12*). Cognitive Grammar draws on Gestalt psychology and perceptual systems more generally to explain the process of conceptualisation. The cognitive belief that language and conventional thought emerge from “our perception of a self within a body as it interacts with an environment” suggests that language and meaning are constrained in ways that cannot be explained by Saussurean or generative accounts of language and imply that “some form of agency is fundamental to language” (Crane 22).

Critics of stylistics, most notably Stanley Fish, tend to privilege individual instances of particular words in interpretive communities over more general rules and question the validity of the stylistics project. From a cognitive perspective, however, language possesses universal features because it emerges from the interaction of “inherent and experiential factors” that are “physical, biological, behavioural, psychological, social, cultural, and communicative” (Langacker, *Descriptive 1*). Each language, therefore, represents “a unique adaptation to common constraints and pressures as well as to the peculiarities of its own circumstances” (Langacker, *Descriptive 1*). Computational stylistics of the kind undertaken in this study provides us with evidence of the peculiarities and creative adaptations of an individual language user, and also highlights more general trends that can be used for comparative purposes.

### 1.4.3 Early modern closet drama

In the early critical literature it is common for closet plays to be defined as plays that “were never acted and were never meant to be” (Greg xii). Closet tragedy has typically suffered from a theatrical bias, or “an imputed preference for theatre and performance that construes closet drama in terms of resistance or deficiency” (Straznicky, "Closet Drama" 416). Barish, for example, argues that in distancing themselves from the “vulgarity of the playhouse” authors of closet texts “renounced playhouse vices” only to
sacrifice “dramatic virtues” (Barish, *Antitheatrical 326*). Although commercial drama clearly represents the major form of cultural expression in the early modern period, more recent criticism has contributed to a shift in the status of closet tragedy such that it is seen as one of a number of strands in a diverse dramatic culture. Feminist approaches have underpinned much of this work as closet drama represents one of the few areas, given social and cultural proscriptions, where early modern women were able to make a contribution to literary discourse.

Within this body of work Elizabeth Cary’s *Mariam* has attracted a great deal of critical discussion. Much of this criticism is strongly biographical in its approach, generally reading the play in the context of Cary’s public conversion to Catholicism in 1626 and subsequent problems in her marriage and other personal relationships (Beilin, "Elizabeth Cary"; Beilin, "The Making"; Cotton; Lewalski, *Writing*; Lewalski, "Resisting"). Other responses, as Clarke explains, have developed this argument in a more complex way, highlighting the way the text puts forward “Renaissance prescriptions about marriage from the point of the view of the female subject” ("Domestic Kingdome" 179) (Belsey; Ferguson, "Running On"; Foster, "Resurrecting"; Gutierrez; Shannon; Straznicky, "Profane"). Within this body of work some critics have addressed issues of style and language in *Mariam* (Acheson; Barish, "Language"; Callaghan; Clarke, "Domestic Kingdome"; Quilligan; Straznicky, *Privacy*). Results of these analyses, however, are somewhat conflicting as to how Cary’s play might best be understood in terms of the early modern cultural and social discourses influencing the text, as well as its relationship to other plays from the period.

The application of computational stylistics in an analysis of the play seemed to offer a way to contribute something new to this emerging body of critical work. Straznicky points out that in the case of *Mariam*, a biographical approach that privileges lived experience in an analysis of literary work is problematic due to the uncertainty surrounding the date of composition. Although *Mariam* was published in 1613, Cary’s very public marital conflicts did not begin until approximately twelve years after publication, and approximately twenty years after the play was probably written. In any case, biographical readings tend to narrow the interpretive possibilities of the text, and make unnecessarily restrictive assumptions about the author and the context in which her work can be read and analysed. In contrast to a biographical approach, a computational analysis reveals a stylistic pattern that can be used to challenge the
limitations of a traditional mimetic analysis of the text and (as it happens) support a more overtly political reading.

1.5 Structure of argument

The argument for this thesis is presented in two complementary parts. The first part, from chapter two to chapter six, examines Burrows-style computational stylistics using function words, and the contexts in which computational stylistics has historically been applied, as well as criticisms of the approach. This first section then provides an outline of Cognitive Grammar as a supporting theoretical framework for computational stylistics and suggests that Burrows-style computational stylistics aligns with a developing approach to literary analysis known as cognitive stylistics. The second part, from chapters seven to eleven, introduces early modern closet drama as the background for a computational stylistic study of *Mariam*. This section applies the theoretical framework proposed in section A to a stylistic study of *Mariam* in the context of sixty early modern tragedies. The combination of a cognitive framework and a Burrows-style function word approach can shed light on the contradictory critical responses to *Mariam* that have emerged using more orthodox approaches.

Chapter two discusses the history, main features, and some of the problems to which Burrows-style computational stylistics has been successfully applied. Although it is increasingly common for stylistic studies to consider more obviously meaningful elements of a text, this chapter focuses on function word approaches since they form the basis of the ‘Burrows method’, which as Holmes, as already noted, is “the standard when dealing with problems of authorial attribution because “in a simple sense, it seems to ‘work’” (Holmes 114). However, practitioners have been unable to explain the strength of the results of author-based stylistic studies – particularly in early modern studies – in the context of contemporary theoretical views on the fractured nature of subjectivity and collaborative views on authorship. A survey of work in computational stylistics over the past three decades establishes the continuing importance of function words as a basis for authorship studies and for more broadly stylistic studies.

Chapter three considers criticisms of Burrows-style computational stylistics and related approaches. Due to the lack of engagement between traditional scholarship and computational scholarship, Burrows-style computational stylistics has rarely been accorded a fully developed critique. Consequently, the reasons computational studies
are overlooked must often be inferred from implied arguments, or from criticisms of related activities. Chapter three initially considers critical studies that focus on the classification of texts, particularly in relation to methodology, before moving to a consideration of more interpretive studies and related criticisms. The discussion in this chapter focuses on the reception of computational approaches in literary studies rather than linguistics, since the overall aim of the thesis is to bridge the gap between literary studies and computational stylistics.

Chapter four argues that the theoretical paradigms that dominate literary studies are fundamentally hostile to computational stylistics and are based on an account of language that rules out a productive engagement between orthodox approaches and computational approaches from the outset. This chapter describes the main features of Saussurean linguistics and its ongoing influence on theoretical assumptions that dominate literary studies before turning to discuss the “cognitive turn” and Generative Grammar as a basis for understanding Cognitive Grammar and its potential as a supporting framework for computational stylistics. This chapter argues that a cognitive framework provides the theoretical basis for the model of authorship that does not signify a return to the notion of a “transcendental signified” (Derrida, *Of Grammatology* 23), and that Cognitive Grammar has the potential to provide an explanatory framework for Burrows-style computational stylistics.

Chapter five outlines the main features of Cognitive Grammar as a potential theorisation of Burrows-style computational stylistics, including the way in which function words are conceptualised and their role in the process of construal. The chapter provides an overview of the three theoretical principles and the three methodological principles underlying Cognitive Grammar. The theoretical principles are foundational assumptions. They include the notion that language is based on conventional imagery and therefore reflects cultural specificities rather than universal rules; that grammar is symbolic and therefore structure makes a meaningful contribution to how an expression should be interpreted; and the understanding that there is no real distinction between function words and lexical words and they must be viewed as part of a continuum. The chapter also describes the three methodological principles fundamental to Cognitive Grammar and the insight they bring to an understanding of how language works with reference to how these principles challenge orthodox views of language. The three methodological principles include the prototype theory of categorisation, the concept of
schemas or Idealised Cognitive Models (ICMs), and the concept of metaphor. Intrinsic to these three methodological principles is the idea of embodiment, which is distinctive to second generation cognitivism and fundamental to Cognitive Grammar.

Chapter six considers the ways in which the ‘cognitive turn’ has been applied to literary studies and stylistics. It describes some of the major strands of scholarship in cognitive stylistics and suggests that Burrows-style computational stylistics can usefully be understood in the context of cognitive approaches to the study of literature. This chapter outlines the major approaches within cognitive stylistics and describes the way in which concepts such as deixis, mental space theory, and conceptual metaphor are applied in a literary analysis, with a view to locating the approach taken in the present study in the context of related studies. Although work in cognitive stylistics and cognitive poetics has been developing since the 1970s, it appears that no direct link has been made between Cognitive Grammar and Burrows-style computational stylistics. It is suggested that a Burrows-style computational study draws together two strands of cognitive stylistics, one of which has a strong focus on cognitive linguistics, especially Langacker’s Cognitive Grammar, and the other, which draws on approaches associated with developments in stylistics and literary studies, and the work of scholars such as Elena Semino (Semino, "Cognitive Stylistics"; Semino, "Mind Style") and Jonathan Culpeper (Culpeper, Language; Archer, Culpeper and Rayson).

Chapter seven contextualises the study that is the focus of second part of the thesis. This chapter provides an overview of early modern drama and key concepts that will be discussed in chapters eight to twelve.

Chapters eight provides biographical information about Elizabeth Cary’s life, including the networks with which she was associated, and describes the play as well as other key works with which she is associated. This chapter then explores the conflicting critical responses to *Mariam* and the way it has been variously read as theatrical and anti-theatrical, radical and conservative, as well as public and private. This chapter suggests that Hamlin’s analysis of the play as an exercise in moral philosophy is key to understanding the ambiguity that readers and critics have perceived in the text.

Chapter nine considers the *Tragedy of Mariam* in the context of the group of Sidnean closet dramas with which it is associated and early modern dramatic traditions more generally. This chapter argues that Cary’s act of writing, the subject matter with which the play concerns itself, and the way the text engages with particular modes of thought,
represent a political intervention in dramatic and literary culture that draws on the conventions of closet drama, but also engages with intellectual discourses and dramatic traditions more broadly. The aim is to demonstrate that the *Life* and *Mariam* connect with a set of representational strategies associated with republicanism or civic humanism, and debates about government, duty, the right to individual freedom of conscience, and the provision of counsel.

Chapter ten describes a Burrows-style computational study that explores two key propositions using *Mariam* as a case study. These are:

1. function word analysis can distinguish between closet plays and stage plays;

2. function word analysis can shed light on the relationship of *Mariam* to other plays in the period.

Chapter ten shows that function word analysis can indeed differentiate between stage plays and closet plays, and also demonstrates that *Mariam* is the closet text that behaves most like a stage play in terms of the function word frequencies used in the analysis. This is an interesting result given critical claims about the way the text rejects performance and turns inwards as a kind of resistance to patriarchal control (Acheson).

Chapter eleven deals with a third proposition, which explores whether a combination of function word analysis and Cognitive Grammar when applied to *Mariam* can demonstrate that function words are a meaningful part of a rhetorical strategy. This chapter argues that a combination of computational stylistics and the insights of Cognitive Grammar can complement more traditional critical approaches and allow the results of a highly formalist study to be linked to a text in its literary, historical, and critical contexts.

### 1.6 Summary

Through its basis in an integrated account of language and meaning, Cognitive Grammar combined with computational stylistics offers more than a traditionally formalist stylistics. As a critical methodology that fits within the broader stylistic approach, cognitive stylistics reflects aspects of the formalisms from which it emerged. However, cognitive stylistics is not acontextual or ahistorical since language is seen as reflecting culture and context at all levels, including the level of grammatical structure. This thesis argues that Cognitive Grammar and cognitive stylistics provides a
framework in which the interpretation of texts is grounded in “personal, cultural, and biological history” (Steen 96). This is not to suggest that cognitive stylistics offers a complete analysis of literary texts, or produces interpretive insights of a different order from those available by other means. Attending to cognitive processes as they are reflected in language and the experience of literature provides “a necessary link between the text and its historical significance, the respective focal points of the New Criticism and the New Historicism” (Steen 96). Cognitive stylistics thus presents a productive framework for the analysis of results arising from a Burrows-style study in computational stylistics.
Chapter 2. Burrows-style computational stylistics

2.1 Introduction

Computational stylistics combines the practice of stylistics and the study of literature with statistical and computational methods of analysis. Stylistic studies typically draw more heavily on linguistic analysis than orthodox approaches to literary analysis; make certain claims in relation to the degree of objectivity that is brought to the analysis; and also consider the aesthetic properties of language (Thornborrow and Wareing 4). In literary studies, the use of statistics in the analysis of style has, as Holmes (1998) notes, typically focused on questions of authorship attribution and/or chronology. These types of studies have what Craig calls a “forensic aspect” ("Stylistic Analysis" 273) that arises from a focus on resolving particular questions that have a more or less definitive answer. An example may be whether Shakespeare or Marlowe could have been the author of a disputed text. Computational studies of style are more open-ended and in some senses more controversial. These studies consider more interpretive questions and point to complex and unresolved issues associated with the relationship between form and meaning, as well as style and content.

One of the earliest examples of a stylistic study of literature for attribution is Mendenhall’s late nineteenth-century study into whether word length successfully distinguished between texts by Shakespeare, Bacon, and Marlowe (Mendenhall). Although Mendenhall’s tests did not support the use of word length as an effective discriminator between authors, his tests did pave the way for further investigations into the role of different features of texts and whether or not they were useful in isolating elements of style. In terms of methodological approaches, critics and supporters of stylistics have noted that there is very little agreement as to which features of a text best characterise the style of its author. Burrows comments that “sentence length, word length, relative frequencies of different words across a range of texts, vocabulary richness, and other more esoteric phenomena have all been studied over the last century and a half” (Burrows "Opinion" 357). Rudman has estimated that approximately 1000 different markers of authorial style have been proposed over a thirty-year period (Rudman, "Problems" 360). Juola places the features identified by Rudman into four loose categories that include:
1. Lexicographic: including analysis of the letters and groups of letters (such as morphemes).
2. Lexical: including content words and other elements such as the length of content words, their distribution, and/or thematic association.
3. Syntactic: including analysis of elements such as parts of speech, punctuation, and function words.
4. Layout: including formatting and other non-linguistic elements.
   (Juola, "Future" 124)

There is also an array of statistical tests that have been used in such studies, including principal component analysis, $t$-tests, and tests that analyse neural networks. As Juola points out, this list is also quite extensive, since any test that is associated with "machine learning, classification and pattern recognition" could be included ("Future" 124). There is, as Juola notes, no systematic understanding about why particular tests work, or under what circumstances they are most appropriately applied ("Future" 128).

There are, however, two seminal studies in literary stylistics, both of which are noted by Holmes (1998) in his overview of the field. The first of these is the work on the Federalist Papers by Mosteller and Wallace in the early 1960s. The second of the works is the series of papers produced by John Burrows in the late 1980s and early 1990s (Holmes 113). Apart from a fairly widespread acceptance of their claims in relation to attribution, one of the key features common to both studies is their focus on function words, as opposed to other more semantic textual elements, such as content words. Function words are the elements of a text that are typically overlooked in literary analysis. They are, as Burrows comments, usually taken to be “perfect specimens of the harmless drudge, performing necessary tasks but deserving no particular attention” (Computation 1). These early stylistic studies, however, suggest that function words make a significant contribution to an aspect of authorial style that can be quantified.

The Federalist Papers consist of a set of newspaper essays published anonymously by ‘Publius’ in New York between 1787-1788 that argued in favour of the proposed Constitution of the United States. Publius is now known to be the name used by a collective of three that included James Madison, Alexander Hamilton, and John Jay. Twelve of the eighty-five Federalist essays became known as the ‘disputed essays’ because it was unclear whether Madison or Hamilton was the author. Modern traditional scholarship is almost unanimous in assigning authorship of twelve ‘disputed’
documents to James Madison. Mosteller and Wallace analysed the texts statistically using a list of thirty function words and, like many scholars working in more orthodox traditions, also concluded that Madison was the author (Mosteller and Wallace). Although, as I discuss in chapter three, the *Federalist* project has its critics, the collection of papers and the Mosteller and Wallace study continue to influence stylistics scholarship. This is due in large part to the fact that the *Federalist* problem is well-suited to computational investigation: as Juola notes, the list of possible authors is small and “well defined” (Juola "Future" 126) and the seventy three essays of known authorship represent “texts written by the same authors, at the same time, on the same topic, for publication via the same media” (Juola, "Future" 126). The *Federalist Papers* thus comprise a solid text set that can be used to refine stylistic tests and provide an experimental ground for new approaches.

Burrows published *Computation into Criticism* in 1987, more than twenty years after the *Federalist* study, by which time developments in computing were making possible the analysis of linguistic patterns in large texts. In his study of characterisation in the novels of Jane Austen, Burrows demonstrated that on the basis of very common words (all of which were function words), Austen’s work could be distinguished from a number of other sample authors, including Henry James, E.M. Forster, and Virginia Woolf (Burrows, *Computation* 53-75). Burrows also showed that it is possible to use the relative frequencies of common words to differentiate between the idiolects of characters in novels. In doing this, Burrows pushed stylistics into more traditional literary critical territory, showing that a highly formalist approach with a focus on function words could yield general insights into characterisation in literary texts.

This chapter considers the application of Burrows-style stylistics with a focus on function words to a range of questions. It is important to note that scholars working in the Burrows tradition tend to work with the ‘n-most-frequent-words’ as opposed to a list composed exclusively of function words. Lists of frequent words, particularly in English, consist mainly of function words. Longer word lists, however, incorporate more lexical items.¹ This study takes function words as its focus as the aim is to establish a case for further enquiry into how and why function words contribute to the

¹ Flexive languages introduce an additional level of complexity in a study of this nature since in these languages content words combine with a prefix or suffix to perform the role that function words play in English grammar.
analysis of style and interpretation given the obvious appeal of more apparently meaningful elements.

2.2 The Burrows method

The standard Burrows approach that Holmes refers to as the “Burrows method” (Holmes 114), involves the comparison of a text of unknown authorship against multiple texts of undisputed authorship. The method is typically applied to questions of authorship when two or three likely candidates have already been identified. In this type of analysis, a set of texts is established such that a likely candidate for the author of the anonymous or disputed text can be found in the larger group. Typically, the texts share features such as genre and historical context so that any differences that may be found between texts are contrasted against a background of similarity. This provides a basis upon which statistically significant differences can be further explored. The method uses multivariate statistical techniques, namely principal component analysis, discriminant analysis, and Student’s t-test on large sets of data to determine statistically significant differences between texts on the basis of frequencies of very common words. As Craig explains, ‘independent’ variables, like genre, are compared with counts of internal features, or ‘dependent’ variables, like function words. Correlation of these two kinds of variables is the primary tool of computational stylistics ("Stylistic Analysis" 275-76). Holmes describes the Burrows method as the standard when dealing with problems of authorial attribution because “in a simple sense, it seems to ‘work’” (Holmes 114).

Two examples of a ‘standard’ Burrows study include the investigation by Burrows and Craig of the authorship of two seventeenth-century poems, tentatively attributed to Lucy Hutchinson by scholars using traditional methods ("Hutchinson"), and Craig’s study of the *Funerall Elegy* by W.S. ("Elegy"). In the first of these studies, Burrows and Craig find that quantitative analysis of the two poems under investigation reveals that they strongly resemble the style of Hutchinson’s known verse and appear to demonstrate very little affinity with the rest of the corpus, which consists of twenty-five authorial sets of Restoration verse. The quantitative results of the Hutchinson study complement the more traditional investigation carried out by David Norbrook and leave little doubt that Hutchinson is indeed the author of the work. A slightly different approach is illustrated by Craig’s study of the *Elegy*, which tests Donald Foster’s controversial claim that Shakespeare was the author of the poem (*Elegy*). In this study, Craig does not...
consider possible alternative attributions, but focuses on the problem as a binary question as to whether Shakespeare is the likely author or not. Craig reconstructs Foster’s tests with a refined data set and reveals that the similarities between Shakespeare’s style and the style of the *Elegy* are weaker than Foster suggests ("Elegy" 5).

In spite of sound results in attribution and authorship studies there has been little interest in computational stylistics in the wider literary community. This is perhaps because the apparently formalist assumptions inherent in computational projects are in conflict, at a fundamental level, with assumptions arising from Saussurean linguistics that underpin contemporary literary theory and associated views on language. These assumptions are concerned with the quality of arbitrariness that characterises the link between signs and symbols, and the way discourse operates in the construction of subjectivity and meaning. It is also the case that there is, as yet, no coherent theoretical framework that explains why the tests work and how to use the results more interpretively. Craig, for example, notes that there is a “methodological blank between statistics and style” ("Attribution" 103) and that although it appears that classification and descriptive stylistics can be “mutually supportive” there is no adequate explanation for “the linguistic mechanism” that produces the results ("Attribution" 104). An additional problem is that the majority of humanities scholars are not familiar with the techniques associated with computational stylistics. Although the increased availability of electronic texts, and rapid developments in computing have made it easier to explore complex linguistic patterns in texts, an understanding of the role of function words remains elusive, and the means to study their effects remain outside the theoretical interest and practical skill set of many humanities scholars.

Although researchers continue to refine computational methods of analysis and develop new approaches, there is no definitive understanding of how and when particular procedures – or variations of a procedure – should be used in a computational study of style. For example, Burrows has developed an additional function word test, known as *Delta*, which can be used to investigate authorship questions when there is “little or no evidence to identify the most likely candidate” ("Delta" 267-268). While the standard approach using multivariate tests shows what Burrows describes as “interrelationships of resemblance and difference across a whole set of specimens” (Burrows, "Englishing" 679), the *Delta* procedure produces a score that is a measure of the differences between
texts. The \textit{Delta} score is defined as the “mean of the absolute differences between the \textit{z}-scores for a set of word-variables in a given text-group and the \textit{z}-scores for the same set of word-variables in a target text” (Burrows, "Englishing" 682) and as such is a comparison of “how different the texts are from the mean for the entire corpus” (Hoover, "Word Frequency" 1). A trial of the \textit{Delta} procedure conducted by Burrows on twenty-five authorial sets and a section of Milton’s \textit{Paradise Lost} – which is treated as though the authorship is unknown – uses only thirty function words, to reveal that Milton is the author whose style is "least unlike" that of the section of \textit{Paradise Lost} in the test set ("Delta" 279).

The lack of a linguistic theory of meaning that can explain the results of a Burrows-style study is reflected in the diversity of approaches that has developed in the field of computational stylistics, and in a tendency to look for more obviously meaningful elements of a text in the development of new tests. Burrows has achieved strong results for \textit{Delta} and other techniques using relatively small function words lists, while other scholars have explored the effects of longer word lists on results. Smith and Aldridge, for example, find that the accuracy of the \textit{Delta} process is enhanced when the 200 and 300 most frequent words are used (Smith and Aldridge 87). Similarly, Hoover, finds that attribution tests are very effective when they use much larger word frequency vectors of up to 4000 words, or up to 90 per cent of the text (Hoover, "Word Frequency" 40). It is argued that the use of longer word lists that include content words point to thematic concerns and thus lend the results to more interpretive possibilities. Although word lists of increased length appear to add to the accuracy of results, questions around why and how function words work in studies of attribution remain answered.

2.3 A focus on function words

Although it is difficult to link a Burrows-style study based on very common words – most of which are function words, such as pronouns, conjunctions and articles – with a more interpretive analysis, there are good reasons for focusing on function words as

\footnote{Eder and Rybicki have found that the \textit{Delta} procedure produces inconsistent results across different languages, and that in a Polish corpus the results are “below any acceptable standards” (“Birds” 229). The same study suggests that when considering questions of attribution there is some variation in the ideal size of the word list and that this relates to the number of authors and texts in the study, as well as the language of the corpus.}
opposed to other elements of a text. Even though the interpretation of function words may be fairly schematic, they are still more “accessible and meaningful” (Burrows, “Englishing” 679) than letters or groups of letters, as proposed in lexicographic approaches. Function words are also “abundant and easy to recognize” (Craig, "Modality" 34) and so it is a relatively simple matter, involving a minimal amount of editing and coding to obtain an appropriately sized data set for reliable statistical analysis. Burrows, for instance, estimates that between a third and a half of the literary vocabulary of many English authors after Austen is made up of approximately thirty function words and suggests that there is no reason to think that the situation was significantly different for authors who predate Austen (Computation 1).

As an indicator of style, function words are also thought to be useful because it is supposed that their selection and use in constructions is more likely to be unconscious and less context-dependent than words at the more lexical end of the continuum. The word list that provides the norms for a Burrows study is usually based on a list of the 100 or more most common words. It is “customary” as Burrows notes, to “allow the particular variables to ‘declare themselves’” (“Englishing” 679), as this limits the extent to which an outcome can be imposed by the researcher through data selection. Given their lack of apparent meaning and frequency of incidence, it is common to assume that function words are “an essentially inert medium” (Burrows, Computation 3) and that they will occur in roughly the same proportions in the language of any speaker, fictional or non-fictional. The results of Burrows-style computational studies show, however, that function words defy this conventional linguistic assumption.

For a standard Burrows study, texts must generally be a minimum of 2000 words in length and some standardisation procedures need to be followed. For example, a decision must be made on how to deal with contractions – such as can’t – and whether to count such occurrences as one word, or whether to separate them into their constituent parts (can and not). Variant spellings such as mine and myne need to be standardised to ensure that frequency counts are as accurate as possible, and for similar reasons, homophones must also be identified and tagged appropriately. Mine serves as an example in dealing with homophones as it can appear in pronominal or nominal form and needs to be coded and counted as the form in which it is used. Grammatical homophones such as infinitive to and prepositional to may also be coded separately, or may be counted together as one variable. In preparing texts for analysis the most
important thing, as Kenny points out, is “not which decision is taken, but that an arbitrary decision, once taken, should be consistently adhered to” (16).

2.4 Function word stylistics and classification

2.4.1 Authorship

Authorship attribution studies based on function words at the University of Newcastle’s Centre for Literary and Linguistic Computing typically achieve a success rate of between 90 and 95 per cent (Burrows, "Opinion" 366, 370). Burrows has also used function words to identify authorship in imitative and parodic texts, as in his study of Shamela ("Shamela"). Although there is, as noted above, a large number of tests that purport to reveal aspects of authorial style, some scholarly work has been carried out to compare the utility of various textual measures. Grieve compares thirty-nine types of textual measures on the same data set to determine which tests are “the best indicators of authorship” (Grieve 251). In terms of word frequency algorithms, Grieve finds that algorithms based on word profiles that contain most of the function words and very few content words perform better than profiles containing mostly content words. Grieves concludes that “a common assumption of authorship attribution thus appears to be true: function words are better indicators of authorship than content words” (Grieve 261).

2.4.2 Genre

Although the main application of function word analysis has been in studies of attribution there have been a number of projects that have sought to apply stylistic analysis to other questions of interest to literary scholars. An early example of the use of function words in a non-attribution study is Brainerd’s late 1970s study on Shakespeare (Brainerd). Brainerd’s project is an exercise in categorisation and does not seek to make any judgments about the implications of the findings in terms of meaning. Brainerd explores pronouns and genre in Shakespeare, to see whether there are “objective indicators of genre” (3) in the form of “linguistic keys” (3), such as personal pronouns, which would enable characters or texts to be labelled within a generic taxonomy. Brainerd selected pronouns because they are mainly anaphoric and are not polyfunctional. His study concludes “it is possible to discriminate for genre by means of personal pronouns at all levels of comparison” (12). The tests misclassify three plays from a set of thirty-eight, and Brainerd argues that the misclassifications simply highlight the strength of the analysis since they can be easily explained through
reference to the texts themselves. For example, the fact that Brainerd’s study classifies *Henry IV, Part 2* as a comedy is explained by the fact that the comedic character Falstaff and his colleagues feature prominently in the play. In another genre-related study, Burrows and Craig found that a Burrows-style analysis presented evidence of a “strong and consistent difference” (J.F. Burrows and D.H. Craig "Mountebanks" 63) between English Romantic tragedies and Renaissance tragedies on the basis of only forty-one function words. In the Burrows and Craig study, function words analysis revealed that Romantic tragedies were more expository, in contrast to Renaissance tragedies that featured a more interactive style of dialogue.

2.4.3 Gender

Function word analysis has also been used to successfully discriminate between texts on the basis of gender. Argamon *et al.* have worked on the classification of texts in the British National Corpus (BNC) by gender and achieved accuracy rates of seventy to eighty per cent on the basis of function words (Argamon *et al.*). This work on the BNC shows that female writing tends to be more “involved” and is characterised by the use of more pronouns, whereas male writing tends to be more “informational”, and displays evidence of more noun specifiers (Argamon *et al.* 321). In a later study that looks at gendered language in Shakespeare’s characters, Hota and colleagues find that their results align with the BNC study, reporting that the features typically identified as “female” include “explicit negation, first-and second-person pronouns, present tense verbs, and the prepositions “for” and “with”, while male indicators include “determiners, numbers, adjectives, prepositions, and post-modifiers” (Hota, Argamon and Chung 1). Their study identifies parallels between “male and female language in Shakespeare’s characters” and “modern texts by male and female authors” (Hota, Argamon and Chung 85). Using a machine learning approach, the study achieves an accuracy rate of 66.26 per cent for the function word variables. In their view, the function words provide stylistic evidence of gender differences in the dialogue of Shakespeare’s characters. In the same study, a second test that included lexical items produced a more accurate result, but included a higher number of features and was seen to reflect differences in content.
2.4.4 Translation

Burrows-style function word analysis has been used to explore the consistency of linguistic patterns across languages through comparative studies of texts and their translations. The results of all three studies reviewed here are suggestive of a link between function words and an element of authorial style as well as meaning. McKenna, Burrows and Antonia examined Samuel Beckett’s use of common words in the English and French versions of his novel *Molloy*. Their results reflect a “consistent and deeply embedded use of common words” across both versions, suggesting that Beckett in French is like Beckett in English (81). Indeed, the similarities are so strong that the authors argue that the two texts cannot be considered as “separate entities” (81).

In another take on the question of translation, Burrows has explored whether “poets stamp their stylistic signatures as firmly on a translation as their original work” (Burrows, "Englishing" 679). Using function word analysis, Burrows finds that Dryden’s verse translation of Juvenal’s *Tenth Satire* is more similar to his own verse than it is to Samuel Johnson’s translation of the same text. Burrows also finds that Dryden is unusual in that he is able to “conceal his hand” whereas Johnson’s translation is “characteristic of Johnson’s other work” (Burrows, "Englishing" 696).

Rybicki’s study of the “most frequent words” in Polish novelist Henryk Sienkiewicz’s *Trilogy*, produces intriguing results that also point to the need for further investigation into the role that function words play in an analysis of style and meaning ("Burrowing" 93). Rybicki tests whether an empirical study of the *Trilogy* using Burrows’ function word analysis supports observations that the major characters in the novels each speak with a distinctive idiolect. Rybicki’s results support the notion of individual character idiolects in the Polish versions of the text. He also finds that these “the patterns of difference and similarity” ("Burrowing" 102) are preserved in translations, noting that this is true even though the translations are very different: one version translates the original text almost word for word, while the other is somewhat “over translated” and approximately 60 per cent longer than the original ("Burrowing" 92).

Rybicki’s more recent work in translation studies has revealed an area of possible methodological concern in relation to authorship studies as to the size of samples and how this may bias results ("Does Size Matter?"). Translation studies reveal strong similarities in correlation matrices based on most frequencies words across original texts and translations (Rybicki, "Does Size Matter?" 184). Rybicki suggests that the
reason for this may simply be “the difference in size between the parts of individual characters, since that particular feature invariably remains proportionally similar between the original and translation” (“Does Size Matter?” 184). Eder has conducted evaluations of corpora to determine the “minimal size of text samples for authorship attribution that would provide stable results independent of random noise” (Eder 132) and suggests that word frequencies are not reliable markers of authorship, especially in samples of 2,500 words or less.

2.4.5 Characterisation

McKenna and Antonia have suggested that very common words shape the way a reader understands character in their study of Joyce’s *Ulysses* (“A Few Simple Words”). They argue that Joyce varies his use of “syntactic incompleteness” as a rhetorical device that informs character development and cues the reader as to how individual characters may be interpreted (“A Few Simple Words” 55). Craig’s study of the idiolects of characters in plays by Ben Jonson demonstrates that function words, such as *I, though, and which,* “resonate with all the unquantifiable dimensions of characterisation” (“Contrast” 221).

Craig uses only eleven word-variables in his study of Jonson and finds that the patterns of “similarity, contrast and change” (“Contrast” 239) reveal relationships between characters as well as turning points in individual character development, including “a shifting balance between protagonist and antagonist roles” (“Contrast” 238).

Two studies that address a potential conflict between the notion of a distinctive authorial style and individual character idiolects are Craig (“Style”) and Burrows and Craig (“Authors”). Craig’s study of *Henry VIII*, a collaborative play by Shakespeare and Fletcher, demonstrates that although different authors may both contribute dialogue for a particular character, these contributions “hardly ever compromise an overall separation between authors” (“Style” 7). Burrows and Craig have explored the relationship between authorial style and characterisation in more depth noting that even for dramatists such as Chapman and Jonson, who have fairly similar styles, “broad authorial differences” reveal themselves to be responsible for the differentiation between texts (“Authors” 307).

2.4.6 Nationality

Burrows has tested the utility of function words in the classification of texts according to the “nationality” of their author (“Tiptoeing”). In this study Burrows compares
twenty-three British authors with twenty Australian authors; then the Australian authors with twenty American authors; and then the British authors with the American authors. In each case Burrows found differences that distinguished between the three groups. Of the 100 variables identified in the analysis, approximately twenty were statistically significant (at rates better than $p=0.05$). Burrows concludes that “the national differentiae were less powerful than the chronological but were still of real weight” ("Opinion" 363).

### 2.4.7 Linguistic change and social change

Craig has looked at grammatical modality in English plays from the 1580s to the 1640s through a study that explores whether the claim that there was a broad social shift towards a greater sense of subjectivity is reflected in dramatic literature (Craig "Modality"). Craig contrasts *Coriolanus* with *Julius Caesar* and finds evidence in the plays of recourse to different modals from within the group of five modals that feature in his study. Craig explores play texts as evidence of social and cultural change and the process of grammaticalisation. The study suggests that dramatic texts represent linguistic behaviour that reflects “a progressive, collaborative development” and that linguistic change is an iterative process that informs and is informed by culture in a kind of self-reinforcing feedback loop ("Modality" 34). He concludes that modals used in dramatic texts over the period 1580-1640 are “a crude but measurable indicator of the shift from early to modern” ("Modality" 33), the effect of which is to produce a hero or heroine that is “more fashionably inward” than predecessors ("Modality" 33). Craig also notes that there are difficulties associated with attempting to link linguistic change to either dramatic developments or to a “wider change in the conditions of subjectivity itself” ("Modality" 51). Although Craig discerns that changes over time in the use of modals that appears to reflect a heightened awareness of a subjective self in dramatic literature, he concludes that, at present, it is simply not possible to present a “convincing narrative” that combines “linguistics, history, and literary study” ("Modality" 54).

### 2.5 Beyond function words

#### 2.5.1 Overview

Although the studies outlined above have produced sound results in relation to their aims, there have few attempts to use the results of function word analysis more interpretively. A major obstacle to using computational stylistics for more interpretive
analysis relates to the fact that function words are typically viewed as being semantically empty. Their use is seen as driven by linguistic convention and grammatical rules rather than an expressive agenda. It is difficult to articulate a meaning for words such as *did* or *yet* or to see how they contribute to the understanding of complex linguistic constructions, especially when compared with more obviously meaningful linguistic or textual elements, such as content words. As Hoover comments, function words lack “any clear relevance to larger thematic and interpretive concerns” ("Searching" 212). This leads the suggestion that computational stylistics is simply a counting exercise with little practical or interpretive relevance.³ For readers and critics of literary texts, the common assumption is that when it comes to questions of style “the real activity emanates from more visible and more energetic bodies” (Burrows, *Computation* 2), such as content words. This assumption has informed responses from scholars working within the stylistic paradigm, who have developed tests that supplement function word approaches.

In some cases, the focus on function words that was a feature of the early approach developed by Burrows has been expanded to include words in other frequency strata. In stylistic studies, the shift from function words to ‘content’ words goes some way towards bridging the perceived gap between statistical results and interpretation. As Craig explains, it makes intuitive sense that lexical items, as opposed to grammatical items, will link in a more straightforward way to the meaning of a text ("Attribution" 103). Counting lexical items, however, brings a new set of problems concerning the complexity of semantic content and how it should be coded. Although it may be difficult to assign a meaning to any particular function word, such as ‘of’, beyond something that is fairly schematic, there are complex coding decisions associated with the meaning of lexical items, (Craig, "Modality" 34). The problem with these forms is that they “tend to be more difficult to put in hard-and-fast categories (like references to torture or regicide, or instances of *liaison des scènes*, or of hyperbole) and would not command so much agreement in accepting or rejecting individual instances” (Craig, "Modality" 34). The extent to which literary language draws on complex metaphors can undermine the integrity of the data and introduces a level of researcher intervention through the coding process that potentially compromises the analysis.

³ Criticisms of the use of function words in computational stylistics will be discussed in chapter 3.
Burrows has, however, developed tests that explore more obviously ‘meaningful’ elements of a text. These include Zeta and Iota (Burrows, "All the Way"). These two additional tests go beyond common words in studies of attribution and also produce strong results. Using Zeta in a study of Shakespeare and authorship, Craig and Kinney achieve success rates of up to 98 per cent (Craig and Kinney). Zeta and Iota, as described by Hoover are designed to focus attention on words that are “below the stratum of the most frequent words that are characteristic of a text or an author” ("Searching" 13). Zeta is used in situations where there are two or more authors to produce “a list of words that are moderately frequent in the primary author and relatively rare in the other author(s)” (Hoover, "Searching" 213). Hoover finds that Zeta words tend to fall in the frequency range between 100 and 1500, whereas Iota words are “rare words, typically occurring only one to four times in the author’s entire corpus, with ranks above 1,500” ("Searching" 214). As Hoover explains, Zeta and Iota isolate a relatively small number of words that are “stylistically characteristic of an author” ("Searching" 214). These words tend to be content words and as such are seen as leading the analysis “back to the text” in a way that function words do not (Hoover, "Searching" 223). Hoover suggests that these tests illuminate “the central literary and aesthetic questions of style, interpretation, and meaning” and help to bridge the gap between analysis and interpretation ("Searching" 226). While these additional tests clearly contribute to a more complete picture of authorial style they do not diminish the utility of function word analysis.

2.5.2 Vocabulary richness

Problems with measures based on lexical statistics, such as vocabulary richness – usually a calculation based on the ratio of ‘word types’ to ‘word token’ – have been well documented (Thoiron; Tweedie and Baayen; Hoover, "Another"). Researchers, however, continue to experiment with these approaches in computational stylistics with fairly mixed results. Tweedie and Baayen investigate a range of measures derived from the transformations of the relationship between the number of word ‘types’ in a given text and the number of word ‘tokens’ (Tweedie and Baayen). They look at features such as the frequency of the most common word divided by the total text length to represent vocabulary size, and features such as hapex legomena, words used only once, and dis legomena, words used only twice (330). Tweedie and Baayen demonstrate the utility of function words in their study, which compares “the classificatory power of lexical
Hoover takes the Tweedie and Baayen study and performs a more detailed analysis of measures of vocabulary richness that further challenges the value of this measure in studies of attribution and style ("Another"). Hoover first demonstrates that the perceived degree of vocabulary richness for a particular author is not always reflected in the actual measure of vocabulary richness and often reflects subjective views about whether an author is categorized as “difficult” (“Another” 152). Hoover duplicates the Tweedie and Baayen study using less complex statistical methods and examines larger sets of texts as well as variation within and between texts (“Another” 158). The study produces results that appear promising in the first instance, suggesting vocabulary richness successfully distinguishes between authors – but these are then undermined by a number of additional checks, the outcome of which leads Hoover to conclude that the texts are so different that any variable will differentiate them from each other. He suggests that in fact “the easiest way to tell a text by Brontë from one by Baum is by the thickness of the book” (“Another” 164). Hoover suggests that if vocabulary richness has a use then it may be in identifying sections of a text for further analysis ("Another" 163) and not as a measure of authorial style.

One measure of vocabulary richness is Yule’s K, which assesses the degree of word repetition in a given text (van Dalen-Oskam and van Zundert 349). Van Dalen-Oskam and van Zundert use Yule’s K to achieve their results and then turn to Burrows’ Delta – which focuses on function words – to explore their results in more detail. In their study of a Middle Dutch manuscript they find that Yule’s K reveals the traces of two different scribal hands (a result supported by paleographic evidence), and that Burrows’ Delta highlighted “which part of the vocabulary of both the authors reveals most effectively how the two differ” (357). The results of the Delta analysis highlight the strength of function word analysis and this is reflected in the authors’ conclusion that Delta is sensitive not only to changes in author, but also to changes in scribe, suggesting that scribes allowed themselves some “lexical freedom” (360).

Garcia and Martin combine an analysis of vocabulary richness with a study of function words in order to test the strengths of both (Garcia and Martin). They replicate a previous study (2005) of the West Saxon Gospels, which ranked the texts in terms of...
lexical richness as measured by lemma-counting (50). Although the authors aim to show that Yule’s $K$ and Zipf’s $Z$ are “reliable measures of lexical repetition and lexical variation” – an assumption challenged by Hoover – along the way they also confirm the reliability of function words as “salient features in authorship attribution tasks” (53).

2.5.3 Syntactic analysis

Features that researchers have used to analyse style include the use of a syntactically annotated corpus and “frequencies with which syntactic rewrite rules are put to use” (Baayen, van Halteren and Tweedie). Baayen, van Halteran and Tweedie found that the use of syntactic re-write rules enhanced the accuracy of authorship attribution (121). In terms of a more interpretive approach to syntactic analysis, Jonathan Hope has suggested that the key to understanding the ongoing scholarly and popular interest in Shakespeare’s language may be found in the analysis of the poet’s unusual syntax. Hope finds evidence of semantic effects that attribute animacy to inanimate concepts and syntactic effects such as switches within sentences between subject and object, and links this complexity to Shakespeare’s continued prominence (Hope 90).

2.5.4 Content analysis

Martindale and McKenzie set out to compare the success of function word analysis, content analysis, and lexical statistics in classifying authorship of the Federalist papers (Martindale and McKenzie). By content analysis, the authors refer to a process by which they tabulate the “frequency of types of words in a text” (260). The researcher looks for the percentage of words that contribute to a particular category for analysis, for example ‘aggression’. This is, however, a process that introduces a level of intervention that Craig, as discussed above, suggests may compromise the study. By lexical statistics the authors mean features such as word length and phrase length. Martindale and McKenzie used multivariate analyses to see if differences could be detected between the three groups of texts on the basis of two or more variables (for example mean word length and mean phrase length) taken together. Martindale and McKenzie found that lexical statistics were of no use, content analytic measures were moderately successful, and that a function-word approach was the most successful (261). Garcia and Martin similarly found that function words can be used more reliably as identifiers when analysed in isolation, than other less-common lexical items (49).
2.5.5 Non-denotational elements, synonyms, and metaphor

Whitelaw and Argamon look for evidence of style by coding the non-denotational elements of a text. Their analysis is based on the principles of systemic functional linguistics that “views a text as a realization of multiple overlapping choices within a network of related meanings” (1). Whitelaw and Argamon argue that the bag-of-words approach is a “naïve representation” of a text because it implicitly assumes that the vocabulary of a text consists of words that occur independently of each other (6). The ‘bag-of-words’ approach is contrasted with their systemic approach, which they describe as categorising a text “according to the meanings that it makes rather than just the words that it uses” (1). The additional coding the authors overlay allows them to look at patterns of “semantically related groups of words at all levels in the network” (6). By way of example, they explain that language choice may reflect a category like ‘interactant’ through pronominal use. This can be interpreted in terms of the frequency with which a category is used, or the “relative usage within a category” (6). Features thus reflect choices “between semantic categories within a system” rather than a choice between words (6). Although the results of the study are promising the authors also acknowledge that full parsing of a text remains a problem. More significantly, however, in semantically linking words and features at various levels, a degree of interpretation (or intervention) is introduced at a very early stage thus leaving the study open to the criticism that it is not the text which is being analysed but the critic’s own interpretive categories. In any event, the study by Whitelaw and Argamom actually shows that a simple ‘bag-of-words’ approach successfully distinguishes between the three corpora in their study.

Clark and Hannon (2007) propose that “a feature set based on synonyms” provides a metric that correlates strongly with authorial style (840). Clark and Hannon’s study suggests that it captures idiosyncratic word usages and weights them if they indicate “a higher degree of free choice on the part of the author” (841). A high degree of free choice occurs if one word has a large number of synonyms, thus giving the author a high degree of scope to exercise freedom in choosing the appropriate word (841). Clark and Hannon conclude that an analysis of synonym-based features works best when it is combined with analysis of other features (848), suggesting that the utility of this approach is somewhat limited.
2.5.6 Keywords

Jonathan Culpeper’s work does appear to combine analysis of function words with a more interpretive approach. Culpeper, however, looks at ‘keywords’ as defined by Enkvist (“Defining”; *Linguistic Stylistics*) – which include both lexical and grammatical items – to identify style markers. The analysis focuses on the degree to which a particular word deviates from a relative norm in a given text (Culpeper, *Computers* 13). Culpeper identifies keywords in a text through the *KeyWords* facility of Mike Scott’s *WordSmith Tools* (1999). *WordSmith* produces cross tabulations of word frequencies in a target text or texts and a reference corpus, and allocates a figure of ‘keyness’ to the variables in the output. Culpeper’s study of characterisation explores the role of keywords in the generation of a reader’s impression of characters in Shakespeare’s *Romeo and Juliet*. Culpeper refers to Blake – who suggests that subtle features like grammatical items “can readily be overlooked, particularly in the theatre” – to argue that we cannot assume the subtle way function words operate necessarily means that the impact of these features is negligible (qtd. in Culpeper, *Computers* 11).

Culpeper’s study finds that function words appear in his list of ‘keywords’ and that these variables point to stylistic features (*Computers* 17). For example, Culpeper argues that *if*, *yet*, *be*, and *would* are keywords for Juliet and that they create a meaningful “syntactic style” which reflects a persistent level of anxiety and uncertainty in the character and a reader’s perceptions of her (*Computers* 19-20). Culpeper also classifies pronominal patterns as positive or negative for each character (*Computers* 23) and argues that the pronouns can be seen as reflecting aspects of a character that enhance our understanding of them. Although many of the keywords identified by Culpeper are lexical items rather than function words, he argues that there appear to be interpretive links between the two sets of words and the results hold for a range of characters. In the case of Romeo, it is argued that the use of pronouns reflect his awareness of “his own role as a lover and of the effect of circumstances” on his life in the world of the play (24) and for the nurse, they reflect her low social status and more colloquial register.

Paul Rayson proposes a data-driven approach to quantitative computational studies of literature as opposed to a corpus-driven one. His *W*-matrix web-based tool extends the typical keyword analysis of corpus stylistics to the analysis of parts of speech and semantic fields in multiple texts (Rayson). Several studies have found that the “UCREL Semantic Annotation Scheme” facilitated by the *W*-matrix program yields useful
information about plot, characterization, and also the use of metaphor in texts. It does this through the way it links features like semantic fields and pronouns so that relationships that might have been unobserved by a reader can be examined in more detail following computational analysis. These results are seen to be relevant to interpretive analysis because the semantic domains that are identified can be analysed in terms of cognitive theories of metaphor. Therefore, this approach uses a qualitative analysis to supplement the quantitative one. The study concludes that the W-matrix system reveals previously unknown metaphorical links and collocations that appear to reflect intuitive assumptions.

Archer, Rayson and Culpeper extend Culpeper’s work in characterisation and keywords, using Rayson’s UCREL, by looking for “significant collocates for the key semantic fields” (3). The study investigates how love is presented in two datasets and then highlights resemblances between the project findings and conceptual metaphors identified by cognitive metaphor theorists. This work builds on Jonathan Culpeper’s analysis of keywords in Shakespeare and Rayson’s comparisons of keyword and key domain analysis (Rayson). The work by these scholars, which integrates quantitative analysis of keywords with insights arising from cognitive linguistics, points to a fruitful line of enquiry for a Burrows-style study that will be explored further in this thesis.

2.6 Linking theory and method

Although there are numerous studies demonstrating that words throughout the frequency strata can successfully differentiate between authors, it remains true that the very common words – and in particular function words – make an important contribution to statistical stylistics and authorship attribution. It appears that function word analysis can also provide other useful insights into a range of questions of general literary and critical interest, including characterisation and interpretation. On this basis, criticisms of Burrows-style computational stylistics seem not to be related to the discriminatory power of function words, but rather to a lack of a supporting theoretical framework that explains why function words produce these results, and the assumption that there is no disciplined way of interpreting what the results mean.

This thesis argues that, on the basis of assumptions arising from the account of language and meaning that dominate literary studies, the apparently formalist nature of computational stylistics seems to militate against the possibility of an analysis that attends to the theoretical concerns that dominate contemporary literary studies,
particularly notions of culture and context in the production of meaning. The role that function words may or may not play in defining author style is therefore closely related to questions about the relationship between form and meaning, and the relationship between style and content. Hoover notes that an “absolute distinction” between style and content is one that few stylisticians continue to support (2008 12) but the distinction reflects a pervasive model that nevertheless has some relevance and will be discussed further in this thesis.

Some computational studies using function words have directed attention to the complex question of form and meaning. A study by McKenna and Antonia draws on the work of Mikhail Bakhtin and the link between the social and the linguistic to understand the effects of function words on readers’ perceptions of character (“Nausicaa”). Bakhtin claims that “social dialogue reverberates in all aspects of discourse, in those relating to ‘content’ as well as the ‘formal’ aspects themselves” (Bakhtin 300). On this basis, McKenna and Antonia argue that common words reveal much about “the socio-cultural, economic, and political worlds of the literature texts that they constitute” (“Nausicaa” 354). In the framework McKenna and Antonia employ, function words reflect different ways of saying and different ways of meaning, both of which are culturally characteristic (“Nausicaa” 355). McKenna and Antonia focus on the modals could and would, the conjunctions so and because, and the word like when it appears at the beginning of prepositional phrases so as to provide examples of the distinctive ideology of the narrative as it shapes awareness of Gerty MacDowell in James Joyce’s Ulysses. The authors argue the narrative uses the phrases or clauses built around those causal conjunctives and the preposition like, especially in attempt to reveal “her lack of understanding of her social world, and the modals that so frequently accompany the discourse about her show her complete lack of the power needed to achieve her aspirations” (“Nausicaa” 354).

The application of Bakhtin’s theory of the dialogic, and the claim that “form and content in discourse are one” (Bakhtin 259) provides a productive interpretive framework for the analysis of the results of a Burrows-style study that challenges common literary critical assumptions about form and meaning. It does not, however, address the problems that critics raise concerning the validity of the approach including specific methodological issues. It also does not address more general matters, such as the theoretical implications Burrows-style studies raise concerning notions of
authorship, which run counter to the more collaborative view of authorship that prevails in much of the critical literature concerning early modern drama. Although authorship is not a focus of this study, it is important to note that the category of ‘author’ continues to be one that demands attention and analysis in computational stylistics as it reveals itself to be a more powerful discriminator than other variables such as genre, gender, or character. Without a theory to explain the results of a Burrows-style computational analysis, it is difficult to provide a robust defense of the role of individual authorship as it emerges from the quantitative results, or to explain why one methodological approach might be preferred over another in a particular set of circumstances. It is also difficult to use the results of a stylistic study to address questions that are of interest to literary scholars more generally.

2.7 Conclusion

This survey of work in computational stylistics over the past three decades has highlighted the continuing importance of function words as a basis for authorship studies and for more broadly stylistic studies. In spite of the lack of theoretical work on how or why function words help distinguish between authors there are numerous studies that support the use of function words in computational studies of attribution and style. This is not to suggest that function words are the sole feature responsible for what is perceived by readers as authorial style. It is likely that readers respond to a large number of elements intuitively when assessing authorial style. A better understanding of the role of function words in shaping style is required. This would explain the contribution function words make to a reader or listener’s perception of style, and how they can be understood as part of a communicative strategy that is socially and culturally embedded. Burrows suggests that function words “constitute the underlying fabric of a text” ("Opinion" 375), and that they are “a barely visible web that gives shape to whatever is being said ("Opinion" 375). A cognitive framework can help explain why some of these threads to which Burrows refers are more prominent than others. The goal of this thesis is to articulate a way in which the role of function words can be understood as an element of authorial style, and to go some way towards closing the interpretive gap between raw counts represented in the data in a Burrows-style study, and the complexity of language as it is used in literary, social and textual contexts.
Chapter 3. Criticisms of computational stylistics

3.1 Introduction

The lack of engagement between traditional scholarship and computational scholarship is such that its acknowledgement has become something of a critical commonplace. David Miall, for example, comments that empirical studies of literature are “mostly disregarded and deprecated when they are noticed at all” ("Necessity" 44). Because Burrows-style computational stylistics has rarely been accorded a fully developed critique, the reasons these studies have been overlooked must often be inferred from implied arguments, or from criticisms of related activities. In general, resistance to Burrows-style computational stylistics comes from two main sources. These include scholars who object to the use of empirical approaches in the study of literature in principle as well as practice, and scholars who are sympathetic to the use of empirical approaches but are critical of specific elements of the Burrows function word approach. In this chapter, I review challenges to the validity of computational stylistics from both sources.

Stylistics and computational stylistics begin with a focus on the formal linguistic features of a text – such as the $n$-most common words in the case of a Burrows-style study – and as such appear to represent a return to the formalist assumptions against which scholars associated with more recent historicist and materialist critical traditions have argued. This view leads to the conclusion that computational approaches are fundamentally disconnected from the purpose of literary studies as it is currently understood. Much of the criticism of computational stylistics concerns the elements of textual analysis that a formal approach – as it is usually conceived – is alleged to blur, leave out, or render impossible. These criticisms reflect assumptions about language that need to be examined in light of developments over the last several decades in linguistics and cognitive psychology that question orthodox theoretical positions regarding issues that are central to literary studies. These issues include views on the arbitrary nature of language, the relationship between form and meaning, and notions concerning subjectivity and authorial agency.

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4 Related comments and criticisms from other scholars will be discussed throughout this chapter.
This chapter considers comments in relation to stylistics in general, computational stylistics as a branch of stylistics, and the computational stylistics of very common words, which forms a subset of work in computational stylistics. As noted in chapter two, the application of computational approaches to questions of classification is somewhat less controversial than the extension of computational results into more descriptive or interpretive terrain. Although both classificatory and descriptive studies have met with challenges, the use of computational stylistics in descriptive and interpretive studies is less well established than studies that attempt to address a definitive question such as author identity or gender. Interpretive studies are, however, more closely related to the usual activities of literary scholars and so, even though there are few direct challenges to studies of this nature, related criticisms are considered in some detail. This chapter first considers studies that focus on the classification of texts, particularly in relation to methodology, before moving to a consideration of more interpretive studies and related criticisms. The discussion in this chapter focuses on the reception of computational approaches in literary studies rather than linguistics, since the overall aim of the thesis is to bridge the gap between literary studies and computational stylistics.

3.2 Criticisms relating to classification

3.2.1 Authorship

One of the major branches of computational studies focuses on the classification of texts according to a range of criteria such as gender, genre, nationality, and chronology. Critics of authorship studies suggest that computational studies are based on a flawed notion of authorship that has been refuted by poststructuralist understandings of subjectivity arising from the work of scholars such as Barthes, Derrida, and Foucault. In the case of early modern drama it is further suggested by critics of stylistics that modern concepts of authorship are irrelevant given the highly collaborative nature of textual production. Jeffrey Masten’s *Textual Intercourse: Collaboration, Authorship, and Sexualities in Renaissance Drama*, for example, makes the case for an historicised concept of authorship in the early modern period that centres on collaboration rather than individual creative agency (Masten). Holland and Orgel similarly focus on the

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5 Views of subjectivity relating to post-structuralism and Saussurean linguistics will be discussed in more detail in chapter four.
The collaborative nature of dramatic texts as opposed to canonical notions of authorship that privilege the individual hegemonic author (Holland and Orgel). On the basis of these sorts of understandings, critics of computational stylistics have argued that authorship studies using computational stylistics are bound to fail since either authorial agency is largely mythical, founded on the ideologically-driven concept of the bourgeois subject (McMullan, *King Henry*), or that it may exist but only as a comparatively modern development (McMullan, "Whole Life"). Judith Butler’s work on the performative aspects of gender has also informed critical understandings of authorship and subjectivity (Montrose), implying that this aspect of ‘play’ should also confound attempts to identify an authorial signature.

Turning to specific claims, critics, such as McMullan, suggest that in texts written before the modern concept of authorship prevailed, we cannot expect works that happened to be written by one person to have any genuine coherence. That is, if subjectivity is an ideological matter and is constructed through a network of inter- and intra-textual as well as cultural significations, we should expect the relationship between texts by the same author to be no more significant than the relationship between any text in a group. McMullan argues that the stylistic conventions associated with a particular genre are likely to outweigh any author effect (*King Henry* n. 193 and 196) and that idiolects associated with individual characters would undermine any measure of authorial consistency in a stylistic study ("Whole Life" 449; *Shakespeare; King Henry* 195). This view also suggests, as Craig notes, that attempts to distinguish between authors in collaboratively authored plays should be unsuccessful ("Style" 22). Computational stylistics reveals that the expectations outlined above are demonstrably false. As noted in chapter two, Craig has shown that “writers … can’t help inscribing an individual style in everything they produce” ("Style" 3) and that “the author effect” has a surprising “strength and consistency” ("Style" 7). This effect holds true even in the case of collaboratively authored texts, where studies have shown that the statistical analysis of function words can distinguish between different authorial renderings of the same character in the same play (Craig, "Style" 31). The pervasive effect of authorship in stylistic studies is also noted by Burrows who observes that “experience has shown that, if differences of authorship, genre, and era are all in play, authorship usually prevails” ("Opinion" 370).
A key problem for stylistics is that it is difficult to explain the strength of the results of author-based stylistic studies in the context of contemporary theoretical views on subjectivity and authorship. Craig notes that strong views about the culturally constructed nature of the concept of an author remain influential in early modern studies, as for example in the work of scholars such as Margreta de Grazia and Peter Stallybrass, and suggests that humanities computing “can offer a path to a new conception of authorship” ("Style" 1) that is evidence-based and reflects “a pressure to create a distinctive identity in language, part cultural and part biological” ("Style" 41). This thesis argues that a cognitive framework provides the theoretical basis for the model of authorship that Craig describes, and that Cognitive Grammar is particularly relevant as an explanatory framework for Burrows-style computational stylistics.

This thesis argues that the cognitive turn, which will be discussed in chapter four, provides a basis for authorship analysis, a concept that Craig has pointed out retained some currency even in the early modern period, as evidenced by the authorial claims made by Jonson over Bartholomew Fair, and the publication of the folio of Shakespeare’s plays in 1616 ("Modality" 34). Cognitive Grammar does not, however, signal a return to a “post-Romantic” (McMullan, Shakespeare 228, 254) idea of authorship or signal an acceptance of the so-called “transcendental signified” (Derrida, Of Grammatology 23). In fact, conclusions about authorship and subjectivity that emerge from a cognitive framework are surprisingly close to those that feature in contemporary literary criticism. A cognitive framework supports the idea “that some form of agency is fundamental to language” (Crane 22) and thus identifies authorship as a viable object of study. This is seen as entirely consistent with idea that a coherent sense of self is illusory in that it is an effect of the interaction of many complex neural messages that create a sense of integration, and that there is no single location in the brain in which “the self” resides (Damasio 95).

3.2.2 Techniques and tests

Within the field of computational-stylistic attribution studies there has been intense debate about the methods and measures used to classify texts, and robust discussion of particular results. For the most part, the most direct engagement with stylistic studies is when practitioners from within the quantitative paradigm discuss variations of technique. From outside the field of stylistics there are fewer challenges to classification studies, because in this case the outcome is a yes or no decision and methods can be
justified by effectiveness in relation to a fixed goal rather than conformity to theory. Although there are dissenting views in relation to tests and techniques, the Burrows method is widely regarded as “the first port-of-call for attribution problems” (Holmes and Crofts 186). Holmes and Croft further note that the results of Burrows’ multivariate statistical analyses involving large sets (50-100) of such words [high frequency function words] have met with astonishing success” (Holmes and Crofts 185).

Critics of computational stylistics commonly refer to two well-known studies that were failures and highly publicised as such, as being representative of their concerns. The best-known dispute over a particular attribution in terms of method – the ascription by Donald Foster of the *Funeral Elegy* for William Peter to Shakespeare – is comprehensively dealt with in Brian Vickers’ *Counterfeiting Shakespeare* *(Counterfeiting)*. Vickers uncovers problems in Foster’s methods and use of evidence, including his misreading of research in historical linguistics to support the incorrect attribution. The second frequently quoted problematic study involves Andrew Morton’s Qsum (or Cusum) method (Morton and Michaelson). The Qsum method produces charts of elements that are claimed to be unique to individual language users. These may include “such things as the number of words starting with a vowel, or words consisting of two or three letters, or nouns, relative to the total number of words in a sentence” (de Haan and Schils 3). Morton’s approach was used in high profile legal cases in the United Kingdom and later found to be “totally unreliable” (de Haan and Schils 105). These well-known examples of poor scholarship – both of which have very little in common with the Burrows approach – have become emblematic of the perceived risks computational studies are believed to entail, despite several decades of sound work.

Joseph Rudman, a vocal critic of computational stylistics (also mentioned in chapter two) draws attention to the diversity of methodological approaches that are a feature of the field and suggests that this represents a lack of rigour in the discipline. Rudman claims “for every paper announcing an authorship attribution method that ‘works’ or a variation of one of these methods, there is a counter paper that points out real or imagined crucial shortcomings” (“Problems” 352). Vickers similarly argues that the field of computational stylistics is in “a permanent state of confusion” (“Shakespeare” 114). The proliferation of tests is in part a reflection of the fact that style is a complex concept and there is no agreement on how it should be defined. Although function
words appear to point to an element of style that can be quantified it would be reasonable to assume that there are other aspects of style that cannot be measured, or may be more difficult to measure. The success of a range of tests in varying circumstances could equally be argued as strengths, rather than weaknesses or constraints, and evidence of the multi-dimensional nature of style.

As the field develops, some scholars are responding to concerns about the lack of rigour expressed by Rudman and Vickers through the conduct of comparative analysis to determine which tests are “the best indicators of authorship” (Grieve 251; Jockers and Wetten). Grieve systematically compares thirty-nine stylistic measures in order to evaluate their relative utility in assessing authorship attribution. Mathematician, Patrick Juola has also contributed to the refinement of techniques, particularly through the development of JGAAP, a software system that helps to determine the best solution to an authorship attribution problem (Juola et al.). Some scholars have reproduced particular computational studies in order to test the validity of claims, as well as to check whether issues raised by critics are justified. For example, Levitan and Argamon have counter-checked claims by Rudman that attribution studies on the twelve disputed Federalist papers are problematic due to the use of a flawed corpus (“Monument”). Levitan and Argamon revisited the Federalist study using a revised corpus “based in large part on Rudman’s critique” (Levitan and Argamon 1) and found that the results of the prior study remained stable, providing “additional support to the almost universally accepted allocation that Madison is the author of the disputed Federalist papers” (Levitan and Argamon 4).

Within the field of computational stylistics it is common practice to work with research questions where the answer is known in order to establish the reliability of methods before applying them to more controversial or complex questions. With this approach to methodological development, Burrows and Craig have achieved a success rate of over 90 per cent using function word stylistics (Burrows, "Opinion" 363). Although Burrows has been primarily responsible for the development of techniques, practitioners continue to refine and improve methods. Hoover has done so with Burrows’ Delta, as has Craig with the development of a variant of Burrows’ Zeta (Hoover "Delta"; Hoover
In this way, as Burrows explains, work has advanced to the level that it is now possible to use function words in studies of attribution based on comparisons between many candidates as opposed to an either/or study based on a head-to-head comparison ("Opinion" 363). In any case, Burrows suggests that the very nature of the type of the questions that literary critics ask, and the texts they work with, mean that answers proceed on the basis of internal evidence and the balance of probabilities and that a likely answer only becomes possible “when several independent tests yield mutually corroborative outcomes at high levels of confidence” (Burrows, "Opinion" 367). Although, function word tests may present a fragmentary picture of a complex notion such as authorial style, this does not mean that the picture revealed through these tests tells us nothing. A range of robust tests – as opposed to a single “killer app” (Juola "Killer") reflect the complexity of the data.

The Burrows approach as employed in this study, is characterised by the use of Principal Component Analysis (PCA), which analyses differences in relative frequencies of very common words, in the case of this study, function words. For some critics, the statistical tests are also a source of contention. Vickers, for example, argues that PCA is a test of “comparative resemblance” rather than authorship ("Shakespeare" 119). Burrows notes that there is a tension between resemblance and attribution, given that resemblance could also indicate plagiarism, imitation, anonymous publication, or pseudonymous publication ("Opinion" 369). This in itself, does not rule out the utility of PCA or authorship attribution studies, since pattern recognition is the basis for all tests of authorship attribution, including those used by Vickers. Rather, Vickers’ observation points to the need for a better understanding of why the Burrows method works, and Cognitive Grammar appears to facilitate this. As argued above, the lack of a narrow definition of authorial style need not be seen as a weakness that precludes the use of computational stylistics. A similar approach is taken in many of the social sciences, including economics, when attempts are made to measure complex, multidimensional effects such as poverty. Economist Amartya Sen, for example, comments that the difficulties associated with measuring ambiguous concepts is not an argument for “seeking a spuriously narrow exactness” because in social investigation “it is undoubtedly more important to be vaguely right than to be precisely wrong” (Sen 45).

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6 Burrows notes that Craig’s Zeta variant is described on pages 226-7 of the glossary in Craig and Kinney’s Shakespeare, Computers and the Mystery of Authorship (“Opinion” n. 18 365).
PCA has a number of strengths that Burrows outlines in his description of the approach: it can be used in an exploratory fashion, as well as to classify texts ("Opinion" 361); it gives the researcher an overview of the “various affinities and disaffinities” between texts, which can then be verified or falsified ("Opinion" 358); and it allows “the word list to rule the game without intervention” ("Opinion" 361). For the classificatory aspect of PCA, the Burrows method employs Student’s \( t \)-test, which assists with the establishment of a set of marker words that distinguishes two groups from each other and allows the researcher to work with PCA in a way that has been “optimized for classification” (Burrows, "Opinion" 363). The Student’s \( t \)-test compares the way two groups behave on a range of variables. As Burrows explains:

> Working on each variable in turn, it compares the mean scores for each subgroup, takes account of their standard deviations, and yields a numerical expression of the probability that the two subgroups are not separable, and it is usual to dismiss that variable as of no evidential weight for that purpose. ("Opinion" 362)\(^7\)

This effectively maximises the ability for the researcher to understand which variables are most responsible for most of the difference between the relevant text groups.

3.2.3 Individual words and \( n \)-grams as authorship markers

At the heart of Vickers’ criticism of Burrows-style computational stylistics is his view on language and how this translates to textual analysis. These assumptions about language are also reflected in the steps Vickers (and other critics) takes to address perceived problems with the Burrows approach. A key decision in a stylistic study concerns the elements or events that are chosen as possible author markers. With no sound theory of language to guide this process, researchers have selected a range of markers as variables for analysis, including “sounds, letters, words, or perhaps even phrases or sentences” (Juola, "Authorship" 252). A major criticism of computational stylistics as practiced by Burrows is that it treats language as though it is a disconnected collection of words, in which the frequency with which a word may or may not occur is unrelated to the frequency with which every other word in that language may or may not occur. This is also known, somewhat pejoratively, as the ‘bag-of-words’ approach since it uses “every word that appears in the document without regard to order” (Juola,

\(^7\) Burrows provides a more comprehensive explanation of the use of Student’s \( t \)-test in “Tiptoeing into the Infinite” (“Tiptoeing”).
Juola provides a thorough overview of the difficulties associated with linguistic analysis given its dependencies and regularities, and contrasts the bag-of-words approach with more psycholinguistically plausible models. As Juola notes, although psycholinguistic models may be more realistic, they also have their shortcomings, mainly that they are so complex they are rarely used ("Authorship" 253).

Vickers addresses the perceived shortcomings of the bag-of-words approach through the use of word \( n \)-grams. The use of word \( n \)-grams for authorial attribution is a response to the conviction that language is predominately ‘chunked,’ and that idiom, rather than grammar, is the first principle of language analysis. \( N \)-grams are repeating fixed phrases of sequences of words as they appear in the text (Lancashire, *Forgetful* 139). Individual words are 1-grams, while phrases consisting of two words such as ‘she will’ are 2-grams, and so on. A related concept is that of ‘collocations’, which are words that “appear within a specified window of each other” (Antonia, Craig and Elliott 3). Ian Lancashire argues for an \( n \)-gram approach in his comment that:

An author's signature can be found in his repetend clusters, the networks of repeating fixed phrases and collocations in a text. These clusters are fragmentary realizations of schemata in his long-term memory. Just as we recognize a face by its combinations of visual features, or a signature by its stroke assemblages, so we can recognize Shakespeare's writing – in the way he believed we do – by its repeating verbal clusters. ("Empirically" 137)

For Lancashire an “identifiable [authorial] idiolect” depends not on the use of individual words but on the combination of these short repeated phrases, which are mainly composed of function words, with networks of significant lexical words (*Forgetful* 137). Like Lancashire, Vickers argues against “atomistic” approaches to linguistic analysis and suggests that attributions studies “need a linguistic theory and methodology responsive to the fundamental feature of natural languages, that...‘weave’ together words of all kinds in order to create meaning” ("Shakespeare" 135). In Vickers view, \( n \)-grams, unlike individual words, reflect parallels “in both words and thought” that they come from “verbal memory” ("Shakespeare" 109) and are therefore something intrinsically related to authorship.

Vickers promotes the use of trigrams, which are unusual sets of three consecutive words appearing in a mystery text and in an authorial corpus. He has applied his method to the *Additions to The Spanish Tragedy* ("Shakespeare"; "Identifying") and to the canon of Thomas Kyd ("Kyd") with promising results. It remains the case, however, as noted in a
recent study by Antonia, Craig, and Elliott, that “language in fact operates as much by individual words as by chunks” (Antonia, Craig and Elliott 1). This study on word \(n\)-grams and authorial attribution found that when drawing on “regularly occurring markers, and drawing on all the available vocabulary, 1-grams perform best” (Antonia, Craig and Elliott 2). An additional interesting outcome of this study is that when the bag of words is restricted to a “defined list of function words” then “2-grams offer a striking improvement on 1-grams” (Antonia, Craig and Elliott 2). From the point of view of Cognitive Grammar this result makes sense, since individual function words are meaningful and can be interpreted as part of a rhetorical and conceptual strategy, function word 2-grams can be seen as capturing a more extensive expression of the relevant conceptualisation. Cognitive Grammar suggests that stylistic analysis does not, in fact, require a choice between either single words or \(n\)-grams where \(n\) is greater than 1, since both approaches are equally valid.

3.3 Criticisms relating to description and interpretation

Interpretive analysis has not been the focus of Burrows-style computational stylistics and so criticisms relating to the approach are less obviously found. There are, however, a number of objections to Computational Stylistics that need to be considered.

3.3.1 Computational stylistics is formalist

For many contemporary humanities scholars, the formalism associated with computational stylistics appears to ally itself with “dated theoretical models” such as formalism, new criticism, and structuralism (Rommel 91). Greenblatt argues, for example, that formalist approaches “convey almost nothing of the social dimension of literature’s power” (Shakespearean Negotiations 4), thus opposing a “poetics of culture” against a reading that is attentive “to formal and linguistic design” (Magnusson 5). From this perspective, texts are viewed as “bundles of historical or social content” as opposed to self-contained aesthetic objects that can be subject to formalist analysis (Rasmussen 1). The attention to the material conditions of cultural production that is a feature of these more recent approaches to literary analysis responds to the failure of formalism to attend to historical and contextual specificities.

The contrast between ‘formalist versus non-formalist’ approaches in terms of ‘computational versus historicist’ is not entirely straightforward. New Historicism’s dependence on the basic assumptions of Saussurean linguistics, and the science of signs,
is apparent in Greenblatt’s claim that the method “must be … intent upon understanding literature as a part of the system of signs that constitutes a given culture” (Renaissance Self-Fashioning 4-5). These approaches reflect “internalized formalist assumptions about the operations of language” (Hart, "Matter" 313) which are then transposed on to a reading of social and cultural discourses. David Scott Kastan makes a similar argument regarding pervasive formalisms in Shakespeare after Theory, when he suggests that new historicist techniques “are not properly historical at all but rather formalist practices, discovering pattern and order, unity and coherence, in the culture (which is revealingly imagined and engaged as a ‘text,’ even if a ‘social text’)” (Kastan 30-1). This thesis argues that the strong distinction between formalist and historicist or materialist approaches that characterises theoretical debates in literary studies overstates the differences and underestimates the interplay between what Dubrow calls, the relationship between “literary form and cultural tensions” ("Politics of Aesthetics" 79). Cognitive linguistics and Cognitive Grammar provides a disciplined way of theorising and analysing this relationship.

Although formalist approaches have had little critical currency in literary studies in recent years, there is increasing critical interest in a ‘new formalism’ that views formal and cultural elements in aesthetic objects as linked. In a review for the Modern Languages Association, Levinson describes New Formalism as having two branches: “active” and “normative” (559). Activist formalism is seen as bringing about a renewed attention to the structures of literary works as a way of reviving Marxist and materialist analysis (559). Normative formalism, on the other hand, is seen as attributing normative values to the cultural and political aspects of textual production and assigning “to literature a special kind of concept of form, one that is responsible for a work’s accession to literary status in the first place” (559).

A cognitive approach sits uneasily between these active and normative New Formalisms since it does propose that language reflects certain norms associated with the concept of ‘embodiment’, which will be discussed in chapter four. This does not, however, mean that the approach assumes that there are normative understandings of what constitutes ‘literary language’ or ‘non-literary language’ since Cognitive Grammar accepts no such distinction. A cognitive approach also offers new insights into the way in which individuals create meaning and interact with material culture, maintaining, as Hart says, “key insights into the characteristics of ideological constructivism” while recognising
that semantic systems are firmly rooted in a “material cognitive system – that is, the brain and body” (“Matter” 328).

Franco Moretti’s school of "Distant Reading" represents a different kind of formalism, but it is one that must be considered here, particularly because of its empirical nature (Moretti). Distant Reading is a quantitative approach to literary texts that eschews close reading in favour of the analysis of aggregated data. Using quantitative techniques and visual representations, Moretti examines issues such as the rise of the novel in countries such as England, Italy, and Japan. From the perspective of orthodox literary scholarship Distant Reading and computational stylistics reflect a number of similarities. The similarities include:

1. A focus on patterns of usage in textual features;
2. The use of visual imagery, such as graphs, to represent identified patterns; and
3. An attempt to link identified patterns to extra-literary events.

Distant Reading, like computational stylistics, has emerged in an environment without an integrated theory of language that is “inclusive, unified, and plausible” (Ohmann 425).

As with computational stylistics, the formalist nature of Distant Reading sits well with studies that focus on classification or attribution, but poses a challenge for a more interpretive stylistics. In one sense, this is a condition computational stylistics shares with other critical approaches, in that it may be possible to demonstrate empirically that a given textual pattern exists, but the interpretation of this pattern will be subject to the judgment and contextualisation that the critic brings to the problem. Thus, using an empirical approach, it may be easy to show that Hamlet's style of speech changes in the course of Shakespeare’s tragedy, but it is more difficult to link the observed changes to “Early Modern beliefs about the typical course of melancholia” or some other broad historical or cultural phenomenon (Craig, "Responses" 6). Craig states that it should be possible nevertheless to correlate the outcomes of computational studies with “well-defined extra-literary patterns” (“Responses” 6). He suggests, for instance, that “relationships could be explored between findings in computational stylistics or Distant Reading and those of a quantitative sociology; of a book history; of a formal historical periodisation; or of a system of different technologies” (“Responses” 6) but that there is little evidence of this having occurred.
Scholars working in a cognitive framework have gone some way to towards addressing the sorts of questions that Craig raises on the basis of empirical or stylistic approaches, though not on the basis of Distant Reading. Frances Steen, for example, produces what Hart describes as, a kind of “cognitive historicism” in which metaphors identified in the work of Aphra Behn’s *Love-Letters between a Nobleman and His Sister* are traced “through the literary and philosophical texts of earlier periods” (Hart, "Epistemology" 316). Steen draws on cognitive theories of “perceptual blending” – which will be discussed in chapter five – to argue that Behn was “paid to write *Love-Letters* as Tory propaganda” (115). Steen also draws conclusions about the role of “imaginative elaboration” (116) in political contexts as well as readers’ cognitive processes through “the ways in which the mind in love argues, resists, yields, and doubts” (Steen 117). In a separate study, Zunshine looks at the cross-cultural salience of themes of the “lost self” in drama and literature, with particular reference to its comic use in stage drama in three texts published in the years 200BC, 1690, and 2002 (Zunshine 97). Zunshine seeks to understand the longevity and cross-cultural salience of this theme by exploring the shared knowledge that various audiences from a range of backgrounds and time periods have access to in order for the texts to be understood as comical. These two studies are indicative of the ways in which scholars working within a cognitive framework are seeking to link a formalist analysis with a contextual analysis that is historically rich, producing what Breslin describes as an “historically informed formalist criticism” (qtd in Levinson 559).

3.3.2 Computational stylistics is not objective

Another criticism of stylistics, computational stylistics, and function-word stylistics concerns the argument that these studies represent a misapplication of scientific method. Claims that stylistic studies are more objective than so-called ‘impressionistic’ approaches are therefore seen to be spurious. Fish, for example, finds stylistic analysis to be “infected” by interpretation through the processes by which the practitioner selects specific formal features for analysis (Fish 69). He accuses the critic of scrutinising “his data until he discerns a ‘structural property’ which can be made to fit his preconceptions” (Fish 77). This is seen to produce an intrinsic and unacknowledged bias in all stylistic studies that renders the claims of practitioners arbitrary and reduces stylistics to a circular activity in which the stylistician selects textual features for analysis that simply confirm an already established belief about the text in question.
Bennett makes a similar point in relation to Distant Reading, claiming that, for a quantitative study, there are no “given units” and so the researcher must make a selection, thus undermining the objectivity of the study (T. Bennett 290, 291).

Leaving aside the fact that this criticism generalises to any statistical study that uses probabilistic inference, and to all literary criticism statistical or otherwise, Burrows-style function word stylistics effectively minimises the concerns that Fish and others raise. The function word approach involves a minimum of editorial interference and, according to a cognitive framework, deals with linguistic elements that are inherently meaningful. Although there has been, as Rudman notes, a proliferation of tests that analyse a number of linguistic features, Burrows-style stylistics counts words, which are as close as possible to a ‘given’. Words are the most accessible and the smallest meaningful unit in a language. As noted above, PCA allows the word list to dominate rather than the researcher, since the selection within the list is determined by patterns in the data, and the use of function words provides a defensible list of meaningful units for analysis in all studies. A focus on function words naturally means that other textual elements are not prioritised in the analysis and other elements of style are overlooked. However, the claim here is not that function word stylistics is a complete analysis: “findings are relative to the units chosen rather than absolute” (Craig, “Responses” 6)

The claim is rather that function words are revealing of an aspect of authorial style and that a cognitive framework can explain how this aspect operates textually and how function words contribute to meaning and interpretation.

In any case, it is easy to show that the selection of units or a “structural property” does not necessarily create a circular analysis as proposed by critics (Fish 77). For example, in studies where a unit or structural property indicates that women write differently from men, it matters little which unit was selected or how it was chosen since the difference has an external basis. A similar argument can be made for classification studies more generally where a disputed text can be tested against known texts: if there is an objective way of validating the units, then the matter of which units were selected and how they were selected is of little consequence. Craig suggests the same case can be made for a study that investigated a rise in informal and conversational language in late Shakespeare verse as opposed to earlier verse. In this case, a group of units is chosen which intuitively seem to co-vary with informality in verse, such as enjambment, contractions, hypermetric syllables, and second person pronouns. This intuitive decision
can be checked by “counting these features in groups of samples which are by consensus formal or informal” (Craig “Responses” 6). The study may find that the first three features are markedly and consistently more common in informal samples, but second person pronouns occur about as often in both. The study would then count instances of the first three features in early and late Shakespeare. If a PCA vector – the sum of weighted frequencies of these units – separates later Shakespeare segments from earlier ones, this would not only show a genuine difference between the two sets of text, but the extent of the difference as well.

3.3.3 Computational stylistics is not literary enough in its approach to literature

Even within the field of humanities computing, Burrows-style computational stylistics is not necessarily well understood or accepted. Jerome McGann, for instance, developer of the online interpretive game *Ivanhoe*, implicitly criticises computational stylistics for its lack of relevance to literary scholarship. McGann comments that it is unlikely traditional literary scholars will incorporate digital approaches until studies are able to demonstrate how they add to interpretation and “improve the ways we explore and explain aesthetic works” (McGann xii). From within humanities computing, the problem of relevance is typically constructed as a need for scholars who use computational methods to study literature to rethink their research so that it is framed in terms such as “interesting” versus “right” (McGann xii), “interactive tool” versus “quantitative tool” (Sinclair 177), or “the principle of research as disciplined play” versus “principles of unity and coherence” (Rockwell 213). The effect of constructing debate about computational methods in oppositional terms such as “play” versus “coherence” is to amplify the differences between computational and traditional approaches, and obscure the similarities. In the case of Burrows-style computational stylistics it also dismisses unanswered questions that relate to how and why function word analysis continues to produce reliable results in classification studies. The combination of computational stylistics and Cognitive Grammar facilities a non-reductive application of empirical methods and suggests a way in which computational approaches can retain existing strengths while contributing to literary criticism more broadly.
3.3.4 Computational stylistics can't answer important literary questions

Amongst critics of computational stylistics there is, as Rommel comments, “a simplistic view of computer-based studies as ‘counting words’”, when in fact these studies are deeply concerned with questions of theory and method, and what constitutes a text (Rommel 90). Criticism in this vein suggests that computational studies are ontologically incompatible with the practice of literary studies. This point is argued by Chodat who claims, somewhat boldly, “styles are simply not calculable things” (149). The usefulness of computational approaches depends, to some extent, on the question that is being asked. Computational stylistics does not imply that empirical methods are able to represent a complete picture of authorial style, but, given the success of Burrows-style stylistics in isolating elements of style, it makes sense to acquire a better understanding of which stylistics elements can be measured and how they contribute to meaning, as well as a consideration of which elements of style empirical analysis excludes.

Bennett argues that questions concerning the conditions that make a given work possible – rather than the issue of meaning and interpretation – are the most important questions in literary studies (T. Bennett 294-5). Distant Reading (and some stylistic studies) provide a macro view that can give access to the social and environmental conditions that are associated with a particular work but Bennett argues that Distant Reading cannot provide results that point to the question of textual production, since it can not provide a motivated link between the text and its context (T. Bennett 294-5). Computational stylistics is different to Distant Reading in that it does provide information about the text at the macro and the micro level. Computational stylistics points to the underlying shape of internal relations within literary works, and also provides insights into the relations between texts, linking to questions concerned with issues that are central to literary studies, such as genre, character, and historical context. A cognitive framework provides the basis for a motivated link between the results of computational analysis and more general literary questions.

3.3.5 Computational stylistics cannot handle literary-language

Critics such as Fish, van Peer and, more recently, Frow imply that practitioners misunderstand the data with which they are working and this completely undermines all computational projects. The issue here is the metaphorical nature of literary language,
which is seen to be ambiguous and imprecise, and therefore not able to be analysed using quantitative methods. Frow argues that Distant Reading and therefore computational stylistics is invalid because linguistic features are not stable or commensurate but relational, so counting them is misleading (qtd. in Bennet 287). This argument is not substantiated within the framework of Cognitive Grammar but it is a common objection and therefore important to consider. To sustain the objection requires a belief that linguistic data – and more particularly literary data as a special case of linguistic data – are somehow intrinsically uncategorisable. One might respond that some features of literary data can be classified in categories, and some cannot. It is, of course, possible to consider cases in which it would be invalid to count particular elements as a group, as in the counting of instances of words with unrelated senses like \textit{spring} or \textit{lead}, but this does not occur in computational studies. One might, however, defend counting instances of the word \textit{all} on the grounds that the instances share enough semantic similarities to make them commensurate. This is, in fact, what occurs in a Burrows-style study, which is a problem for scholars such as Van Peer.

Van Peer claims that due to the figurative nature of literary language, function words are the only linguistic element that can legitimately be counted. This is because the process of disambiguating figurative language in order to categorise units would undermine any claim to objectivity (van Peer 303). For van Peer, the consequence of a focus on function words at the expense of figurative language is to “effectively rid the field of its own object of study” (303). Computational studies based on function words, according to van Peer, are based on “a view of language which is so simplified and naïve (and therefore so utterly mistaken) that it is untenable even by the most common standards governing critical-analytical enquiry” (305). Cognitive Grammar effectively deals with criticisms about a focus on function words as perceived by van Peer because it views function words as meaningful, although their meaning may be fairly schematic. It further undermines criticisms concerning the inapplicability of empirical approaches to literary language because it argues that all language is metaphorical since the mind is “also pervasively metaphorical, imaginative, or … literary” (Richardson and Spolsky 4).

3.3.6 Computational stylistics misunderstands the process of meaning making

For some critics, the answer to perceived problems in quantitative studies of literature is to turn to the quantitative study of literature’s effects on readers. A consequence of turning to interpretive communities, as suggested by Fish and Van Peer, is that the text
as an object of study is devalued since meaning is made by readers and cannot be inferred from the analysis of formal textual features. In this view it is commonly, though incorrectly argued that stylistics “was born of a reaction to the subjectivity and imprecision of literary studies” and is concerned with “…the desire for an instant and automatic interpretive procedure” (Fish 94). Fish suggests that stylistics reflects an erroneous view that language operates on the basis of an “inventory of fixed relationships between data and meanings” (Fish 94), which denies the importance of context, as well as the role of the listener in “conferring” meaning (Fish 103). Chodat similarly presents a view that the quantification of style somehow implies the existence of a kind of “dictionary of styles” and a deterministic approach to meaning (Chodat 134). Cognitive Grammar overcomes these sorts of objections through its rejection of criterial models of categorisation in favour of a prototypical account. A prototypical account of categorisation, rules out a direct one-to-one correspondence in terms of categorisation and meaning. This will be discussed in more detail in chapter five.

Van Peer and his colleagues call for a separation of textual features from their effects and apply quantitative methods “to the reactions real readers bring to the text” (306). The focus of van Peer’s work is on the ways in which readers process textual features. Van Peer and colleagues investigated this aspect of textual consumption by comparing formalist analyses of texts with readers’ responses. In fact, their study found that there was a significant overlap in the results, in that “a detailed analysis of a text’s foregrounding features allows one to predict average reader reaction” (6). The study also found that the results could be generalised beyond the readers who participated in the experiment, concluding that “these text features seem to exert a powerful influence on the reading process, largely independently of personality variables” (7) suggesting that deviations from prototypical structures have an effect on readers. Van Peer’s study thus appears to confirm that the formalist analysis of texts may indeed reflect an element of style that is perceived by readers in a way that reflects certain norms and suggests that there is little to substantiate the claim that stylistics must fail because the “formal distinctions” revealed in a stylistic study only “acquire meaning” through the presence of an interpretive community (Fish 21). A cognitive framework does not entail the uniform interpretation of formal symbols by readers who enact defined cognitive capacities. The distinctions that Fish and van Peer propose are viewed, from the
perspective of a cognitive framework, as unfounded and need to be replaced with a view of a wholly integrated process of meaning making.

3.4 Bridging quantitative work and literary studies

There is a general perception in much of the criticism of computational stylistics that the analytical process it employs is fundamentally different to the type of analysis that takes place in literary studies more generally. In Vickers’ work, as elsewhere, there is evidence of an anxiety about the type of evidence that computational scholars draw on and how that evidence is processed. Vickers, for example contrasts his approach, which consists of an “extensive reading experience, using evidence from parallel passages” and “distinctive associations of words and ideas found elsewhere” in texts by the author in question (113) with the Burrows method, which he describes as “a newer form of attribution study, no longer based on reading” (113). Where Rudman contrasts “traditional” with “non-traditional” methods of authorship attribution (“Caveats” 151), Vickers suggests that a more appropriate set of terms might be “reading-based” methods versus “linguistic-processing” or “computer assisted” methods (“Shakespeare” 111). Vickers’ comments reflect a long-standing concern that stylistics transforms the text into something other than what it is. For many scholars of literature (though not Vickers), a significant hurdle associated with computational stylistics is the unfamiliarity of graphs and statistics and the assumption that numbers and words are aligned with mutually exclusive intellectual traditions.

A number of critics have addressed the objection that computational stylistics applies scientific principles to a domain where they are not relevant and have instead demonstrated that computational and traditional modes of literary enquiry actually have much in common. John Unsworth, for example, looks at the field known as ‘humanities computing’ – now known as ‘digital humanities’ – which incorporates computational stylistics – to show that the type of reasoning that occurs in a computational study is essentially no different to the reasoning that occurs in any other type of textual analysis (Unsworth). Unsworth describes Humanities Computing as “a practice of representation, a form of modelling or . . . mimicry” that reflects “a way of reasoning and a set of ontological commitments” (Unsworth par. 7). By this Unsworth means that as a critical approach, computational stylistics, like all critical approaches, both enables and constrains the ways in which texts can be understood and analysed. In noting that Humanities Computing is representative in its practice, Unsworth makes the observation
that representations of texts are fundamental to all scholarship in the humanities and the types of representations that scholars work with – such as edition of texts, books, essays about a text, as well as concordances and graphs – both guide and constrain the reasoning that occurs, as does the representation itself.

Unsworth also discusses the concept of ‘frames’ and their role in reasoning in order to demonstrate that the link between models and reasoning goes much deeper than may be obvious. Unsworth argues that all thinking proceeds by way of adaptive reasoning on the basis of models and representations, bringing the practice of Humanities Computing into conceptual alignment with the reasoning that is a feature of all research and scholarship, including traditional humanities scholarship. However, he also draws attention to the concept of textual ontologies and the ways in which choosing a representation necessarily entails the selection of certain ontological commitments (Unsworth par. 1). This is relevant to the consideration of computational stylistics because, as Unsworth notes, quoting Davis et al. ontological commitments “are in effect a strong pair of glasses that determine what we can see, bringing some part of the world into sharp focus, at the expense of blurring other parts” (qtd. in Unsworth pt. III). McCarty makes a similar point in his overview of humanities computing, noting that digital approaches are a form of modelling that foreground the gap “between human knowledge and mechanical demonstration” (McCarty 104). This thesis argues that, the nature and degree of what is obscured and what is brought into focus in a Burrows-style computational study is not well understood in the broader discipline and that this arises from the theoretical assumptions that have dominated literary critical discourse, in particular, the account of language that implicitly informs literary theory.

3.5 Conclusion

The fact that attribution studies successfully distinguish between authors in studies of authorial style makes certain questions salient about the account of language that informs critical practice in literary studies. These questions are concerned with how it is that computational tests distinguish between authors and what it means that the category of ‘author’, when treated as a variable, is one the most reliable differentiators for any

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8 A literary analogy for the notion of a frame would be the concept of genre. An understanding of the features of a particular genre helps readers to understand new texts and readers make judgments about how a text might apply, subvert, or modify particular generic conventions.
text. Computational studies do not, as Craig points out, “license a return to an older idea of sovereign, hegemonic authors” but they do suggest that the “author function” is not an adequate representation of the concept of an author (Craig, "Style" 1). Computational studies also highlight gaps in understanding about language. This is particularly true for studies based on function words, which demonstrate that when counted as variables, function words appear to be responsible for a large proportion of the difference between texts and also for the differences between authors.

Common objections to function word studies question the validity of counting multiple occurrences of an individual decontextualised grammatical item, and the possibility of linking statistical results with interpretation. This thesis argues that a cognitive account of language provides a theoretical and interpretive framework that addresses criticisms raised from within orthodox approaches to literary criticism. It also challenges criticisms made by scholars who are supportive of empirical approaches to the study of literature but critical of Burrows-style computational stylistics. It is proposed here that Burrows-style computational stylistics should be seen as a type of cognitive stylistics, and that a way forward lies in the application of Cognitive Grammar as developed by Ronald Langacker.

Cognitive linguistics also suggests a way in which we can make a more interpretive use of the results of a Burrows-style computational stylistic analysis, an approach that has typically been applied in a fairly narrow and empirical way. The combination of cognitive linguistics and computational stylistics as it is applied in this study provides a model of syntax and semantics that is deeply bound up in context. It offers a rich interpretive model that does not neglect the importance of author, reader, or context. A cognitive framework provides this through its approach to language and literature as an expression of an innately constrained and embodied human mind. Cognitive stylistics thus points to the possibility of subjectivity that is more coherent than some theoretical approaches imply, without diminishing the role of culture and context in the formation of texts and subjectivity as highlighted by materialist readings.
Chapter 4. The linguistic turn and the cognitive turn

4.1 Introduction

The success of function word studies outlined in chapter two highlights the need to reconsider the account of language that informs critical practice in literary studies. Criticisms of stylistics outlined in chapter three illustrate the extent to which the analysis of literary texts is constrained by the account of language that underpins the analysis. From both a methodological, and an interpretive point of view, computational projects in literary studies challenge contemporary post-structuralist notions associated with Saussurean linguistics concerning the arbitrary nature of language, ideas about subjectivity and agency, and the relationship between form and meaning (Connors, "Linking"). This mismatch between computational and more orthodox approaches to the study of literature can be linked in part to the Saussurean based ‘linguistic turn’ in literary theory and its role in the rise of theoretical approaches that draw on historicist and cultural materialist paradigms as in the work of Stephen Greenblatt and Jonathan Dollimore (Greenblatt, Shakespearean Negotiations; Dollimore). Post-structuralist assumptions linked to the concepts of authorship and agency (Barthes, "Death"), the notion of *différance* (Derrida, Writing and Difference), the unconscious and the process of interpellation (Lacan), and Foucauldian discourse theory (Foucault) are no longer overtly dominant in literary-critical discussions, but they still inform critical practice in the wider discipline. This constrains a productive engagement between computational and orthodox approaches from the outset and leads to an environment in which it is difficult for computational stylistic studies to gain critical purchase or acceptance.

The idea that computational stylistic studies may have interpretive potential is incompatible with traditional theory and unsupported by the linguistic assumptions upon which the critical orthodoxy is based. These assumptions are related to the formalism that is intrinsic to both Saussurean and Chomskian linguistics. The focus on langue/competence as opposed to parole/performance in Saussurean linguistics and Generative Grammar respectively signals an emphasis in both approaches on the

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9 The grouping of these terms and authors together does not suggest that they represent an homogenous theoretical viewpoint, rather that they share some common linguistic assumptions associated with Saussurean semiotics, as well as a tendency to signal a rejection of formalism.
articulation of general explanatory rules, as opposed to the specificity of textual
production. As Hoover suggests, this leads to a devaluing of the text as a source of
meaning in both frameworks (“Irrelevant” par. 3, 5). Although Saussure’s concept of
parole lends limited support to computational stylistics, the extension of Sassurean
semiotics that underpins much contemporary literary theory leads to a focus on context
and the relations between competing discourses external to the text, rather than an
analysis of textual features. Assumptions arising from Chomsky’s Generative Grammar
do not support textual analysis because generative linguistics is interested in formal
rules rather than specific examples and thus discounts both the unique voice of
individual language users as well as the view of function words as meaningful.

Computational studies are undeniably formalist and as such, appear to represent a return
to a theoretical approach that has been explicitly rejected in literary studies in the last
several decades in favour of an approach that is more sensitive to context and the
complex way in which competing discourses motivate textual production and
interpretation. These views and theoretical frameworks are, however, limited by their
dependence on orthodox accounts of language. Thus, when orthodox critics bring
formalist assumptions about language to bear on a computational study of style it is
often concluded that these studies are “concerned with the formal and linguistic
properties of the text” (Clark 4) in isolation from its historical and social context.
However, as Clark notes, when computational stylistics is combined with a cognitive
approach to language and meaning there is much more scope for an engagement with
the psychological, socio-cultural, and historical elements of the text (Clark 4). Cognitive
stylistics, which will be discussed in chapter six, offers an “historically informed
formalist criticism” (Levinson 559). It helps bridge the gap between computational
stylistics and interpretive analysis, producing a formalism that integrates the contextual
and the formal, acknowledging their mutual dependence.

4.2 Saussure and semiology

4.2.1 Overview

The account of language that continues to influence theoretical paradigms in literary
studies is the model proposed by Saussure in his Course in General Linguistics
(Saussure). Since Saussurean linguistics underpins much of the critical theory that
continues to dominate literary studies, an understanding of Saussurean linguistics is key
to understanding the theoretical disjunction between computational stylistics and contemporary literary theory. The two main areas in which conflicting views emerge relate to understandings about the relationship between form and meaning, and the notion of subjectivity and subject formation. A Saussurean model of language has profound implications for both of these: in short, it suggests that form is divorced from meaning, and that subjectivity in language is elusive at best.

Saussure developed his view of language in the late nineteenth century, prior to the First World War and well before any meaningful engagement between, science, linguistics and cognition (McConachie and Hart 3). Saussure conceived of linguistics as semiology, or “a science that studies the life of signs within society” (Saussure 16). As such, Saussurean linguistics focuses on langue, which is the system of rules that govern parole, or utterances. Saussurean linguistics informs other theoretical movements in literary studies, such as deconstruction, post-structuralism, and New Historicism. Critics associated with these later theoretical movements have extended Saussure’s view of language as a system of significations into more complex psychoanalytic and socio-cultural domains. Although these later critics ostensibly reject the formalist aspects of Saussurean linguistics, scholars working with a cognitive framework have noted that their work is inherently constrained by the fundamental assumptions on which Saussurean linguistics is based (Crane 24).

Saussure’s structural linguistics begins with the uncontroversial claim that linguistic symbols have no intrinsic relationship with the element to which they refer. This is represented by the well-known images from Saussure’s Course shown at Figure 4.1 and Figure 4.2. The more radical claim Saussure makes is that language is a closed system in which the elements refer only to each other. Thus words acquire meaning through the ways they differ from other words in the system – specifically through differences in sound – rather than through any link with the concepts to which they refer. In Saussure’s words, “whether we take the signified or the signifier, language has neither ideas nor sounds that existed before the linguistic system, but only conceptual and phonic differences that have issued from the system” (Saussure 120). Barthes, Derrida, Lacan, and Foucault take the basic premise of phonic difference that is characteristic of

10 Cognitive stylistics as a challenge to Saussurean linguistics is further discussed in Crane and Richardson (Crane and Richardson), Hart (“Matter, System”), McConachie and Hart (McConachie and Hart), and Crane (Crane).
Saussure’s linguistics and apply it to other complex systems and contexts. This will be discussed in more detail below.

Figure 4.1 Signifier and Signified 1 (Saussure 65)

Figure 4.2 Signifier and signified 2 (Saussure 67)

4.2.2 Form and meaning

The issue of form continues to be problematic in discussions about what cognitive stylistics can bring to the study of literary texts. Formalist approaches to the analysis of literary texts are rejected by many contemporary scholars due to a perceived lack of sensitivity to historical contingencies and social context. Although, as Douglas Bruster notes, few formalist studies “actually embody this stereotype” (Bruster, "Shakespeare" 44), it is a view that remains influential. It leads, as Hoover argues, to a rejection of text-based studies ("Irrelevant" par. 3, 5) and to the assessment of texts as an “open sea” of meaning, or a space of “manifestly relative significations” (Barthes 170). Via the extension of Saussurean semiotics, textual meaning is seen as constructed through relationships of difference and contrast. As a consequence, meaning is understood as highly relational and constituted by the internal relations of the text, or by a text’s relationship to other texts. For computational stylistics, the extension of the Saussurean principle that language lacks the quality of reference, restricts the way in which
language and texts are conceived.¹¹ The resulting framework privileges context and the relations between elements in the system at the expense of texts and textual elements themselves, and precludes an integrated approach to form and meaning.

The association of formalism with ahistoricism stems from a fairly rigid understanding of formalism, which critics such as Heather Dubrow suggest is somewhat “overdetermined” ("Guess Who" 60) and which Mark Rasmussen summarises as a “reductive account of the various histories of formalist theory and practice from Kant to the present” (4). Douglas Bruster, for example, calls into question the claim that historicism is any different to the established formalist approach he describes as “source study” (Bruster, "Shakespeare" 44-45). In referring to Kant, Rasmussen points to the influence of the concept of the aesthetic from Kant’s *Critique of Judgement* – which implies a view of the art object that is entirely separate from its political and social context – in the rejection of formalist approaches as apolitical (4-5). Dubrow’s critique of simplistic readings of Kant forms the basis for the recuperation of form in her own critical practice ("Guess Who"). There is also evidence of this thinking in some empirical studies as in the work of Uri Margolin, who notes the importance of “two equally indispensable and mutually irreducible components” (7), which he describes as the formal elements of the textual object, such as genre and style, and the “correlated set of historically occurring individual and collective situations, activities and practices bearing on these objects and codes” (Margolin 7).

Although New Formalism is concerned with “the complex ways that form is implicated in culture (Rasmussen 5) it retains a commitment to orthodox accounts of language and is in large part an attempt to reconcile “the study of form…with post-structuralist paradigms” (Dubrow, "Guess Who" 84). This commitment to post-structural paradigms, however, raises the unresolved issue of authorial agency, which Dubrow notes is implied in an analysis informed by New Formalism but not accommodated in a post-structural framework ("Guess Who" 76). Materialist attempts to introduce a “new body scholarship” (McInniss and Hirsch par. 1) are similarly constrained by views of subjectivity that originate from orthodox accounts of language and a reluctance to deal with the physical. In relation to ‘new body scholarship’ Crane notes that “the body and

¹¹ I originally attempted to use theories of reference and Kripke’s *Naming and Necessity* as the basis for theoretical framework that would support Burrows-style computational stylistics, before turning to Cognitive Grammar as a more productive and viable foundation for computational stylistics.
the brain of the author have been signally absent from such studies” (6). Crane acknowledges the significant role discourse plays in shaping the way in which bodies are perceived but argues that Foucauldian theory offers little in the way that can explain “how the subject is formed in submission” (7).

4.2.3 Subjectivity

Views on authorship and subjectivity that stem from Saussurean linguistics continue to play a role in the critical reception of author based computational stylistic studies, as outlined in chapter three. The effect of the so-called linguistic turn in literary studies has been to produce an environment in which the development of reliable and robust techniques for authorial attribution coincided with the rise of a theoretical paradigm that was less interested in the ‘author figure’ – which cannot be viewed as coherent in any way – than in the textual and contextual relations that impact upon the production and consumption of a text as a system of signs. In this context, computational studies that focus on producing author-related findings on the basis of formal textual features counter the dominant theory and praxis. A cognitive framework challenges many of the objections to computational stylistics that are based on post-structural understandings of authors and authorship. A cognitive framework points to the possibility of a subject that is more coherent than some poststructuralist approaches imply and thus identifies authorial agency as a viable object of study. This does not, however, signify a return to the transcendent notion of authorship rejected by Derrida, Barthes, and others. In essence, a cognitive framework does not provide a new concept of authorship, but a better evidence base for explaining the concept we currently have.

In the words of cognitive critic, Mary Thomas Crane, “in general postmodern concepts of both the fragmented self and its construction by an ideologically charged symbolic order can be traced to Saussure” (Crane 11-12). Crane explains that critics committed to the view of the self as fragmented emphasize the way language plays a mediating role between individuals and the world. The individual subject is seen as alienated from itself because access to both the real and the imaginary is constrained by the features of the symbolic system (38). Derrida, for example, extends Saussure’s views on language and meaning to argue that meaning is endlessly deferred through the process of différance, which refers to the endless ‘deferral’ of meaning that is a consequence of the view that language lacks a referential quality (Writing and Difference). This is combined with Barthes’ observation that any system of signs, including “images,
gestures, musical sounds, objects, and the complex associations of all” can be seen as constituting “if not languages, at least systems of signification” (Elements 9). Knowledge and subjectivity are both conceptualised as inherently unstable concepts or constructs, since as Barthes comments, “it is language which speaks, not the author” ("Death" 143).

In Lacanian psychoanalytic theory, the extension of Saussurean linguistics manifests in the view that meaning never "consists" in language; it "insists" in the chain of signifiers as one supplants the other metonymically, deferring and so "always anticipat[ing] meaning by unfolding its dimension before it" (Lacan 153). Lacan’s application of Saussurean linguistics leads to the argument that the unconscious is "structured like a language" (187) and identity emerges through interactions with the symbolic order. The self can therefore only be developed in reference to an ‘other’ and the idea of an integrated self is an illusion. Foucault reaches a similar conclusion, arguing the idea of an author with agency and an “authorial voice” is replaced by the notion of the “author function”, which arises through discourse relations and is not necessarily linked to the material body of the author (Foucault 105-19).

Cognitive linguist, George Lakoff and cognitive philosopher, Mark Johnson note that findings in cognitive science "flatly contradict" Saussurean semiotics (Lakoff and Johnson, Philosophy 463). For example where Saussure claims that “there are no pre-existing ideas, and nothing is distinct before the appearance of language” (Saussure 112), cognitive research posits that concepts are “constructs the brain develops by mapping its early responses prior to language” (Edelman and Tononi 215-216). Cognitive research challenges a number of other assumptions arising from Saussurean linguistics as well as this basic claim regarding the brain prior to the acquisition of language. These include: the arbitrary nature of the relationship between signs and what they signify; the notion of difference; the idea that meaning is totally dependent on historical contingency; and the “strong relativity of concepts” (Lakoff and Johnson, Philosophy 463-4). This primarily relates to role of ‘embodiment’ in cognition, and its effect on understandings about language and thought, both of which reflect the limitations and capacities of human bodies and brains.

Within a cognitive framework access to reality and views of subject formation are understood in terms of processes concerned with embodiment and perception. Lakoff and Johnson argue “because concepts and reason both derive from, and make use of, the
sensorimotor system, the mind is not separate from or independent of the body” (555). Or as Langacker says, “cognition is embodied” and that “the world we construct and apprehend is grounded in sensory and motor experience” (Introduction 535). Cognitive linguistics posits that because “thought and language emerge from our perception of a self with a body as it interacts with an environment, then some form of agency is fundamental to language” (Crane 22). As Crane notes, Cognitive Grammar goes even further to argue that “agency is reflected in our grammar at the most basic levels” (Crane 22).

This is not to suggest that there is such a thing as a consistent self. Rather, as Crane points out, although the effect of perceptual processes means that we experience the self as integrated to some extent, this experience is “essentially fragmentary since it does not actually exist in any single location in the brain” (Crane 39). Neuroscientist, Antonio Damasio, proposes “our strong sense of mind integration is created from the concerted action of large-scale systems by synchronizing sets of neural activity in separate brain regions. This is, in effect, a trick of timing” (Damasio 95). As Richardson and Spolsky explain, this means that even though agency may be illusory, it should be seen as an adaptive illusion arising from constraints associated with our perceptual systems that are grounded in the pre-discursive experience of embodiment, rather than a modern Romantic or bourgeois construction (22). These fundamental theoretical differences between Saussurean based approaches and a cognitive framework have interpretive consequences that Richardson and Spolsky describe as “more author-centered and humanistic” (Richardson and Spolsky 22). From a cognitive perspective, although post-structural conclusions about the indeterminacy of meaning and the illusion of an integrated sense of subjectivity are right (though in a somewhat limited sense) the first principles are wrong.

It is sometimes suggested that computational stylistics can be understood in the context of Saussure’s notion of parole, or language as it is used, as opposed to the system of rules that apply to language, or langue. This view, as Leech and Short explain, draws on the commonsense distinction between meaning and form, or between “what is said” versus “how it’s said” (Leech and Short 18). Although this application of Saussurean linguistics seems acceptable so far as a stylistic study is interested in the distinctive use of language by a particular author or authors, the utility of Saussurean linguistics is limited with respect to a supportive framework for methodologies associated with
computational projects. The focus on *langue* and the view of language as a system undermines the application of Saussurean linguistics to the formalist aspects of textual analysis, particularly in relation to the counting of function words. It is also limited in terms of the interpretive use of results, since a Saussurean approach entails a view that *langue* and *parole* are distinctive, which means in the words of Geeraerts and Cuyckens, it is difficult to integrate “the social and the psychological…the community and the individual…the system and the application of the system…the code and the actual use of the code” (Geeraerts and Cuyckens 11). A cognitive framework appears to offer a more promising way forward since it takes the view that function words are meaningful, agency is reflected in language, and that form and meaning are implicitly linked.

### 4.3 Chomsky and generative grammar

#### 4.3.1 Overview

Like Saussurian linguistics, Chomsky’s generative grammar is fundamentally formalist and does not provide a supportive framework for computational stylistics. Although Chomsky is entirely dismissive of post-structuralism and associated theorists, generative linguistics and Saussurean linguistics share some basic assumptions that are hostile to computational stylistics including, as Hoover points out, a resistance to texts as objects of analysis (Hoover, "Irrelevant"). Generative grammar is associated with the “cognitive turn” in the discipline of linguistics. This refers, however, to first generation cognitivism, as opposed to second generation or ‘embodied’ cognitivism, which will be discussed in this chapter. These two transitions – the cognitive turn in linguistics and the linguistic turn in literary studies – occurred more or less concurrently (Hoover, "Irrelevant"). The curious effect of these combined developments is that both disciplines were driven further apart from each other, since, “a linguistic model that excited no one working contemporaneously in linguistics departments became a new force in literary studies” (Corns 129). An additional effect was that both linguistics and literary studies – the two disciplines most closely aligned with computational stylistics – moved away from a theoretical framework that, if understood correctly, would support computational stylistics in studies of classification and interpretation.

#### 4.3.2 Corpus studies and function words

Even though, as Hoover notes, Chomsky’s influence on theoretical developments in literary studies has been limited ("Irrelevant" par. 3), a basic understanding of
generative grammar is needed in order to understand the way in which computational stylistics has been received, particularly amongst scholars who are sympathetic to the empirical analysis of texts. Generative grammar is associated with first generation cognitivism, which is also aligned with the hard Artificial Intelligence (AI) approach. Hard (or strong) AI views the functioning of human brains as comparable to the workings of a complex computer that can be described algorithmically (Edelman 220).

In this view, syntactical or grammatical rules operate on the elements of language in the same way that a computer program operates on data. These formalist assumptions signal an incompatibility at the outset with the more contextual approaches that have come to dominate literary studies. Generative grammar also, however brings with it a commitment to a view of function words that does not support Burrows-style stylistics. This incompatibility occurs through Generative Grammar's analysis of language in terms of separate components such as semantics, pragmatics, and syntax.

Generative grammar takes the view that human brains have an innate language faculty or module that takes the form of a ‘universal grammar’, which exists specifically to facilitate the acquisition of language. According to Chomsky, “A child who has learned a language has developed an internal representation of a system of rules” and the fundamental goal of linguistic analysis is to identify grammatical sequences and to understand and describe their structure (Aspects 25). A grammar is seen as a finite rule system that generates all and only the grammatical sentences in a language (Syntactic Structures 13). Generative grammar privileges competence over performance, which means, as Hoover has observed, texts and corpora are dismissed as irrelevant performance-related data ("Irrelevant" 2). Hoover has interrogated Chomsky’s claims in relation to the principle of innate linguistic ability, particularly concerning the identification so-called deviant grammatical structures and the relevance of corpus studies in linguistic analysis. Hoover does this using Google to establish a corpus dating from the seventeenth century to the present day. Hoover demonstrates that there are “tens of thousands” of examples that challenge Chomsky’s claim about a particular structure’s deviant status and uses these results to establish a case for corpus studies in linguistic analysis, and by implication stylistics ("Irrelevant" 14).

Notwithstanding generative grammar’s focus on competence as opposed to performance, and its rejection of corpora and textual evidence, its focus on formal grammatical structure poses a serious challenge to attempts to develop a meaningful
framework for the interpretation of Burrows-style computational stylistics. Chomsky has revised his original theory considerably, but in its original incarnation, generative grammar focused on understanding transformations or rules in relation to ‘deep’ and ‘surface’ structure. Transformations allow underlying propositions to take multiple different forms in actual sentences through their varied use of syntax. There is, for example, a transformational rule concerned with changing the active form of a sentence to the passive, as in i) Britain colonised Australia versus ii) Australia was colonised by Britain. In generative grammar, function words are essentially syntactic operators. It is argued, for instance, that it is possible to change the function words in a sentence without significantly altering its meaning. Chomsky views semantics and syntax as unrelated, noting that a sentence can be grammatically correct but meaningless, as in his famous example, “colorless green ideas sleep furiously” (Syntactic Structures 15). This leads to the conclusion that “grammar is autonomous and independent of meaning” (Chomsky, Syntactic Structures 17) and manifests in the notion of a universal grammar and a focus on syntactic rules, rather than in the more pragmatic or semantic features of language.

As we saw in chapter two, Burrows-style computational stylistics relies to a large extent on the use of very common words as variables, most of which are function words. Function words tend not be semantically rich and their use is highly constrained by the grammatical requirements of a well-formed sentence: they perform basic operational functions but are not typically viewed as meaningful. This view of function words as meaningless syntactic operators – which is challenged by Cognitive Grammar – remains influential and contributes to much of the criticism of Burrows-style computational stylistics, in particular those criticisms that emerge from perceived problems with the use of function words. This is because in traditional Chomskyan grammars, the counting of prepositions like in and out constitutes a group of “semantically unrelated lexical items, which are unanalysable because of the sheer proliferation of their senses” (Fielsen 7). Counting function words is thus seen as unable to reveal anything useful about meaning or style.

12 An alternative view of function words is presented by psychologist James Pennebaker, who links function word analysis with social psychology to argue that pronouns, articles, and prepositions reflect aspects of “personality, thinking style, emotional state, and connections with others” (Pennebaker ix).
Attempts to develop an interpretive link between generative grammar and computational stylistics have been unsuccessful. The most comprehensive of these is by Richard Ohmann, who attempts to show that an author’s use of transformational rules is revealing of their distinctive style (Ohmann). Bradman explains that Ohmann endeavours to isolate the “original deep structures from which writers derive their individual stylistic signatures” (91). The difficulty with Ohmann’s approach, as noted by Leech and Short, is that it assumes that the transformation from an active sentence to a passive one changes “the form of a basic sentence type without changing its lexical content” (21). It therefore implies that there is a “neutral message” and that “style is that expressive or emotive element of language” that is later added (18). This effectively requires the reader to make a judgment about style and its absence. This thesis takes the view, described as the “safer” course by Leech and Short, that “style is a property of all texts” (18), a view that is supported by a cognitive approach which views form and meaning as intrinsically linked.

4.4 First generation and second generation cognitivism

4.4.1 Generative grammar and first generation cognitivism

Crane and Richardson provide a comprehensive overview of developments in cognitive science and how an interdisciplinary approach linking cognitive insights and literary studies might proceed (Crane and Richardson). It is worth highlighting key points since this background illustrates the differences between a cognitive approach and more orthodox ones. Crane and Richardson note that Chomsky’s generative grammar is associated with the first wave of cognitive research in the 1960s that is generally understood to have undermined behaviourist research methods in the social sciences associated with the work of American psychologist B.F. Skinner (317). They note that while behaviourism insisted on the centrality of observable behaviours in social science research, Chomsky’s generative linguistics drew attention to the importance of the brain in language development through the development of a formal theory of language informed by a cognitive theory of mind (317). Chomsky’s grammar belongs to the functionalist tradition in philosophy, the strongest form of which is known as ‘Turing machine functionalism’ after the well-known Turing test (Turing). A brief summary of the Turing test and Searles Chinese Room experiment (designed to test Turning’s claims) highlight the differences between first and second generation cognitivism.
In his paper *Computing Machinery and Intelligence*, Turing considers the question “Can machines think?” (433). Turing addresses the question by proposing that a human and a machine are placed in a room together and that each is interrogated by a human standing outside the room.\(^{13}\) The computer in the experiment is a digital computer, which Turing says can “be regarded as consisting of three parts: (i) Store, (ii) Executive unit, and (iii) Control” (437). Turing defines the store as “a store of information”, which “corresponds to the human computer’s paper, whether this is the paper on which he does his calculations or that on which his book of rules is printed”. The store corresponds with the so-called human computer’s memory (437). The executive unit “carries out the various operations involved in a calculation” (Turing 438), and the control ensures that instructions in the book of rules are carried out correctly. The aim of the game is to see whether the human interrogator outside the room can tell, on the basis of answers to questions, which is the human and which is the machine. If the human interrogator outside cannot tell which is the human and which is the machine on the basis of their respective responses then the test is said to have validated the notion of machine intelligence and the possibility that machines can think. Turing concludes that digital computers can “mimic the actions of a human computer very closely” (438) and suggests that success, in terms of the test, is a matter of modifying the computer so that it has adequate storage capacity, high speed, and an appropriate program (442).

An experiment known as Searle’s ‘Chinese Room’ aims to challenge the strong AI position suggested by the Turing Test, and demonstrate that “formal symbol manipulations by themselves, are not sufficient to guarantee the presence of consciousness” (Searle, “Chinese” 115). In this experiment, Searle, a non-Chinese speaker is locked in a room. Outside the room are Chinese speaking interrogators. While in the room, Searle is given boxes of Chinese symbols and a rule book. Searle listens to stories told in Chinese and produces answers to questions asked in Chinese by the people outside the room. His answers are generated on the basis of rules in his rule book. Searle is thus acting as a Turing machine but, importantly, does not understand a word of Chinese. As Searle says “I have inputs and outputs that are indistinguishable from those of the native Chinese speaker, and I can have any formal program you like, but I still understand nothing” (*Minds* 418). He concludes that “if the man in the room

\(^{13}\) Turing did not name the test the Turing Test; it was based on a party activity called “The Imitation Game”. Turing predicted nine lines of arguments opposing his argument, all of which he discounts.
does not understand Chinese on the basis of implementing the appropriate program for understanding Chinese then neither does any other digital computer solely on that basis because no computer, qua computer, has anything the man does not have” (Searle, “Chinese” 115). Searle concludes “Syntax by itself is neither constitutive of nor sufficient for semantics” (“Is the Brain’s” 27). There is ongoing debate in philosophical literature about the validity of Searle’s premises and conclusions. In defence of his experiment Searle argues that he is not suggesting that machines can’t think, merely that “formal symbol manipulation, is not by itself constitutive of thinking” (Searle, “Chinese” 116).

As physicist Geoffrey Edelman explains, the Turing and Searle experiments draw very different conclusions about theories of mind on the basis of the same assumptions. What is at stake in discussions about both experiments is the notion of meaning (Edelman 224). Proponents of Searle’s view accept that a language consists of signs and symbols – such as words – that are manipulated according to rules, or syntax, but argue that syntax is not able to deal with the problem of meaning (Edelman 224). The view of syntax assumed by Turing’s experiment is the one that implicitly informs orthodox theories of grammar, like Chomsky’s generative linguistics. Searle’s conclusions, in contrast, reflect the assumptions of second generation cognitivists and have informed the development of cognitive linguistics. The problem with first generation cognitive approaches to language and mind as articulated by researchers working from within the second generation cognitive approach, is linked to assumptions the former makes about the way the brain operates. The orthodox assumption that “natural language syntax is independent of semantics” is said by Lakoff (1987) to derive from the attempt to “impose the structure of mathematical logic on the study of human language and human thought in general” (225). Second generation cognitivists reject the notion of “a strict dualism” between the mind and body that characterises the mind “in terms of its formal functions, independent of the body” (Lakoff and Johnson, Philosophy 76). For this reason, second generation cognitivists refer to ‘the body in the mind’ or ‘embodiment’.

14 Criticisms from Jerry Fodor, Daniel Dennett, Douglas R. Hofstadter and others feature in the same issue of Behavioral and Brain Sciences as Searle’s original article.
4.4.2 Cognitive Grammar and second generation cognitivism

Cognitive Grammar as will be outlined in Chapter 5 is aligned with a second generation cognitivist approach. It is functional in the sense that it takes the view that language is constrained by the functions it serves and this is reflected in how linguistic form is described within the model. Cognitive Grammar contrasts with formalist approaches – such as generative grammar – in its focus on a description of linguistic structure that takes functional aspects as foundational. It shares some characteristics with formalist approaches, such as its “commitment to explicating language structure” (Langacker, *Introduction* 8) but it emphasises the semiological function of language, or that function which allows sounds, gestures, and graphical representations to symbolise conceptualisations. The cognitive element of cognitive grammar comes into play in its view that language draws on, and cannot be separated from, the same systems and abilities as other psychological phenomena, such as perception, memory, and categorisation. These psychological phenomena represent general abilities that are not exclusive to language. They are no different to the sorts of abilities that are found in other non-human animals, except in level of complexity (Langacker, *Introduction* 8).

4.4.3 Embodiment

An understanding of the concept of embodiment is fundamental to understanding cognitive linguistics. This concept is one of the key assumptions that distinguishes Cognitive Grammar from both Saussurean linguistics and generative linguistics. In a cognitive model of language conceptualisations are understood as embodied as they are intrinsically linked to the body’s interaction with its environment. The embodiment hypothesis presumes that there are a large number of concepts that are embodied in neural structures such as motor structures or perceptual structures, and that all other concepts derive their inferential structure via mappings from these embodied structures (Chang, Feldman and Narayan 1). Findings in neurobiological and behaviour research support the notion of embodiment and the significance of perceptual and motor systems in relation to language and understanding (Chang, Feldman and Narayan 4). Neurologist Antonio Damasio, for example, claims that “mind arises from neural circuits” and that “neural circuits represent the organism continuously, as it is perturbed by stimuli from the physical and sociocultural environments, and as it acts on those
environments” (Damasio 226). In Damasio’s view, “mind is probably not conceivable without some sort of embodiment” (234). 15

4.4.4 Embodied realism

Post-structuralist approaches to meaning commonly reject the notion of objectivity that traditionally informs scientific discourse. Embodied cognitivism also rejects the possibility of strict objectivity. The alternative offered by embodied cognitivism does not, however, entail support for strong relativist or constructivist views of meaning. Embodied cognitivism proposes that meaning is constrained by our models of our world and ourselves, and produces what Lakoff and Johnson describe as embodied realism. Lakoff and Johnson claim “we are coupled to the world through our embodied interactions. Our directly embodied concepts (e.g., basic-level concepts, aspectual concepts, and spatial-relations concepts) can reliably fit those embodied interactions and the understandings of the world that arise from them” (Lakoff and Johnson, Philosophy 93). This approach does not argue that there is no objective reality, rather that we have no external vantage point from which we can gain privileged access to an objective reality (Lakoff, Women Fire 259). As Lakoff states, “the issue is not whether reality exists, but whether there is only one right way to describe it in all cases” (Women Fire 263).

The kind of relativism supported by embodied cognitivism is different to the kind of relativism often identified with philosophers such as Derrida and Foucault, or the literary critic Stanley Fish, in that it takes account of universal norms that arise from our shared cognitive and perceptual capacities. In critiquing postmodern notions of relativism and social constructivism Lakoff and Johnson argue that meaning is not arbitrary, completely subject to historical contingencies, or to interpretive communities, or totally relative. There is, as they say, “a tension between the idea of normative readings and multiplicity” (Lakoff and Johnson, Philosophy 5). Lakoff and Johnson state that:

The mind is not merely embodied, but embodied in such a way that our conceptual systems draw largely upon the commonalities of our bodies and of the environments we live in. The result is that much of a person’s conceptual system is either universal or widespread across languages and cultures. Our conceptual systems are not totally

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15 Emphasis is in the original.
relative and not merely a matter of historical contingency, even though a degree of conceptual relativity does exist and even though historical contingency does matter a great deal. (*Philosophy* 5-6)

The metaphysics of embodied realism, unlike the metaphysics of objectivism (associated with first generation cognitivism) does not assume that the world is structured in such a way that it can be modelled in terms of entities, properties and relations that exist independent of human understanding (*Lakoff, Women Fire* 159). In order for an account of language and cognition to make sense from an objectivist point of view, where “thought is the manipulation of abstract symbols”, it is necessary to explain how the symbols become meaningful (*Lakoff, Women Fire* 159). An objectivist model assumes a direct correspondence between symbols and entities and categories in the world. In other words, it does not take into account the concept of embodiment and the fundamental role that human cognition plays in categorisation. This is important because one of the key claims made about stylistics by its critics is that the method assumes a one-to-one correspondence between words and their referents.

The key to understanding the way in which symbols become meaningful in a cognitive framework lies in the theory of cognitive metaphor. Embodiment relates to everyday activities like grasping something with our hands, or standing and walking. These actions lead to the development of sensorimotor concepts that are extended into abstract theoretical domains through primary metaphors, which are embodied through our experience of being in the world. For example, Lakoff and Johnson explain that we combine the subjective experience of feeling warm while being held, with the experience of sensing affection. The sensorimotor domain of temperature is thus mapped onto the subjective judgment of affection (*Lakoff and Johnson, Philosophy* 96).

In this example, the sensorimotor domain is the source domain, and the domain of subjective experience is the target domain. In another example, our understanding of the source domain of grasping something allows us to understand the intended meaning in the context of the target domain, as when someone says “that went over my head” (*Lakoff and Johnson, Philosophy* 125). Lakoff and Johnson argue that this is an example of the primary metaphor ‘Understanding is Grasping’. This metaphor allows us “to use the physical logic of grasping to reason about understanding” (*Lakoff and Johnson, Philosophy* 47). The fundamental role that metaphor plays in linking
perception, cognition, and linguistic expression leads to the conclusion that the mind is fundamentally metaphorical and that all language is essentially literary.

4.5 Conclusion

Cognitive Grammar qualifies the relativism that is central to historicist and material theoretical approaches. The “modest claims” made by embodied realism thus open the way for a productive engagement with humanities scholarship more generally (McConachie and Hart xiii). A cognitive framework means “we do not require a special theory of literature, just a theory of language” since literary language shares the same features as all language (Stockwell, "Literary Theory" 4). In terms of literary studies, Richardson summarizes implications of embodied cognitivism thus:

The consequences of human embodiment affect the most basic level of concept formation, the primitive ‘image schemata’ that grow out of fundamental activities like ingestion, standing, bodily movement through space, grasping, and such consequences of the basic human body as front-back orientation and left-right symmetry. With their basis in the most common activities and the fundamental perceptual orientations of the body, image schemata provide a kind of template on which to build increasingly abstract concepts – or perhaps better, from which to imaginatively project them. For, in addition to being fundamentally embodied, the mind is also pervasively metaphoric, imaginative, or [...] literary. (Richardson and Spolsky 4)

The key findings of cognitive science concerning the embodiment of mind, the view that “thought is mostly unconscious” and that metaphor is central to understanding abstract concepts (Lakoff and Johnson, Philosophy 3) challenge the central assumptions of Western philosophy in that they undermine the claims of both analytic philosophy and continental philosophy (Lakoff and Johnson, Philosophy 3). Given the significant influence continental philosophy has had on the study of literature it follows that developments in cognitive research – which challenge assumptions associated with this paradigm – must also have consequences for the way literary criticism is practiced. A cognitive approach, and Langacker’s Cognitive Grammar in particular, offers an account of language that can explain the existence of computational results in a way that orthodox accounts of language described above cannot. It offers a rich interpretive model that provides evidence for the importance of author, reader, or context through its approach to language and literature as an expression of an innately constrained and embodied human mind.
Chapter 5. Cognitive Grammar

5.1 Introduction

Langacker’s Cognitive Grammar offers a theoretical explanation at the linguistic level for the results that are produced in a Burrows-style stylistic analysis. A cognitive framework provides support for the types of authorship studies that have dominated computational stylistics and also supports the analysis of computational results into more interpretive terrain. The chief ways in which Cognitive Grammar achieves this are through its views on agency, which are different to those that arise from post-structural theoretical positions (though not incompatible) and through the insistence that function words are meaningful and contribute semantically to linguistic expressions.

Cognitive Grammar is part of the wider movement known as cognitive linguistics, which is itself part of the functionalist tradition in linguistics (Langacker, "Cognitive Grammar" 422). Functional accounts of language are founded in a view of language as a system of communication that must be understood in the context of usage, in contrast to formalist or objectivist accounts of language that view language as autonomous and rule driven. The formal or objectivist approach is typified by orthodox linguistic models, such as Chomsky’s generative grammar (Chomsky, *Syntactic Structures*; Chomsky, *Aspects*). Although Chomsky is associated with the ‘cognitive turn’ in linguistics, Langacker’s grammar belongs to a body of work known as second generation cognitivism – or embodied cognitivism – and as such it rejects formal logic and truth conditions associated with generative grammar and analytic philosophy and turns towards a more integrated account of language and meaning. While generative grammar is considered cognitive because it views language as an autonomous component of mind, Cognitive Grammar is cognitive because it assumes that “language is an integral part of human cognition” (Langacker, *Theoretical* 12).

Langacker’s work on Cognitive Grammar began in the mid 1970s as the study of “space grammar” (Langacker, "Auxiliary" 853), which was essentially a response to what Langacker perceived as fundamental problems with Chomsky’s transformational
linguistics and the way that it understood grammar in relation to other aspects of linguistic structure. Much of Langacker’s discussion is therefore framed in terms of how Cognitive Grammar differs from Chomsky’s influential generative paradigm. Whereas generative or transformational grammar in its archetypal form views syntax as an autonomous formal system that is “independent of meaning” (Chomsky, *Syntactic Structures* 17), Cognitive Grammar is explicitly concerned with meaning, where meaning is defined as “the conceptualization associated with linguistic expressions” (Langacker, *Introduction* 4). Cognitive Grammar argues for a link between form and function. It insists that the form a linguistic construction takes is an integral part of its meaning. This is because grammar is understood as embodying “the conventional means a language employs for the structuring and symbolization of semantic content” (Langacker, *Theoretical* 47). In cognitive approaches every aspect of the structure of a particular sentence is considered to make a contribution to its overall meaning (Langacker, "Cognitive Grammar" 422).

It is important to note that there is no single model of cognitive linguistics but a number of approaches that are broadly compatible, within which Langacker’s Cognitive Grammar is “arguably the most fully developed grammatical theory” (van Hoek 890). Langacker’s grammar shares some general concepts with other grammars associated with cognitive linguistics, such as Construction Grammar (Geeraerts and Cuyckens), and is broadly compatible with much of the work that has occurred in cognitive linguistics since the late 1970s, especially work in the area of metaphors (Lakoff "Sorry"; Lakoff and Johnson, *Metaphors*; Lakoff and Turner), force dynamics (Talmy "Force"), and mental spaces (Fauconnier and Sweetser, *Mental Spaces*). It is distinctive in its focus on construal factors, such as profiling, and on conceptual structures.\(^\text{16}\) In this account, meaning depends on a range of factors including background knowledge, an awareness of social and linguistic contexts, and the construal that is imposed on the linguistic content; and imaginative capacities like metaphor (Langacker, *Introduction* 4).

This chapter explores the three theoretical principles and the three methodological principles underlying Cognitive Grammar. The theoretical principles are foundational

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\(^{16}\) The term profiling reflects the way in which we pick out features from a scene on which to focus. The elements that are profiled in a scene changes may change as perspective shifts. Profiling reflects the link between mental and linguistic conceptualisations (Langacker, *Descriptive* 5).
assumptions. They include the notion that language is based on conventional imagery and therefore reflects cultural specificities rather than universal rules; that grammar is symbolic and therefore structure makes a meaningful contribution to how an expression should be interpreted; and the understanding that there is no real distinction between function words and lexical words and they must be viewed as part of a continuum. The chapter also describes the three methodological principles fundamental to Cognitive Grammar and the insight they bring to an understanding of how language works with reference to how these principles challenge orthodox views of language. The three methodological principles include the prototypical theory of categorisation, the concept of schemas or Idealised Cognitive Models (ICMs), and the concept of metaphor. Intrinsic to these three methodological principles is the idea of embodiment discussed in the previous chapter, which is distinctive to second generative cognitivism and fundamental to Cognitive Grammar.

5.2 Theoretical principles

Cognitive Grammar makes what Langacker acknowledges to be “strong and controversial claims” about language (“Cognitive Grammar” 424). The three central principles of Cognitive Grammar outlined above will be discussed in turn. The first of these is that semantic structure – or the way in which meaning is organised – is based on imagery that is conventional to language users, which makes semantic structure language-specific rather than universal. The second key claim is that grammar (or syntax) is symbolic in nature and consists in the conventional symbolisation of semantic structure, rather than an autonomous, formal system of representation. Thirdly, Cognitive Grammar claims that there is no meaningful distinction between grammar and lexicon. Rather, lexicon, morphology, and syntax form a continuum of symbolic structures and any attempt to divide these elements into separate components is simply arbitrary (Langacker, *Theoretical 3*). These claims support application of Cognitive Grammar to computational stylistics because it posits a meaningful role for function words that links language users to linguistic expression without imposing a reductive view of meaning.

5.2.1 Semantic structure is based on imagery

Cognitive Grammar is shaped by the view that language is both a social and a cognitive phenomenon and meaning is therefore to some extent language specific, as opposed to
universal. Langacker describes grammar and lexicon as “storehouses of conventional imagery” (*Theoretical* 47), which means that variation exists between languages, and between cultures. Thus, as Langacker explains, the expressions *I am cold*, *I have cold*, and *It is cold to me*, as translated from different languages, may all reference the same experience but reveal subtle semantic differences. This is because they impose a different profile on the same basic content. Although the variations may be seen as syntactic, syntax is not viewed as autonomous since “all valid grammatical constructs have some kind of conceptual import” (Langacker, *Descriptive* 282). Cognitive Grammar therefore argues that to a certain extent, “meaning is language specific” (Langacker, *Theoretical* 47). This is held to be true even though experience and cognitive capacities are widely shared across cultures.

It has been argued that computational stylistics reflects an anxiety for certainty in the interpretation of texts. In terms of this study, it is important to note that the principle that semantic structure is based on imagery means that Cognitive Grammar incorporates a view of interpretation that is sensitive to ambiguity, multiplicity, and tendencies rather than certainties. It is not possible within the framework of Cognitive Grammar to argue that statistical analysis leads an automatic interpretation. What it does show is that it is possible to identify patterns of usage and to locate these in the context of an individual language user in a broader social context. Thus the results of a Burrows computational study can legitimately be subject to an interpretive analysis that incorporates context.

Meaning in Langacker’s Grammar is viewed as encyclopaedic. Cognitive Grammar does not claim that all knowledge is equally important or that there are no limits to knowledge. Knowledge is only relevant in the sense that it has become entrenched and is accessible to language users. Some knowledge is more central in the sense that it is widely shared by a linguistic community and therefore more likely to be activated (Langacker, "Cognitive Grammar" 432). In this sense, the access a linguistic item provides to various domains is not “random or unconstrained” (Langacker, "Cognitive Grammar" 432), even though this access is flexible and subject to contextual influence” (Langacker, "Cognitive Grammar" 432).

### 5.2.2 Grammar is symbolic in nature

The central claim of Cognitive Grammar, as described by Langacker, is that grammar is symbolic in nature. Grammatical items, like function words, play a fundamental role in
the communication of meaning through the way they are used to structure content. As Langacker explains, “the full conceptual value or semantic value of a conceived situation is a function of not only its content … but also how we structure this content … thereby transforming one conceptualisation into another that is roughly equivalent in terms of content but differs in how this content is construed” (Langacker, *Theoretical 138*). In a cognitive grammar, function words make a semantic contribution to a linguistic construction even when their use is determined by convention (Langacker, *Theoretical 19*).

Langacker proposes that a language is a set of “signs or expressions” each of which has a semantic pole and a phonological pole that are symbolically linked. Individual language users draw on an inventory of symbolic resources as they construct and evaluate expressions (Langacker, "Overview" 5). This is not dissimilar to Saussurean accounts of the link between signs and symbols illustrated in Figures 4.1 and 4.2, but in Cognitive Grammar, this starting point does not lead to the conclusions that characterise post-structuralist positions in relation to language and arbitrariness. Cognitive Grammar takes the view that language has features of arbitrariness, since “in general, linguistic symbols have no intrinsic or necessary connection with their referents” (Devitt and Sterelny 5). Lacan and others argue that meaning is a result of relationships of differences within a linguistic system that is self-contained. Langacker, however, suggests that consequences arising from the arbitrariness of the sign can easily be overstated. He comments, “An obvious but seldom-made observation is that any polymorphemic linguistic system … is nonarbitrary to the extent that it is analysable” (Langacker, *Theoretical 12*). By way of example, Langacker considers the addition of –er to the word staple to create stapler. He notes, “the form is conventional, inasmuch as another form could perfectly well have been chosen for this concept, but it is not arbitrary in the sense of being unmotivated, given the existence of other signs” (Langacker, *Theoretical 12*).

In claiming that grammar is symbolic in nature, Langacker is chiefly concerned with rejecting the notion that grammar is a ‘generative device’, and refuting the claim “that the expressions of a language constitute a well-defined, algorithmically computable set”, as proposed in an objectivist semantics (Langacker, "Overview" 4). In extending the notion of language as symbolic beyond lexicon to grammar, Langacker argues that “the elements, structures, and constructs employed in grammatical description must all
be meaningful” (Langacker, "Cognitive Grammar" 431). Syntactic structures are therefore “inherently symbolic, above and beyond the symbolic relations embodied in the lexical items they employ” (Langacker, Theoretical 12). The structure of a sentence and what Langacker refers to as its “well-formedness” reflects an interplay of factors that may be semantic and/or contextual (Langacker, "Overview" 5).

In Cognitive Grammar, semantic structure is seen to be subjective and therefore a reflection of alternate ways of construing a situation (Langacker, "Overview" 6). So, for example, Langacker argues that two sentences like (a) *Australia was settled by the British* and (b) *The British settled Australia* “embody a semantic contrast that a viable linguistic analysis can not ignore” (Langacker, "Overview" 7). This is because grammatical constructions are revealing of the way a speaker structures conceptual content for expressive purposes (Langacker, "Overview" 7). From the point of view of generative grammar the difference between the active and passive forms of a construction, as detailed in (a) and (b) above, is not viewed as particularly significant as the passive form is simply derived from the underlying active structure. As Langacker notes “it is thought that a passive sentence is adequately described without regard for the possible semantic contribution of be, by, or by the past-participial inflection on the verb” (Langacker, Theoretical 28). From the point of view of Cognitive Grammar, these two sentences convey images that are contrasting, and this is facilitated by lexical and grammatical conventions. In a very basic sense this common structure undermines the notion of a clear distinction between lexicon and grammar and leads to the conclusion that grammatical items, like lexical items, can be described as meaningful (Langacker, Theoretical 3).

Computational Stylistics based on the Burrows methods does not look at grammatical constructions but rather grammatical elements such as function words. Although Langacker argues that the way a sentence is structured gives important clues to its meaning, and computational stylistics takes no account of order, the method highlights patterns of usage through frequency counts, which point to elements of structure. For example, a Burrows-style analysis may highlight a high frequency of passive forms through very high frequencies of the function word *was*, which might suggest a reflective type of discourse focused on the past tense rather than an active present. This is a distinction that might be expected in a comparison between stage plays and closet plays. This element could then be analysed in terms of Langacker’s conception of how
this form contributes to construal. Computational stylistics can thus be seen as revealing patterns of construal and pointing to particular markers that require further investigation.

Langacker argues that “morphological and syntactic structures themselves are inherently symbolic, above and beyond the symbolic relations embodied in the lexical items they employ” (Langacker, *Theoretical* 12). This means that “lexicon, morphology, and syntax form a continuum of meaningful structures” and it is not necessary to consider these components separately. Moreover, these structures conform to the content requirement. Thus the content requirement and the configuration of symbolic structures that express the content are inextricably linked (Langacker, *Descriptive* 3). Langacker’s cognitive linguistics insists that lexicon, morphology and syntax cannot be considered separately. Schematic words, like conjunctions and prepositions, which have been traditionally underrated in the stylistic analysis of texts can therefore be treated as significant in a cognitive analysis.

### 5.2.3 Grammar and lexicon

In the case of computational studies that use very common words as a basis for analysis, Langacker’s conception of language is extremely useful because he contends that “most (if not all) grammatical morphemes are meaningful, and some are at least as elaborate semantically as numerous content words” (Langacker, *Theoretical* 18). He goes further to argue “It would be hard to claim that modals, quantifiers, and prepositions have less semantic content than such lexical morphemes as *thing* or *have*, nor are they obviously more abstract than *entity*, *exist*, *proximity*, etc.” (Langacker, *Theoretical* 18). Langacker argues that the assumption by generative linguists that there is a distinction between meaningful lexical items and meaningless grammatical items leads to the treatment of function words as semantically empty. Assumptions arising from generative grammar are hostile to computational stylistics because from within this framework, function words are seen as meaningless linguistic operators. Langacker claims that the distinction drawn between grammatical and lexical morphemes is a false one: it may seem clear on a number of factors such as “concreteness of sense, amount of semantic content, whether the choice of a particular form is free or is determined by the grammatical environment, and whether or not a subclass accepts new members” (Langacker, *Theoretical* 18). But these differences, according to Langacker’s model, are matters of degree, since even the specificity of content words can vary dramatically. If prototypical
content words – for example some nouns such as *giraffe* and *encyclopedia* – are considered in contrast to forms like –*ing*, *of*, *be*, *it* (*It’s raining*), the differences are striking. But the distinction is less clear – even in the case of nouns – if abstract nouns like *feeling* are considered (Langacker, *Theoretical* 18).

Langacker, however, proposes specific semantic descriptions for grammatical markers including auxiliaries such as *be*, *have*, and *do*, as well as for elements such as articles and modals. He argues that they invoke “a particular kind of construal” (Langacker, *Descriptive* 522). Construal relates to the cognitive ability to shift perspective and process information from another point of view and it provides computational stylistics with an interpretive framework to ground the statistical analysis of function word frequencies. Even though these elements may be viewed as highly schematic, they still make some semantic contribution to the constructions in which they appear. This is true even though when the use of a particular function word is determined by convention (Langacker, *Theoretical* 19). Grammatical morphemes help the speaker/writer to “structure the conceived situation through alternate images” (Langacker, *Theoretical* 19).

In summary the principles of Cognitive Grammar are supportive of Burrows-style stylistics. The first principle allows for the distinctive use of function words by an individual language user within a framework of shared or overlapping understandings, creating a framework in which stylistics is not seen as key to a ‘correct’ interpretation but a guide to a likely interpretation in relation to a number of contexts associated with author, text and reader. The second principle highlights the significance of grammatical structure on meaning in terms of the way it influences construal, and the third principal supports the meaningful interpretation of function words.

### 5.3 Methodological principles

The three key methodological principles highlight the way in which language functions. They are principally concerned with the role of embodiment in language and meaning. Prototypes, schemas, and metaphors link the theoretical principles to an explanation of how language works in terms of Cognitive Grammar. The prototype theory of categorisation is based on a notion of family resemblance rather than a classical or criterial view in which membership of particularly category is defined in terms of necessary conditions. Prototypes reflect perceptual systems and human interaction with
the world. Prototypes relate to schemas (or Idealised Cognitive Models/ICMs) through the way in which they foreground the most centrally relevant member of the category in a particular context. Schemas or ICMs provide the framework we use to relate the less prototypical members of a category to the central member. They are inclusive of the central example and the radial examples. Schemas connect the members of a category through a type of narrative that explains the relationship between apparently disparate category elements. Basic schemas (ICMs) – and therefore prototypes – are mapped onto new experiences through the use of metaphor. As a consequence of this, all reasoning is seen as fundamentally metaphorical and constrained by the interlinked nature of biological and cognitive processes. Each of the methodological principles will be explored in more detail below.

5.3.1 Prototype theory of categorisation

This issue of categorisation and the development of prototype theory is central to the development of Cognitive Grammar. This is because prototype effects form the basis of our knowledge of the world and enable us to function within it (Lakoff and Johnson, *Philosophy* 96). The prototype theory of categorisation challenges the classical view of categories and has consequences for the view of reason as the disembodied manipulation of symbols, which leads to the view of function words as meaningless operators. Prototype theory argues that categories are dependent on the perceptions of people, and these perceptions are constrained by the human minds and bodies that are engaged in the process of perceiving.

Research in cognitive psychology has indicated that the prototype theory of categorisation is both psychologically and linguistically plausible. Studies by Rosch and colleagues demonstrate that categories are often organised around prototypical instances and are far more complex and interactional than classical or criterial definitions suggests (Rosch et al.; Rosch; Rosch and Mervis). Cognitive linguist George Lakoff draws on Rosch’s work to explain prototypes using the category BIRD for illustrative purposes. Lakoff explains that some birds, like robins “are judged to be more representative of the category BIRD” (*Women Fire* 41) than others, such as chickens, penguins, and ostriches. Even though these various examples of birds may have very little in common with each other, the nonprototypical birds are assimilated to the class or category of BIRD according to the extent that they can be seen as approximating the prototype. Membership of a category, as Langacker says, is therefore a “matter of degree”
Prototypical instances are “full, central members of the category, whereas other instances form a gradation from central to peripheral depending on how far and in what ways they deviate from the prototype” (Langacker, *Theoretical Linguistics* 17). The importance of this observation lies in the way it undermines the classical definition of categories. It is important to note that a prototype, “is simply a convenient grammatical fiction” (Rosch 40). In referring to a prototype, what is really being discussed is a judgment in relation to “degree of prototypicality” (Rosch 40). These judgements reflect social context and the concepts that human minds use to organise the world.

Even though prototype theory argues that categories are conceptual constructs, the literature suggests there is some predictability in the way human minds develop and refine categories. Rosch extended the work of others in the field of biological classification to explore the concept of categorisation and basic-level effects in a psychological context (Rosch et al.). Rosch argued that the “categorizations which humans make of the concrete world are not arbitrary but highly determined” and reflect the importance of physical embodiment in conceptualisation (Rosch et al. 382). Rosch’s experimental work on taxonomies in English showed that there are three broad levels of abstraction that we use to categorise items and the basic level is always the level that carries the most information and possesses the highest category cue validity. Thus at a basic level we might describe an item as a chair, while at the superordinate level we might describe it as a piece of furniture, and at a subordinate level it might be described as a dentist’s chair. Members of the basic level category are the most differentiated from one another and can often be represented using a gesture, whereas the other more abstract and more detailed levels in the taxonomy cannot. Research supports the existence of a psychologically basic level of categorisation and suggests that all human beings share the same levels of categorisation (Berlin, Breedlove and Raven). This process occurs across time and culture “simply because human beings share the same general capacities for gestalt perception and for holistic motor movement. It is these capacities that have the major role in determining basic-level categories” (Lakoff, *Women, Fire and Dangerous Things* 37-38).

Prototype theory relates directly to the current study through its application to the analysis of function words. In an orthodox account it is argued that the many senses of a word like *to* means that there is no justification for counting occurrences as a single variable. Prototype theory suggests that although there may be differences between the
way a word like *to* is used in a variety of instances there is a ‘family resemblance’ that links each usage. Thus multiple instances of *to* may legitimately be counted as entities that are related through radial relationships that may only loosely be connected to the prototypical instance.  

Cognitive work on categorisations shows that there is a link between “cognitive structure and real knowledge of the world” (Lakoff, *Women Fire* 38) and that there is a functional aspect to categorisation that draws on culture and social context.

5.3.2 Idealised Cognitive Models, schemas and domains

The second of the methodological principles of Cognitive Grammar is the theory of schemas or Idealised Cognitive Models (ICMs), which are also sometimes identified as domains. Schemas provide the framework by which we relate the less prototypical members of a category to the central member. They are inclusive of the central example and the radial examples. Schemas connect the members of a category through a type of narrative that explains the relationship between apparently disparate category elements. Prototypes are an effect of or are produced by schemas. Basic schemas explain prototypes, and like prototypes “reflect interactions between the body-brain and the environment” (Lakoff and Johnson, *Philosophy* 37). For instance, activities are conceptualised in terms of the ‘container schema’ whenever the prepositions *in* and *out* are used. Langacker suggests that our basic understandings about “houses, cars and envelopes all draw on our understanding of a container schema” (Langacker, *Theoretical* 14). Cognitive processes rely heavily on primary metaphors, which are mapped across conceptual domains that structure everything we experience from the way we reason to the way we understand emotions. They are not arbitrary social constructs; they are “highly constrained both by the nature of our bodies and brains and by the reality of our daily interactions” (Lakoff and Johnson, *Philosophy* 96).

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17 If a researcher was concerned about possible exceptions as in the case of *for* as a conjunction or a preposition these forms could be coded prior to analysis.

18 There are a number of terms used in the literature to refer to the notion of an “idealized cognitive model”. These include “frame”, “schema”, “script” “scenario”, “ideational scaffolding”, “cognitive model”, or “folk theory” (Fillmore 11).
The container schema, for example, is metaphorically mapped onto our understandings about language and meaning, where we can think of words “conveying ideas” (Langacker, *Theoretical* 14). The container schema can also be seen as drawing on the “conduit schema” and the sense that we get our ideas “across” to someone else (Langacker, *Descriptive* 508). ICMs highlight certain aspects of the elements, or the relations between elements, in a construction. In any ICM or schema there is a “distinction between what is backgrounded and what is foregrounded” (Langacker, *Theoretical* 133). This is a process of selection in which certain elements are made more salient than others. As ICMs become more complex and less “schematic” they reflect more of the social and cultural environments in which they have arisen. The concept of a ‘vegetarian’, for example, can only be understood from within the context of a culture that is predominantly carnivorous. The concept of an ICM and the concept of metaphor provide a motivated way of explaining how less prototypical members of the category relate to the central prototypical instance. ICMs and metaphors as they relate to Cognitive Grammar will be outlined below.

5.3.3 Metaphor

The role of metaphor and associated imaginative capacities are central to Cognitive Grammar’s explanation of the process of conceptualisation and reasoning. “Metaphors are conceptual mappings. They are a matter of thought, not merely language” (Lakoff and Turner 107). The fact that human experience is embodied leads to the formulation of basic-level categories, like “containers”, “paths”, “links”, “forces”, and “balance” (Lakoff, *Women Fire* 267), which are mapped onto experience in other domains in a process that is fundamentally metaphoric. The metaphors are not arbitrary social constructs. Rather, they are “highly constrained both by the nature of our bodies and brains and by the reality of our daily interactions” (Lakoff and Johnson, *Philosophy* 96). Metaphor adds richness to the way we conceptualise and reason about experiences. It crosses domains. Hart comments that, metaphor is much more than a literary device in the sense that the New Critics may have referred to such things. Rather, “they are representations of real-world experiences whose spatial dimensions we preserve in their most general outlines inside the ‘mental spaces’ (a term coined by the linguist Gilles Fauconnier) of our minds” (“Cognitive Linguistics” par. 14).

In standard accounts of language, metaphoric thinking is regarded as “a special instrument of art and rhetoric” (Fauconnier and Turner, *The Way* 17). Cognitive
Grammar, however takes the view that metaphoric thinking “operates at every level of cognition and shows uniform structural and dynamic principles, regardless of whether it is spectacular and noticeable or conventional and unremarkable” (Fauconnier and Turner, *The Way* 17). In Langacker’s words, Cognitive Grammarians:

> regard figurative language to be a prime concern, and assume no clear distinction between literal and figurative language, between idioms and conventional expressions of a nonidiomatic sort, or between lexical and grammatical structure; figurative language is accommodated as an integral facet of linguistic organization, one that can be expected to interact with grammatical processes. The two approaches therefore reflect very different qualitative views of the data used for grammatical analysis. ([Theoretical](#) 38)

Fielsen explains that in cognitive linguistics, “metaphor is not simply a mode of expression, but a mode of cognition by which we project patterns from one cognitive domain to structure our experience in another domain” (4). Thus when describing the feeling of being emotionally affected it is common to say that we are “touched” (Fielsen 4).

The notion of a frame or ICM can explain possible ambiguity in the use of terms, like *brother*, it can explain historical semantic change, and also polysemy (Fielsen 4). If we consider a metaphoric model that maps an ICM from one domain onto an ICM in another, then we must understand the mapping as defining “a relationship between the two idealized cognitive models of the two domains” (Lakoff, *Women Fire* 417). The sense of the word in the source domain is often viewed as more basic. In an example from Lakoff, in the case of the word *up*, where we can say “the bird flew up” or “I’m feeling more up than I did yesterday”, we are using the word *up* in a spatial sense in the first case, and in an emotional sense in the second. In the case of *up*, “the source domain is spatial and target domain is emotional, and the spatial sense is viewed as being more basic” (Lakoff, *Women Fire* 417). Although the sense in which the word is being used is different in each case, a cognitive linguistic approach can view the two senses as related.

One of the most common applications of cognitive stylistics involves the analysis of metaphor in texts. So for example, Mary Ellen Crane looks at metaphors of ‘home’ as representations of subjectivity in Shakespeare’s *Comedy of Errors* (Crane). In this type of study, it is argued that evidence of one or more basic schema can be identified in a
text. Thus scholars suggest that writers unconsciously draw on basic schemas that are extended metaphorically. So for example an author may reason about abstract concepts such as power and control using the metaphors that draw on basic schemas concerned with the bodily experience of being upright, which links to the schema ‘control is up’.\textsuperscript{19} In a cognitive framework the focus on function words in a Burrows study does not eliminate that which is distinctively literary because all language is inherently metaphorical and informed by the interlinked nature of biological and cognitive processes. Function words are therefore a worthy object of study, relevant to an understanding of meaning and reflective of authorial agency.

5.4 Linking Function Words, Cognitive Grammar and Stylistics

5.4.1 Construal

Langacker argues that meaning consists of conceptual content, and the way the content is profiled or presented. He proposes that content always has some kind of construal imposed upon it, and every element in a linguistic construction – including function words – evokes some content, however schematic (Langacker, \textit{Introduction} 43). Construal relates to the cognitive ability to shift perspective and process information from another point of view. As already noted, Langacker describes construal as generally “invisible” since attention is focused on what is being perceived rather than the processes that underpin the activity (\textit{Descriptive} 517). The contribution grammatical items make to meaning is through the way they are used to structure content. As Langacker explains, “the full conceptual value or semantic value of a conceived situation is a function of not only its content … but also how we structure this content … thereby transforming one conceptualization into another that is roughly equivalent in terms of content but differs in how this content is construed” (Langacker, \textit{Theoretical} 138). Langacker claims, “the meaning of many linguistic elements – especially those considered ‘grammatical’ – consists primarily in the construal they impose, rather than any specific content” (Langacker, \textit{Introduction} 43). A similar argument is made by Talmy who states that function words “represent a skeletal conceptual microcosm” and constitute “the structure of thought and conception in general” (Talmy, "Relation" 227-8).

\textsuperscript{19} For a detailed discussion of basic image schemas see Langacker (\textit{Theoretical} 3).
Conceptual content is defined relative to a schema, ICM or domain. Two of the basic schemas identified by Lakoff and Johnson are STATES ARE LOCATIONS and ATTRIBUTES ARE POSSESSIONS. Thus there is a conceptual difference between *Harry’s in trouble* (STATES ARE LOCATIONS), and *Harry has trouble* (ATTRIBUTES ARE POSSESSIONS). This is explained as a matter of construal in which there is a shift between what constitutes the figure in the construction, and what constitutes the ground. Function words play a fundamental role in this process. In the first case, “Harry is a figure and trouble is the ground with respect to which the figure is located. In the second case, Harry is the ground and the figure, trouble, is located with respect to him. Grounds are, of course, taken as stationary and figures as movable relative to them” (Lakoff and Johnson, *Philosophy* 195). So different metaphors highlight different features of the relationship between constituent parts. Scholars who work with cognitive metaphors in the analysis of texts analyse the ways in which writers draw on particular metaphors and how this influences meaning. Cognitive insights as they are applied to literary studies will be discussed in more detail in chapter six.

5.4.2 Deixis and subjectivity

In order to understand how communication operates, Langacker proposes that we consider a speaker and listener as though the speaker is on a stage being observed, and the listener is the ‘audience’ (Langacker, "Discourse" 144-45). The conceptions that the speaker brings to the attention of the audience are metaphorically put on ‘stage’ to be viewed by the ‘audience’ (Langacker, *Descriptive* 284). Van Hoek explains that in Langacker’s model, “the audience is construed subjectively, meaning that they are the viewers, rather than that-which-is-viewed. The ‘onstage’ conceptions are viewed objectively, as the center of attention” (van Hoek 890). In most discourse situations these roles of speaker and audience will be shared and swapped.

In a cognitive analysis, language that features frequent use of pronouns, particularly anaphoric pronouns (such as *him* in ‘I’ll go and get him’) assumes a certain common ground between the speaker and the addressee; they both understand who or what is being referred to without *him* being referred to by name. When a full-noun is used, like a name, there is an implied conceptual distance. Van Hoek notes that:

> Some forms of reference mark a clear distinction between the offstage, subjective viewers and the onstage focus of attention. A full noun phrase … focuses the speaker and addressee’s attention on a conception and renders it fully objective. It thereby
portrays the referent as relatively distant from the speaker and addressee. This can be contrasted with the way a pronoun portrays its referent. A pronoun places onstage a conception that is identifiable only through its association with an offstage participant. The pronouns *I* and *you*, for example, focus attention on conceptions identified as the discourse participants themselves. (van Hoek 893)

These cues regarding subjectivity also relate to the way in which deixis functions in communication. Langacker uses the term ‘ground’ as indicating “the speech event, its participants, and its setting” (*Introduction* 126). A deictic expression “can therefore be defined as one that includes some reference to a ground element within its scope of predication” (Langacker, *Introduction* 126). McIntyre’s more accessible description of deixis is that “it is concerned with the issues of distance and proximity in space, time and social relations, and centres on the fact that speakers tend to interpret deictic terms in relation to where they themselves are positioned” (50). Deixis contributes to the ways in which we become aware of the relationship between participants in linguistic interactions and the space they inhabit. For example, *this* contributes predications of definiteness (identification to speaker and hearer) and proximity to the speaker. Deixis also contributes to the way in which discourse participants negotiate the concept of phenomena known as ‘mental spaces’ and ‘conceptual blends’, which will be discussed briefly below.

5.4.3 Mental spaces

The concept of mental spaces and conceptual blending as developed by Giles Fauconnier, relates to the theory of possible worlds that is associated with formal logic and problems associated with reference in language. A cognitive approach to meaning and reference takes deixis into account and therefore recognises the presence of a “mediating mental representation” as opposed to an objective reality (Stockwell, *Cognitive Poetics* 93). Fauconner argues that “as discourse unfolds and mental spaces are set up, the recovery of meaning fundamentally depends on the capacity to induce shared structure, map them from space to space, and extend the mappings so that additional structure is introduced and exported” (Fauconnier and Sweetser, *Spaces* 67). As Stockwell explains, the theory of possible worlds is “a philosophical notion constituted by a set of propositions that describe the state of affairs in which a sentence can exist” (*Cognitive Poetics* 93). The theory of mental spaces thus provides a way of
explaining the ways in fictional texts deal with flashbacks, hypothetical scenarios, and multiple plans.

Fauconnier explains that mental spaces are dynamic and constantly being built up in working memory, but they can also become entrenched. By way of example, Fauconnier cites mental spaces associated with Christianity, such as ‘Jesus on the Cross’, which evokes the frame of ‘Roman Crucifixion’, various types of religious iconography, and elements from the liturgy among a range of other symbols and references. Stockwell suggests these should be considered as “counterparts with the fictional discourse world” (Cognitive Poetics 93). By the same token, fictional elements in the discourse world may also have counterparts in the real world, as in a country that actually exists. Readers and listeners rely on deictic cues to perform a complex series of adjustments that allows them to move between worlds and spaces. As Stockwell notes, “each character, of course, also has a virtual discourse world inside their fictional heads, and the reader often needs to keep track of these belief systems as well” (Cognitive Poetics 92). Stockwell describes conceptual blends as “the mechanism by which we can hold the properties of two spaces together, such as in metaphorical or allegorical thinking, scientific or political analogy, comparisons and imaginary domains involving characters from disparate areas” (Stockwell 98).

5.4.4 Force dynamics

Talmy’s contribution to the understanding of force dynamics in language is of particular relevance to this study. Talmy contrasts expressions that he classifies as “forcedynamically neutral” (Stockwell, Cognitive Poetics 94), such as Alice doesn’t go to work with sentences that exhibit force dynamic patterns, such as Alice can’t go to work. Talmy argues that in the second example a physical force combines with a psychological force, implying that Alice would like to go to work but “there is some kind of force or barrier opposing that tendency, and that the latter is stronger than the former, yielding a net resultant of no overt action” (“Concept Structuring” 26). Sweetser has extended Talmy’s force-dynamic framework into an account of epistemic modals (Sweetser, "Root and Epistemic"; Sweetser, "Semantic Structure"). Sweetser’s work demonstrates that reasoning that uses modals – such as must, may, can – proceeds by drawing on metaphorical reference to images concerned with physical forces.
5.5 Conclusion

Computational stylistics provides a new kind of access to the elements of a text that play a fundamental role in the process of construal. Although some cognitive stylistic studies have looked at keywords – which incorporate function words as well as lexical items – it does not appear that cognitive stylistics studies typically involve the close focus on function words that is characteristic of a Burrows-style study. The approach in the present study appears to be unique in that it uses Langacker’s Cognitive Grammar as a supportive framework for a Burrows-style study that focuses exclusively on function words. Further, it suggests that a cognitive framework can support a more interpretive analysis of the statistical results in terms of the comparative relationships between texts as well as in an individual text. Cognitive Grammar thus provides a way of linking the numbers that are the result of Burrows-style computational stylistics with the embodied brains that both produce and consume the text, pointing to interactions between “culture, language, and cognition” (Crane 31).

Bringing Cognitive Grammar and computational stylistics together provides a supportive methodology for computational stylistic studies and an interpretive framework for results. Although these variables are in a sense reified, Langacker notes that reification cannot be avoided in the process of analysis and exposition. He says “it is both necessary and legitimate for linguists to focus selectively on certain problems, extract them from a broader fabric of interrelated concerns, and handle them in an idealized manner” (Langacker, Theoretical 27). However, Langacker concludes that the researcher must return the instances to context. That is, the elements under investigation “must eventually be interpreted not as static entities but as organized mental activity” (Langacker, Descriptive 511). Cognitive Grammar validates the identification of particular function words in isolation for empirical study, as opposed to other textual elements, and also provides a basis for decisions not to undertake some additional editorial interventions, such as lemmatisation. Cognitive Grammar allows formalist studies to engage in a disciplined way with critical discussion concerning authorship, context and meaning.
Chapter 6. Cognitive approaches to literary studies

6.1 Introduction

Traditional stylistics as described by Semino and Culpeper makes use of linguistic theories or frameworks to ground the interpretation of literary texts. Stylistic analysis is described as “a method of linking linguistic form, via reader inference, to interpretation in a detailed way and thereby providing as much explicit evidence as possible for and against particular interpretations of a text” (Culpeper, "Reflections" 126). The formalist nature of the stylistic enterprise leads to claims that the method is deterministic and unsuited to the sorts of questions that literary scholars are interested in answering.

Stylistic studies that draw on orthodox accounts of language reflect the limitations that are characteristic of these linguistic models. However, a stylistics that integrates cognitive approaches with empirical and corpus based approaches engages with context at multiple levels, fundamentally because language itself is based on conventional imagery that reflects cultural specificities rather than universal rules. Cognitive stylistics articulates a link between formalist analysis and a materially informed critical practice. Hamilton notes that:

Texts are material anchors for linguistic forms of communication that span time and space. Stories are objects produced by evolved human minds performing hard-to-explain yet easy-to-do mapping tasks. The medium is language, the visible material for literature, but the referents and interpretation are all conceptual. (Hamilton 2)

Cognitive stylistics provides a link between “the empirical world of corpus stylistics and the cognitive world of meaning construction and interpretation” (Leech 121). Through its challenge to the linguistic assumptions that underpin orthodox literary theory cognitive stylistics also addresses questions that are critical to the study of literature, in relation to issues such as “subject formation, language acquisition, agency and rhetoricity” (Richardson and Spolsky 157).

This chapter outlines the major approaches within cognitive stylistics and describes the way in which concepts such as deixis, mental space theory, and conceptual metaphor are applied in a literary analysis, with a view to locating the approach taken in the present study in the context of related studies. Although work in cognitive stylistics and
cognitive poetics has been developing since the 1970s, it appears that no direct link has been made between Cognitive Grammar and Burrows-style computational stylistics. It is suggested that a Burrows-style computational study draws together two strands of cognitive stylistics, one of which has a strong focus on cognitive linguistics, especially Langacker’s Cognitive Grammar, and the other, which draws on approaches associated with developments in stylistics and literary studies, and the work of scholars such as Elena Semino and Jonathan Culpeper. This chapter introduces the analytical framework that will be applied to the study of early modern drama that is the focus of the second part of this thesis.

6.2 Cognitive stylistics

6.2.1 Introduction

Cognitive stylistics, which is also sometimes called cognitive poetics, is a diverse field that reflects a range of approaches. Scholars have been producing literary criticism that incorporates the findings and methods of the cognitive sciences for approximately three decades. The complex nature of the questions and methodologies that are a feature of cognitive science and neuroscience, and the various ways in which they are applied to the analysis of language and texts, produce what Richardson describes as a “large potential for disagreement even at the most basic level” (Richardson and Spolsky 2). One of the key points of divergence in approaches to the practice of cognitive stylistics relates to views as to whether cognitive stylistics supports a more reader-focused criticism or legitimises a return to the analysis of textual features. As Stockwell notes, although cognitive stylistics looks closely at linguistic form it also “involves an understanding of linguistic form in terms of what that form is doing in the mind” ("Texture" 60). The extent to which various approaches emphasise either the text or textual reception is reflected in the various approaches that are described in this chapter.

The term cognitive stylistics rather than cognitive poetics is used here after Semino and Culpeper because “it emphasizes a concern for close attention to the language of texts”, (Culpeper, "Reflections" 125). Semino and Culpeper describe cognitive stylistics as:

a rapidly expanding field at the interface between linguistics, literary studies and cognitive science. Cognitive stylistics combines the kind of explicit, rigorous and detailed linguistic analysis of literary texts that is typical of the stylistics tradition with a systematic and theoretically informed consideration of the cognitive structures and
Cognitive stylistics combines the formal approaches associated with corpus stylistics, with an explicit theorisation of context in language and literature. Cognitive stylistics thus establishes a framework in which empirical studies can incorporate the contextual in the analysis of texts, including their production and reception. This is of particular relevance for computational methods of literary studies, which attempt to produce a metrics of style.

Semino and Culpeper note stylistics’ formalist origins in the foreword to their collection of essays *Cognitive Stylistics: Language and Cognition in Text Analysis*, and link the development of stylistics to Mukařovský’s work on foregrounding (Mukařovský). Evidence of this influence can be seen in many, but not all, of the methods that are described below as fitting within a cognitive framework. The computational aspect of the stylistic study presented in this thesis may appear to amplify the formalist features associated with stylistics and therefore the limitations typically associated with formalism. It is argued here, however, that Cognitive Grammar’s functional basis, which firmly grounds the analysis of language in the context of usage, and its commitment to an embodied view of language and meaning, ensures that context is always an integral part of the analysis. Cognitive Grammar provides a framework that:

- supports quantitative approaches to the study of language and texts;
- explains why a focus on function words in stylistic analysis is productive; and
- links individual language users with the contexts in which language is used.

The cognitive basis of cognitive linguistics means that cognitive stylistics takes into account “cognitive and cultural models of current and background knowledge, linguistic and literary competence, personal experience, memories, wishes and imagination” (Stockwell, "Texture" 66-67).

Margaret Freeman describes four overlapping approaches to the study of literature that can be described as cognitive stylistics. These groupings provide a useful framework for an overview of work in the area (Freeman, "What Is"). The first grouping is characterised by the work of Reuven Tsur, who began using the term “cognitive poetics” in the 1970s to describe his theoretical approach to literary analysis (Tsur, *Toward a Theory*). Tsur’s approach is based on “Gestalt psychology, Russian
Formalism, New Criticism, literary criticism in generally, linguistics, and neuroscience” (“What Is" 450). A second strand draws more closely on developments in cognitive linguistics and studies in conceptual metaphor as represented by the collections *Cognitive Poetics: An Introduction* (Stockwell, *Cognitive Poetics*), *Cognitive Poetics in Practice* (Gavins and Steen) and *Cognitive Poetics: Goals, Gains and Gaps* (Brône and Vandaele). A third strand involves a more general approach to literature and literary theory that integrates insights from cognitive science into approaches associated with historicist and materialist theoretical paradigms as in the work of Richardson and Spolsky in *The Work of Fiction: Cognition, Culture and Complexity* (Richardson and Spolsky), and in Mary Thomas Crane’s *Shakespeare’s Brain* (Crane). The fourth type of study builds on ongoing work in corpus stylistics with the addition of insights from cognitive science and cognitive linguistics, as in the approaches employed by Semino and Culpeper. Examples of this approach are presented in Semino and Culpeper’s edited collection, *Cognitive Stylistics: Language and Cognition in Text Analysis* (Semino and Culpeper). In addition to an overview of Freeman’s four broad groupings, a brief summary of reader oriented cognitive criticism is provided below.

6.2.2 Cognitive poetics

Reuven Tsur conceives of cognitive poetics as drawing on theories based in cognitive science and cognitive psychology, particularly in relation to the psychology of emotion. Although Tsur’s work predates developments in cognitive linguistics, as Freeman notes, many of his observations anticipate insights arising from research in the cognitive sciences (“What Is” 452). Tsur’s cognitive poetics draws on Russian formalism to argue that poetic effects in literary texts are achieved through the “modification” or “deformation” of cognitive processes (Tsur, "Aspects" 279). This occurs through a process of “delayed categorisation” which allows the poet to “generate the unique diffuse character of emotions” as the reader lingers on the sensual and the atmospheric implications of words, rather than the more evaluative aspect (Tsur, "Aspects" 279). This can occur in multiple ways, some of which may be as straightforward as “a catalogue of physical facts” (Tsur, "Aspects" 285). For Tsur, texts don’t “have” meanings; they “display” meanings that are “perceived by the reader” through a cognitive process that is more indirect in the case of poetry than in non-poetic texts (Tsur, "Aspects" 279).
The value of cognitive stylistics for Tsur lies in the way in which it provides a framework for discussing the quality of the emotional response that some texts produce in readers, even though “language is a predominantly sequential activity, of a conspicuously logical character” (Tsur, "Aspects" 280). Poetry, according to Tsur takes normal cognitive processes and distorts them in some way, producing a reorganisation that can be explained and analysed with reference to cognitive insights. Tsur draws on findings from cognitive research to analyse the way the way different levels of memory and categorisation processes are activated or challenged by a poetic text.

Tsur writes that:

Cognitive poetics, as I conceive of it, offers cognitive theories that systematically account for the relationship between the structure of literary texts and their perceived effects. By the same token, it discriminates which reported effects may legitimately be related to the structures in question and which may not. By appealing to cognitive theories, the critic ensures that the relating of perceived qualities to literary structures is not arbitrary. (Tsur, "Aspects" 279)

Tsur sees his work as bridging the gap between impressionistic criticism and the formal description associated with traditional stylistics. Tsur’s is a strongly text-based approach and he is critical of other approaches that he sees as privileging a view of texts as vehicles for the explanation of cognitive processes, as opposed to those that use cognitive insights to explain the effects of poetry (Tsur, “Deixis”).

An example of Tsur’s approach can be seen in his analysis of a line from Nathan Alterman’s poem, The Wind With all its Sisters (Tsur, "Aspects" 289). Tsur describes what occurs when he invites students and readers to consider the line, “from the village drowning in the moan of the oxen”, in terms of the sensations that it evokes. Subsequent discussions refer to the idea of drowning, water, bathing, the feeling of an “undifferentiated, diffuse sensation all over the outer surface of the skin” and a “heightened feeling of unity of the various parts of the body, and … between the body and its immediate environment” (“Aspects" 290). Tsur relates this cognitive response to the physical experience of bathing in warm water. He argues that the structure of the line facilitates the development of this feeling through the way it produces a kind of cognitive “regression” that transcends the split between the speaker and their environment, creating the sensation of undifferentiation (Tsur, "Aspects" 290).
Tsur also argues that the metaphors Altmann uses produce a soothing effect in spite of the slightly sinister implications of words such as *drowning* and *moan*. In considering the word *moan*, Tsur suggests that there is a contradiction between the idea of the village – “an entity or thing” – drowning in a sound, which is “thing-free” (“Aspects” 291). Tsur suggests that the structure – in particular the contrast between matter and sound – foregrounds aspects of the metaphoric frame called up by words such as *drowning* and *moan* and cancels other features, in particular those concerned with references to death. Tsur uses the ‘feature-cancellation theory of metaphor’ from linguistic semantics to argue that in the example, allusions to death (drowning) and pain (moaning) recede, and instead, the word *moan* highlights “the sensuous quality of the oxen lowing” as opposed to suffering, and that *drowning* suggests immersion rather than death ("Aspects" 293). Tsur’s debt to Russian formalism and the role of textual density in ‘making strange’ the language of literary texts seems clear. This is seen as related to the function of poetry in the mind of the reader, which leads to focus on aesthetic effect, or experience.

6.2.3 Conceptual metaphor and cognitive linguistics

The second approach described by Freeman integrates the analysis of literary texts with cognitive linguistics and metaphor theory based on the work of cognitive linguist George Lakoff, cognitive philosopher Mark Johnson, and cognitive scientist Mark Turner (Lakoff and Johnson, *Philosophy*; Turner, *Reading Minds*; Turner, *Literary Mind*). Freeman describes this approach as drawing on cognitive linguistics but also including reference to theories of “aesthetics, phenomenology, and semiotics” ("What Is" 450). Turner’s view of language as emerging from “the literary mind” is a fundamental principle that informs this approach (Turner, *Literary Mind* 168). Lakoff and Turner argue that “poetic thought uses the mechanisms of everyday thought, but it extends them, elaborates them, and combines them in ways that go beyond the ordinary” (67). The application of cognitive metaphor theory to literary texts draws on the idea that “metaphorical structures that are fundamental to all language can provide some insight into an author’s conceptual attitudes and motivations” (Freeman, "State of the Art" 1181).

For example, Mark Turner uses cognitive research to support his theoretical claim for an approach to literary studies which takes as its starting point “the analysis of acts of language, including literature, as acts of a human brain in a human body in a human
environment which that brain must make intelligible if it is to survive” (Turner, *Reading Minds* vii-viii). Turner draws on Lakoff and Johnson’s work on cognitive metaphor, where metaphor is treated as “not merely a matter of *words* but is rather a fundamental mode of *cognition* affecting all human thought and action, including everyday language and poetic language” (Turner, *Death* 3-4). In this view, it is argued that language reflects general patterns of metaphorical usage, which reflect the experience of human embodiment, and that these metaphors can be identified and then analysed through the way they inform textual interpretation at multiple levels.

As Stockwell notes, the reference to concepts arising from cognitive linguistics such as conceptual metaphor theory, figure and ground, schema, and world-theories all point towards the fact that “interpretive communities could share roughly consensual readings at the same time as individual readers could hold varying interpretations” (Stockwell, "Literary Theory" 2). The existence of a degree of interpretative overlap between readers is implicit in Turner’s work, and in studies by critics such as Mary Thomas Crane and Irena Popova, who have explored the way in which one or two primary metaphors can appear throughout a text, bringing a “structural unity” and contributing to a “the emergence of a text’s theme” (Freeman, "State of the Art" 1183). This linguistic approach, particularly when it involves the close analysis of deixis and reference to conceptual metaphor, has drawn criticism from Tsur, who claims that it simply “translates traditional critical terms into a ‘cognitive language’” – rather than points out how cognitive processes explain the generation of “poetic effects” (Tsur, “Deixis” 119).

Conflicting views about the role of cognitive metaphor analysis in the study of literature reflect a basic difference in the way these critics orientate themselves to the objects they study. In the case of metaphor, Tsur looks at “significant distinctions between very similar metaphors, claiming that these differences make poetic expression unique (Steen and Gibbs 346). In contrast, a more linguistic approach, shows how “a wide range of quite different metaphors can be reduced to the same underlying conceptual metaphor” (Steen and Gibbs 346). Thus cognitive stylistics, with a focus on the analysis of conceptual metaphor and cognitive linguistics, is sometimes seen as being overly prescriptive and deterministic. This leads to the suggestion that it is difficult to align literary criticism and cognitive stylistics because “critics aim to produce interesting, novel interpretations of literary works, whereas linguists aim to produce reliable
analyses and explanations” (Steen and Gibbs 339). The present study is aligned with Freeman’s approach, which suggests that a more productive way to proceed is for cognitive stylistics to be concerned with “which cognitive tools are better adapted for a specific purpose” as opposed to an approach that implies cognitive poetics involves “the application of an operational principle that is restricted to literature alone” (Freeman, "What Is" 454).

6.2.4 Cognitive literary studies

The third model in Freeman’s account is a more general one that attempts to link cognitive insights to existing literary critical frameworks. Critics such as Mary Thomas Crane, Elaine Spolsky, and F. Elizabeth Hart engage “with the poststructuralist emphases on constructivity, process, flux, difference, and deconstruction at the same time that they also index cultural and literary diversity to the human cognitive apparatus” (Hart, "Epistemology" 316). These critics distinguish their work from that of other theorists by combining a cognitive model of analysis with cultural studies and historicist approaches. Spolsky, for example, argues that literary texts perform a type of “cognitive work” in a social sense, and that multiple representations of stories and events do not simply reflect popular tastes but reflect a cultural consideration of complex problems that explore “the possibilities and limits of human cognition” (Spolsky 79). Hart describes this approach as a type of “cognitive historicism” in which the critic traces the discourse of brain and mind science through the literary and philosophical texts of earlier periods (Hart, “Epistemology” 316). This approach is also concerned with the development of a new kind of materialism that considers the material body and brain of the author as “one material condition among many” and concludes that “just as surely as discourse shapes bodily experience and social interactions shape the material structures of the brain, the embodied brain shapes discourse” (Crane 5, 7).

Critics associated with this model explicitly addresses “issues of gender, ideology, sexuality, race, and cultural difference” (Richardson and Spolsky 5) and suggest that a more linguistic approach overlooks these issues because of its focus on linguistic form. Crane and Richardson outline a model of cognitive stylistics that acknowledges the interdisciplinarity supported by cognitive approaches, but highlight the importance of developing a cognitive stylistics that resists formalisms, rather than suggesting, as Langacker does, that the distinction between form and meaning is questionable in the
first place. This study adopts the view of language outlined in Langacker’s Cognitive Grammar, and suggests that a highly formal study, like the present one, implicitly engages with issues such as gender, genre, culture, and class, acknowledging the role of the author while incorporating an understanding of the collaborative nature of textual production.

6.2.5 Cognitive stylistics

A fourth approach outlined by Freeman builds on existing work in stylistics, but integrates cognitive insights. Critics associated with this approach use empirical methods to study linguistic corpora, but typically analyse key words or a combination of function words and content words, rather than focus exclusive on function words as in the present study. Two key names associated with the integration of cognitive insights into the practice of corpus stylistics are Elena Semino and Jonathan Culpeper. Semino and Culpeper argue that cognitive linguistics – and cognitive science more generally – brings an additional level of rigour to stylistic analysis by providing a systematic link between “linguistic choices and cognitive structures and processes” (Semino and Culpeper ix). Steen and Gibbs, who have also contributed significantly to developments in cognitive stylistics, identify a growing interest in the study of metaphor using a corpus-linguistic approach but comment that metaphors can be very difficult to categorise (Steen and Gibbs 342). They call for additional empirical work that would explore the links between “linguistic and rhetorical form and conceptual meaning” (Steen and Gibbs 341). Semino and Culpeper argue that the problem with the cognitive linguistic paradigm described above in comparison to their own approach, is that it is “focused on such topics as semantic categories, grammatical constructions and metaphor” and excludes “literature on discourse processing / text comprehension literature” (Culpeper, "Reflections" 125-6). Semino and Culpeper suggest that cognitive stylistics is aligned with the overall stylistics program, rather than a more general tradition of cognitive approaches to literary studies (Culpeper, "Reflections" 126). As such, they argue that the aim of cognitive stylistics is not to produce new or novel readings of a text. In this view a perfectly valid outcome may be a better understanding of how texts in general are interpreted, or additional insights that support an existing reading of a text. A key area in which this type of approach has been applied is in the examination of characterisation (Culpeper, "Reflections" 135-6) and also mind style, which will be discussed below (Semino, "Mind Style").
6.2.6 Reader oriented stylistics

Scholarship in the cognitive tradition engages with the “readerly dimension” of textual interpretation to a greater extent than criticism in more orthodox approaches, largely because this type of approach necessarily involves analysis of “the cognitive structures that readers employ when reading texts” (Simpson 39). These studies turn from the text to the reader as the source of interpretive insight, and focus on interpretive communities as being critical to the reception and understanding of texts. Much of this work is, however, highly critical of function word approaches. Objections to stylistics – also considered in chapter four – appear to be linked with a view of function words that arises from an orthodox account of language, which views form and meaning as separate, and an assumption that text-based studies exclude context and are not sensitive to the fundamentally ‘literary’ quality of literature. This thesis argues that Cognitive Grammar supports a renewed focus on texts and their authors that does not diminish the importance of readers or listeners and their interpretive communities.

Miall and Kuiken have, as Freeman notes, conducted studies on “the way readers comprehend and evaluate literary narratives through their subjective experience of emotions and feelings” (“State of the Art” 1182). Like Tsur, Miall’s focus is on experience rather than interpretation, which he argues is a way of moving beyond text-based formalism (Literary 11). Miall’s work reflects a commitment to the concept of literariness. He suggests that deixis “functions differently in a literary text” (Literary 42) and draws on the findings of Seilman and Larsen, which suggest that when reading a literary text, readers draw actively draw on “actor-perspective memories” at twice the rate when compared to reading an expository text (Seilman and Larsen 174). Most cognitive criticism, according to Miall, overlooks the experiences of readers and does not use empirical methods to test claims concerning the cognitive processes that are believed to guide readers’ interpretations (Literary 11). Miall addresses this gap through the use of empirical approaches to examine the ways in which readers respond to literary texts.

Lancashire also suggests that the shift to a cognitive framework entails a focus on the minds of readers as opposed to the text, although he frames this as an attention to text creation, rather than text reception. Lancashire describes “two language processes: an unself-conscious creative process, veiled and almost unknowable … and a conscious analytical procedure by which all authors assemble and revise sentences mentally”
and suggests that it is the former that reveals a distinctive authorial fingerprint. Lancashire argues that cognitive research “restores the human author to texts” and views authorship as a valid object of study since texts reveal traces of authorship and the “long term associative memory that make up his idiolect” ("Cognitive Stylistics" 409).

6.3 Cognitive concepts in stylistic studies

This chapter now describes key concepts within a cognitive framework with a focus on those that will be discussed in relation to the computational analysis of Mariam in part B of this thesis. Cognitive linguistics approaches, as defined by Freeman above, provide the framework that supports the study and analysis of results.

6.3.1 Deixis in cognitive stylistic studies

As noted in chapter five, the major role function words play in discourse is through the way in which they invoke “a particular kind of construal” (Langacker, *Descriptive* 522). One of the major ways function words do this is through their presence as deictic cues. Deixis influences the extent to which readers feel “immersed in the world of the text”, since it reflects the “capacity that language has for anchoring meaning to a context” (Stockwell, *Cognitive Poetics* 41). Deixis, as Elenor Semino points out “applies to linguistic expressions (e.g. ‘I,” “this,” “here,” “now”) that refer to entities and spatial or temporal locations from a particular subjective position” ("Deixis" 421). It thus assists listeners and readers to orientate themselves in relation to discourse. Semino quotes a definition of deixis by John Lyons:

> By deixis is meant the location and identification of persons, objects, events, processes, and activities being talked about, or referred to, in relation to the spatiotemporal context created and sustained by the act of utterance and the participation in it, typically, of a single speaker and at least one addressee. (qtd. in "Deixis" 421)

In a prototypical linguistic interaction, the anchor point for a deictic expression is the speaker and so, as a consequence, interpretation is carried out in relation to the speaker’s position (Semino, "Deixis" 421). The process of deictic projection, which allows language users to identify the speaker and inhabit the discourse from the speaker’s perspective, or a number of alternative stances, is particularly relevant to an understanding of fiction where readers negotiate multiple worlds and viewpoints, sometimes concurrently. The analysis of deixis in literary texts as applied to concepts
such as point of view, and mind style will be outlined below. Elements of these approaches will be used in the next section to consider and explain responses to *The Tragedy of Mariam* and to suggest a way in which the results of a stylistic study can contribute to critical debate about the text.

Semino uses deixis to analyse the way in which readers form a view about the fictional minds they encounter in texts. In Ted Hughes’ poem “Wodwo”, Semino argues that the poet frequently uses expressions that reflect proximal – as opposed to distal – deictic relationships in terms of person, place and time (“Deixis” 426). For instance, Semino suggests that the poem has “an unusually high frequency of first-person singular pronouns” (“Deixis” 426), and that the majority of instances of space deixis are proximal as in *here, this, and these*. The use of deixis in this particular way is seen as contributing to:

> the projection of a mind that can be described as highly ‘egocentric’ in the sense that it is focused on the self in the here-and-now and does not seem to possess the ability to distinguish between what is proximal as opposed to distal in space and time, nor to perceive the other as a potential addressee. (Semino, "Deixis" 429)

Semino undertakes a similar analysis of Mark Haddon’s *The Curious Incident of the Dog in the Night Time*, and finds that the protagonist’s use of anaphora, and more specifically his failure to use it when it would “normally be expected” has an impact on the way in which readers engage with the text (“Deixis” 431). Using keyword analysis, Semino identifies frequent use of first-person singular pronouns and underuse of first-person plural pronouns (“Deixis” 432). Semino suggests these features combine to give the text a “laboured feel” and creates a sense of the protagonist’s isolation (“Deixis” 432). Part B of this thesis will consider the deictic cues highlighted in a study of *Mariam* and their promotion of a particular kind of engagement with the text that leads readers to shift between the consideration of conflicting intellectual concepts and emotional states, as well as the more subjective experience usually associated with the types of dramatic texts that are considered normative.

Deictic shift theory and its link with point of view in text comprehension is relevant to an understanding of literary texts in general, and *Mariam* in particular, since the play revolves around the respective ‘wish worlds’ of individual characters, as well as the ‘text worlds’ they inhabit in the play. Deictic shift theory attempts to explain the process by which readers “come to feel deeply involved in narratives” to the point that
narratives can sometimes be experienced as though from within the “story world” (McIntyre 92). McIntyre’s analysis of point of view in plays draws on work in the area of deictic shift theory, as articulated in Duchan, Bruder and Hewitt (Duchan, Bruder and Hewitt) to look at the way deictic cues allow the reader to take “a cognitive stance within the world of a narrative” (McIntyre 92). As McIntyre explains, discourse participants in both real and literary contexts assume by default that they are at the deictic centre of their world, but critically, they also have the ability to engage in deictic projection. In a process that mirrors ordinary conversation, readers and listeners are primed to notice shifts in deictic fields when attending to fiction or drama.

Deictic shift theory analyses the way in which readers track the movements of deictic centres within a text. This is conceptualised by Stockwell as producing the “texture” of a text (“Miltonic Texture” 79). Stockwell sees deictic shifts as the work the reader undertakes to “keep track of all these different voices and the relations between them, both along the deictic field dimensions and into the different levels” (“Miltonic Texture” 79). Stockwell explains that reading is a fundamentally creative process: it requires a process of “context-creation in order to follow the anchor-points of all these deictic expressions” (Cognitive Poetics 44). Chapter eleven will consider the ways in which the reader’s experience of Mariam is influenced by the deictic shifts that feature in the text and the way this information is embedded in complex linguistic constructions.

6.3.2 Mental spaces and conceptual integration

Mark Turner and Giles Fauconnier have collaborated to develop a theory of conceptual blending or integration, known as mental space theory, that describes the way readers make feasible “connections across domains” (Turner, Literary Mind; Fauconnier and Turner, "Conceptual Integration"; Fauconnier, Mental Spaces; Fauconnier and Turner, The Way). It is hypothesised that mental spaces are built up through the activation of structures from long-term memory associated with specific knowledge and experience, which are modified through a process of mappings. The mapping that occurs may be across multiple domains and the outcome of meaningful integration is a new “blended” space (Hamilton 7). Interpretive mapping is a cognitive capacity that is activated easily by language users and means that even with all due recognition of the vast differences in cultures between the early modern period and the present there is enough continuity based on enduring aspects of embodiment for texts from the early modern period to function for modern readers essentially in the same way that they did for contemporary
readers. As Hamilton argues, these basic kinds of conceptual mappings “hold across time and space, and across many different readers” (Hamilton 19).

Mental space theory addresses problems that emerge in formal logic, such as an inability to account for the different entities to which the pronouns me and myself refer in sentence i) If I were you, I’d hate me and ii) If I were you, I’d hate myself. Sentences like i) and ii) frequently occur in natural language and cannot be explained using orthodox accounts of language (Lakoff, "Sorry" 92). Mental space theory posits that sentences like i) and ii):

set up a hypothetical space and a connector space between my Subject in reality space and your Subject in the hypothetical space. This creates a counterpart of you in the hypothetical space that has my Subject paired with your self. (Lakoff, "Sorry" 94)

Mental space theory is based on the assumption that individuals draw on the same cognitive processes to understand discourse in fictional worlds and the real world.

Mental space theory helps to explain the way in which readers experience fictional texts as coherent, and how “our imagination works effortlessly to grasp … metaphors, analogies, or allegories” (Hamilton 3). Hamilton considers metaphors in Christine de Pizan’s *Book of the City of Ladies* and how “blends” are created through pulling together different input spaces. In Hamilton’s account, de Pizan’s utopia is created through a blend of writing and building: “with writing materials (e.g. biographies) akin to building materials (e.g. stones)” (Hamilton 8). Hamilton is concerned with demonstrating how readers perform the necessary conceptual steps to reach an understanding of the text, and notes that “conceptual distance” (Hamilton 11) between the inputs into the blend can be used strategically by writers to suppress some connections in the allegorical or metaphorical relationship. This effect is relevant to the closet tragedies in the present study, which participate in debates about politically controversial issues but employ scholarly conventions and historical sources to achieve a kind of distance between the poet and the work.

### 6.3.3 Conceptual metaphor

Primary metaphors take very basic experiences such as the sense of moving upwards, or the sense of touch, and map them onto more abstract domains, as the primary metaphor UNDERSTANDING IS SEEING. The UNDERSTANDING IS SEEING metaphor represents a mapping of experience from the sensory domain of sight onto notions of
insight and knowledge. These metaphors are so basic and so pervasive – Langacker describes the use of them as, for the most part “invisible” – they are considered fundamental to the way in which individuals negotiate and reason about the world (Langacker, *Theoretical* 517). Popova’s study of metaphor in *The Figure in the Carpet*, by Henry James, argues that the application of conceptual metaphor theory to literary studies provides insights into “theoretical issues about the nature of interpretation” and also offers a “methodology for the process of literary interpretation” (Popova 49).

Popova argues that “conceptual metaphors are one manifestation of construal in Langacker’s sense” (Popova 53), where construal is conceived as “the relationship between a speaker (or hearer) and a situation that he conceptualises and portrays” (Popova 52). Popova finds that cognitive semantics can help explain ambiguity in complex texts, analysing the way in which “sustained alternative metaphorical conceptualisations can give rise to ambiguity on the textual level” (Popova 49). For example Popova argues that in *The Figure in the Carpet*:

> Cognitive semantics provides the methodology to recover significant patterns of imagery, operating at a basic level ... These very patterns can then be seen to explain and lend coherence to other elements of text structure like plot and characterisation. (Popova 49-50)

Chapter eleven proposes that function word variables identified as being statistically significant in a stylistic analysis of *Mariam* can also be linked to conceptual metaphors in the text.

### 6.4 Conclusion

Through its basis in an integrated account of language and meaning, cognitive stylistics offers more than a traditionally formalist stylistics. As a critical methodology that fits within the broader stylistic approach, cognitive stylistics reflects aspects of the formalisms from which it emerged. However, cognitive stylistics is not acontextual or ahistorical. From a cognitive perspective, language possesses universal features because it emerges from the interaction of “inherent and experiential factors” that are “physical, biological, behavioural, psychological, social, cultural, and communicative” (Langacker, *Descriptive* 1). Each language, therefore, represents “a unique adaptation to common constraints and pressures as well as to the peculiarities of its own circumstances” (Langacker, *Descriptive* 1). Computational stylistics of the kind undertaken in this study provides us with evidence of the peculiarities and creative
adaptations of an individual language user, and also highlights more general trends, which can be used for comparative purposes.

Cognitive stylistics is cognitive in the sense that it assumes “our perceptions, thoughts, and feelings can usefully be described in terms of dynamic structures of representation embodied in material systems with a primary locus in the body and the brain”, and provides a framework in which the interpretation of texts is grounded in “personal, cultural, and biological history” (Steen 96). This thesis does not suggest that cognitive stylistics offers a complete analysis of literary texts, or produces interpretive insights that cannot be reached by other means. Attending to cognitive processes as they are reflected in language and the experience of literature provides “a necessary link between the text and its historical significance, the respective focal points of the New Criticism and the New Historicism” (Steen 96). Cognitive stylistics thus presents a productive framework for the analysis of results arising from a Burrows-style study in computational stylistics.
Chapter 7. Background to the computational study

7.1 Background

Part two of this thesis is concerned with bringing together Burrows-style computational stylistics and Langacker’s Cognitive Grammar to demonstrate that, despite its apparently formalist basis, a Burrows-style computational stylistics analysis of early modern tragedy can complement more orthodox critical approaches and provide insights into the way a particular text – Elizabeth Cary’s *Mariam* – fits in its literary, historical, and political contexts. This section of the thesis is a case study, in which the conceptual framework outlined in the first section is applied to a study of early modern drama. The study analyses closet drama as a subset within a larger set of early modern tragedies before considering *Mariam* in more detail.

Closet tragedy has, as Raber argues, “puzzled critics for decades” (*Dramatic Difference* 13). These texts occupy a curious cultural position in relation to the public theatre in early modern England. Through their apparent rejection of the stage, these texts appear as a “perverse rejection of the very values that make early modern literature fascinating to late modern writers” (Raber, *Dramatic Difference* 13). Early twentieth century criticism of closet drama is not particularly favourable. Lucas, for example, suggests the texts are “merely a literary curiosity” (Lucas 117). In terms of form, Alexander Witherspoon describes the closet plays featured in this study as “strikingly alike, and strikingly unlike any other dramas in English” (Witherspoon 179). He attributes this to the extent to which the closet writers draw on the work of French playwright Robert Garnier as a model for their own work, noting that the force of Garnier’s example “brought about a regularity and similarity of form and arrangement in these plays … not found in any other tragedies of the day” (Witherspoon 81).

Early twentieth-century criticism singled *Mariam* out for particularly unfavourable comment. Witherspoon, for example suggests that the text is “singularly uninspired and deficient of interest” and further notes that Cary “is not a poet, and as a versifier she can be said to exhibit only industrious mediocrity” (Witherspoon 154-55). Straznicky argues that much of this negative commentary is based on implicitly stage-oriented definitions and assumptions. She suggests that “generations of critics … however varied their theoretical or scholarly interests have taken Renaissance drama to mean drama written
for performance” (“Closet Drama” 416) and have judged closet drama as deficient in relation to the popular dramatic tradition. Recent critical responses tend to take a more nuanced view of dramatic traditions and question the tendency to obscure the place of closet drama within literary culture, attending instead to closet drama as a discrete form of dramatic writing (Straznicky, “Closet Drama” 416). In terms of Mariam, more recent criticism tends to concentrate on “the play’s explorations of women’s ‘public voice,’ female resistance to patriarchal tyranny, and contradictions within prevailing gender and political discourses” (Hamlin, “Elizabeth Cary” par. 4).

7.2 Contribution to the literature

The similarity of form that scholars have recognised in closet drama, particularly in the closet drama associated with the Sidney circle, make for an interesting set of texts for computational analysis. Straznicky describes the relationship between closet tragedy and stage tragedy as “a site of negotiation between private and public, literary and theatrical culture” (“Closet Drama” 428). The analysis of formal linguistic features of the texts in comparison to other plays provides an opportunity to step away from assumptions about genre, gender, and theatricality and empirically examine relationships of similarity and difference between stage plays and closet plays by both men and women. The closet texts are also suited to an interpretive study as opposed to an attribution study since their authorship is not in question. Closet texts are self-consciously literary works. Publication strategies associated with these texts reflect a deliberate positioning of the author/poet in relation to an elite genre in what Purkiss describes as a kind of “self fashioning” (Three Tragedies xvi). As with the Burrows and Craig study of drama from the Restoration and Romantic periods on which this study is modeled, the present study aims to “determine systematic differences between two groups of texts” and “to see whether such differences shed any light on larger questions of literary or historical interpretation” (“Mountebanks” 64) and clarify some of the critical contradictions that have emerged in relation to Mariam.

7.3 Key concepts

7.3.1 Public voice

Critical readings of Mariam, continue to be informed by the Life and by mimetic assumptions that link Cary’s gender with the content of the play. Discussions of the political ramifications of the central marriage metaphor and the way in which the text
intersects with textual culture are frequently constrained by gendered and biographical interpretations. The gendered body of the author becomes conflated to varying degrees with the text, producing readings that can only reflect essentialist assumptions about women and writing. Thus Cary is constructed as struggling to have her authorial voice heard and the play is understood as exploring an early modern woman’s right to public voice (Ferguson, "Spectre" 183).

A computational analysis provides a point of access for the consideration of questions concerning gender and women’s voice in the early modern period. Danielle Clarke notes that scholarship concerned with gender in early modern criticism, has paid very little attention to women’s language, even though language and voice figure centrally in contemporary religious and social debates “at all cultural levels” (The Politics 29) and figure prominently in Cary’s play. Douglas Bruster’s study of early modern women’s language is an exception to this apparent rule, but the analysis focuses on women characters in male-authored drama. Bruster’s study excludes female-authored texts since they “tend to resonate without polyphonic or heteroglossic complication” ("Women's Speech" 238). This computational study does not address the question of women’s language directly but it does provide some insight into how the use of particular linguistic variables in Mariam compares to their use in male-authored texts.

There has been an increased level of interest in the ways that power and gender are reflected in language and whether gender differences in language use can be identified. Although computational stylistic studies suggest that gender differences in language use can be identified and described, this study is less interested in men’s and women’s language, than in how a particular woman’s literary work has been interpreted on the basis of readings that are informed by essentialist gender-based assumptions. This study does not make claims about the generalisability of conclusions to language as it may have been used by women in daily communication, or about women from different cultural and class backgrounds. The study looks instead at the specificity of individual language use in a particular text and in literary and cultural contexts in comparison to other contemporaneous texts, in an attempt to articulate links between form and meaning.
7.3.2 Theatricality

Sidney’s *Defense of Poesy* points to the centrality of commercial drama in early modern literary discourse. Gurr explains that Sidney’s list of criticisms and suggested improvements in relation to stage plays highlights the extent to which the commercial stage was “the pre-eminent vehicle for Tudor poetry” from as early as 1582 (*Playgoing* 132). The Sidnean closet texts can thus be seen as engaging in literary culture, rather than opposing dramatic culture. Closet dramatists, as Barish observes, are preoccupied with their plays as literature to a degree that exceeds that “of even the most print-conscious of their theatrical brethren” ("Language" 21) but “these texts are not “intrinsically private” (Straznicky, *Privacy* 1). Although they resist association with the stage, their relationship to the rhetoric of privacy is more complex than a simple dichotomy of theatrical versus untheatrical.

Straznicky describes the relationship between closet tragedy and stage tragedy as “a site of negotiation between private and public, literary and theatrical culture” ("Closet Drama" 428). A recontextualisation of *Mariam* highlights linguistic similarities between Cary’s play and dissident drama associated with the private stage and the work of poets such as John Marston, George Chapman and Ben Jonson. As such, the presentation of Cary’s play as a closet tragedy can be seen, as Straznicky suggests, as reflecting the “acuity with which her stationers manipulated the cultural field in which ‘private’ drama intersected with print” (*Privacy* 66). Although *Mariam* appears to share features with stage plays, a strategic alignment with the conventions of “literariness” can be seen as a vehicle through which Cary engages with political and literary discourse without being compromised through exposure to the public stage (Straznicky, *Privacy* 1).

7.3.3 Republicanism, advice, and moral philosophy

Closet drama is a specifically political genre that “in both its sixteenth- and seventeenth-century incarnations … had specifically political ends and political ramifications” (Raber, *Dramatic Difference* 15). Critical responses are, however, somewhat uneven in the way that they consider political engagement by closet texts and closet authors. Perry notes that the Sidnean closet plays reflect a “specifically Jacobean anxiety over the relation between monarch and adviser” ("Crisis" 66) and discusses the way in which male authors engage with literary culture and the ‘advice’ genre as a way of promoting their contribution to intellectual and political culture. Cary’s textual engagement is far
more frequently considered in terms of ideological and personal constraints. When the
text is read as a political intervention in early modern cultural discourse the approach
has been to argue that it is first and foremost a text about women’s right to freedom of
conscience within the bounds of marriage. It is then suggested that by analogy these
claims extend to relationships between subjects and rulers, drawing on the common
early modern metaphors of state as a commentary on the failings of patriarchal systems
of governance.

Hamlin’s perspective on Mariam resists this tendency to consider the text in terms of
constraints on agency, reading it instead as an exercise in moral philosophy that
explores the problem of certainty and the perils of rushing too quickly to conclusions
that have undesirable consequences (“Elizabeth Cary”). Hamlin’s approach
contextualises the contradictions and inconsistencies in Mariam, highlighting the way in
which they function to construct readers as reflective and restrained rationalists,
weighing up the disparate pieces of information and faulty logic explicated by the text.
As such, the text can be seen as reflecting “the genuine intellectual concerns of its
author and her potential audience” (Hamlin, “Elizabeth Cary” par. 11). A computational
study supplemented by Cognitive Grammar supports Hamlin’s reading and highlights
the extent to which counterfactual spaces and the tension between conflicting views are
a feature of the text and its exploration of doubt and credulity.

7.4 Summary

Rosalind Smith notes that the publication of poetry by Renaissance women is very often
framed by an uncritical acceptance of narratives of “women’s limited textual agency”
that draws on the rhetoric of containment and constraint even as the publication of
poetry by women is being discussed (Sonnets 88). Cary’s participation in textual culture
as well as public and political discourse, including her statements regarding publication,
indicates an ambitious level of engagement with the intellectual concerns of her time.
In this study, the combination of computational and cognitive approaches complements
more orthodox approaches to literary criticism. It highlights the extent of Cary’s
engagement with intellectual, political and social debate, as well as how the text relates
to canonical male-authored dramatic traditions.
Chapter 8. Elizabeth Cary and the *Tragedy of Mariam*

8.1 Introduction

Over the last twenty years Cary’s *Tragedy of Mariam* has attracted a great deal of critical discussion. Much of the early criticism is strongly biographical in its approach, reading the play in the context of Cary’s public conversion to Catholicism in 1626 and subsequent problems in her marriage and other personal relationships. The existence of a biography, *The Lady Falkland, Her Life*, written by one of Cary’s daughters, lends itself to interpretations of this nature and to assumptions that the play is autobiographical. It has been argued, for example, “the play may be seen as a psychomachia, one that Elizabeth Cary resolved by extending the limits of her personal conflict” (Beilin, "The Making" 164). Other responses, as Clarke explains, develop this argument in a more complex way, highlighting the way the text brings forward “Renaissance prescriptions about marriage from the point of view of the female subject” ("Domestic Kingdome" 179). Within this body of work some critics have addressed issues of style and language in *Mariam*. Results of these analyses, however, are somewhat conflicting as to how Cary’s play might best be understood in terms of the early modern cultural and social contexts, as well as its relationship to other plays from the period.

Cary’s play is ostensibly about the marriage between Herod the Great and Queen Mariam. Readings that investigate the political implications of the text do so within the framework of marriage and its analogous relationship to the state and concepts of power and authority. Closet plays are recognized as a genre that is “self-consciously politicized” (Straznicky, "Profane" 109) and marriage functions within the text as a vehicle through which Cary explores issues of critical importance in Jacobean politics, including the claims of conscience, the right to resistance, and the duties of individuals to higher authorities such as husbands and monarchs, and also to God. In the case of *Mariam*, however, participation in the genre is almost invariably understood as an essentially feminised form of engagement. For the most part, readings focus on *Mariam’s* – and by association, Cary’s – lack of agency and struggle to develop a stable sense of subjectivity in an oppressive patriarchy.
This chapter provides an overview of Cary’s life and works, as well as a brief publication history of *Mariam* before considering the play’s critical reception. It draws attention to contradictory readings of *Mariam* that have emerged, particularly in relation to the play’s treatment of women’s voice and understandings about the way Cary deals with women’s subjectivity and agency through contemporary metaphors linking ideas about unbridled speech and women’s sexuality. The aim is to understand the nature of the contradictory readings and to link them to an existing body of work that connects the text to intellectual traditions associated with moral philosophy and classical scepticism as a background to the computational study in chapter ten.

8.2 Elizabeth Carey’s life

8.2.1 The Life and letters

Scholarship related to Cary and her writings is frequently informed by her biography, *The Lady Falkland: Her Life by one of her daughters* (*Life*). The existence of the *Life* means that critics of early of modern women’s writing have had access to a rich source of personal information about the author, much of which appears to reflect the unhappy circumstances of the play’s heroine. Mariam struggles to reconcile her desire for independence with her conscience and social expectations within an unhappy marriage to a tyrannical husband. Parallels are frequently drawn between Mariam’s plight and the circumstances Cary found herself in following her conversion to Catholicism. Although this mimetic approach has been challenged in more recent scholarship, information about Cary and her social and cultural milieu as represented in the *Life* is relevant to the way in which the play has been, and continues to be, interpreted.

The *Life* was written between 1643 and 1650 but not printed until 1861 (Weller and Ferguson, "Introduction" 1). The manuscript was found in the monastery of Our Lady of Consolation, Cambrai, where four of Cary’s six daughters lived as Benedictine nuns. Although the author of the *Life* attempts to disguise her identity, it is generally agreed that the manuscript is “written primarily in the hand of Cary’s daughter Lucy, with corrections in the hands of her daughter Mary and son Patrick, and an unidentified fourth hand” (Coolahan par. 3). Although its main focus is on presenting Cary as “an exemplary subject of Catholic conversion”, the author reveals a “dry intelligence” and a surprisingly “acid” tone (Weller and Ferguson, "Introduction" 2), particularly when discussing Cary’s idiosyncrasies such as her occasionally distracted demeanor and lack
of interest in her own personal appearance (Life 270). In addition to the Life, there are almost sixty extant contemporary documents including letters from Cary to her husband, friends, members of the court, and the king, all of which provide additional insight into the world of the author.

Elizabeth Cary was born at Burford Priory in Oxfordshire in 1585 or 1586, the daughter of Sir Lawrence Tanfield, a wealthy Oxford lawyer and his wife, Elizabeth Symonds (Life 183). The Life describes Cary as a precociously intelligent child who taught herself French, Italian, Latin, Spanish, Greek and also Transylvanian. The Life tells us:

> She had read very exceeding much: poetry of all kinds, ancient and modern, in several languages, all that ever she could meet; history very universally, especially all ancient Greek and Roman historians … Of books treating of moral virtue or wisdom <and natural knowledge as Pliny/> (such as Seneca, Plutarch’s Morals, and natural knowledge as Pliny/) and of late ones, such as French Mountaine [Montaigne], and English Bacon).20 (Life 268)

Cary was married at seventeen “only for being an heir, for he [her husband] had no acquaintance with her” (Life 188). She spent the early years of her marriage living with Henry Cary’s family while her husband was away fighting the Spanish in the Netherlands, and then a prisoner of war (Life 189). The precise date of Mariam’s authorship is uncertain. The text was most likely written between 1604 and 1606; sometime during Henry Cary’s war service in the Netherlands and after the marriage of her sister-in-law, also called Elizabeth Cary, to whom the play is dedicated (Foster, "Resurrecting" n. 18 147). Although a date of authorship as late as 1612 has been suggested, it’s generally accepted that Mariam was written before 1609, when the first of her eleven children was born. We can therefore estimate that at the time of Mariam’s authorship Cary would have been between eighteen and twenty years old, and living with Henry Cary’s parents.

When Henry Cary returned from war he was introduced at court. He was made Comptroller of the Royal Household in 1618, and then sent to Ireland as lord deputy in

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20 Weller and Ferguson advise “square brackets indicate punctuation or other alterations made by the editors in the interest of greater clarity for the modern reader. Angle brackets in the text or the notes indicate material that was crossed out in the original. This deleted material sometimes contributes revealingly to the narrative; more generally, the editors have wished to provide a record of all potentially significant features of the manuscript” (Life n. 4 184).
1622, where he served until 1629 (Kelsey par. 6). Elizabeth Cary accompanied her husband to Ireland for the first several years of his service and supported his activities there through the mortgage of a portion of her jointure (Wolfe 273). Whilst in Ireland, Cary established trade schools in Ireland for “beggar children” where they learned to make “points, tags, buttons, or lace, or some other thing” and “broadcloth so fine and good…that her Lord, being Deputy, wore it” (Life 197-8). Her aim in running the schools is described as “the benefit and commodity of that nation” (Life 198). Through these schools, Cary offered accommodation and training to approximately 160 children. The endeavour failed after two years following fires and flooding, as well as financial mismanagement (Life 198).

In 1625, Cary gave birth to her youngest son in Ireland, and then returned to England, where an accident caused the death of her eldest daughter, Catherine, and Catherine’s premature baby. The following year Cary became formally reconciled to the Catholic church, an act that her friend Lady Denbigh, sister to the Duke of Buckingham (Lockyer par. 54), reported to “a near and powerful friend of her own” (Life 205), who then made it known to the King “who showed himself highly displeased” (Life 205). Cary’s status as a recusant had significant social and economic consequences; it led to her estrangement from Henry Cary and a bitter public battle for custody of her children and access to financial support. Cary’s financial independence was severely compromised by her decision to transfer a portion of her jointure to her husband. The Life claims Lord Tanfield was so displeased by this act he willed all Cary’s remaining entitlements to her eldest son, Lucius (Life 194-95). This action brought about ongoing financial difficulties for both Henry and Elizabeth. In Elizabeth Cary’s case the experience of financial hardship continued for the rest of her life.

Cary’s conversion occurred during a period when Henry Cary was in Ireland dealing with political unrest and mounting debts (Wolfe 263) and appears to have drawn an embarrassing degree of attention from the court that was largely due to Elizabeth Cary’s own efforts. The Life notes that the king reacted to the news by commanding Cary “to remain confined to her house during his Majesty’s pleasure” (Life 205). Correspondence indicates that Cary was actually ordered to return to her mother’s home (Wolfe 273). Cary refused to go and encouraged others, including the Duke of Buckingham’s wife and sister, to petition the king on her behalf. Cary notes in a letter dated March 1627 to Lord Conway that her mother refuses to have her and that she is penniless (Wolfe 273)
Lady Tanfield confirms this in a letter to her daughter dated 6 May 1627 (Wolfe 279).

Cary appears to have chosen a life that led to intellectual, social, and emotional isolation. The disunity evident in the relationship between Cary and her mother is paralleled in the relationship between Cary and her eldest son, Lucius. Cary, for example, lost custody of her younger sons Patrick and Henry, when Lucius took them against her will and brought them to live with him at Great Tew. The Life describes an episode in 1636 in which Cary “boldly executed” a plan involving two men, several horses, and a pair of oars, to kidnap the two younger boys from their older brother’s home (Life 254-59). After successfully stealing the boys back from Lucius, Cary arranged for both Patrick and Henry to go to the convent of the Benedictine Fathers in Paris where they would later take Catholic orders (Life 262). Following these events Cary was called before both the Kings Bench and the Star Chamber to answer charges for “kidnapping her two sons” (Wolfe xvii).

The Life focuses more on Cary’s religious journey than her literary one, but the struggle to resolve her desire for intellectual independence with her sense of religious and social duty does not appear to have been without cost. The author of the Life describes bouts of depression, and two instances following the birth of children where Cary had “some occasions of trouble, which afflicted her so much as twice to put her into so deep melancholy<(while she was with child of her 2d and 4th child) that she lost the perfect use of her reason and was in much danger of her life” (Life 195). In describing Elizabeth Cary, her biographer notes:

She spoke very much and earnestly; her heart was very open, and she easily known; nor was it hard, for those near about her, to get some power over her. Her fashion was in nothing graceful; her neglect, through forgetfulness, of all customary civilities was so notable that it was passed into a privilege; <and> but though her heedlessness in this was so gross that she has divers times come to see such as she respected most and, being come into the room where they were, has so wholly forgotten them, and the intention she came for, as never to mark them, but to go forth again without ever speaking to them. (Life 270)

In spite of her apparent vagueness, and marginal financial and social status, Cary maintained links with significant women in the court throughout her life, including Queen Henrietta Maria and other high profile Catholic converts such as the mother, wife
and sister of the Duke of Buckingham, the King’s favourite. The queen provided an ongoing “maintenance” (Life 263) to Cary’s two Catholic sons, and Cary dedicated her 1630 translation of Cardinal Perron’s Reply to Henrietta Maria as she was the “fittest to protect a woman’s work” (Cary, Reply prelim. sig. [a]2r).

In correspondence, Cary reveals herself to be somewhat interventionist in relation to her husband’s affairs in Ireland, specifically in requesting funds for the Irish army, which had threatened mutiny if they did not receive payment, clothes, and food (Wolfe, n. 3 294). This led to some conflict between Henry and Elizabeth even before her religious conversion. Cary’s submissions on her husband’s behalf caused Henry Cary to write to Lord Conway in January 1626 commenting that his wife “begins to conceyue hir selfe some hable body in Courte by your Countenance to doe me Curtesyes yf she had the wytt as she hat the wyll” (Wolfe 252). In April of the same year Henry Cary wrote again to Lord Conway, to say that “I rather wishe shee weare att home with hir Mother preuayling wi th hir Naturall Affection, then trauayling to procure Courte fauers for me” (Wolfe 254).

Although Elizabeth Cary’s letters are phrased in language appropriate to requests for royal favour, she is a correspondent who is confident in relation to her claims, and her right to access the court as a means of seeking redress. In writing to Lord Conway, Cary notes wryly “sure I beleue, the kinge, woulde take some other way, for my punishment, then so unusall a one as to sterue mee, to death” (Wolfe 274). Cary continued to petition the king, as well as other senior members of the court throughout 1627, begging them to intervene in the dispute with her husband in relation to funds. Cary’s suit was eventually heard by six lords of the Privy Council (including William Herbert, third earle of Pembroke and son of Mary Sidney) in October 1627 and Lord Falkland was ordered to pay his wife an “Annuall maintenannce” (Wolfe 303) and to discharge nominated debts so that she “may haue no further Cause to Complaine neither to his Maiestie nor this Board” (Wolfe 303). Henry Cary refused to provide any financial assistance to his wife, despite further orders to do so, and Cary lived the rest of her life in poverty, dying in 1639.

8.2.2 Works by Cary

Cary’s contribution to early modern literary culture is usually discussed predominantly in terms of Mariam, but the play is just one text in a number by the author that has
survived in printed or manuscript form. In fact, the range of texts attributed to Cary suggests a highly motivated engagement with contemporary cultural and political concerns, as well as her public commitment to her status as a recusant. Texts that have not survived but are mentioned elsewhere include translations of Seneca’s *Epistles* (Life 186, 190) and the works of the Benedictine abbot Blosius (Life 186, 264). The *Life* notes that Cary authored “innumerable slight things in verse” including hymns in honour of the “Blessed Lady”, and verse lives of Saint Mary Magdalene, Saint Agnes the Martyr, and Saint Elizabeth of Portugal (Life 269, 213). A play set in Sicily is mentioned in the dedication of *Mariam* (Cary, "Mariam" 66) and in Sir John Davies dedicatory epistle in the *Muse’s Sacrifice* to Cary, Lucy Countess of Bedford, and Mary Sidney (Davies, sig. prelim. [a]3v). However no copy of the actual play appears to have survived. There are no remaining records of a verse life of Tamburlaine that is also referred to in the *Life* (190).

Extant texts in addition to *Mariam* that are believed to be by Cary include a translation of Ortelius’ *Mirror of the World*, written when Cary was a child and dedicated to her uncle, Sir Henry Lee (Ortelius). A prose history of Edward II, *The History of the Most Unfortunate Prince, King Edward II* – an octavo volume written in 1626 – was originally attributed to Henry Cary but is now thought to be the work of Elizabeth Cary (*Unfortunate Prince*). Cary is the accepted author of a related text, *The History of the Life, Reign, and Death of Edward II* (Life, Reign and Death), a folio volume written in 1627. Cary produced an elegy on the death of the Duke of Buckingham, the King’s

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21 Donald Foster notes that a text in the Bodleian Library (MS Rawl. Poet.103) could be Cary’s Seneca. He notes that the two pieces are “written in end-stopped blank verse, after the manner of Cary’s *History of the Life.*” (*Resurrecting* n. 27).

22 Donald Foster provides comments on the manuscript *The mirror of the Worlde translated out of French*, (*Resurrecting* n. 28). Lewalski describes the text as “a schoolgirl exercise in careful printing as well as in translation” since the hand is unlike the cursive writing of the older Elizabeth Cary (*Lewalski* n. 4 211).

23 There is some dispute about whether Elizabeth Cary is the author of both the octavo and folio histories of Edward II and in relation to the order in which the texts were written. For example, Stauffer argues the octavo is a redaction of the folio (289-314), whereas Travitsky and Cullen suggest the folio is an expanded version of the octavo (x). Scholarship in relation to these texts has become more complicated with the discovery of “two additional manuscript histories of Edward” that may be linked to Cary Margaret Reeves (125).
favourite (An Epitaph). She also translated Cardinal Perron’s reply to King James’s attack on his work (Reply). The Reply was dedicated to Queen Henrietta Maria, printed in 1630 at Douay, and smuggled across the channel to England (Weller and Ferguson, "Introduction" 11), where it was “seized and burned by Archbishop George Abbott” (Foster, "Resurrecting" 161). Cary later translated the entire body of Perron’s work, though this was never published (Life 264).

8.2.3 Social networks

Although there is no evidence of works by Cary being printed for some seventeen years after the publication of Mariam, there appears to have been a steady stream of dedications and tributes to her over this period. A web of literary relationships emerges through dedications beginning when she was aged twelve and continuing into the early 1630s. The earliest dedication to “Elizabeth Tanfield” appears in Michael Drayton’s England’s Heroicall Epistles, published 1597. Drayton refers to himself as “witness of the many rare perfections where-with nature and education have adorned you” (Drayton sig. G3v). Newdigate suggests that Drayton served for a time as tutor to Elizabeth Cary when she was a child and that this led to one of Drayton’s most “touching” dedications (77). Straznicky notes that Drayton published numerous poems, plays and satires, as well as the epistles and he dedicated his works to aristocratic men and women including King James, Prince Henry, Mary Sidney, and Lucy Bedford, as well as Elizabeth Tanfield ("Profane" 107). Drawing on Newdigate, Straznicky also points out that Drayton was a friend of Samuel Daniel (one of the closet authors) as well as an acquaintance of Thomas Lodge, whose translation of Josephus’s Antiquities is accepted as the source of Cary’s play ("Profane" 107).

Cary’s name next appears in a text by John Davies of Hereford, the Muses Sacrifice (1612), which he co-dedicates to Lucy, Countess of Bedford and Mary Sidney. In his dedication, Davies refers to the three women as “most noble, and no lesse deservedly-renowned Ladyes, as well Darlings, as patronesses of the Muses” (Davies sig. prelim. [a]3v). In the “epistle dedicatorie”, Davies refers to Cary by name as a pupil who “With Feete of State, / dost make thy Muse to mete / the Scenes of Syracuse and Palestine”

24 Foster notes that in the seventeenth century the first six lines of the epitaph were circulated widely in manuscript form and that the complete text of the elegy is held in the Beinecke Library (Resurrecting n. v27).
(Davies *sig. prelim. [a]3v*), alluding to her lost play set in Sicily, as well as to *Mariam*. Another dedication, signed by the printer, Richard More, appears in the 1614 edition of *England’s Helicon*, “a compendium of pastoral poetry by the likes of Sidney, Spenser, Drayton, Lodge, and Breton” (Straznicky, "Profane" 108) addressing Cary as “the truly virtuous and honorable lady, the Lady Elizabeth Carey” (Rollins 70). More asks Cary to “To shield from Envies pawe and times abuse / The tuneful notes of these our shepherd’s reeds” (Rollins 70-71). Straznicky comments that More’s request for Cary to protect the works seems to point to a relationship of some kind between Cary and the poets in the *Helicon* (Straznicky, "Profane" 108).

A further dedication appears with two sonnets in honour of “the Right Hon. The Lady Viscountess Falkland, upon her going into Ireland” in William Basse’s *Polyhymnia* ("Polyhymnia"). Basse wrote the sonnets in 1622 but the collection was not printed in his lifetime. One of the sonnets is reproduced in Bond’s *Poetical Works*, printed in 1893 ("Poetical Works"). In this poem, Basse asks what “happy song” ("Poetical Works" 156) might persuade Cary to remain in England. He suggests that it is Cary’s modesty that prevents her from staying since she is reluctant to hear the praises English poets sing in her honour. Basse, like Cary, was born in Oxfordshire and had “wide-ranging literary friendships” (Kathman par. 10) that included Mary Sidney, Edmund Spenser and John Davies. He dedicated works to the Countess of Pembroke as well as to Lord Wenman and Lord Norreys, both of whom were associated with great houses in Oxfordshire (Kathman par. 10). Basse is also the author of a well-known eulogy to Shakespeare that is mentioned by Jonson in his poem “To the memory of my beloved, the Author, Mr William Shakespeare: And what he hath left us” from the *First Folio* (1623).

Richard Bellings dedicated his *Sixth Booke to the Covntesse of Pembrokes Arcadia* to his “worthy patronesse”, “the Right Honourable, the Truly Vertuous and Learned La: the Viscountesse of Falkland” in 1624. Bellings had an association with Elizabeth Cary through his father, who acted as emissary to England on behalf of Henry Cary, Lord Falkland, while Cary served as lord deputy of Ireland (1622-1629) (Ó hAnnracháin par. 6). References and dedications to Cary continue to at least the early 1630s when the first issue of the 1633 edition of Marston’s *Antonio’s Revenge* was “dedicated to the Right Honourable, the Lady Elizabeth Carie, Vicountesse Fawkland” (Gair 159). The dedicatory sonnet, which is signed by the printer William Sheares is, as Hogrefe notes,
“effusive” in its praise (135). It claims that “your Honour is well acquainted with the Muses...Fame hath given out that your Honour is the Mirror of your sex, the admiration not only of this island but of all adjacent Countries and Dominions which are acquainted with your rare Vertues, and Endowments...” (Gair 160).

A more veiled reference to Cary is thought to be made in the *Hierarchomachia*, a private allegorical play about the Chalcedon controversy (a theological dispute about the divine nature of Christ) (González 255). Gossett argues that based on internal evidence, the play is likely to have been written between March 1629 and December 1630. It was circulated in manuscript form – apparently quite widely – but was not printed until 1982 (Gossett 11). The author of the manuscript is believed to have been a Catholic priest who lived in hiding in England or abroad (Gossett 11). Gossett suggests that Cary appears as “Falconia” – a lightly disguised form of Falkland – and is mentioned as having inspired one of the main characters with her wit (Gossett 19).

Although dedications point to Cary’s reputation as a poet, an exploration of kinship and friendship networks surrounding the Sidneys does not identify a central role for Cary in the same way as it does for other closet authors. Samuel Daniel’s links are clear through his patron-client bond with Mary Sidney, as are Greville’s through his friendship with Philip Sidney from their time together at Shrewsbury School (Gouws). The dedication to Cary, Lucy Russell, and Mary Sidney in the *Muses’s Sacrifice* by John Davies (mentioned above) suggests there existed a relationship of some kind between the Carys, the Sidneys and other influential families. Lucy Russell held a prominent place at court through “a coveted bedchamber post” (Payne par. 5) and was associated with John Florio, Michael Drayton, Samuel Daniel, John Donne and Ben Jonson (Payne par. 11). We can infer political links of some kind since prior to Henry Cary taking up the role of lord deputy in Ireland, in 1622, members of the Sidney family had also served in this or related roles. Philip Sidney’s uncle by marriage, Sir Thomas Radcliffe, served as lord lieutenant of Ireland for a period of eight years beginning in 1556 (MacCaffrey par. 1) and Sidney’s cousin, Robert Devereaux, the second Earl of Essex, served as lord deputy in 1599 prior to his execution in 1601 (Hammer par. 45). Essex’s biographer also notes that the Earl was a significant cultural patron in the 1590s and communicated with Fulke Greville, author of two closet texts (Hammer par. 57).

The links between Elizabeth Cary and the Sidneys, although somewhat indirect, exist through associations with other poets, and through connections related to their...
respective roles at court. In spite of the lack of an obvious link between all the poets individually, it is difficult to argue against some kind of familiarity between the various closet authors, including Cary, or at the very least an awareness of each other’s work. It therefore seems reasonable, as Straznicky suggests, to trace a relationship between Cary and the politically powerful Sidney circle and to imagine Cary as an aspiring author being influenced by “the elitist intellectual standards” they represented (“Profane” 105).

8.3 The Tragedy of Mariam

*Mariam* is a curious text for a number of reasons. It is modelled closely on the plays of the French poet and dramatist, Robert Garnier and classical Senecan tragedy. In many ways it conforms to the model of early seventeenth century women’s writing as a ‘private’ activity restricted to aristocratic literary coteries and manuscript culture, but it also displays a number of formal features associated with dramatic performance that distinguish it from other closet texts and from its generic template. In general, *Mariam* works to interrogate early modern prescriptions about marriage and by implication, relationships of authority and duty, exposing the fragility of power that depends on exploitation of hierarchies. The play explores the role of the subject in a network of courtly relationships and the strategies that can be employed to survive, interrogating a range of behaviours and their moral and political implications. It also participates in the ‘advice’ genre as a motivated engagement with the principle of virtuous action and the provision of counsel (Raber, *Dramatic Difference* 154).

8.3.1 The play

*Mariam* is an original drama based on the story of Mariam, the Hasmonaean princess who became the queen of Herod the Great as told in Thomas Lodge’s 1602 translation of *Antiquities of the Jews*, by the historian Josephus (Dunstan and Greg xiii). Cary conflates a number of elements from her source material but in the main she takes her story from book 15 of the *Antiquities* (Weller and Ferguson, *Mariam* 20-3). The play is ostensibly a study in the conflict between integrity and duty, in which the marriage between Mariam and Herod becomes a vehicle for the exploration of political tyranny and its multiple negative consequences. The play is set in Palestine in around 30 BC, after the Battle of Actium and the death of Herod’s “great friend” (Cary, "Mariam" 67), Marc Antony. The argument to the play contextualises the drama, undermining the validity of Herod’s marriage to Mariam, noting that their union displaced a previous
wife, Doris, with whom Herod had children. The argument also challenges Herod’s legitimacy by informing readers that Herod had murdered Mariam’s own brother and grandfather in order to secure his hold on the Judean throne (Cary, "Mariam" 67).

When the play begins, a rumour has circulated concerning Herod’s death on a trip to Egypt to negotiate with Caesar in relation to “an alternation in his Fortune” (Cary, "Mariam" 67). For the most part, Herod’s subjects embrace the news of his demise. In the opening soliloquy Mariam, however, finds herself alternating between grief and relief at the death of her husband. Mariam weeps when she considers the love Herod bore her, which was “The deepest love that ever yet was seen” (1.1.56) but this is tempered by the knowledge that he has murdered members of her family, and ordered her death in the event of his own. Mariam’s first soliloquy is about the fickle nature of emotions, and the observation that “One object yields both grief and joy” (1.1.10).

Herod’s absence gives his subjects the opportunity to imagine a life free from tyranny in which they can make choices that were previously prohibited. Salome, Herod’s sister, reveals that she plans to divorce her second husband and marry her lover, Silleus; Salome’s husband, Constaborus, frees the sons of his friend Babas, who he has been secretly shielding from an execution order; and Pherorus, Herod’s brother reveals he will not marry the child princess selected for him by the king, but Graphina, a woman he has chosen himself.

When Herod arrives home, he find his wife extremely discontented and unwilling to feign pleasure at his return. His joy at being reunited with his “best, and dearest half” (4.3.2) meets with Mariam’s comment, “My lord, I suit my garment to my mind / And there no cheerful colors can I find” (4.3.5-6). Mariam’s refusal to dissemble gives Salome the opportunity to manipulate Herod’s jealousy and convince him that his wife has had an affair with her guard, and that she wishes him dead. Salome tricks Herod into believing that Mariam has concocted a poisonous drink disguised as “a drink procuring love” (4.4.159), and arranged for his servant, Sohemus to deliver it. Herod becomes enraged at Mariam’s apparent duplicity, and orders her death and that of Sohemus. Although Herod waivers and attempts to withdraw the execution order for Mariam, Salome convinces Herod that it should proceed. Mariam meets her death with great dignity and sends a final message to Herod via a nuntius: “Tell thou my Lord thou saw’st me loose my breath” (5.1.75). Herod realises too late that he regrets his rash decision and as the play ends he becomes deranged with grief.
8.3.2 Textual history

Elizabeth Cary’s *Tragedy of Mariam,* as Karen Raber notes, is now one of the most anthologised texts by a woman written before 1800 ("Introduction" xiii). The first edition to appear following the original publication was a facsimile edition prepared by Dunstan and Greg for the Malone Society in 1914. References to *Mariam* in the present study, however, are from Barry Weller and Margaret Ferguson’s 1994 edition of the text that is accompanied by the biography, *The Lady Falkland Her Life.* Also in 1994, Dianne Purkiss produced *Women’s Renaissance,* an anthology that includes *Mariam* in addition to Cary’s *The History of the Life, Reign and Death of Edward II,* and Amelia Lanyer’s *Salve Deus Rex Judæorum.* Another edition of *Mariam,* edited by Stephanie Hodgson-Wright, was published in 1996, the same year as the second volume of Ferguson’s *Early Modern Englishwoman,* which is devoted to works by and attributed to Elizabeth Cary. Dianne Purkiss produced an edition of *Mariam* in 1998 that also includes Mary Sidney’s *Antonius* and Jane Lumley’s *Iphigenia,* and in 2003 an edition of *Mariam* was published alongside Shakespeare’s *Othello* edited by Claire Carroll. Sections of *Mariam* are included in the *Norton Anthology* (Abrams).

*Mariam’s* original publication is noted on the Register of the Stationers Company in an entry dated 17 December 1612. Dunstan and Greg comment that the entry is straightforward and appears to have been made with the author’s knowledge or “at least acquiescence” ("Introduction" ix). The critical consensus, based on references to the text in contemporary dedications, is that Cary exploited the more select readership associated with aristocratic literary coteries and manuscript culture as an audience for her play for some five or ten years before having it printed. The title page of the printed text, which appeared in early 1613, notes that the play was “WRITTEN BY THAT LEARNED, VIRTUOUS, AND TRULY NOBLE LADY, E.C.” (Cary, "Mariam" 65) and a dedicatory sonnet commits the play to the author’s sister, Mistress Elizabeth Cary (Cary, "Mariam" 66). The fact that readers were familiar with the text, that there is a reference to the author, and that Cary’s sister-in-law is mentioned by name, suggests there was no reluctance to publish nor any immediate concerns in relation to potential stigma arising from publication. The text, in fact, suggests quite the opposite, with Mistress Cary of the sonnet described as “unspotted, chaste, divine” and her brother, the poet’s husband, “like to Sol, clear-sighted, constant, free” (Cary, "Mariam" 66).
These various details point to an apparently uncomplicated path to publication and a confidence in the work that is curious in the light of orthodox views about early modern women’s writing and attitudes to female literary agency and publication. Cary’s biographer disrupts this history somewhat with a comment that the manuscript was stolen from her sister-in-law’s chamber for printing and that Cary, upon learning of the theft, had the publication recalled (Life 190). In spite of the alleged recall, however, there are over twenty copies of the quarto in existence in libraries around the world. Lewalski suggests that it is possible the comment about the work being recalled may relate more specifically to “the dedicatory poem, which was in fact removed from most copies of the drama” ("Resisting" 203). The leaf that contains the sonnet is in only two of the copies of the original 1613 publication held in libraries in the United Kingdom and North America (Weller and Ferguson, "Introduction" 44).

8.4 Critical reception

8.4.1 Overview

Early critical approaches to Mariam are strongly biographical in their approach, reading parallels between Cary in the Life and the protagonist of her play. Although the Life continues to influence interpretation, more recent criticism locates the analysis of marriage – the play’s central metaphor – in a broader social and political context. The key concern here is not whether biographical insights are relevant to a reading of Mariam, or that there is an assumption about there being an unproblematic correspondence between the Cary of the biography (as represented by her daughter), Cary the author, and Mariam in the play. Rather, there appears to be a tendency to link the female body with the text in a way that constrains readings of Cary’s participation in textual culture, limiting it to the domestic and the private, and occluding possible engagement with dramatic traditions and intellectual discourse in a more general sense. As Callaghan suggests:

the emphasis on the gender constraints placed upon Cary as a Renaissance woman writer and the concomitant biographical interest in her has only served, in some sense, to replicate rather than challenge the traditional terms of association between a woman’s gender and her writing. (Callaghan 167)
In the case of *Mariam*, the result is a body of criticism that offers conflicting accounts of the play and how, or indeed whether, it engages with its various literary and political contexts.

Studies of *Mariam* by feminist historians and literary scholars have argued for the different ways in which Cary’s play resists the coercive power of Renaissance ideologies, and allows its author to achieve a level of independent rhetorical agency, mainly with reference to Renaissance discourses around marriage and women’s subjectivity. Comprehensive and detailed studies have traced the relationship between Cary’s play and a range of early modern discourses including those concerned with marriage and coverture (Travitsky 187), race (Callaghan), minority religious dissent (Ferguson, "A Room"), Petrarch and the private lyric (Bell) and the rhetoric of exemplarity (Beilin, "Mariam and History"). Other approaches have considered Cary’s deployment of generic codes which “allowed her to explore dangerous political issues, focused in her case by the situation of queen-wives subjected at once to domestic and state tyranny” (Lewalski, "Resisting" 194).

Many of these studies have commented on the ambiguity that is characteristic of *Mariam*, or as Beilin describes it, the “irresolution” that is a feature of the play (“Mariam and History” par. 13). Guiterrez, for example, notes that there is a “lack of closure” in *Mariam*, and that the play “leaves the audience with an ambiguous representation of the character of the hero and of the meaning of her actions” (246). Ferguson suggests “Cary’s play offers a commentary on, but no political alternative to, life in an imperial regime riven by differences among subjects and within them” ("Allegories" 332). Straznicky has examined the way Stoic discourse functions in the text to create a radical heroine through locating the source of individual freedom within the subject. Straznicky notes that Mariam’s Stoic self-sufficiency is in fact doubly radical because it is a woman and a wife who stakes this independent claim, constructing Mariam as “effectively subversive and Herod as utterly debilitated” ("Profane" 124). However, Straznicky, also draws attention to the paradox at the heart of the play’s apparently radical stance, which concerns the way Stoic philosophy effectively “precludes political change” ("Profane" 131).

Some studies construct this interpretive instability as a reflection of inherent contradictions arising from patriarchal absolutism (Raber, *Dramatic Difference* 164). Raber, for example, argues that the play reflects “the fissures, inconsistencies, and
repressions of domestic patriarchy” (“Gender" 334) and the way this creates instability in subjects. Clarke applies this kind of understanding to the analysis of marriage as a political metaphor in Mariam to provide insights about the way in which women function in the public realm as “legitimators of male supremacy” (“Domestic Kingdome" 178). In almost all readings, the gender of the author is a defining critical assumption of the analysis linking the woman writer and conventions associated with the closet genre, even though male poets wrote the majority of the Sidnean closet texts.

Criticisms of Mariam are divided according to whether Mariam challenges or reinforces orthodox views about early modern women and their place in patriarchal society. A major source of this interpretive ambiguity appears to arise from critical understandings about the way Mariam treats the concept of women’s speech. Ferguson suggests Mariam is an “exemplary meditation on the vexed relationship between female speech and chastity” ("A Room" 105) but notes that:

Mariam seems at times to mount a radical attack on the Renaissance concept of the wife as the ‘property’ of her husband; but the play also seems – or has seemed to some of its readers, both feminist and non-feminist – to justify, even to advocate, a highly conservative doctrine of female obedience to male authority. (Ferguson, "Spectre" 236)

Mimetic tendencies emerge in the way speech is understood in the play, as in Ferguson’s suggestion that the contradictory ways in which female behaviour and female speech can be interpreted in Mariam are a reflection of Cary’s somewhat problematic efforts “to legitimize her act of writing by dissociating it conceptually from female ‘public speech’” ("Renaissance Concepts" 155).

Internal contradictions within the text create confusion about the nature of Mariam’s crime, in relation to whether it is concerned with speech or chastity, and whether it is actual or metaphorical. Quilligan’s view is that the play represents a repressive view of women’s agency and that Salome’s survival is an indication that “the proper policing of the physical basis of appropriate wifeliness is insignificant when compared to transgressions of the verbal part of the ‘chaste-silent-obedient’ triad” (224). Callaghan takes the opposite approach and argues “Mariam not only articulates but also exceeds the constraints about speech and writing English Renaissance culture placed upon its female author” (167). Foster sits somewhere between these two readings, suggesting that “the speech and intellect of a virtuous woman are affirmed in Mariam as a source of
value and meaning, in that the suppression of Mariam’s speech is shown to be catastrophic” (“Resurrecting” 157).

Contradictions also emerge in the way the play deals with the concept of speech as it relates to performance. Acheson argues that Mariam is untheatrical in its “presentation of character and action” (Acheson par. 1) reflecting “limits imposed on the performance of gender by the culture’s understanding of the immutability of the female body” (Acheson par. 2). According to this reading, the play is seen as a textual act of resistance that responds to the way in which patriarchal assumptions about women’s innate deceitfulness – as reflected in a lack of consistency between their internal world and its outward expression – constrain and determine their lived experience. Raber similarly reinterprets the play’s ‘antitheatrical’ stance “as a gender-as well as class-informed resistance to the complicity of stage and crown in defeating self-consistent constructions of women’s place and required behaviour” (Raber, Dramatic Difference 151).

Acheson’s anti-theatrical reading contrasts with Bennett’s view, which argues that the play actually explores the disruptive potential available to women through performance and “the possibilities afforded … by different tactics of self-representation” (A. Bennett 298). Bennett suggests that the exhortation to ‘be and seem’\textsuperscript{25} in the Life, and the focus on aligning inner virtue with external appearances in Mariam, should be seen as functioning paradoxically to deconstruct the idea of unshakeable integrity through their “inherent instability” (A. Bennett 298). This arises through the emphasis in both the Life and Mariam on the exemplary character of their protagonists, which is effectively undermined through implicit and explicit references to the use of ambiguity or dissimulation as a rhetorical strategy. Ferguson also draws on understandings about female literacy and the use of dissimulation (or equivocation) to engage with critiques of government as well as issues to do with “censorship and persecution” (Ferguson, "Allegories” 265), while simultaneously disguising this engagement.

Purkiss, however, argues that Cary deployed scholarly and literary strategies as a way of attracting social and political advantage in much the same way as other privileged early modern poets. Purkiss thus sees Cary engaging in a more direct and transparent way with print culture, aiming to “compliment the Sidneys by tactful imitation” (Three Tragedies xvii) and demonstrate alignment with the political and literary agenda

\textsuperscript{25} Cary had her eldest daughter’s wedding ring inscribed with the words “be and seem” (Life 195).
represented by the Leicester/Sidney alliance (*Three Tragedies* xvii). Straznicky also attempts to broaden the interpretive context for the play by suggesting that it needs to be read as “trafficking with a network of political interests” associated with the Sidney circle” (Straznicky, "Profane" 107).

8.4.2 Speech and silence

A large proportion of *Mariam*-related scholarship considers the text’s treatment of a woman’s right to public voice and features a focus on what Dymphna Callaghan describes as “the relation between the subject position of the woman writer and the literary text” (Callaghan 165). The right to speech is integral to the elaboration of theme, plot and characterisation of Cary’s play, but as Ferguson notes, as well as being central to the drama, the right to assume a ‘public’ voice is “unanswered within it” (Ferguson, "Spectre" 183). Critical commentary points to the rhetorical question that begins the play, in which Mariam apostrophizes the now dead hero of Rome, Julius Caesar, who famously wept when his great foe, Pompey, was killed. It is worth considering the speech in some length as it establishes many of the key concerns and contradictions the play embodies. Mariam’s soliloquy begins:

How oft have I with public voice run on?
To censure Rome’s last hero for deceit:
Because he wept when Pompey’s life was gone,
Yet when he lived, he thought his name too great.
But now I do recant, and, Roman Lord,
Excuse too rash a judgement in a woman:
My sex pleads pardon, pardon then afford,
Mistaking is with us, but too too common.
Now do I find by self-experience taught,
One object yields both grief and joy:
You wept indeed, when on his worth you thought,
But joy’d that slaughter did your foe destroy.
So at his death your eyes true drops did rain,
Whom dead, you did not wish alive again. (1.1.1-14)

It is common for critiques of the play to focus on the first line of Cary’s speech and its reference to frequent public outspokenness. Mariam’s comment about excessive public speech would seem to align with a number of contemporary views on women’s speech, especially concerning its role in marriage as represented by William Gouge’s claim that
“a wives reverence is manifested by the speech, both in her husband’s presence, and also in his absence. For this end in his presence her words must be few, reverend and meeke” (281). Gouge’s efforts to define the limits of appropriate speech point to related anxieties about the role of women’s silence. As Clarke notes, “the Protestant ideal of marriage, based on mutual companionship, required female speech for the affirmation of affection and obedience, but it also had to be kept within ‘proper’ bounds, unthreatening to the male’s role as law-giver and decision-maker” (Politics 26).

Critical responses that construct silence as an essentially feminised discourse in early modern culture struggle to explain the conflicting messages about women’s speech in *Mariam* and how it should be interpreted. Critics sometimes suggest that the play participates in “the valorization of silent obedience” (Raber, *Dramatic Difference* 155) and that Mariam’s initial speech should be read as “directed more toward Cary’s status as author than toward Mariam’s own reluctance to speak” (Raber, *Dramatic Difference* 155). The effect of this approach is to limit the relevance of *Mariam* in a broader context, except as an illustration of the paradoxical but fundamental role women play in patriarchal society, and to construct Cary as a proponent of the type of speech condoned by early modern conduct books. This, however, is a reading that does not appear to be borne out by other forms of evidence, including biographical forms.

The inherently contradictory state of received wisdom around speech and silence in early modern England has been explored at some length in relation to *Mariam*, particularly in relation to treatises on equivocation. In a study of *Philotas*, Curran analyses equivocation and the development of early modern cultural anxieties around silence in relation to the 1599 Act of Uniformity. Curran notes that the Act formalised the need for conformity to Protestantism as an outward behaviour as opposed to a whole commitment, creating “a distinct epistemological problem: how can one know what others truly believed if outside acts are all that is policed” (Curran 78). Equivocation, as Ferguson comments, formalises a “scholastic distinction between lying and concealment” (Ferguson, "Allegories" 300) and thus testifies to a “profound sense of distance between political subjects in England and to an equally profound gap between a subject’s inner landscape and the way that landscape might be perceived, mapped, or appropriated by another person” (Ferguson, "Allegories" 268).

*Mariam* clearly exploits cultural anxieties concerning equivocation in a domestic and political setting but the play does not appear to represent a consistent position in relation
to equivocation as a strategy. Mariam equivocates – as in her response to Herod’s demand that she tells him why she loved Sohemus, when she replies, “They can tell / That say I lov’d him (4.4.193-94) – and refuses to equivocate, as when she claims “I scorn my look should ever man beguile, / Or other speech then meaning t o afford (3.3.165-66). Pherorus references these concerns when he says to Graphina, his betrothed, “Why speaks thou not, fair creature? Move thy tongue, / For silence is a sign of discontent” (1.1.40-41). Rather than present a single view of women’s silence, Cary appears to explore masculine anxiety about feminine silence as a commentary on silence in general and its disruptive potential.

Curran’s analysis of the way in which the “intellectual history of silence and the political history of treason came to intertwine” (60) brings an additional level of complexity to a reading of women’s speech in Mariam. Curran argues that by the middle of the sixteenth century, discourses of speech and silence led to the development of a “fully interiorized version of treason” (65) in which “a crime becomes something that can take place prior to, or irrespective of instantiated words or acts” (64). Curran notes that the definition of treason included “when a man doth compasse or imagine the death of our lord the king” (qtd. in Curran 62). Mariam can, in some senses, be seen as reflecting wider cultural anxieties about silence related to these developments. Cary’s protagonist dies not because she speaks too much in public or in private, but because she refuses to speak when Herod requires it of her. Her behaviour can be read as ‘treasonous silence’ and this is further amplified given the fact that she has indeed imagined the death of the king, as in her early exclamation: “Oft have I wish’d that he might lose his breath, / Oft have I wish’d his carcass dead to see” (1.1.17-18).

The text, however, is curiously ambivalent in its treatment of Mariam’s supposed crimes. Easy conclusions about Mariam’s guilt or innocence are made even more complicated through a comparison of the consequences of Mariam’s fairly mild rebellion, and Salome’s far more outrageous challenge to early modern conventions of acceptable womanly behaviour when she decides to take divorce law into her own hands. In a speech that refers to her husband, Constabarus, she says:

    If he to me did bear as earnest hate,
    As I to him, for him there were an ease;
    A separating bill might free his fate
    From such a yoke that did so much displease.
Why should such privilege to men be given?
Or given to them, why barr’d from women then?
Are men then we in greater grace with Heaven?
Or cannot women hate as well as men?
I’ll be the custom-breaker: and begin
To show my sex the way to freedom’s door,
And with an off’ring will I purge my sin,
The law was made for none but who are poor. (1.4.300-12)

The choral ode at the end of Act 1 does not, however, dwell on Salome’s breach of early modern codes of conduct. It is Mariam who is rebuked for “expectation of variety” (1.6.518). At the end of Act 3, the chorus reproaches Mariam, for blotting her glory (3.3.231) through giving “A private word to any second ear” (3.3.229) and when Act 4 closes, Mariam is admonished for allowing herself to be “sway’d by sullen passion” (4.8.661) in her relationship with Herod. Given the lack of correspondence between the action and the exposition, it is difficult to use the words of the chorus as evidence for Mariam’s guilt or innocence.

Laurie Shannon has argued that studies that look for consistency in Mariam, or attempt to answer questions such as whether Mariam is “a victim of patriarchal authority” or “an unrepentant rebel” are attempting an act of interpretation that the text itself resists (143). Shannon suggests that these “are not questions that this text answers or even particularly raises” (143). Mariam, she argues, is about the impossibility of these “unities” existing in the light of the structural inequalities that are a feature of a tyrannical state (143). Hamlin, however, argues convincingly that the reason for the multiple inconsistencies in Mariam, become clear when the play is viewed as an exercise in moral philosophy ("Elizabeth Cary"). He links the contradictory commentary on key issues such as Mariam’s supposed guilt or innocence, especially as reflected in the apparently contradictory choral odes at the end of each act as more appropriately interpreted within the intellectual tradition of classical scepticism.

Evidence of “a sceptical mode of thought” can be seen “whenever a questioning attitude to received or doctrinaire ideas can be identified along with a commitment to open-minded enquiry” (Cavanagh par. 2). Hamlin brings a fresh perspective to readings of Mariam’s opening soliloquy, arguing that the mistake that Mariam speaks of is not concerned with speech, but having reached a too-hasty judgment that Caesar’s grief was in some way duplicitous (Hamlin, "Elizabeth Cary" par. 3):
Oh, now I see I was an hypocrite:
I did this morning for his death complain,
And yet do mourn, because he lives, ere night.
When I his death believ’d, compassion wrought
And was the stickler ‘twixt my heart and him:
But now that curtain’s drawn from off my thought,
Hate doth appear again with visage grim:
And paints the face of Herod in my heart,
In horrid colours with detested look:
Then fear would come, but scorn doth play her part,
And saith that scorn with fear can never brook. (3.3.152-62)

In comparing her own emotional response, with Caesar’s, who wept at the news of Pompey’s death, Hamlin argues the play destabilises the gendered correspondences that are a feature of most critical responses and establishes a context in which false belief and rash decision-making are a “compelling feature of cognition” (Hamlin, "Elizabeth Cary" par. 3). Hamlin’s interpretive framework repositions the text in the context of its intellectual and epistemological concerns and points to a way in which a computational study might contribute to or complement a more traditional approach.

Hamlin argues that *Mariam* is fundamentally about the human capacity for self-delusion and its dangerous consequences for men and women who are ruled by a tyrant. Hamlin reads Mariam’s line “one object yields both grief and joy” (1.1.10) in parallel with a line from Montaigne’s *Essais* (1.38) translated by Florio as “How we weep and laugh at one selfe-same thing” (qtd. in Hamlin, "Elizabeth Cary" par. 2). Vulnerability to this type of thinking is seen as “a universal proclivity, no more female than male in character” (Hamlin, "Elizabeth Cary" par. 3). Hamlin takes the usual critical focus on speech in literature relating to *Mariam* and looks instead on interpretation and shared cognitive vulnerabilities. Thus contradictions in *Mariam* and in critical responses to the text can be seen as a function of the text’s “epistemological concerns” (Hamlin par. 4). This does not rule out a reading of the text in terms of patriarchal structures and their effect on women’s subjectivity but it does broaden the scope of Cary’s textual engagement.

The key concerns of the text are described as “cognitive phenomena including precipitous judgment, suspension of belief, false generalization, deluded perception, assent conditioned by desire, and ‘reason’ constituted as more than mere logic”
Hamlin, “Elizabeth Cary” par.7), chiefly related to the notions of “doubt and credulity” (Hamlin, “Elizabeth Cary” par.7). In this reading, Mariam’s death then becomes a symbolic failure of the state, and the individuals in it, to understand the limits of knowledge and the importance of a sceptical frame of mind. The only consistent message that emerges from analysis of the play thus relates to the inherent inconsistency of knowledge. Contradictions are thus fundamental to the text’s existence, rather than a “denial of this very play-text’s right to exist” (Ferguson, "A Room" 108).

The relationship between speech and the notion of performance has also been considered in some depth in the literature on Mariam, particularly in relation to cultural ambivalence around dissimulation. These concerns are an extension of those discussed above regarding uncertainty around the correspondence between internal truths and external expression. These insights have also been applied to readings of Cary’s choice to write in the closet genre. In terms of women’s writing, Acheson argues that a historicist reading of closet tragedy “allows us to read what is ostensibly a failure of the drama as a feature of value which provides us with knowledge of that culture, and of its ideology and of forms of resistance to that ideology” (Acheson par. 3). Acheson introduces the concept of closet texts as failed dramatic texts in order to interrogate the assumptions that underpin these assessments of their worth. The anti-theatrical element of closet tragedy becomes a strategy by which the woman poet escapes “the snares of the gaze of others” (Acheson par. 3) as a way of objecting to “assumptions about the innate and invisible deceitfulness of women, and their naturally misleading appearances” (Acheson par. 3). Acheson argues that Cary implicitly reconstructs Aristotelian notions of virtue as passive, rather than active, a strategy that enables women’s participation.

Mariam, however, reveals an awareness of the extent to which performance and the filtering of information is an intrinsic part of all relationships. Her first soliloquy closes with a comment that acknowledges the importance of appearances:

But tears, fly back, and hide you in your banks,  
You must not be to Alexandra seen:  
For if my moan be spied, but little thanks  
Shall Mariam have, from that incensèd queen. (1.1.75-78)

Mariam’s cool response to Herod’s ardour is calculated and controlled. It is a kind of performance, just not the performance that Herod wants. The play does not reject
performance but instead suggests it is inherently a part of the development of subjectivity and the way individuals operate in the world. This too aligns with Hamlin’s reading of the play in terms of its epistemological stance and points to Cary’s subtle engagement with political discourse in a general sense. Herod is unable to differentiate between the authentic and the inauthentic and therefore he is incapable of making sound judgments. He is a hostage to his passion and succumbs to Salome’s manipulations, in a way that is suggestive of the power of court favourites and the vulnerability of unwise rulers. Mariam’s final words highlight the extent to which performance is a feature of all interactions. Mariam controls the way her character is perceived even after her death with her coolly ambiguous message to Herod: “tell thou my lord thou saw’st me loose my breath” (5.1.73). The ability to see performances for what they are is as important to understandings of Mariam as ideas about speech.

The need to perform is gendered both male and female in the play. The rule of the tyrant forces men and women to adopt duplicitous practices as standard modes of operation. The sons of Babas acknowledge that Constabarus has saved their lives at the “hazard” (2.2.91) of his own and are keen to make it known that their reticence to come forward reflects concern for their protector, to whom then are “tied in gratitude” (2.2.161), not cowardice. Male and female characters express a longing for an environment that will enable them to live authentically and express a sense of self that is both internally and externally consistent. Pherorus, in a speech that echoes Mariam’s opening speech in structure says exactly this:

How oft have I with lifted hands implor’d
This blessed hour, till now implor’d in vain,
Which hath my wished liberty restor’d
And made my subject self my own again. (2.1.5-8)

Ferguson notes that although Mariam’s death points to a reading of her as exhibiting “a morally virtuous failure to equivocate” (Ferguson, "Allegories" 298), Salome complicates this by claiming that all we have witnessed is “a beauteous language” (4.3.429), since within, “Her heart is false as powder” (4.7.430). Cary’s exploration of the distance between inner and outer worlds, and the exhortation to ‘be and seem’, takes on an even more complex hue when we note that the epigraph on the folio text of the History of the Life, Reign Death of Edward II has a quote in Latin, which in English
translates “He who does not know how to dissemble does not know how to survive and is better dying” (qtd. in Starner-Wright and Fitzmaurice 79).

8.5 Conclusion

Hamlin’s analysis of classical scepticism in Mariam allows the text to be understood as an excursion into moral philosophy that dramatises the importance of doubt and epistemological uncertainty. This approach provides a framework in which the multiple conflicting readings of Mariam can be seen as a function of the text and a reflection of the complexity Cary brings to her project. Reading Mariam thus becomes an active engagement with a mode of enquiry, and the contradictory messages inherent in the play about voice, agency, innocence, duplicity, and the importance of doubt become a fundamental feature of the intellectual practices and generic conventions with which Cary is engaged. In publishing her text Cary is therefore participating in a scholarly debate that actively challenges readers to think about the way assumptions and human frailties intersect and are made manifest in behaviour and beliefs at all levels of the Jacobean state. It is thus a cautionary tale on the importance of cultivating scepticism as a basis for considered action. These questions will be considered further in relation to the results of a Burrows-style stylistic analysis of the text.
Chapter 9. Early modern drama and the Tragedy of Mariam

9.1 Introduction

Elizabeth Cary’s Mariam is the first extant original play by a woman in English. Harbage lists approximately 150 closet plays written between 1500 and 1660 in his Annals of English Drama (Harbage and Schoenbaum) but Mariam is commonly identified with a sub-set of this larger group: the twelve closet tragedies associated somewhat problematically with Lady Mary Sidney, Countess of Pembroke. Mariam is one of the only two closet texts in the Sidney set written by a woman. The other female-authored play, which was the first of the eleven to be published in 1590, is Mary Sidney’s Antonius, a translation of Robert Garnier’s Marc-Antoine.

The relationship between closet tragedy and stage tragedy in the early modern period has historically been constructed as one that judges closet plays in terms of deficiency, reflecting an assumption that stage plays associated with the popular theatrical tradition are the standard against which other dramatic texts should be judged. The view of closet tragedy as secondary to stage tragedy has informed critical responses to closet texts, especially those written by women, such that two contradictory impulses have emerged. One of these is to characterise female authorship of closet tragedy as a particularly gendered activity that naturalises a tendency to turn inward in a way that privileges interiority over an engagement with the external world. The other is to re-imagine the texts as stageable and therefore able to be seen as participating in mainstream male-authored traditions.

This chapter suggests that arguments about the extent to which the text resists or is aligned with notions of performance underestimate the complex intersections between different dramatic traditions in the early modern period, and the ways in which Mariam engages with contemporary political, dramatic, and literary discourse. The chapter aims to provide an overview of the literary and political context in which Mariam and the Sidnean texts emerged. It describes the formal features of closet drama including its relationship to Senecan tragedy, the Sidney Circle, and Philip Sidney’s Defense of Poesy, with a focus on closet drama’s shifting status and the ways in which public,
private, and closet traditions intersect on the stage and in print. The chapter then considers the political insights that critics have brought to male-authored early modern closet drama, particularly in relation to republican ideas about the rights and responsibilities of individual subjects. It then suggests that Mariam should also be considered in relation to classical humanist and republican discourses and thus argues for a repositioning of the text in the context of “the virtuous citizen’s active life” (Peltonen 119).

9.2 Early modern closet drama

9.2.1 Formal features

The twelve closet plays included in this study were first presented over the period 1590-1607, in two “flurries” (Barish, "Language" 19). The first group of closet texts to appear “consists of plays that celebrate the heroic constancy of various famous women of antiquity” (Barish, "Language" 19). The texts in this first group (Mariam excluded) draw on Plutarch’s Lives as their common source (Witherspoon 115). The second group “focuses more precisely on questions of politics and statecraft” (Barish "Language" 19). The publication of the twelve Sidnean closet tragedies (see Table 9.1) is thought to be linked to the publication of the first complete collection of tragedies by Seneca in 1581, and the work of his French translator, Robert Garnier (Freer 482).

The first of the English closet texts to appear was a translation of the Garnier play Marc-Antoine, by Mary Sidney, Countess of Pembroke. Sidney’s play was published in 1592 as Antonius, together with a translation of Philippe de Mornay’s A Discourse of Life and Death. Sidney then encouraged Samuel Daniel to turn his attention to dramatic poetry, and in 1593 Daniel produced a companion play to Antonius, titled Cleopatra, which was published a year later in 1594. Daniel dedicated Cleopatra to Sidney as his patron, inviting her to “Behold the worke which once thou didst impose” (Daniel, Cleopatra sig. H5v). The following year, Sidney re-issued Antonius as a standalone octavo volume with a change in title to The Tragedy of Antony. After the Sidney and Daniel texts, Thomas Kyd produced the only other Garnier translation, Cornelia, in 1594. Cornelia was followed by Fulke Greville’s Mustapha in 1596, and then Samuel Brandon’s Octavia in 1598. Greville’s second closet text Alaham was presented in 1600. In 1603 William Alexander presented Darius, the first of his four Monarchic Tragedies. In 1604, Daniel’s second play, Philotas, appeared, around the same time that
it is believed Elizabeth Cary presented the *Tragedy of Mariam*, and William Alexander presented *Croesus*. The final two plays in the set appeared in 1607 and were Alexander’s *Julius Caesar* and *The Alexandrean Tragedy*.

Table 9.1 The Sidnean Closet Tragedies

<table>
<thead>
<tr>
<th>Text</th>
<th>Author</th>
<th>Presentation of Manuscript*</th>
<th>Earliest Printed Text*</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Antonius</em></td>
<td>Mary Sidney</td>
<td>1590</td>
<td>1592</td>
</tr>
<tr>
<td><em>Cleopatra</em></td>
<td>Samuel Daniel</td>
<td>1593</td>
<td>1594</td>
</tr>
<tr>
<td><em>Cornelia</em></td>
<td>Thomas Kyd</td>
<td>1594</td>
<td>1594</td>
</tr>
<tr>
<td><em>Mustapha</em></td>
<td>Fulke Greville</td>
<td>1596</td>
<td>1609</td>
</tr>
<tr>
<td><em>Octavia</em></td>
<td>Samuel Brandon</td>
<td>1598</td>
<td>1598</td>
</tr>
<tr>
<td><em>Alaham</em></td>
<td>Fulke Greville</td>
<td>1600</td>
<td>1633</td>
</tr>
<tr>
<td><em>Darius</em></td>
<td>William Alexander</td>
<td>1603</td>
<td>1603</td>
</tr>
<tr>
<td><em>Philotas</em></td>
<td>Samuel Daniel</td>
<td>1604</td>
<td>1605</td>
</tr>
<tr>
<td><em>Mariam</em></td>
<td>Elizabeth Cary</td>
<td>1604</td>
<td>1613</td>
</tr>
<tr>
<td><em>Croesus</em></td>
<td>William Alexander</td>
<td>1604</td>
<td>1604</td>
</tr>
<tr>
<td><em>Julius Casesar</em></td>
<td>William Alexander</td>
<td>1607</td>
<td>1607</td>
</tr>
<tr>
<td><em>Alexandrean Tragedy</em></td>
<td>William Alexander</td>
<td>1607</td>
<td>1607</td>
</tr>
</tbody>
</table>

* Date of presentation of manuscript and date of earliest printed text as listed in Harbage and Schoenbaum (Harbage and Schoenbaum).

The shared features of the twelve Sidnean texts have been recognised by scholars over the years, who have noted that the force of Garnier’s example brought about “a regularity and similarity of form and arrangement in these plays which are not found in any other tragedies of the day” (Witherspoon 156). In terms of formal features, the texts typically reject conventions associated with the commercial stage. The plays follow the neo-classical template, observing, for the most part, the unities of time and

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26 For a detailed description of the points at which the Sidnean closet texts intersect with Garnier’s works see Witherspoon’s analysis.
place. They also feature long speeches, stichomythia, characters such as messengers who deliver information about off-stage action, and a chorus at the end of each act (Barish, "Language" 20). Characterisation tends to be flat as the focus on eloquence overrides meaningful interaction. When dialogue does occur, it frequently features an exchange of aphorisms designed to illustrate the essential truths of the drama rather than provide insight into character motivation. The plays tend also to feature strong rhyming patterns and stanzaic forms, although there are some instances where the writers employ blank verse, notably in the two translations.

Although only two of the texts are Garnier translations, all twelve of the Sidnean plays draw on the neo-Senecan tradition that Garnier and his contemporaries came to represent in France, particularly in their political focus. The Sidnean texts draw on historical narratives to explore contemporary issues concerned with the Jacobean state. These include the right to individual freedom of conscience especially against the claims of tyrants, parallels between state and domestic systems of authority, absolutism and the role of kings, authority and its vulnerability to the manipulation favourites, and the importance of wise counsel (Lewalski, "Resisting" 202). Although, as Lewalski notes, there were references to these concerns in popular dramatic traditions, in closet drama these themes “received elaborate intellectual analysis” ("Resisting" 202). The concern with philosophical questions is reflected in long discourses on ethical issues, and debates about possible courses of action.

9.2.2 Senecan tragedy

The influence of Seneca and neo-stoic philosophy on early modern drama in general, and on closet tragedy in particular, is well covered in the literature in a range of papers and book length studies. H.B Charlton’s classic essay describes two currents of tragic drama in England from the late 1580s including “the popular English variety which has naturalised much of Seneca, and the academic variety of the relatively unmixed Seneca, which diverges more and more from the native English tradition” (Charlton cxliv). Gordon Braden describes the basic plot of a Senecan tragedy as one in which “inner passion which bursts upon and desolates an unexpecting and largely uncomprehending world” and suggests it represents “an enactment of the mind’s disruptive power over external reality” (Braden 39). The Sidnean dramas, as Lewalski notes, “stand apart from the popular stage drama of the period” (Lewalski, "Resisting" 191), particularly in the way they “eschew the trappings of Italiante Senecanism—ghosts, stage violence,
horrors and atrocities, vendettas, gruesome effects, marvels” (Lewalski, "Resisting" 191). Neo-Senecan philosophy is seen as offering women writers more than a classical alternative to the excesses of the popular stage. Straznicky argues that the principles of neo-Senecan philosophy – in particular the valorisation of sovereignty over the self – also gave women writers access to a set of assumptions that could be appropriated more easily to serve a discourse of resistance even though its radical potential may have been constrained (Straznicky, "Profane" 131).

9.2.3 Sidney circle

Early twentieth century critics tend to discuss the twelve texts as the product of a literary coterie associated with Mary Sidney, the activities of which were motivated by Philip Sidney’s *Defense of Poesy*, published in 1595, and his call to save drama from a lack of “honest civilitie” and “skilfull poetrice” (*sig. H4r*). The closet texts were thus seen as responding to Sidney’s argument that the spectacle of English drama could be improved with “stately speeches, and wel sounding phrases, clyming to the height of Seneca his style” (*sig. H4r*). Critics such as Witherspoon describe the closet writers as separating themselves from the popular stage and its “naughtiness” so that they could “work out their own salvation and the salvation of English tragedy” (75). This argument has been challenged in relation to both the existence of a so-called circle, and the claim that the motivation for authorship lay in a desire to correct defects in popular drama.

The existence of a formal ‘Sidney circle’ has been disputed most strongly by Mary Ellen Lamb, who argues that there is no evidence of Mary Sidney “recruiting” ("The Myth" 195) playwrights to join a literary coterie, or attempting to reform commercial drama through the promotion of a more refined neo-classical alternative ("The Myth" 196). Lamb points out that it is difficult to establish transparent links between Mary Sidney, as head of the Circle, and all six of the other playwrights. Daniel’s relationship to the Countess is a straightforward one as he dedicates his *Cleopatra* to her. Brandon’s friendship with a close neighbour of the Pembroke estate at Wilton, and the fact that *The Virtuous Octavia* is related thematically and historically to the Sidney and Daniel texts, suggests that a literary association is not out of the question, but Lamb finds no compelling reason to include Greville in the circle, although Greville is linked to the Sidney family through his well-known friendship with Philip Sidney. She also argues that the inclusion of Cary, Kyd and Alexander in the circle is dubious (196). Straznicky, however, produces a comprehensive list of Elizabeth Cary’s associations with
prominent literary figures who can be traced back to other members of the circle, if not directly to Sidney herself (Straznicky, "Profane" 107-09).

Although as Hanny, Kinnamon and Brennan note, it appears that the coherence of the circle and the extent of Lady Pembroke’s patronage may have been exaggerated at times, there also seems to be evidence of degrees of association and awareness. Rather than insist on the existence of a dedicated literary circle and all that would entail, the approach here is to acknowledge the tenuous nature of the connections between the seven playwrights grouped together as the ‘Sidney circle’ and to use the term after Straznicky “to designate those who shared the religious, political or literary commitments of the Leicester Sidney alliance” (“Profane” 105). It assumes that the similarity of form observed in the texts, and their shared political concerns, can be linked in a more general way to the protestant political agenda that the Sidneys came to represent, and that the closet authors can be seen as engaging strategically with the form for a range of reasons that reflects not so much a shared political or cultural project, but a common interest in political, religious and literary matters that were pivotal at the time of authorship.

9.2.4 Theatricality

In the early critical literature it is common for closet plays to be defined as plays that “were never acted and were never meant to be” (Greg xii). More recent critical work suggests that the distinction between stage drama and closet drama is not as firm as earlier critics implied and tends towards a view of early modern dramatic culture as comprised of diverse traditions, one of which was commercial theatre as performed in public playhouses like the Red Bull, the Globe, and the Curtain; private playhouses such as Blackfriars and the Cockpit, as well as other forms including private plays, masques, pageants, and dramatic poetry. Feminist approaches have underpinned much of this work as closet drama represents one of the few areas, given social and cultural proscriptions, where early modern women were able to make a contribution to dramatic literary culture. Straznicky (2004) argues that closet drama might be more accurately referred to as “dramatic poetry”, a term that may have been used to describe “any play – whether performed or not – that sought to be inscribed in literary culture” ("Closet Drama" 417).
The literary quality of closet texts marks them as distinct from plays performed on the stage but critical commentary in relation to closet tragedy reveals that stage and closet plays did influence each other. Hannay, Kinnamon and Brennan note that Sidney’s *Antonius* was the “first dramatization of the story of Antony and Cleopatra in England” (139) and “served as both a precursor and a source for Shakespeare’s Roman history plays” (24). There is evidence that *Mariam* and other closet texts had some kind of influence on a number of stage plays including texts by Shakespeare, Middleton and Webster (Straznicky, *Privacy* n. 10 137). Weller and Ferguson suggest that there are “intertextual connections” (41) between *Mariam* and Shakespeares’s *Antony and Cleopatra* and *Othello*, leading Ferguson to suggest, “the parallels in plot and phrasing are more extensive than critics have noticed” (Ferguson, "A Room" n. 32). John Dent has found textual references that suggest Alexander’s closet texts influenced John Webster’s *The Duchess of Malfi*, as has Robert Ure (Dent; Ure).

Although it appears the authors of closet texts did not seek to have their texts performed, it is difficult to argue that the poets are “opposed to theatricality” (Straznicky, *Privacy* 16). Lamb argues that it is unlikely that the Countess of Pembroke’s interest in Garnier was anti-theatrical given that the Dudley and Sidney families were supporters of the popular drama and that many of the Sidney closet plays appear to show “more concern with reforming the state than the stage” (Lamb, "The Myth" 101). Hannay, Kinnamon and Brennan point out that Mary Sidney’s uncle, the Earl of Leicester, “lent his protection to the troupe of players bearing his name, but also was connected with the Children of the Chapel Royal and the children’s company at St Paul’s” (37). Gurr comments that there is “no direct evidence that Philip Sidney went to the public playhouses” (Gurr, *Playgoing* 131), however Sidney was the godfather to the son of comic actor, Tarlton (Gurr, *Shakespearian* 128). Daniel was the licenser for the Children of the Queen’s Revels when his play, *Philotas*, was performed, and Kyd as author of one of the most popular stage plays of the period is also aligned with the stage. The fact that the plays and poets seek to differentiate themselves from the public and align themselves with a more elite private tradition appears to say much more about their literary and political ideals than it does about their attitudes to performance.

The closet texts themselves also undermine any attempt to claim a rejection of the theatrical. Straznicky notes that in 1633, some thirty-five years after Greville’s *Mustapha* was first issued, “an authorized edition … in a much revised and less
theatrical form was published in *Certayne Learned and Elegant Workes* (Privacy n. 15 137). In contrast, Daniel’s revised edition of *Cleopatra* treats events in a much more theatrical way than the first edition, establishing links with characters at the beginning of the play who contribute significantly to the tragedy at the end, and his *Philotas*, though regarded as a closet tragedy, was staged by the Queen’s Revels in 1605 at Blackfriars.27 Although Daniel claims he was “not resolud to haue had it acted”, the performance of *Philotas* famously resulted in the author being called to appear before the Privy Council because of apparent references to the controversial Essex affair (Daniel, Complete Works xxiii). Approximately three hundred years after Daniel’s closet play was performed, Stephanie Hodgson-Wright tested the dramatic potential of *Mariam* and concluded that the play was fundamentally “a performance piece” (Findlay, Williams and Hodgson-Wright 136).

Critical responses are divided on the issue of *Mariam’s* relationship to performance traditions. Claims in relation to performance of the text have met with the fairly pointed observation that “performability does not … prove that the plays were written for performance” (Acheson n. 4). Cary was, however, known to be a devotee of drama. The *Life* notes that Cary:

> after her lord’s death never went to masques nor plays, not so much as at the court, though she loved them very much, especially the last extremely; nor to any other such public thing. Yet she continued to go very much abroad to court and other places about her businesses. (224)

The fight scene in *Mariam* between Silleus and Consbaraus (2.4.350) is described by Barish as “utterly unlike a scene from the closet drama … it is a scene of stage excitement with actors who confront each other, abuse each other or parry abuse” (Barish, "Language" 39). The language of *Mariam*, according to Barish “smacks of the rough and tumble of the popular stage” (Barish, "Language" 39). Barish, in fact, claims that “the language itself, with its rough edges, differs in no essential way from what one might have heard on the stage at the Globe or the Fortune during the same years”

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27 The view of closet texts as performance pieces continues to be explored in theory and in practice. Sections of *Mariam* was performed in Burford Priory in June 2013 as part of the Burford Festival [http://www.burfordfestival.org/Events_Daily/Mariam.html](http://www.burfordfestival.org/Events_Daily/Mariam.html) and students of early modern drama at University College London staged a production of Daniel’s *Cleopatra* in March 2013 [http://events.ucl.ac.uk/event/event:qpm-hazbwq0d-x6g1b6/](http://events.ucl.ac.uk/event/event:qpm-hazbwq0d-x6g1b6/)
Herod’s wrath at Mariam’s supposed betrayal is just one of many examples:

Now do I know thy falsehood, painted devil,
Thou white enchantress. Oh, thou art so foul
That hyssop cannot cleanse thee, worst of evil.
A beauteous body hides a loathsome soul. (4.4.175-178)

Ferguson and Weller go further than Barish and suggest that “Mariam may well represent a unique fusion of Shakespearean and neoclassical dramaturgy” (Weller and Ferguson "Introduction" 43).

Straznicky, however, suggests that there is a risk that emerges from attempts to align Mariam with commercial drama as a way of claiming a history for women in mainstream early modern dramatic traditions, since:

to collapse closet drama into commercial stage drama is to lose sight of the very distinctions between print and performance, between amateur and professional, between household and market that made it possible for the women studied in this book to write plays. (Privacy 118)

As plays that were not for the public stage, closet texts are aligned with a rhetoric of privacy that paradoxically enables them to deal with material that is more politically controversial and publicly sensitive than most commercial drama. Contradictory discourses concerning the ‘public’ and ‘private’ in the period, mirror those concerning speech and silence. In both cases, the terms reference an external, auditable element of existence, as well as space that is beyond surveillance and therefore potentially transgressive. Closet texts are “aligned with a closed interpretive community” (Straznicky, Privacy 50) that is privileged and politically connected. Straznicky describes the private spaces associated with closet tragedy as sites in a cultural matrix aligned with elite, alternative communities and a tradition of political dissent. These sites are not “intrinsically private” and, in fact, private households can be identified as sites of social and political networks through which early modern women writers could selectively address an audience (Straznicky, Privacy 1).
the ‘private’ circulation of closet tragedy can be seen in Greville’s decision to destroy his *Antony and Cleopatra* prior to circulation by casting it onto the fire (Tricomi 63). The distinction at the heart of the public/private debate, according to Straznicky, is less about the difference between “private reading and public theatre going” and more about “literary standards and kinds of intellectual labor” ("Closet Drama" 422). It is precisely this distinction that facilitated women’s participation in the genre. In understanding the production, consumption and circulation of closet texts, the significant contrast is not between performance and reading, but between popular culture and a more elite, educated private sphere.

9.2.5 Private and public playhouses

Tricomi suggests that closet tragedy should be viewed as “the aristocratic counterpart of the anticourt satires and political tragedies that professional playwrights were presenting to select audiences at the Blackfriars” (Tricomi 62). The period in which the Sidnean closet plays emerged (1590-1607) corresponds broadly with a period that Gurr describes as one of professional rivalry between the boy companies in private theatres and the adult players in public theatres (Gurr, *Playgoing* 169). Gurr relates the development of this relationship to “the sudden immense success of the Children of the Chapel at the Blackfriars at the turn of the seventeenth century”, (15) which led to competition for audiences. Gurr suggests that the end of this period is marked by the acquisition of the Blackfriars by the King’s men in 1609, which represents “total victory for the adults” (169).

The major difference between public and private playhouses is described by Gurr as one of class distinctions as opposed to taste in repertoire (*Playgoing* 90). He notes that, “the amphitheatres in the northern suburbs, the Red Bull and Fortune, served a distinctly less gentlemanly clientele than the hall playhouses in the city, the Blackfriars, Cockpit and Salisbury Court, and in summer the Globe on Bankside” (*Playgoing* 90). In general, Gurr claims, “the courtiers were served one kind of play, the citizens another” (*Playgoing* 85). The players at the amphitheatres offered spectacle while the hall theatres offered something much more academic and learned. Gurr notes that:

> Once the boy companies fully established themselves at the hall playhouses in 1600 they developed a distinct repertoire of new plays while the amphitheatre companies in the main clung to the old favourites such as *The Spanish Tragedy* and *Faustus*. When Shakespeare’s company acquired the Blackfriars from the boys in 1609 they gradually
developed a courtier repertoire and perpetuated the division, so that the halls play for courtiers and the gentry while the amphitheatres played for citizens. (Playgoing 85)

Gurr argues that although after 1599 the composition of audiences at different playhouses diverged quite markedly – “The Red Bull in particular became a joke to the hall playhouse patrons for its old fashioned repertoire of heroic military plays” (Playgoing 92), but he describes the differences as being more complex than a simple binary. For example, the repertory for the Paul’s boys differed from the Blackfriars boys, and was different again at the Cockpit (Gurr, Playgoing 86). Gurr argues that the Globe repertory also differed from plays performed at the Red Bull, but none of these differences remained constant” (Gurr, Playgoing 86).

9.2.6 Printed drama

Straznicky traces a development of interest in the distinction between private/elite and public/vulgar in published plays in the early modern period and finds evidence of an increased desire by authors to be associated with an intellectual and literary elite (Privacy 53-59). This evidence comes mainly from printed playtexts by writers working in the commercial theatres and reflects the debate between the culture of the adult companies and the amphitheatres on the one hand, and the children’s companies and the hall playhouses on the other. Straznicky observes that “the rhetoric and typography of literary drama became the standard for stage drama marketed to a select readership, chief among which are the ‘private’ theatre plays of Jonson, Marston, Webster, and Chapman” (Straznicky, Privacy 53). Literary drama has, as Straznicky notes, a particular ‘look’ and formal devices drawing on conventions associated with closet drama were employed in the publication of drama that had been performed on the commercial stage to enhance the text’s literary qualities and “manoeuvre an author into a cultural position that was distinctly was distinctly superior to that of commercial theatre” (Straznicky, Privacy 66).

It is not uncommon for stage dramatists to signal their familiarity with the conventions of literary drama in published editions of their texts. Webster’s comments in his Epistle to the White Devil (1612) claim that its performance at the Red Bull by Queen Anne’s players failed due to a lack of “a full and understanding Auditory” commenting that “most of the people that come to that Play-house, resemble those ignorant asses (who visiting Stationers’ shoppes, their use is not to inquire for good bookes, but new
bookes)” (Webster 30). His later comments reflect a deliberate manoeuvring of his work away from the stage using references to his own serious and scholarly disposition. Marston does this through the presentation of a list of neoclassical conventions that signal an awareness of these features, even though his play is a “no true Dramatic poem” (Webster 30). They include, to observe “the critical laws, as height of style; and gravity of person,” and be enriched with a “sententious Chorus” and “the passionate and weighty Nuntius” (Webster 30).

Straznicky, however, argues Mariam is private in a “unique sense” (Privacy 59). Straznicky finds that Mariam’s published format “resembles the most classical of the closet dramas, but its accommodation of stage business links it equally with some of the elite dramatic publications emanating from the ‘private’ theatre” (Privacy 59). Given the degree to which the play deals with stage business, Straznicky suggests that much of the formal presentation reflects the publishers attempt to “situate the play in relation to an elite literary discourse (Privacy 48-49). She suggests that:

For authors such as Daniel, Marston, and Webster, the stakes in representing their plays through print had everything to do with intellectual elitism. If we view Cary’s play in the same way, we can begin to appreciate the acuity with which her stationers manipulated the cultural field in which ‘private’ drama intersected with print. (Straznicky, Privacy 66)

In Mariam, Straznicky argues that “deviations from continuous print help readers negotiate the multi-layered text, emphasizing a change of speakers, interrupting the dialogue to observe physical movement, or marking a transition from dialogue to choral commentary” (Privacy 57). Other formal features work to highlight the “literariness” of the text (Straznicky, Privacy 64). In the case of Mariam, Straznicky argues that the publication strategies used by the printers are a way of positioning the text in relation to public discourse rather than a rejection of it. The layout, font, the use of italics for the chorus, and the marking of stichomythy are a way of targeting a select readership and signalling to them how the text should be received. Straznicky’s analysis of Mariam in its printed form uncovers strategies that were used to reposition what is essentially a dramatic text in a more literary context.
9.2.7 Dissident drama and exemplarity

Closet texts participate in a rhetoric of exemplarity that aligns with Sidney’s exhortation that English drama should be “full of notable morallitie, which it dooth most delightfully teach” (Sidney sig. H4r). At one level, the Sidnean texts are aimed at offering resources “as in a glass” to help readers deal with both adversity and good fortune, and living “with the end of well doing, and not of well knowing onely” (Sidney sig. C4v). This is supported by Fulke Greville’s dedication of his prose works to Philip Sidney, which reads:

in all these creatures of his making his intent and scope was to turn the barren philosophy precepts into pregnant images of life, and in them, first on the monarch’s part, lively to represent the growth, state and declination of princes, change of government and laws, vicissitudes of sedition, faction, succession, confederacies, plantations, with all other errors or alterations in public affairs; then again, in the subject’s case, the state of favour, disfavour, prosperity, adversity emulation, quarrel, undertaking, retiring, hospitality, travel and all other moods of private fortunes or misfortunes. (Gouws 10-11)

Lewalski notes that contemporary responses to closet texts indicate that readers recognised references to “Essex and Elizabeth; to the Burleigh faction versus Essex and the Protestant war party; to James I’s theory of absolutism, his corrupt court, and notorious favourites; to assassination attempts and rumoured conspiracies” (Lewalski, "Resisting" 217).

The authors of the closet texts acknowledged the contemporary relevance of their work. Greville, for example notes that his motivation for writing closet tragedy was “to trace out the high waies of ambitious governours, and to shew in the practice of life that the more audacity, advantage and good successe such sovereignties have, the more they hasten to their owne desolation and ruin” (Grosart 150). Greville further notes that “the vices of former ages being so like to these of this age as it will be easy to find out some affinity or resemblance between them” (Gouws 135). Cary also deployed these strategies and, in this context should be viewed as engaging in political commentary. Mariam’s silence can be seen as transgressive in the same way that Sir Thomas More’s refusal to swear the Oath of Allegiance to Henry VIII was considered treasonous. More was convicted of treason because he "maliciously held his peace and refused to make a direct answer” (N. E. Wright 248). Although particular historical events can be linked to
specific plays, and so the Essex affair and the political consequences of the rebellion and execution may provide a background for the dissident drama of closet writers, scholars such as Curtis Perry argue that an analysis of the anti-court attitude evident in elite dramatic traditions is located more properly in the crisis of counsel that emerged in the early years of James’s rule.

9.3 Political Context

9.3.1 Crisis of counsel

Given the individuals involved in the authorship of Sidnean closet plays, the humanist literary values they promoted, and their reformist political commitments, a productive way of thinking about the tragedies is in the context of overlapping republican and humanist discourses concerned with the right and duty to provide counsel. England in this period is described by historian Patrick Collinson as a “monarchical republic” (Collinson 36). This term, which is discussed more fully below, refers to a type of civic-mindedness that overlays the rhetoric associated with the ancient constitution 28 as part of a strategy to limit the absolutist claims of the king, with humanist rhetoric arising from classical scholars.

The years in which the closet texts appeared (1590-1607) include the final years of Elizabeth I’s reign and transition to the rule of James I. Mariam was written in the early years of the first Stuart court, a period that historian J.G.A. Pocock comments represents a shift “away from counsel and toward statecraft” (Pocock 353). Perry notes that the early years of the rule of James I were characterised by concern for the increased influence of a small number of advisors to the King, and a breakdown in the traditional avenues for the provision of good counsel through the relegation of the Privy chamber to “a largely ceremonial position within the court” (“Crisis” 63). Perry argues that this crisis of counsel is reflected in a number of political tragedies including Daniel’s Philotas (1605), Greville’s Mustapha (1609), and Jonson’s Sejanus (1605), in the way that these plays explore the devastating impact of a sycophantic counsellor who manipulates a tyrannical king.

28 Pocock notes that at the same time as “there was an increasing tendency to claim sovereignty in the full sense for the king” there developed “a habit in many countries of appealing to ‘the ancient constitution’. Of seeking to prove that the rights it was desired to defend were immemorial and therefore beyond the king’s power to alter or annul” (Ancient 16).
The ideological and political shift that occurred during the early years of James’s reign – the basis of which were articulated in his *Basilikon Doron* (1603) and *The Trew Law of Free Monarchies* (1598) – contributed to the intellectual climate in which political drama characterised by the Sidnean closet texts could flourish. The incorporation of political themes is reflected in Tricomi’s estimation that one in every three plays performed at Blackfriars by the Children of the Queen’s Revels over the period 1603-1608 fell foul of the authorities (Tricomi 42). James’s absolutist philosophy was made plain in his own writings as in his comments regarding subjects in the *Trew Law* that “a King may ‘make them beggers, or rich at his pleasure; restraine, or banish out of his presence, as hee finds them give cause of offence, or restore then in favour againe with the pentitent sinner’” (James I 308). Subjects, on the other hand, are “bound to obey their princes for conscience sake, whether they were good or wicked princes” (James I 77).

Perry suggests that Jonson, though not one of the poets associated with the Sidnean closet texts puts himself forward through *Sejanus* and *Catiline* as “a plain-spoken, knowledgeable, neo-stoic adviser … [offering] a solution to a crisis of counsel to which – he suggests – James himself is vulnerable” ("Crisis" 71). Perry also suggests the “rhetorical demands of Jonson’s self-positioning help to explain the ambiguities” of *Sejanus*, in particular. This chapter argues that a similar effect can be seen at work in *Mariam*. Cary is somewhat more circumspect than Jonson in her engagement with the advice aspect of her text, focusing largely, as was discussed in chapter eight, on the consequences of hasty, ill-conceived decisions and the danger of unchecked passions as well as disconnected reason, rather than a confrontational engagement with republican discourse. Although Cary’s tyrant king is a victim of total psychological collapse at the end of the play, and the protagonist is dead -- “her body is divided from her head” (5.1.90) -- the contradictions in the play foreground the theme of epistemological uncertainty. As Hamlin suggests, Cary doesn’t point readers towards an obvious political reading, she flatters them by constructing them as “self-restrained rationalists” (Hamlin, "Elizabeth Cary" 5).

### 9.3.2 Republicanism

The role of republican thought in early modern closet drama has been explored by Perry, particularly in relation to the crisis of counsel in the Jacobean court ("Crisis"; "Uneasy"). The extent to which republicanism existed as a political discourse, or as a viable political option in early modern England, is a matter of some dispute amongst
Patrick Collinson has famously described the political structure of the period as a “monarchical republic” (Collinson 36). By this, Collinson means that Elizabethans thought of England as “a species of republic … a state which enjoyed that measure of self-direction which … was the essence of liberty, but with a constitution which also provided for the rule of a single person by hereditary right” (36). In essence, Collinson argues that England in this period can be thought of as “a republic which happened also to be a monarchy: or vice versa” (43).

Collinson’s view on the relevance of republican ideology in early modern politics, society, and culture is by no means the only one. Views vary from the strong claims by scholars such as Pocock, who argues that republicanism could not have existed in England prior to 1649 (Machiavellian 53), in contrast to Hadfield, who believes that republicanism “set the political agenda in Shakespeare’s England” (95). Andrew Hadfield has considered the influence of republicanism and republican thought in Shakespeare and suggests that there are five aspects of republican thought that are represented in early modern drama. These include: anti-tyrannical rhetoric; a commitment to the classics and education reform; a focus on the importance of virtue in government; an interest in histories of the Roman republic; and the importance of citizens and subjects taking offices of responsibility (Hadfield 467-8). Republican discourses can thus be said to circulate in a form that integrated humanist, religious and constitutional understandings to support the motivation for a republican-like civic action.

Closet texts operate in the context of civic republicanism as an embodiment of “the claim that true nobility lies in virtue, and that virtue consists not in contemplation but in action” (Sommerville 201). Civic republicanism facilitates a framework in which elite subjects operate under the assumption that they have certain rights and liberties that derive from common law and are associated with the doctrine of the ancient constitution. These same subjects also have responsibilities to carry out social duties and commitments. Perry analyses Kyd’s Cornelia and Jonson’s Roman tragedies in the context of the court of James I, and the rise in rhetoric concerning the divine right of

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29 Pocock’s argument rests on the assumption that the theory of the divine right of kings and the tradition of custom and law associated with the ancient constitution translated into a political world view in Elizabethan England that was seen as immutable, thus ruling out the kind of change required to embrace republicanism as a viable political option.
monarchs at the expense of language associated with monarchic republicanism ("Uneasy" 544). Related to this is an increase in anxiety that a tyrannical monarch would disregard the ancient constitution and the liberties it was thought to guarantee, including a sense of “aristocratic enfranchisement” (Perry, "Uneasy" 539).

Closet drama is “specifically an advice genre derived from a humanist impulse to educate and counsel the monarch” (Raber, Dramatic Difference 154). This is intrinsically linked to the notion of England as a monarchical republic, since its functioning depended upon “a network of personal relationships that bolstered the monarch’s willingness to hear good counsel” (Sedinger 69). The role of the mirror-of-princes or advice genre, as Sendinger argues, was to “interpellate the prince into the Ciceronian-inspired humanist discourse that was such an important influence in the monarchical republic” (Sedinger 69). Closet texts thus emerge with a rise in republican thought that is linked to religious anxieties, factional jostling associated with preferment, favourites, and the right to provide counsel, as well as questions of succession, and vulnerability to self-serving counsel. The tension between absolutist rhetoric and a sense of enfranchisement arising from understandings of the common law and ancient liberties motivated these authors to participate in the production of closet texts. Although, the date of authorship for Mariam is somewhat uncertain, it was very likely written in the first five years of the Stuart court, when the Carys were attempting to establish themselves socially and politically and well before the arrival of George Villiers, Duke of Buckingham, with whom the Carys eventually became aligned.

This is not to suggest that Cary subscribed to republican ideals or promoted republican forms of government. Elements of republican thought and the concept of virtuous action are evident to varying degrees in the texts the Sidnean poets translated and wrote. The text themselves function as artefacts that are representative of quasi-republican interventions by their authors. In contributing to “the flowering of English verse” (Hannay, Kinnamon and Brennan 21) and to a genre that is to a large extent political commentary, the authors were performing a duty that was the responsibility of the humanist courtier. Mariam can thus be seen as an attempt to intervene meaningfully “in social, religious, and political discourse (Straznicky, Privacy 16) that aligns with other aspects of her life and this is reflected in her ongoing commitment to literary and intellectual culture and strategic political allegiances.
9.4 Elizabeth Cary and publication

Cary makes use of conventional references to the inadequacy of her work to create some rhetorical distance between herself and her texts, but does not deny herself the right to publish. In fact her generic and thematic choices signal a fairly fearless engagement with contemporary political concerns. Perry notes that Cary’s preparation of a history of Edward II in 1627 represents participation in a tradition that was “assumed to be a masculine preserve until much later” ("Royal Fever" 71). Perry also draws attention to the political relevance of the subject matter of Edward II, and the fact that the story had “obvious parallels with recent events in the public, political sphere” ("Royal Fever" 71), particularly in relation to the Duke of Buckingham, “whose career as a court favourite to James I and Charles I made him the focal point of intense and sometimes violent political animosities” ("Royal Fever" 71).

Cary’s preface to The History of the Life, Reign and Death of Edward claims that it was written to “out-run those weary hours of a deep and sad Passion” (Weller and Ferguson, "Introduction" 16). Her statement further adds that she strives to please “the Truth, not Time; nor fear I censure, since at the worst, ’twas but one Month mis’spended” (Weller and Ferguson, "Introduction" 16). Cary’s words reflect a slightly defensive strategy that becomes amplified in her translation of Perron’s reply to the English king’s speech concerning the Pope’s authority to intervene in secular issues, and depose a king guilty of heresy. In the Epistle to the Reader, The Reply of the Most Illustrious Cardinall of Perron, she notes that “as a Catholic and a Woman: the first serves for mine honor, and the second, for my excuse … if the worke be but meanely done, it is noe wonder, for my Sexe can raise noe great expectation of anything that shall come from me” (qtd. in Weller and Ferguson, "Introduction" 11). Cary then openly rejects the rhetoric of modesty commonly associated with publication by women when she writes in the preface of the text, “I will not make use of that worene-out forme of saying I printed it against my will, mooved by the importunitie of Friends; I was mooved to it by my beleefe that it might make those English that understand not French, whereof there are many even in our universities, reade Perron” (qtd. in Weller and Ferguson, "Introduction" 11). Cary’s defiant comment in the Reply serves, in Pender’s words, as “a useful corrective to enduring assumptions about women’s passive internalization of the prohibitions to print” (Pender 14-15).
Critical assumptions about the rhetoric of modesty as applied to publication by women appear to be of limited relevance in the context of Cary’s ongoing and public record of textual engagement. The “narratives of scandal and withdrawal” Smith discusses in relation to Mary Wroth’s *Urania* (Smith, “Lady Mary Wroth” 409) have been applied with equal enthusiasm to Cary’s *Mariam*. In this view, an emphasis on the female author’s perceived lack of agency informs readings of the text’s publication history and subject matter. This produces a kind of self-reinforcing system of assumptions in which the author’s self-censorship appears to reflect the silence chosen by her play’s heroine and her “withdrawal into interiority” (Smith, “Lady Mary Wroth” 409). The lack of congruence between the story of *Mariam*’s publication and received wisdom about early modern women’s participation in print culture is just one of a number of elements that are overlooked in much of the critical literature. These points of disruption are key to understanding the ways in which *Mariam* is seen by critics to reflect gynocritical assumptions about privacy, subjectivity, and women’s writing, rather than a more politicised engagement with divergent male-authored traditions. Attending to disparate pieces of evidence that support Cary’s commitment to humanist ideals we develop a picture of an early modern woman with intellectual and literary aspirations that suggest a repositioning of the text in the context of dramatic and political discourse.

### 9.5 Conclusion

Cary’s story of Herod the Great and his Jewish queen offers Cary a conceptual framework for exploring questions about the legitimate exercise of authority, including the claim to rule, and the rights of individual subjects to resist. The apparently domestic setting has political relevance because of cultural metaphors that naturalise hierarchies concerned with obedience and resistance, and parallels between the family and the state. Although *Mariam* has political relevance due to its themes, the text resonates politically on a number of other levels as well. Cary’s gender and class affiliations provide an important interpretive lens through which the play must be viewed in order to understand the nature and extent of its contribution to literary and dramatic culture. The ways in which *Mariam* engages with the concepts of privacy and performance intersect with ways of understanding its publication history and relationship to other dramatic and intellectual traditions, as well as to thematic understandings concerned with ideas about conscience, integrity and authenticity.
Sidney wrote of the importance of living “with the end of well doing, and not of well knowing onely” (Sidney, sig. C4v) and Cary, as Skura says, seems to have had a “felt connection to public life” (Skura 85). This thesis suggests that Mariam needs to be read in the context of the concept of ‘active virtue’ arising from humanist values associated with the rights and responsibilities associated with being a member of an educated social and political elite. Closet tragedy provided a form in which privileged and aristocratic poets, both male and female, could meaningfully contribute to “social, religious and political discourse” (Straznicky, Privacy 16). It seems a reasonable assumption that as an aristocratic woman who was classically educated, unashamedly intellectual, and ambitious, Elizabeth Cary would have identified to some extent with the quasi-republican ideals of participatory government even if only in a limited sense, and that Mariam can be seen as representing a commitment to these ideals through the provision of counsel. The text functions as way to attract attention to the author’s familial interests. It allows Cary to establish an identity within the court in the service of her new family’s political and cultural ambitions. As Purkiss says, Mariam can be seen as “part of her self-fashioning, not as a Romantic, but as a member of a noble household” (Purkiss, Three Tragedies xvi).

Mariam suggests a commitment to humanist ideals implicitly concerned with republican ideology, such as the concept of duty and the right as well as the obligation to provide counsel, the right to certain individual liberties such as freedom of conscience, and a commitment to personal integrity. Cary’s act of authorship also aligns with these concerns. Cary’s play is not so much concerned with models of government that may or may not provide the environment in which republican ideals can flourish, as with how an individual negotiates the challenges to integrity and virtuous action arising from a political environment that rewards its opposite. Cary’s offers readers a more measured intervention in political drama than the plays of Jonson, Chapman, Daniel and Greville. Mariam is less a mirror of the times than a mirror of very human failings across time, and a warning to readers about the importance of doubt and scepticism and resisting the temptation to “prejudicate” (2.4.419).
Chapter 10. Computational stylistic analysis of closet tragedy and stage tragedy 1580-1641

10.1 Introduction

The first part of this thesis explored Burrows-style computational stylistics and its reception by scholars of literature and the humanities. The use of computational techniques to consider questions of authorial attribution is generally well accepted, but computing and statistics are yet to be accepted as valid tools of enquiry in more traditional areas of literary study and criticism. Insights drawn from Cognitive Grammar do not appear to have been applied to a Burrows-style computational study. As previously noted, it is more common for a Burrows-style study to be applied to a question of authorial attribution than to an interpretive question. Computational methods have been used in cognitive stylistic studies but these have focused on textual reception and affective responses, rather than the text and the problem of meaning, as is the case here, or on key word analysis. The study discussed in this chapter is undeniably empirical and formalist, but it moves beyond narrow formalism by asking how these formal properties are a reflection of the strategies the texts and their authors have employed to negotiate their participation in early modern literary culture.

10.2 Methodology

This study aims to determine differences and similarities between two groups of texts from the same period and related genres. This study draws on an earlier study by Burrows and Craig that compared Romantic and Renaissance tragedy using statistical methods ("Mountebanks"). Like the Burrows and Craig study, this study aims to see whether the differences identified through computational analysis “shed any light on larger questions of literary or historical interpretation” ("Mountebanks" 64). It does this through the comparison of closet tragedy and stage tragedy, and then the detailed analysis of an individual text – Elizabeth Cary’s Mariam – by drawing on the results of computational analysis.30 In total, sixty tragedies written and printed between 1580 and

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30 Sections of these results have been presented at the Digital Humanities Conference, University of Oulu, Oulu, Finland (2008), and University of Maryland, Baltimore, USA (2009) and have also been published in Connors (2006b).
1641 were selected for analysis (see Appendixes 1). Plays were originally selected for the study on the basis of an existing corpus, with closet plays added to the existing group. The sample comprised over 1,000,000 word tokens, with an average length of approximately 19,700 word tokens per play. The non-closet tragedies in the corpus include the work of 31 different writers (not including the authors of four anonymous texts) and 11 different theatre companies. While not exhaustive, this offers a good representation of the tragedy genre overall for this period.

Harbage (1964) lists 46 closet plays dated between 1580 and 1641, including the twelve in the study sample (Harbage and Schoenbaum). The closet plays excluded from the study do not fit the experimental design for various reasons. Seven of the excluded closet plays are comedies and eight are pastorals and therefore did not fit the selection criterion of 'tragedy'. There are an additional eight tragedies or tragicomedies listed by Harbage that are not included in the study, one in particular (Kyd’s translation of Garnier’s *Porcie*) that would have made a welcome addition to the sample had the text not been lost. None of these excluded tragedies/tragicomedies are referred to in the critical literature with reference to the Sidney circle. The remaining closet plays excluded from the study are an assortment of dialogues, masques, religious plays, an anti-Catholic morality play, and one romance. Lamb (*Gender*) refers to *Phyllis and Amyntas* by Abraham Fraunce (1591) as another closet play that was influenced by the Countess of Pembroke. The reason scholars have excluded this play from the set of Sidney closets is that although the Countess of Pembroke encouraged its development, it is one of the pastorals mentioned above, as opposed to a tragedy along the lines of those penned by Garnier. All twelve plays considered as belonging to the group of Sidnean closet dramas were included in the set. These are Mary Sidney’s *Antonius* (1592); Samuel Daniel’s *Cleopatra* (1594), Thomas Kyd’s *Cornelia* (1594); and *Philotas* (1605); Fulke Greville’s *Mustapha* (1596), and *Alaham* (1609); Samuel

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31 The period 1580-1641 was selected as it covers the period from the opening of the first of the ‘public’ amphitheatres, the Red Lion, built in Whitechapel in 1567, and replaced in 1576 by The Theatre in Shoreditch (Gurr 2002 13) and the closing of the theatres in 1642.

32 Daniel’s *Philotas* was performed by the Children of the Queen’s Revels sometime between November 1604 and January 1605 (Gazzard 2000) and is not listed by Harbage as a closet text. The play is included as a closet tragedy in the present study, as it is in numerous others including Straznicky (2004) Barish (1993) and Tricomi (1989).
Brandon’s *Tragi-comedy of the Virtuous Octavia* (1598); Cary’s *Tragedy of Mariam* (1613); and the four *Monarchic Tragedies* by Sir William Alexander (all 1637).

In this analysis, function words are selected for statistical tests rather than rarely used words, as it is a major aim of the study to understand how function words contribute to the meaning and interpretation of a literary text. From a methodological point of view it is also the case that function words occur frequently enough to support the sample size considerations of basic statistical analysis (Burrows, *Computation* 14) and are the words which we might assume are the least dependent on context for their selection by an author or speaker. From within a Cognitive Grammar framework, function words are meaningful textual elements and so they provide us with a linguistic unit for analysis that requires almost no researcher intervention in terms of textual preparation. Some minor textual preparation was carried out prior to the analysis. Contracted forms throughout the texts were expanded so that their constituents appeared as separate words. It is important to note that, with reference to textual preparation and coding decisions, Kenny comments that many of these decisions are somewhat arbitrary (16). He suggests that the important consideration is that consistency is applied. That is, “what matters is not which decision is taken, but that an arbitrary decision, once taken, should be consistently adhered to” (16).

Given the fact that a number of the texts used in this study had been prepared for earlier studies, the approach to text preparation for the new texts was consistent with the approach used previously. An exception to this general rule was the case of homographs. In this study, homographs were not tagged. Infinitive *to* was not distinguished from prepositional *to*, for example, so both forms of *to* were counted together. This decision is supported by Langacker’s Cognitive Grammar, which suggests that homographs, though polysemous, are linked to each other through related senses. That is, even though a particular function word may be identified with multiple grammatical classes, there is enough a relationship between these various instances to warrant the occurrences being counted as one form. Similarly, Burrows (“All the Way”) varies his usual practice, and chooses not to distinguish homographic forms from each other. Antonia also argues that “for many analyses it is not worth marking homographs
at all” (5). It therefore seems reasonable to argue that grammatical homographs may be counted together as one group.

Tagged texts were then run through a frequency count using a program developed by the Centre for Literary and Linguistic Computing at the University of Newcastle called Intelligent Archive (IA) (Whipp and Ralston). A list of function words used in the study and ranked according to frequency is provided (see Appendix 2). This list is based on an existing list used by the CLLC (Antonia unpublished). The list consisted of 241 items including modal auxiliaries; reflexive pronouns; personal pronouns; possessive pronouns/ adjectives; verbs; relative, interrogative and demonstrative pronouns; conjunctions; determiners; quantifiers; indefinite compounds; adverbs; and prepositions. The frequency count for each word in the function word list was expressed in the IA output as a percentage of the total dialogue in the relevant play. The data produced by IA were then transferred to Statistical Package for the Social Sciences (IBM SPSS) and a spreadsheet program (Excel) for further analysis.

10.3 Function word analysis, closet plays, and stage plays

As a first step, a discriminant analysis was carried out on the basis of the frequency scores of function words to see what sorts of differences, if any at all, would be picked up between the two groups of plays. Discriminant analysis attempts to classify observations into one of at least two groups. It assumes that all segments are equally likely a priori to be a member of either group, and that no segment belongs to more than one group. Discriminant analysis maximises the difference between groups by weighting variables that contribute to the difference more heavily than variables that show no consistent difference between the two groups. SPSS produces statistics on each analysis to show the degree of discrimination that has been achieved, so that the user can check whether a substantial underlying difference between the two groups tested on the chosen variables does in fact exist. The plays were divided into segments, each of two thousand words, to allow for variability within the plays; the residual words were added to the last segment of each play. A total of 563 two-thousand word segments were processed in the analysis, 104 of which were from closet plays, and 459 from stage

33 Antonia does, however, suggest that there are exceptions, including infinitive to which developed from the prepositional form of the verb, but has become “so nearly a pure grammatical that is now distinct from the prepositional form” (5).
plays. The step-wise method with ‘leave-one-out’ classification was used to cross-validate the results. Table 10.1 shows the number and proportion of segments tested that were correctly and incorrectly classified. For example, of the 104 closet segments 103 were correctly classified. This represents a success rate of 99 per cent. Overall, across the closet and public plays examined, 99.6 per cent of the segments were correctly classified.

Table 10.1 Classification results for discriminant analysis using 241 function words in 60 tragedies, closet/non-closet value correctly assigned

<table>
<thead>
<tr>
<th></th>
<th>Closet</th>
<th>Public</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Original</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. closet segments</td>
<td>103</td>
<td>1</td>
<td>104</td>
</tr>
<tr>
<td>No. public segments</td>
<td>1</td>
<td>458</td>
<td>459</td>
</tr>
<tr>
<td>Closet %</td>
<td>99.0</td>
<td>1.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Public %</td>
<td>0.2</td>
<td>99.8</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Cross-validated (a)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. closet segments</td>
<td>103</td>
<td>1</td>
<td>104</td>
</tr>
<tr>
<td>No. public segments</td>
<td>1</td>
<td>458</td>
<td>459</td>
</tr>
<tr>
<td>Closet %</td>
<td>99.0</td>
<td>1.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Public %</td>
<td>0.2</td>
<td>99.8</td>
<td>100.0</td>
</tr>
</tbody>
</table>

(a) Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

(b) 99.6% of original grouped cases correctly classified.

c) 99.6% of cross-validated grouped cases correctly classified.

Results of the discriminant analysis were further tested by randomly assigning the status of ‘closet’ or ‘non-closet’ to the segments, using an online random sequence generator (Random.org). The cross-validation process is designed to eliminate any tendency to ‘over-training’ in the procedure, that is, a tendency to optimise the analysis too closely on the particular characteristics of the training set, but it seemed prudent to subject the results achieved to a further check. The 563 segments were randomly divided into two groups in the same proportion as the original sample and the discriminant analysis was
repeated using this new sample. If the test using randomly assigned segments achieved similar outcomes to the test using correctly assigned segments, then we could have assumed that discriminant analysis was simply doing what it does best when it found a significant difference between closet plays and stage plays on the basis of function words. If the repeat test failed to find a difference between the two groups then it would be correct to assume that the initial result might warrant further investigation and explanation.

Table 10.2 Classification results for discriminant analysis using 241 function words in 60 tragedies. closet/non-closet value randomly assigned in correct proportion

<table>
<thead>
<tr>
<th></th>
<th>Closet</th>
<th>Public</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Original</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. closet segments</td>
<td>47</td>
<td>57</td>
<td>104</td>
</tr>
<tr>
<td>No. public segments</td>
<td>152</td>
<td>307</td>
<td>459</td>
</tr>
<tr>
<td>Closet %</td>
<td>45.2</td>
<td>54.8</td>
<td>100</td>
</tr>
<tr>
<td>Public %</td>
<td>33.1</td>
<td>66.9</td>
<td>100</td>
</tr>
<tr>
<td><strong>Cross-validated (a)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. closet segments</td>
<td>47</td>
<td>57</td>
<td>104</td>
</tr>
<tr>
<td>No. public segments</td>
<td>152</td>
<td>307</td>
<td>459</td>
</tr>
<tr>
<td>Closet %</td>
<td>45.2</td>
<td>54.8</td>
<td>100</td>
</tr>
<tr>
<td>Public %</td>
<td>33.1</td>
<td>66.9</td>
<td>100</td>
</tr>
</tbody>
</table>

(a) Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.
(b) 62.9% of original grouped cases correctly classified.
(c) 62.9% of cross-validated grouped cases correctly classified.

Table 10.2 shows that the discriminant analysis, using randomly assigned groupings, fails to correctly classify 57 of the 104 closet segments and 152 of the 459 stage play segments. Thus, when the test is repeated using ‘leave-one-out’ analysis the failure rate is much higher, with only 62.9 per cent of segments being correctly classified (a weighted average of the individual results). This result confirms the significance of function words in an analysis of the linguistic differences between the public plays and

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34 For the segmentation into two groups random sequence generator at [http://www.random.org](http://www.random.org) was used.
closet plays. The strength of the results in Tables 10.1 and 10.2 are highlighted in a graphical representation of discriminant scores when closet status is correctly assigned, as opposed to when it is randomly assigned (see Figures 10.1 and 10.2).

Figure 10.1 shows the results of two sets of tragedies divided into 2000 word segments. A step-wise discriminant analysis used only 38 function words from the full list to identify 100 per cent of the segments correctly as either a closet segment or a stage segment. A list of these variables is provided as Appendix 3 (Table 13.3). In Figure 10.1 the two groups separate almost completely into two distinct sections, both of which represent something very close to two separate normal curves.

![Figure 10.1 Histogram of discriminant scores for correctly identified public and closet play segments from 60 tragedies in 2000 word segments on the basis of 38 most discriminating function words](image)

Figure 10.2 shows the same plays and the same variables in a discriminant analysis when the segments are randomly divided into two groups, in proportion to the closet/non-closet breakdown of segments. Figure 10.2 shows that discriminant analysis does not identify a difference between the two groups of texts when a ‘difference’ variable is randomly assigned.
Figure 10.2 Histogram of discriminant scores for randomly identified public and closet play segments from 60 tragedies in 2000 word segments on the basis of 38 most discriminating function words

In order to further exclude the possibility of artefact playing a role in the delineation of closet or non-closet status, the discriminant analysis was repeated, re-coding all the segments from individual plays, on a play-by-play basis, so that their closet status was not identified. A selection of the plays was then tested one at a time to determine whether discriminant analysis correctly classified the text as a closet play or a stage play. By recoding whole plays any possible advantage that may have arisen in the discriminant leave-one-out analysis by only recoding segments, which could possibly identify closely with neighbouring segments from the same play, is eliminated. For this test, the results of which are presented in Table 10.3, the 38 word variables identified in the step-wise discriminant analysis were used. Segments in closet plays were coded as “1”, segments in public plays were coded as “2”, and segments in the play to be tested were coded as “3”. The selection of plays to be tested was determined using the same random sequence generator as previously. Ten plays were randomly selected for the original run of tests. The original group that was randomly selected included two closet plays (*Antonius* and *Alaham*). The remaining ten closet plays were added to the test giving a total of 20 plays, each one tested against the full set of the remainder, then returned to the main set.
Table 10.3 Segments of plays correctly classified in a discriminant analysis on the basis of a set of 38 “most discriminating” function words in 60 tragedies in 2000 word segments

<table>
<thead>
<tr>
<th>Play</th>
<th>No. of segments correctly classified</th>
<th>No. of segments in play</th>
<th>% of segments correctly classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titus Andronicus</td>
<td>9</td>
<td>9</td>
<td>100</td>
</tr>
<tr>
<td>The Unfortunate Lovers</td>
<td>8</td>
<td>8</td>
<td>100</td>
</tr>
<tr>
<td>Antonio's Revenge</td>
<td>7</td>
<td>7</td>
<td>100</td>
</tr>
<tr>
<td>Arden of Faversham</td>
<td>9</td>
<td>9</td>
<td>100</td>
</tr>
<tr>
<td>Love's Sacrifice</td>
<td>10</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>The Wonder of Women</td>
<td>6</td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>The Jew of Malta</td>
<td>9</td>
<td>9</td>
<td>100</td>
</tr>
<tr>
<td>Women Beware Women</td>
<td>12</td>
<td>12</td>
<td>100</td>
</tr>
<tr>
<td>The Tragedy of Darius (closet)</td>
<td>8</td>
<td>8</td>
<td>100</td>
</tr>
<tr>
<td>The Tragedy of Croesus (closet)</td>
<td>11</td>
<td>11</td>
<td>100</td>
</tr>
<tr>
<td>The Alexandrean Tragedy (closet)</td>
<td>13</td>
<td>13</td>
<td>100</td>
</tr>
<tr>
<td>The Tragedy of Julius Caesar (closet)</td>
<td>12</td>
<td>12</td>
<td>100</td>
</tr>
<tr>
<td>Tragicomedy of the Virtuous Octavia (closet)</td>
<td>8</td>
<td>8</td>
<td>100</td>
</tr>
<tr>
<td>The Tragedy of Cleopatra (closet)</td>
<td>6</td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>Philotas (closet)</td>
<td>8</td>
<td>8</td>
<td>100</td>
</tr>
<tr>
<td>Mustapha (closet)</td>
<td>6</td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>Antonius (closet)</td>
<td>7</td>
<td>7</td>
<td>100</td>
</tr>
<tr>
<td>Alaham (closet)</td>
<td>9</td>
<td>10</td>
<td>90</td>
</tr>
<tr>
<td>The Tragedy of Mariam (closet)</td>
<td>4</td>
<td>8</td>
<td>50</td>
</tr>
<tr>
<td>Cornelia (closet)</td>
<td>2</td>
<td>7</td>
<td>28.57</td>
</tr>
</tbody>
</table>

The results presented in Table 10.3 demonstrate that discriminant analysis continues to find evidence of a difference between closet and non-closet plays on the basis of function words even when the test is not ‘told’ whether the segment in question is a closet segment or a stage segment. Although the results are not 100 per cent accurate in that closet plays appear to be a less homogenous group than stage plays, they suggest that analysis of function words may reveal something useful about the differences between these two genres. Tragedies written for the stage appear as a group to be more like each other in terms of their use of function words than closet plays. However, the
results identify three closet plays whose segments are not always classified correctly. Of these three *Cornelia*, a translation of Robert Garnier's French play *Cornélie* by Thomas Kyd, the author of a successful stage play *The Spanish Tragedy*, and *Mariam*, are the texts in the closet sample that may be described as having some function word characteristics that resemble stage plays.

10.4 Function word analysis and *Mariam*

10.4.1 Closet plays and stage plays

The results of the discriminant analysis in Section 10.3.1 suggest that Elizabeth Cary’s *Mariam* is somewhat unusual in that the text does not clearly fit with either the closet plays or plays written for performance. In order to gain further insight into how the play relates to other plays from the period, the texts were subject to a Principal Component Analysis (PCA). PCA, like discriminant analysis, uses frequency tables based on standardised counts of function words. Unlike discriminant analysis, PCA does not test the effect of known differences in the data, but looks to define factors that can be described as most responsible for differences between plays, taking no account of any prior grouping. For the PCA, the most common 100 function word variables were used, in line with common practice in Burrows-style studies. PCA is an ‘unsupervised’ procedure, as already noted, 4,000-word segments were used, rather than 2,000-word segments as a balance between more reliable results from larger sample sizes and representing the inherent variability of the data. Residual segments of less than 4,000 words were incorporated into the preceding segment. This produced 268 segments in total (50 closet segments and 218 stage play segments).

In Figure 10.3 the eigenvalues from the component matrix have been multiplied through the standardised frequencies for each of the 268 x 4,000 word segments to show which segments behave most like or unlike each other on the first two principal components. The scores that produce Figure 10.3 “are simply the sum of the variable counts for each text segment, after each count is multiplied by the appropriate coefficient” (Burrows and Craig, "Mountebanks" 68), therefore Figure 10.4 corresponds directly with Figure 10.3. High counts on word variables that appear on the western end of Figure 10.4 and low counts on word variables that appear at the eastern end bring the text segments at the western end of Figure 10.3 to their positions on the graph. The reverse is true for text segments that stand on the eastern side of Figure 10.3.
The far eastern section of Figure 10.3 is populated predominantly with closet segments, and the western side of the y-axis is populated exclusively with segments from plays written for the stage, but that there is a section in the middle in which stage segments and closet segments mingle. Figure 10.3 shows four Mariam segments – identified as red diamond markers – that seem to resist the general trend and tend northwards on their own. The location of individual segments from individual plays will be explored in more detail, but for now, it is important to note that it is possible to say, with some confidence, that the function word data is capable of distinguishing between closet plays and stage plays. The interpretation of these results will be the focus of further discussion.

Figure 10.4 plots words-types for the first two eigenvectors and points to relationships between words, showing which words behave most like or unlike each other in the sample. Figure 10.4 also shows which words are responsible for the results shown in Figure 10.3. Figure 10.4 sheds light on the location of segments in Figure 10.3: plays on the eastern side of Figure 10.4 are connected with words such as which and who which suggest that they are discursive rather than action oriented. This is in contrast to the words on the western side of Figure 10.4 that reflect deictic terms associated with immediacy and action, as would be expected in performance plays.

Looking more closely at Figure 10.4 it is clear that many of the singular personal and possessive pronouns in the 100 most common word variables (I, me, my, he, him, her and she) lie in the western section of the graph, except for his, which lies in the east. The plural pronouns – we, us, and our – however, lie to the east of the central axis but to the south of they (which is northeast) and their (which is in the extreme east close to who and which). The fact that two of the three main relative pronouns – which and who – are together at the extreme eastern end of the graph, and quite separate to that (which is just to the right of the central axis) suggests that they could be considered as meaningful markers that invite further investigation, particularly since the texts being compared are from roughly the same geographical area, time period, and linguistic community. Most auxiliaries (including shall, will, and do) also tend to lie on the

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35 Burrows and Craig (1994) point out that if the comparison was between British and American texts the relationships between who, which, and that would not be surprising (70).
western side, except for *did* and *doth* which lie in the northeast, *would* and *should*, which lie to the north, and *hath*, which lies in southeast.

As with the Burrows and Craig study, *thou*, *thy* and *thee* lie close to each other in the southwest, while *you* and *your* are together in the northwest. These results can be explained as corresponding with other markers of plurality (such as the auxiliaries *have* and *were*, although *have* may also appear in constructions such as *I have*, and *to have*) and singularity (such as *am* and *is*) in the graph. The distance between these two sets of pronouns may also reflect the differences between texts that consciously employ linguistic archaisms, of the kind we might associate with closet dramas. However, in the case of *thee* and *thy*, if they were associated with closet dramas, we would expect to see these pronouns tending east, not west. This gives some insight into the linguistic features that are responsible for the division between the plays. However, without having identified individual plays it is difficult to clarify anything about the sections in the middle of the graph where closet plays segments and performance segments mingle.

Although there are subtle differences in the results of this study and those in the Burrows and Craig Study, the overall findings of two studies are very similar. There is evidently some resemblance between the contrast in styles between early modern tragedy and tragedy of the Romantic era, as defined in the Burrows and Craig study, and the contrast between public-stage and closet plays in the present study. There is evidence of an emphasis on a more direct personal exchange in one section of the PCA graph, in this case the western section that slants from the north to the south of Figure 10.4 from *I*, *am*, *you*, *your*, and *my/mine* to *thee/thou/thy*. In the opposite sections of the graph there is evidence of a more disquisitory style of language that is less personal, with “markers of plurality, past time, and a more connected syntax” (Burrows and Craig, "Mountebanks" 70). This can be seen in relative pronouns such as *which/who/whose/those* and to a lesser degree, *that*, and in conjunctions like *or/nor* and *though/yet/when* and *as*. It is also the case that there is tendency for the 268 segments to cluster according to whether they are closet segments or segments from stage plays.

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36 See also Brown and Gilman (1970) for discussion of *thou* forms as markers of power and solidarity.
Figure 10.3 Principal component analysis for 60 tragedies in 4000 word segments for 100 most frequently occurring function words – closet plays and stage plays.
Figure 10.4 Principal component analysis for 60 tragedies in 4000 word segments for 100 most frequently occurring function words – word plot for first two eigenvectors
Figures 10.5 and 10.6 are more detailed versions of Figure 10.3 to help provide further insight into how *Mariam* relates to other plays from the period. Figure 10.5 adds selected segment labels to the observations while Figure 10.6 zooms in on the segments that are more proximate to the K1-K4 segments belonging to Mariam (indicated by red diamond markers) by constraining the observation range for vector 1 to lie within the range 0 and 1.5. The key to the segment labels is provided in Appendix 5 for Figure 10.5 and Appendix 6 for Figure 10.6.

If we begin at the extreme north-western observation in Figure 10.5 and focus on vector 1, moving towards the central axis, we see the first segment from James Shirley’s stage play, *Love’s Crueltiy* (1640) (BA), followed by the fourth segment from Fletcher’s stage play *Valentinian* (1647) (S4), and then the second segment from Thomas Middleton’s Stage Play, *Women Beware Women* (1657) (AM). The next southward observations switch to the extreme east of the north-east quadrant and relate to segments two and three of William Alexander’s 1637 closet drama *The Alexandrean Tragedy* (A2 and A3) leading to the cluster of texts known as *The Monarchic Tragedies*. At this point, we encounter the first segment of the closet drama *Mariam* (1613). These segments contrast with the segments at the southern end of the graph, which include early sections of *The Spanish Tragedy* (1587) (AC), *Titus Andronicus* (1594) (AX) and *Tancred and Gismund* (1591) (BH), some of the earliest plays in the set. Leaving aside the segments from the *Monarchic Tragedies* by Alexander (A1-A6), which cluster separately at the eastern edge of the north-eastern quadrant in a fairly compact group, the closet segments at the northern most point of this graph are from Cary’s *Mariam* (1613) (K1-K4).

These segments will be considered separately from the segment that sits at the extreme northwest edge of the graph, which is from one of the later plays in the group, Shirley’s *Love’s Crueltiy* (1631) (BA1). The position of the segment from Shirley’s play probably reflects the playful banter between Bellamente and Clariana that begins the text, and its frequent recourse to *I, am, you, and it* as in “There’s not a thought, that I dare keep from you / No sigh but you may know from whence it breaks” (1.1.34-5) and “You will acknowledge, when you hear it, and / It does concern you somewhat” (1.1.88-9). The remaining segments of Shirley’s play appear to have more affinity with plays written for the commercial stage by writers such as Middleton, Webster and Ford.

The initial segment of Fletcher’s *Valentinian* (S1) that can be found at the northern edge of the cluster to the right of the y-axis is very close to the final *Mariam* segment
Other Valentinian segments (for example, S3, S4 and S5) lie to the left of the y-axis, though to the northern end of the main group of stage play segments. The only other play represented in this northern area of the graph is Middleton’s Women Beware Women (1621) (AM). Although Valentinian and Mariam do not appear to resemble each other much in form – Mariam, for example, is written in rhyme and observes the unities, while Valentinian does not – the plays share certain thematic concerns characterised by a histrionic tyrant who is emasculated through his desire for a beautiful woman. Fletcher was a writer with literary as well as dramatic concerns, which may help explain the location of a Fletcher segment next to a Mariam segment. Fletcher is also the author of The Faithful Shepherdess, a pastoral “Tragie-comedie” performed at the Blackfriars in 1608, which was poorly received. The two segments from Valentinian (S1) and Mariam (K4) also frequently employ the subjunctive mood through the use of modals would and should. Examples of this occur in Valentinian in a discussion of Lucina, who is so virtuous it is believed “Though she would sinne she cannot” (1.2.50), and in Mariam when Herod laments “Were I not made her lord, I still should be” (5.1.71).

The Valentinian segment (S1) contrasts with segments at the southern end of the graph, which include early sections of The Spanish Tragedy (1587) (AC), Titus Andronicus (1594) (AX) and Tancred and Gismund (1591) (BH). The pattern of word-types most responsible for the split in relation to Valentinian in the north, and the plays in the south, is a high frequency in the northern plays of modals, like would and should as mentioned above, the verbs were, are, and have, and the indefinite article a. This is combined with a low frequency of personal pronouns like thee, thy and thou.

The opposite is true for plays at the southern end of the y-axis. At the southern end of the graph the outlier is the first text segment from Titus Andronicus (AX1). In Act 1, Scene 1 of Shakespeare’s early tragedy, we find, as Brown’s (1970) analysis of thou forms suggests we might, multiple demonstrations of power and solidarity, or desperate demands for the same. This section of the play features Saturnius, Bassianus, and Marcus Andronicus supporting the right of Titus to be crowned emperor of Rome; Tamora pleading for her son to be spared; Lavinia reuniting with her father;

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37 Fletcher’s audience at Blackfriars were unappreciative and “missing whitsun ales, creame, wassel and morris-dances, began to be angry” (qtd. in Gurr 232).
negotiations as to who Titus will name emperor; pledges of allegiance; an arrangement of marriage for Saturnius and Tamora; and Tamora’s asides to her new husband. It also features Titus’ murder of his own son Mutius and related family discussions. All these episodes show evidence of high use of thou forms. The remaining three Titus segments are also in the south-western quadrant but a little further northwest of the first segment adding support to Burrows and Craig’s observation that in a large number of cases, the first segment of a play often lies furthest to the east. Burrows and Craig suggest a rhetorical explanation linked to the “expository emphasis” of early segments dominated by retrospective narrative that is associated with establishing context and motivation (Burrows and Craig 72).

Looking at the south-eastern quadrant, the segments which begin to approach the closet group are the first segments of Tancred and Gismund (BH) and The Spanish Tragedy (AC). These segments are still a little south of the main closet group but there are good reasons for their proximity to the closet cluster. These early segments of the stage plays feature long disquisitory speeches of the type found in closet plays by way of introduction to the drama. The opening speech in The Spanish Tragedy is spoken by the ghost of Andrea, and in Tancred and Gismund by Cupid.
Figure 10.5 Principal component analysis for 60 tragedies in 4000 word segments for 100 most frequently occurring function words – closet plays and stage play segments selectively labelled.

Note: Labels manually located around the observation for visual clarity. Appendix 5 provides detailed information on play segments and coding.
Figure 10.6 Principal component analysis for 60 tragedies in 4000 word segments for 100 most frequently occurring function words – closet plays and stage plays – selection of play segments with Vector 1 values in the range 0 to 1.5.

Note: see Appendix 6 for detailed information on play segments and coding in this Figure.
It is also interesting to note that this first segment of *The Spanish Tragedy* lies reasonably close to *Cornelia* (AB), the only other Kyd play in the set. In the case of *The Spanish Tragedy* the frequent recourse to *thou* forms draws the second, third and forth segments of the play back towards the stage play cluster. The exchanges typical of these segments involve the King seeking to establish publicly that his Marshal, Hieronimo, is an ally; Lorenzo talking to Pedringano, someone of lower social standing from whom obedience is expected; and grief-stricken Horatio addressing his son. These plays are two of the earliest in the set and appear to reflect a tendency for early plays to appear at the southern end of the y-axis. This is, however, only a tendency and there are numerous exceptions.

In the case of Wilmot’s *Tancred and Gismund* the southern location and overlap with closet segments is not surprising given that the play started life as a closet tragedy in 1567 when it was presented before the queen by “five gentlemen of the inner temple” as *Gismond of Salerne* (Klein 244). *Tancred and Gismund* shares a number of features with the closet tragedies including a chorus, rhymed speech, stichomythia, and an author who seeks to distance his work from the public stage. Wilmot published the revised version of *Tancred and Gismund* with a foreword that claimed:

I am now bold to present Gismund to your sights, and unto yours only, for therefore have I conjured her, but the lov that hath bin these 24 years betwixt us, that she waxe not so proud of her fresh painting to stragle in her plumes abrod, but to contein her selfe within the walles of your house; so I am sure she shal be safe from the tragedian tyrants of our time. (qtd. in Klein 244)

Although Wilmot’s play was performed, he claims participation in the same elite literary discourse for which closet plays are noted. Thus a consideration of the stage play segments that hover at the edge of the closet cluster tell us something about the plays they represent, as well as segments they approach. The stylistic features identified in the stage play segments that are in close proximity to the closet segments add weight to the critical commonplace that closet plays are less focused on dramatic action than stage plays from the period and appear to support the suggestion by Burrows and Craig that the features highlighted by the PCA very likely reflect the “subtle stylistic markers we respond to when we read well” (“Mountebanks” 70).

Of the 218 stage play segments, those that come closest to the closet cluster include Jonson’s *Sejanus His Fall* (1603) (AA) and *Catiline, His Conspiracy* (1611) (Z),
Goffe’s *The Courageous Turk* (1618) (M), Marston’s *Sophonisba, or The Wonder of Women* (1605) (AG) and Chapman’s *The Revenge of Bussy D’Ambois* (1610) (L). These results also have a rhetorical explanation associated with the publication strategies of individual authors, as well as an explanation linked to early modern performance traditions. Jonson is understood to be one of the most print-conscious early modern poets, preparing and publishing his *Workes* in 1616 at the age of 44, well before his death in 1637 at the age of 65 (Donaldson 324-26). It is therefore unsurprising that we find his *Sejanus* and *Catiline* in very close proximity to the more self-consciously literary closet plays. It is well known that Marston and Jonson were poetic rivals as well as occasional collaborators (Knowles par. 6-8), and this, in addition to the fact that Marston wrote for the Paul’s boys, one of the ‘private’ children's companies, may account for the proximity of their work in Figure 10.5, as well as the tendency for segments from these plays to inhabit the closet side of the graph. Chapman, author of *Bussy D’Ambois* is, like Jonson, a classicist and sympathetic to the literary and theoretical aims expressed by Sidney and practiced by the closet playwrights (Burnett par. 9). This is reflected in *Bussy* through elements such as the use of historical sources and the inclusion of Senecan features including verbal reports of action to inform the audience of events that have taken place elsewhere. This helps explain why segments of *Bussy* – particularly early segments which commonly feature much exposition and disquisition – amongst the closet set.

In looking more closely at the central area of Figure 10.5, where there is some overlap between closet and stage segments, a third category emerges as being important in understanding the relationship of *Mariam* to other early plays in the period. For the next stage of the study all sixty plays in the study were checked against Harbage and Schoenbaum’s *Annals of English Drama* according to a category that Harbage calls ‘auspices’. This refers to the company that performed the play and could be, for example, the King’s Men, which would signify the public stage, or the Children of St Pauls, which would signify the private stage. All plays in the set were recoded as to whether they were ‘public’ stage plays, ‘private’ stage plays, or closet plays on the basis of the detail recorded in *The Annals*. Coding was then cross-checked with performance histories of individual plays and with Gurr’s “Select List of Plays and their Playhouses” (*Sheakespearean* App. 1 232-43). This next stage of the study also sought to narrow
down the list of function word variables to ascertain which words from the list were the most powerful discriminators between closet plays and stage play.

10.4.2 Closet plays, public stage plays, and private stage plays

A $t$-test was conducted to identify which of the function word variables from the full list (if any) make a statistically significant contribution to the process of categorisation between closet plays and stage plays. An independent samples $t$-test relates any difference in means in two groups of observations to the overall standard deviation of the combined group, so that the highest scores go to variables with large differences in means and relatively small standard deviations, that is, where values are generally stable rather than wildly fluctuating. $T$-test scores have a known distribution so that they can be assigned a probability for a genuine non-random difference in means for any given size of sample. If the difference is significant then it can be concluded that the samples being tested are from different populations (Howell 214).

Following Burrows and Craig, Table 10.4 presents significant differentiations among the 100 most common function words in the two sets of plays. The test assumes the null hypothesis (that there is no significant difference between the two means of the two groups) and then produces a $p$-value that represents how unlikely it is for any difference that is found to have occurred by chance. The $t$-test is described as “robust” and “more or less unaffected by moderate departures from the underlying assumptions” (Howell 214). However a potential issue for concern in this study is the difference in size of the two samples. As a way of further checking the results of the $t$-test, the final column in Table 10.4 provides the level of probability for the Mann-Whitney test. Mann-Whitney assesses whether observations from the two groups are “equivalent in location” in a ranking. The $t$-test is based on the Student’s $t$ distribution, which is symmetric and bell-shaped but has “thicker tails than the multivariate normal distribution” (Everett 366). This makes it suitable for working with small samples.

Unlike the $t$-test, Mann-Whitney does not assume that the distribution of the data is normal or that population variances are equal. 38 For these tests, as for the PCA 4,000 word segments were used.

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38 In the Mann-Whitney the observations from both groups are combined and ranked, with the average rank assigned in the case of ties. The number of ties should be small relative to the total number of observations. If the populations are identical in location, the ranks should be randomly mixed between the
Table 10.4 shows which particular words are responsible for the distinctive differences between closet plays and stage plays. These results align with the PCA results presented in Figure 10.3, which highlights the same function word variables at the extreme eastern (closet) and western (non-closet) edges. Although the \( t \)-test and the PCA are different tests, they draw attention to the same variables and highlight the same contrasts. In Table 10.4, 53 variables satisfy the Mann-Whitney and \( t \)-test for significance at a level of probability beyond 0.0001, which means there is less than one chance in ten thousand of this result occurring in random data. These results provide additional support to the results of the discriminatory analysis and the PCA, and invite further discussion and explanation.

Two samples. The number of times a score from group 1 precedes a score from group 2 and the number of times a score from group 2 precedes a score from group 1 are calculated. The Mann-Whitney U statistic is the smaller of these two numbers (SPSS).
Table 10.4 Highly significant differentiations (closet markers in bold) among the 100 most common function words in 60 tragedies in 4000 word segments: variables that satisfy both \( t \) test for equality of means and Mann Whitney test

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<th>Std. Error Difference</th>
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<th>Significance Mann-Whitney</th>
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<td>0.01</td>
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<td>art</td>
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<td>11</td>
<td>a</td>
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<td>266</td>
<td>-0.46</td>
<td>0.07</td>
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<td>0</td>
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<tr>
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<td>186</td>
<td>though</td>
<td>6.57</td>
<td>52</td>
<td>0.18</td>
<td>0.03</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>33</td>
<td>6</td>
<td>to</td>
<td>6</td>
<td>105</td>
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</tr>
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<tr>
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<td>151</td>
<td>hath</td>
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<td>0.09</td>
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<tr>
<td>36</td>
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<td>-0.24</td>
<td>0.04</td>
<td>0</td>
<td>0</td>
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<tr>
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<td>an</td>
<td>-5.19</td>
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<td>-0.06</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>38</td>
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<td>but</td>
<td>5.18</td>
<td>266</td>
<td>0.15</td>
<td>0.03</td>
<td>0</td>
<td>0</td>
</tr>
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<td>39</td>
<td>47</td>
<td>have</td>
<td>-5.09</td>
<td>266</td>
<td>-0.17</td>
<td>0.03</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rank</td>
<td>Original order</td>
<td>Word-variable</td>
<td>t</td>
<td>df</td>
<td>Mean Difference</td>
<td>Std. Error Difference</td>
<td>Significance t test</td>
<td>Significance Mann-Whitney</td>
</tr>
<tr>
<td>------</td>
<td>----------------</td>
<td>---------------</td>
<td>------</td>
<td>-----</td>
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<td>----------------------</td>
<td>---------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>40</td>
<td>165</td>
<td>out</td>
<td>-5.08</td>
<td>266</td>
<td>-0.07</td>
<td>0.01</td>
<td>0</td>
<td>0</td>
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<td>too</td>
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<td>120</td>
<td>-0.07</td>
<td>0.01</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
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<td>both</td>
<td>4.4</td>
<td>266</td>
<td>0.05</td>
<td>0.01</td>
<td>0</td>
<td>0</td>
</tr>
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<td>63</td>
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<td>0.02</td>
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<td>0</td>
</tr>
<tr>
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<td>they</td>
<td>4.29</td>
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<td>0.03</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>48</td>
<td>115</td>
<td>how</td>
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<td>266</td>
<td>-0.07</td>
<td>0.02</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>49</td>
<td>43</td>
<td>this</td>
<td>-4.18</td>
<td>266</td>
<td>-0.15</td>
<td>0.04</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>50</td>
<td>178</td>
<td>thus</td>
<td>4.33</td>
<td>64</td>
<td>0.07</td>
<td>0.02</td>
<td>0.0001</td>
<td>0</td>
</tr>
<tr>
<td>51</td>
<td>40</td>
<td>his</td>
<td>4.26</td>
<td>63</td>
<td>0.26</td>
<td>0.06</td>
<td>0.0001</td>
<td>0</td>
</tr>
<tr>
<td>52</td>
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<td>could</td>
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<td>61</td>
<td>0.05</td>
<td>0.01</td>
<td>0.0001</td>
<td>0</td>
</tr>
<tr>
<td>53</td>
<td>158</td>
<td>where</td>
<td>4.12</td>
<td>61</td>
<td>0.07</td>
<td>0.02</td>
<td>0.0001</td>
<td>0</td>
</tr>
</tbody>
</table>
A repeat of the PCA using the fifty-three word variables identified in Table 10.4 was conducted. This shows how the sixty texts separate according to the fifty-three variables that have been identified as significant markers of whether a text is tragedy written for the public stage, or whether an author has sought to align their text with the more elite closet tradition. This PCA was performed using the statistically significant discriminating variables to amplify the differences between the closet plays and stage plays, and to help identify which segments in the set behave most like closet plays, which segments behave most like stage plays, and which segments inhabit the section of the graph where the boundary between closet and stage plays seems to be somewhat permeable.

The PCA using the fifty-three most significant variables responsible for the difference between the two groups of plays indicates an even stronger separation between the closet and non-closet groups while also pointing to the permeable section in the middle. The values of the eigenvectors have decreased but the same patterns prevail. In Figure 10.7, the word-variables that act as markers for closet plays and stage plays are more or less evenly divided. In this case there are 26 closet markers and 27 stage markers. This was not the case in the Burrows and Craig study where there were over three times more variables that acted as Renaissance markers than Romantic markers. The more “restrained” (76) use of language observed by Burrows and Craig in the closet plays of the Romantic period does not appear to be a feature of the closet plays in this text set.

With the identification of private stage plays in Figure 10.8, it becomes clear that it is these plays that were written for the select audiences of the ‘private’ hall playhouses that are mainly responsible for section of the graph in which closet plays and stage plays overlap. With the exception of a small number of public play segments, the performance texts that have the strongest affinity with the closet texts are a group of plays in the sample that were written for the private theatres. These are Wilmot’s Tancred and Gismund (1591) (BH1-BH3), Marston’s Antonio’s Revenge (1602) (AF1-AF3) and Wonder of Women (1606) (AG1-AG3), Chapman’s Revenge of Bussy D’Ambois (1613) (L1-L3), and Goffe’s The Courageous Turk (1618) (M1-M3). Additional clarity on the overlapping section of the graph can be provided if the segments belonging to Catiline and Sejanus, both of which are by Jonson, are identified in the PCA (see Figure 10.9).
Figure 10.7 Principal component analysis for 60 tragedies in 4000 word segments for 53 most discriminating function words – word plot for first two eigenvectors
Figure 10.8 Principal component analysis for 60 tragedies in 4000 word segments for 53 most discriminating function words
Figure 10.9 Principal component analysis for 60 tragedies in 4000 word segments for 53 most discriminating function words
Figure 10.9 adds additional detail to the analysis of segments, identifying the Jonson segments in addition to public plays, private plays, and stage plays. One of the most interesting features of Figure 10.9 is that Jonson’s *Sejanus* (1605) (AA1-AA6) and *Catiline* (1611) (Z1-Z7) appear to behave more like closet plays and the ‘closet tending’ plays written for the select audience of the boy companies of the private theatres even though these plays first appeared at the Globe, and were therefore coded as ‘public’ stage plays for the purposes of the PCA. This result appears to confirm observations made by scholars using more orthodox methods, and can be explained with reference to Jonson’s concerns in relation to literary status, as well as the classical forms the poet incorporated in both *Sejanus* and *Coriolanus*. In aligning *Sejanus* with the closet plays that were designed to be read rather than performed, it helps explain the reaction of the audience at the Globe to the first performance of *Sejanus*, at which the play was “derided” (Gurr, *Playgoing* 207).

Figure 10.10 identifies individual segments of plays for further analysis. The graph becomes too cluttered if all segments are labelled so only the segments most relevant to the discussion have been tagged. Figure 10.11 provides a more focused version of Figure 10.10 where the Vector 1 range has been constrained to lie within the range 0 to 1.5. As before, the cluster of closet plays at the extreme north-eastern edge of the graph (segments A, B, C and D) are the four *Monarchic Tragedies* by William Alexander and all four *Mariam* segments (K) are on the western edge of the closet group intermingled with ‘private’ plays including Chapman’s *Revenge of Bussy D’Ambois* (L), Goffe’s *The Courageous Turk* (M), and Marston’s *Wonder of Women* (AG), as well as Jonson’s two Roman plays. Function word analysis appears to confirm that *Mariam* is as Barish suggests “in the domain of the stageable” ("Language" 35), and also supports Martha Straznicky’s claim that *Mariam* is unusual in the extent to which it accommodates “stage business” (*Privacy* 59). These function word results thus feed into the growing body of literature on closet plays and on early modern dramatic traditions – especially women’s writing in terms of theatricality and the way ideas about ‘performance’ and participation in male dramatic and literary traditions are understood. This aspect is discussed in more detail in chapter 11, below.
Figure 10.10 Principal component analysis for 60 tragedies in 4000 word segments for 53 most discriminating function words

Note: Labels manually located around the observation for visual clarity. See Appendix 5 for coding to identify segments.
Figure 10.11 Principal component analysis for 60 tragedies in 4000 word segments for 53 most discriminating function words selection of play segments with vector 1 values in the range 0 to 1.5.

Note: Labels manually located around the observation for visual clarity. See Appendix 6 for coding to identify segments.
10.4.3 The Tragedy of Mariam

The discriminant analysis and PCA results reveal interesting relationships between plays and highlight affinities between texts that might otherwise have been overlooked in a traditional analysis. The tests reveal surprising outcomes for Elizabeth Cary’s *Mariam* in terms of the texts that the play most closely resembles on the basis of function words. This study now turns specifically to *Mariam* in order to understand the way in which function words operate in the text and how these elements might be understood as part of a motivated rhetorical strategy. To assist with this analysis and to identify the most significant function words in *Mariam*, z-scores were calculated for all function word variables in the text. Z-scores are calculated as the number of standard deviations a given observations is above a mean, so indicate how truly unusual or otherwise a given score is.

**Table 10.5** Fifteen highest *Mariam* z-scores from a table of counts of 241 function words in 60 tragedies (including *Mariam*).

<table>
<thead>
<tr>
<th>Word-variable</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Mariam Z-score</th>
<th>Mariam % proportion of text</th>
<th>Mariam count</th>
</tr>
</thead>
<tbody>
<tr>
<td>had</td>
<td>0.05</td>
<td>0.69</td>
<td>0.22</td>
<td>0.10</td>
<td>4.86</td>
<td>0.69</td>
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<tr>
<td>been</td>
<td>0.00</td>
<td>0.27</td>
<td>0.09</td>
<td>0.05</td>
<td>3.85</td>
<td>0.27</td>
<td>47</td>
</tr>
<tr>
<td>did</td>
<td>0.03</td>
<td>0.96</td>
<td>0.22</td>
<td>0.19</td>
<td>3.54</td>
<td>0.88</td>
<td>153</td>
</tr>
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<td>0.07</td>
<td>0.02</td>
<td>0.02</td>
<td>3.14</td>
<td>0.07</td>
<td>12</td>
</tr>
<tr>
<td>her</td>
<td>0.06</td>
<td>1.42</td>
<td>0.50</td>
<td>0.30</td>
<td>3.00</td>
<td>1.40</td>
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<td>she</td>
<td>0.03</td>
<td>0.79</td>
<td>0.29</td>
<td>0.17</td>
<td>2.99</td>
<td>0.79</td>
<td>137</td>
</tr>
<tr>
<td>from</td>
<td>0.17</td>
<td>0.60</td>
<td>0.34</td>
<td>0.10</td>
<td>2.69</td>
<td>0.60</td>
<td>104</td>
</tr>
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<td>0.01</td>
<td>0.01</td>
<td>2.62</td>
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</tr>
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<td>0.18</td>
<td>0.10</td>
<td>0.03</td>
<td>2.56</td>
<td>0.18</td>
<td>31</td>
</tr>
<tr>
<td>might</td>
<td>0.01</td>
<td>0.27</td>
<td>0.08</td>
<td>0.06</td>
<td>2.46</td>
<td>0.22</td>
<td>38</td>
</tr>
<tr>
<td>but</td>
<td>0.49</td>
<td>1.18</td>
<td>0.83</td>
<td>0.14</td>
<td>2.43</td>
<td>1.18</td>
<td>206</td>
</tr>
<tr>
<td>for</td>
<td>0.51</td>
<td>1.28</td>
<td>0.89</td>
<td>0.16</td>
<td>2.42</td>
<td>1.28</td>
<td>223</td>
</tr>
<tr>
<td>couldst</td>
<td>0</td>
<td>0.03</td>
<td>0.00</td>
<td>0.01</td>
<td>2.24</td>
<td>0.02</td>
<td>3</td>
</tr>
<tr>
<td>yet</td>
<td>0.12</td>
<td>0.57</td>
<td>0.28</td>
<td>0.11</td>
<td>2.23</td>
<td>0.52</td>
<td>90</td>
</tr>
<tr>
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<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>2.22</td>
<td>0.01</td>
<td>2</td>
</tr>
</tbody>
</table>

The results in Table 10.5 highlight the 15 highest z-scores in *Mariam*, or the words that occur proportionally more frequently in Mariam in comparison to other plays in the set.
Table 10.6 groups the highest scoring function words identified by Z score in *Mariam* according to their grammatical category. It highlights the use of conjunctions, auxiliary forms and pronouns as grammatical elements that invite further discussion. These words differentiate *Mariam* from other plays in the set.

Table 10.6 Fifteen highest *Mariam* z-scores from a table of counts of 241 function words in 60 tragedies (including Mariam) grouped by word class

<table>
<thead>
<tr>
<th>Conjunctions</th>
<th>Auxiliary verbs</th>
<th>Modal auxiliaries</th>
<th>Prepositions</th>
<th>Pronouns</th>
</tr>
</thead>
<tbody>
<tr>
<td>because</td>
<td>been</td>
<td>cannot</td>
<td>from</td>
<td>her</td>
</tr>
<tr>
<td>but</td>
<td>did</td>
<td>couldst</td>
<td>opposite</td>
<td>hers</td>
</tr>
<tr>
<td>for</td>
<td>had</td>
<td>might</td>
<td>she</td>
<td></td>
</tr>
<tr>
<td>yet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of the specific function words that are used distinctively in *Mariam* bring the PCA result into sharper focus. When cognitive insights are brought to bear on the results of a Burrows-style computational study, particular function words can be linked to a more interpretive analysis that integrates contextual and formal features of the text. Specific function words that are characteristic of *Mariam* can be explained as a function of the text’s engagement with ideas, rather than action (even though *Mariam* incorporates some features associated with performance), and with reference to the Senecan influences and its epistemological stance as described by Hamlin. The way in which identified function words are used in *Mariam* can be interpreted in terms of concepts such as deictic cues, mental spaces, conceptual metaphor, and characterisation, all of which contribute to the way the play is read and understood. Investigation of the way function words operate within *Mariam* help to clarify the reasons for diverse critical responses to the play and point to a way of positioning the text in its historical and literary context.

**10.5 Conclusion**

This chapter has examined patterns of similarity and difference in a set of sixty early modern closet tragedies to explore the relationship between closet tragedy and stage tragedy, and how one individual play in particular can be seen in the context of other
texts from the period. The computational results support a repositioning of *Mariam* in relation to rhetoric concerning theatricality, and highlight points of engagement between the text and canonical male-authored traditions. A function word analysis suggests that *Mariam* could productively be analysed with reference to the elite literary and political discourses associated with the private stage, and to the aspirations and intentions of other poets, including Jonson.

This thesis argues that the application of Cognitive Grammar to a function word analysis brings an interpretive framework to computational results, which allows the numbers and the variables to be linked back to the text and its contexts. Cognitive Grammar also points to the possibility of a more interpretive analysis of actual variables that in other theoretical and linguistic accounts would be viewed as making little or no meaningful contribution to a reading of a text. The next chapter will discuss these results in more detail. It will explore the link between conjunctions, auxiliary verbs, and modal auxiliaries identified in *Mariam* and the play’s focus on epistemological concerns, and how these elements can be interpreted in relation to fundamental metaphors that act as a unifying thread throughout the play.
Chapter 11. Computational stylistics, cognitive stylistics and *Mariam*

11.1 Introduction

Traditional critical approaches to the study of Elizabeth Cary’s *Mariam* have produced contradictory readings of the text and do not explain the many paradoxes that emerge through close analysis. It is difficult, for example, to align arguments that the text rejects the notion of performance with the ways it gestures towards the stage and dramatic presentation. Dramatic elements in the play also appear to contradict the common assumption that the intellectual and literary associations that are characteristic of the twelve closet tragedies linked with Mary Sidney reflect a deliberate effort to correct the defects of the public stage referred to in Philip Sidney’s *Defense of Poesy* (Sidney sig. A4r). Computational stylistics, however, offers a way of exploring *Mariam* in the context of other dramatic texts from the period and can also provide new insights into the apparent contradictions that the text embodies.

A cognitive analysis provides a framework in which the variables identified as statistically significant in a computational study can be linked to rhetorical strategies and generic conventions associated with specific texts. When applied to a single play – as in the case of *Mariam* – function word analysis also points to textual features and connections that can add to critical interpretations associated with more orthodox approaches. Computational analysis reveals that of the twelve Sidnean closet tragedies included in the study, *Mariam* behaves most like a play for the stage. Given that Mariam conforms very closely with the formal requirements of neo-classical tragedy, is constrained linguistically by an adherence to a strict rhyme scheme, and that Cary as a woman writer would have been subject to a restrictive set of gendered cultural assumptions concerning authorship and publication, it would have been reasonable to expect the play to sit at the closet-like end of the spectrum. The identification of *Mariam* as more like a play for the stage than any of the other Sidnean texts aligns with some critical commentary, but nevertheless is an unexpected result that invites further investigation.
The stage texts with which *Mariam* bears the closest relationship appear to be the plays by Ben Jonson’s *Sejanus* (1603) and *Catiline* (1611), as well as Marston’s *Wonder of Women* (1606), Chapman’s *Revenge of Bussy D’Ambois* (1613) and Goffe’s, *The Courageous Turk* (1632). As previously noted, Jonson’s two texts draw heavily on classical dramatic traditions but were first performed at the Globe and so are treated as plays for the public stage for the purposes of this study, although they have been described as “even more classical, though less specifically Senecan than the School of Pembroke” (Lucas 112). The *Wonder of Women* and *Bussy* were both performed in hall playhouses in 1605 and 1610 respectively. The *Courageous Turk*, which was presented at Christ Church Oxford in 1618 and printed in 1632, will not be discussed in detail since it was presented somewhat later than the other plays.

11.2 Function word analysis, closet plays, and stage plays

11.2.1 Function word analysis and closet plays

Although *Mariam* exploits discourses of ‘privacy’ associated with closet drama, the results of the PCA in chapter ten show that on the basis of function word variables *Mariam* is a play that is not unlike those performed commercially in London’s private playhouses. Some non-computational studies have made similar observations. For example, Straznicky reaches a similar conclusion through a comparison of the 1613 printed edition of *Mariam* and printed editions of plays performed in the private theatres, in particular plays by “Jonson, Marston, Webster, and Chapman” (Straznicky, *Privacy* 53). Barish also finds *Mariam* to be stage-like, on the basis of the language the text uses when compared to the other Sidnean texts (“Language” 35). These studies sit somewhat uncomfortably alongside approaches such as Acheson’s (“Outrage”), which sees the text as rejecting female performativity and the right to “public voice” (*Mariam* 1.1.1).

As discussed in chapter nine, the hall playhouses and amphitheatres represent two distinct, though related early modern dramatic traditions. Gurr provides a comprehensive analysis of the different physical conditions and kinds of playgoers that were associated with the two types of playhouses (Gurr, *Playgoing* 22, 161). In summary, Gurr argues that the hall playhouses catered to a more educated and affluent audience that was also more politically engaged than the one associated with the amphitheatres playhouses, or public theatres, and that this was loosely reflected in their
respective repertoires. Although the PCA finds a clear difference between stage plays and closet plays, there seems to be no strong difference on the basis of function word analysis, between plays that were first performed in hall playhouses and those that appeared in public theatres, supporting Gurr’s observation that the differences between playhouses were “more a branching out than a simple fork” (Playgoing 86).

In addition to highlighting three overlapping generic groupings, the computational results point to the way in which some plays from the private stage seem to draw on linguistic features and generic conventions that might be described as closet-like. Poets whose work was performed, such as Jonson, Marston, and Chapman, but who were keen to align their work with an elite literary tradition appear to have successfully achieved this at the linguistic level. This is an indication of another effect observed by Straznicky, which concerns the fluid nature of the generic boundaries between public and private dramatic traditions. Straznicky notes that poets seeking to reposition their dramatic works in relation to a scholarly readership, engaged in publication strategies that signalled a commitment to classical drama. Marston’s collected plays, published in 1633 and dedicated to Elizabeth Cary, adopt “the formal features of neo-classical tragedy: a commendatory verse in Latin, the conspicuous use of lace ornaments, and centered initial speech headings… and such things as a list of “Interlocutores” (Straznicky, Privacy 53).

The formal analysis of function words reflects the sorts of expectations that scholars using more traditional approaches might have about the texts represented in the study. That is to say, the function words responsible for the differences and similarities between plays can be linked fairly straightforwardly to features of a particular genre. Function words highlighted as representative of stage plays suggest a more direct and action oriented type of language, whereas their use in closet plays suggests a more reflective and descriptive type of discourse. The strong contrast between the plays for the public stage and the Monarchic Tragedies is likely a reflection of the extraordinarily long and wordy speeches and the rigid rhyme schema that feature in Alexander’s play. Charlton comments that in Alexander, “the particular is lost in the general, sentiment becomes platitude, opinion nothing but moral commonplace (Charlton cixxxvi). Alexander, says Jonas Barish, “manages to say everything at least twice” (“Language” 27). The Monarchic Tragedies appear to be the least ‘dramatic’ of all the Sidnean closet plays and thus provides an interesting point of difference from Mariam.
From the PCA (Figures 10.10 and 10.11) it is clear that Alexander’s four plays form a very homogenous group. Given the location of ‘Alexander’ segments on Figure 10.10 (A, B, C, D) it follows that Alexander’s four texts frequently draw on the closet markers listed in Table 10.4 – such as the auxiliary verb *doth*, the conjunction *though*, and the relative pronouns *who* and *which* – to a greater extent than the other closet plays in the set. A sample of six lines from Act 1 of *Croesus* gives indication of the extent to which Alexander relies on these words (emphasis added):

```
I weigh fond earthlings, earnest idle strife,
"All (though they all have divers parts imbrac'd)
"Would act a comiecke Scene of tragickie life:
"The minde (which alwaies at some new things aymes)
"To get for what it longs, no travell spares;
"And lothing what it hath of better dreames,
"Which (when enjoy'd) doth procreate but cares:  (1.14-20)\textsuperscript{39}
```

As well as being the plays that are most different to stage plays, Alexander’s texts and are also very similar in style to each other. Witherspoon observes that Alexander’s plays are “the most uniform and regular of all the English plays modeled on the Garnier pattern” (Witherspoon 134) and this appears to be reflected in the computational results.

The 1637 edition of the *Monarchic Tragedies* is dedicated to James II and the texts reflect Alexander’s efforts to signal their relevance to the monarch in strategies described by Tricomi as examples of “fulsome flattery and hopes for preferment” (Tricomi 58). The *Alexandrean Tragedy* (A) begins with a speech by the unhappy ghost of Alexander that is 256 lines long, which is three times as long as the impassioned opening of *The Spanish Tragedy* and almost twice as long as the introductory speech in *Alaham*. Whereas *Alaham*’s prologue features visceral descriptions of hell and its inhabitants, as well as imperative forms in which the poet exhorts ‘Fear’ to “make it safe for no man to be just” (Greville *Prologue*), the *Alexandrean Tragedy* begins “Back from th’umbragious caves (still rob’d of rest)” (1.1) and proceeds to offer sententious statement such as “All kings should reverenc’d be, but not ador’d” (*Alexandrean* 1.104). The play progresses by means of declamatory speeches until Act 4, scene 2 when Alexander uses stichomythia in an exchange between Antigonius and Eumenes, two

\textsuperscript{39} Quotations from *Croesus* taken from Kastner and Charlton (*Poetical Works*).
captains in Alexander’s army, to discuss whether a king should conduct himself with humility or pride.

As a contrast between styles, Barish compares Shakespeare’s *Julius Caesar* with Alexander’s. Barish looks in particular at the scene between Portia and Brutus that takes place in their orchard following the departure of the conspirators (Act 2, scene 1) and notes that Alexander takes over 265 lines to achieve what Shakespeare achieves in 70 (Barish, "Language" 25-26). Alexander’s plays are a series of propositions that are expressed through detailed (rhyming) debates, as opposed to sequence of linked events that explore human actions and their consequences. Alexander made revisions to all four of his plays – up to four times in the case of the earliest – *Darius* (C) – to eliminate Scottish words and grammatical forms, to “pack five substantial stresses into each line”, to remove feminine rhyming units and selected archaisms, and to “climb to the dignity of tragic style” (Charlton cxcix). The consequence, however, as Barish notes, is that the features that mark the text as “undramatic” also have the effect of “disabling” it for the reader (Barish, "Problem" 29).

Brandon’s *Octavia* (J), Sidney’s *Antonius* (BC), Kyd’s *Cornelia* (AB), and Greville’s *Mustapha* (X) and *Alaham* (W) constitute the next most easterly group of plays on Figures 10.10 and 10.11 after the *Monarchic Tragedies*. Given the strong rhyme scheme in the *Monarchic Tragedies*, some of the words identified as significant closet markers in Figure 10.7 could possibly be explained as a function of formal features, such as the rhyme scheme used in the text. For example, frequent recourse to auxiliary *do* through both *did* and *doth*, is often a feature of rhyming verse because it makes it easier to place the verb at the end of the line while serving as a “handy metrical filler” (Rissanen, "Spoken Language" 334). *Did* is in fact, identified as the variable with the third highest z-score in *Mariam*, indicating that proportionally, Cary uses this word more frequently than other plays.

If the constraints imposed by a rhyme scheme were the explanation for the features identified in this study, however, we might assume that the other closet texts – *Octavia* (J), *Antonius* (BC), *Cornelia* (AB), *Mustapha* (X) and *Alaham* (W) – would have more in common in terms of rhyme schemes to each other, and to the *Monarchic Tragedies*, than is actually the case. Examining the texts more closely, it appears that the requirements of a rhyme scheme do not explain the way in which the segments are arranged on Figures 10.10 and 10.11. *Antonius* (BC) is written in blank verse and is
described as meticulous in its fidelity to Garnier’s original French text with rhyme used only occasionally for emphasis (Hannay, Kinnamon and Brennan 147). Kyd’s *Cornelia* (AB) is also written in blank verse. Sidney’s *Cleopatra* (N), and Greville’s *Mustapha* (X) and *Alaham* (W) use an alternate rhyme scheme, though in a less systematic way than in the *Monarchic Tragedies*. Although *Mariam*, like the *Monarchic Tragedies* is written almost entirely in rhyming quatrains, the PCA results presented in Figures 10.10 and 10.11 locate Cary’s play at the centre of the graph and, and of all the closet texts, it is the furthest away from Alexander’s plays.

An initial review of the closet texts suggests that the constraints imposed by a particular rhyme scheme are not responsible for frequent recourse to use of auxiliary *do*, which implies an alternative explanation for this feature should be considered. A more promising explanation appears to be one that combines an understanding of the structural contribution of auxiliary *do* with an analysis of cultural and social influences informed by a cognitive approach. Stein argues that “auxiliary *do* can be understood through a combined discourse and intensity use within the context of ‘contrastivity’” or emphasis (Stein 362). This claim is made on the basis of research in socio-linguistics, which shows that auxiliary *do* tends to appear “as an intensity marker, in a variety of contexts, as an influence of ‘the three Es: emotion, emphasis, and euphony’” (Rissanen, "Periphrastic Do" 183). The patterns that emerge through stylistic analysis when combined with research in socio-linguistics lends support to the view that the use of auxiliary *do* should be understood as having both a syntactic role, and an expressive function, and also point to the possibility that other function words may make similarly complex and subtle contributions to meaning. This contribution will be explored within the framework of Cognitive Grammar.

11.2.2 Function word analysis and *Mariam*

Cognitive Grammar provides a framework within which function words can be linked to more interpretive readings of a particular play, and to the social and cultural contexts of its production and reception. PCA identified *Mariam* as a text that did not behave like a typical closet play. The linguistic features of *Mariam* that that are most characteristic of the text in relation to other texts, have been identified through the calculation of z-scores. The individual function word variables that characterise *Mariam* are listed in Table 10.5 and Table 10.6, and include pronouns, prepositions, conjunctions and auxiliaries. Cognitive Grammar provides a theoretical framework for the counting of
function words as well as an interpretive framework for understanding the contribution of particular variables to the ways in which a text is understood. Function words play an important role in the construal of meaning, which is an important aspect of an expression’s meaning (Langacker, *Introduction 55*).

### 11.3 Linking function words and literary criticism

#### 11.3.1 Overview

Closet dramas, as Witherspoon comments, are serious plays that are preoccupied with “matters of history and philosophy” and feature “long-winded disquisitions upon conventional subjects of morals and conduct” (164). As well as the formal features described in chapter nine, closet plays typically feature a vulnerable protagonist struggling to find emotional equilibrium in an environment that is hostile and dominated by a tyrannical authority figure, as in the case of Mariam and Herod. The closet plays lack an immediacy that is associated with stage drama and this can be seen through the reflective aspect of the dialogue, which tends to be located in the past tense and uses relative pronouns and conjunctions to connect and contrast complex clausal chains.

In the case of *Mariam*, the computational results shed light on the play’s relationship to other texts from the period and make it possible to examine the validity of contrasts between ‘closet and stage’ and ‘public and private’ that scholars, such as Martha Straznicky, have sought to deconstruct using more traditional techniques (*Privacy*). The discussion will focus mainly on Cary’s use of conjunctions and auxiliaries. This is because Cary’s use of pronouns such as *her*, *hers*, and *she* most likely reflect the fact that *Mariam* has a female protagonist. In relation to the two prepositions identified in the analysis, one of them (opposite) occurs only twice throughout the entire text. This chapter suggests that Cary’s use of conjunctions (*because, but, for, and yet*) and auxiliaries (*been, did,* and *had*) as well as modal auxiliaries (*cannot, couldst, might*) can be seen as linked to rhetorical strategies associated with the philosophical and intellectual discourses with which she engages, especially the notion of epistemological uncertainty, the consideration of issues from multiple perspectives, and the struggle to achieve emotional stability and a position of psychological strength and stability. This next section will consider function word variables in terms of their contribution to a reading of *Mariam*. 
11.3.2 Cognitive Grammar and auxiliary verbs

Tense and modality are closely linked phenomena in linguistics. Langacker explains that this association is related to the fact that experience is directly accessible only in the present, as the past must be recalled, and the future, imagined or projected (Langacker, *Introduction* 300). For this reason, “epistemic certainty about occurrences correlates with their position in time relative to the present” (Langacker, *Introduction* 301).

Cognitive Grammar takes the position that the same explanations for linguistic phenomena apply in both fictional and real-life language. So references to ‘reality’ in the case of fictional texts refer to the real world of the play through the process of ‘epistemic grounding’. Epistemic grounding indicates how the elements of the sentence being profiled relate to a particular conception of reality and it occurs in fictional as well as real scenarios (Langacker, *Introduction* 298). Function words are integral to this process through their contribution to the way in which an entity is understood “relative to the speaker and hearer and their spheres of knowledge” (Langacker, *Theoretical* 489).

Through the process of epistemic grounding, discourse participants establish a base from which to construct conceptualisations. In real life, as well as fictional situations, function words provide the deictic cues that allow this to occur.

*Mariam* makes frequent use of past tense forms of the verbs *do* and *have*, and the past participle of verb *be*. These forms reflect the extent to which the dialogue is focused on the consideration of past actions and attitudes. However, *do* and *did* can function as a content verb as well as an auxiliary verb. When *do* functions as a content verb Langacker argues that it “always conveys some notion of activity or some kind of volitionality or control on the part of the subject” even though it may be “vague about the nature of the process it refers to” (Langacker, *Descriptive* 238). When *do* is used as an auxiliary it “occurs with any content verb and refers to any sort of process” (Langacker, *Descriptive* 238). It also invokes additional content associated with the implication that different scenarios are being negotiated (Langacker, "Substrate" 29).

This analysis aligns with the conclusions drawn by Connors, where it was argued that Cary’s use of auxiliary *do* could not be explained using traditional socio-linguistic models, rather that it needed to be understood as “a syntactic feature at the textual level and a rhetorical feature that serves an expressive function” signalling emotion and emphasis ("Unregulated" 66). Frequent recourse to auxiliary *do* can be seen in Mariam’s early speeches, where she berates herself for a lack of constancy (“but now I
do recant” (1.1.5)), and in Herod’s final speech as he unravels psychologically (“Yet I for Mariam’s sake do so repent (4.3.125)). Cognitive Grammar suggests that the use of auxiliary do in these contexts amplifies the verb, placing a subtle but increased emphasis on recant and repent and implicitly referring to the historical situations and associated behaviours that these two characters claim to regret.

The case for had and been is a little different to that of did. Have designates a subjectively construed relation of prominence or relevance to a particular point in time. In Mariam, had and been occur frequently together to produce the linguistic aspect known as the past perfect, as in “Might Herods life a trustie seruant finde/ My death to his had bene vnseparate” (1.1.49-50). The frequent recourse to had and been points to conditional constructions, and as Fauconnier says “the conditional mood is the grammatical sign that the counterfactual space is now in focus” (Fauconnier, "Mental Spaces" 357-8). Throughout the play, had appears in constructions that indicate hypothetical situations, such as the comment from the second son of Babus:

For had the Tyrant fix’d his cruell eye

On our concealed faces, wrath had sway’d

His justice so, that he had forc’d us die. (2.2.135)

It is also seen in Mariam’s claim that “Yet had I rather much a milkmaid be, / Than be the monarch of Judea’s queen” (1.1.57-8). Mariam also draws frequently on hath as in “This hand of mine hath lifted up thy head” (1.6.27), which appears to reflect Cary’s tendency to draw on archaic forms.

Been typically appears together with had in constructions such as “Had he enjoyed his breath, not I alone / Had beene in danger of a deadly fall” (1.5.483-84), a comment Constaborus makes in reference to Herod’s supposed death. A further example of this occurs in the conversation between Babus’ second son and Constaborus, where it is claimed by the sons that it was consideration for their protector’s safety, not cowardice, that stopped them from confronting Herod. Presenting themselves to Herod is a risk they would have taken “Had it not like the hateful cuckoo been” (2.2.131). This construction also signals that a counterfactual scenario is being discussed. The high frequency of these elements in Mariam, in comparison to other texts highlights the extent to which the dialogue considers an imagined past and its impact on the present.
11.3.3 Cognitive Grammar and modal auxiliaries

In a cognitive model, auxiliaries are viewed as profiling a process: they determine which entity is profiled by a clause and impose a particular construal on the clause (Langacker, *Descriptive* 239). Although auxiliary verbs may have a degree of conceptual content, they are more often what Langacker describes as “maximally schematic” (Langacker, *Descriptive* 239). In contrast, content verbs – such as run and eat – usually represent a process with “at least a minimal degree” of “semantic specificity” (Langacker, *Descriptive* 238). Even though auxiliaries do not have a great deal of semantic specificity, Langacker argues that they (and modals) enable what he calls “perspectival adjustments”, which allow the speaker to become “more actively involved in the sense of viewing and portraying an event in a certain way for discourse purposes” (Langacker, *Substrate* 21).

A key aspect in understanding modals is through their implicit integration of the concept of force dynamics. In Cognitive Grammar “modals are seen as grammaticalised encodings of the various ways in which entities interact with respect to forces and barriers (Mortelmans 873). Modals are described as having both a root and an epistemic meaning. The meaning of modal verbs is linked to their root meaning, which includes “some conception of potency directed toward the realization of that process, i.e. some notion of obligation, permission, desire, ability, etc” (Langacker, *Descriptive* 271). A modal’s epistemic meaning is linked to the root meaning through a process by which the social and physical forces associated with the modal meaning are mapped onto the more abstract conceptualisation (Mortelmans 874). Another way of explaining the difference is that a modal is regarded as epistemic when it indicates the likelihood of something occurring.

The sole import of an epistemic modal, according to Langacker is “to indicate the likelihood of the designated process” (Langacker, *Descriptive* 271). Traces of the root meanings of modals are, however, latent in their epistemic meanings. Thus Langacker argues that “Can originally indicated that its subject had the knowledge or mental ability to do something, and *may* that it had the necessary strength or physical ability” (Langacker, *Descriptive* 269). On this basis, Talmy argues *cannot* “indicates that the subject has a tendency towards the action expressed by the following verb, that some factor opposes that tendency, and that the latter is stronger, blocking the event” (Talmy, "Force" 78-9). Talmy sees *may not* as representing the same force dynamic as *cannot*
but the context in this case is interpersonal, where “the main force factor is an individual’s desire to perform the indicated action and the opposing factor is an authority’s denied permission” (Talmy, "Force" 79). In this framework must not indicates “an active social pressure”, where as should and ought not “pit the speaker’s values as to what is good and his beliefs as to what is beneficial against the contrary behavior of the subject” (Talmy, "Force" 79). The terms will not and would not express a situation where the subject refuses to yield to an external force or pressure (Talmy, "Force" 79).

Modals also contribute to the construction of counterfactual spaces since in their epistemic use they are “mainly concerned with the degree of likelihood or the degree of personal commitment of the speaker toward the truth of the proposition” (Mortelmans 870). They thus signal “the speaker’s attitude towards the proposition” (qtd. in Mortelmans 870). The notion of “attitude” here includes both “epistemic (relating to issues of truth, belief, certainty, evidence, and the like) and valuative (dealing with desirability, preference, intent, ability, obligation, and manipulation) attitudes” (Langacker, Theoretical 551). As such, modals function as what Langacker calls ‘grounding predications’ because they link the process that the content verb designates in a particular epistemic region in relation to the “ground (the speech event, its participants, and its immediate circumstances)” (Mortelmans 877).

According to Cognitive Grammar, modals refer to an action, they therefore characterise a process, which is “potential rather than actual” and also imply a force that is directed to the realisation of the action (Langacker, Descriptive 270). Their semantic import relates to the information they provide on whether they indicate that a process is “known reality”, “immediate reality”, or “irreality” (Mortelmans 878). Langacker notes “the absence of a modal indicates that “the speaker accepts the designated process as part of known reality” (Langacker, Introduction 302). The presence of a modal therefore locates a process outside of present reality (Mortelmans 878). Conditional clauses that draw on the use of if are seen as functioning differently in a cognitive framework to constructions that employ modals, even though both involve the consideration of hypothetical scenarios. The conditional, if, “is taken to impose restrictions on the conditions of occurrence of the event it is attached to, to the extent that the event is construed as an alternative to reality” (Mortelmans 881). It thus implies something of the speaker’s knowledge about actions and consequences in relation to their
understanding of their world. Epistemic modals are slightly different to conditionals in that they reflect aspects of their root meanings. Thus the concept of force dynamics is seen to be relevant in all contexts where modals appear. This is particularly critical in the context of this study because of the extension of concepts of force dynamics and modality to the way in which we understand psychological interactions.

Talmy sees the notion of force as crucial to the understanding of psychodynamics (Talmy, "Force" 69). So, for example, in sentences that feature a pronoun and an entity, where the pronoun refers to the same entity as in “(I think) I should leave” and “He thinks he should leave”, Talmy argues that the force opposition is applied, or “introjected”, into the self (Talmy, "Force" 86). The self, is “conceived as divided, with a central part representing the inner desires and peripheral part representing the self’s sense of responsibility” (Talmy, "Force" 86). Graphina, the passive model of early modern femininity for example says, “If I be silent, tis no more but fear / That I should say too little when I speak:” (2.1.49-50). Her language, however, draws attention to the existence of a self that is repressed and conforming to an external ideal. A similar effect in which one aspect of the self is pitted against another is achieved in lines such as Mariam’s comment “Had not myself against myself conspird / No plot, no adversary from without / Could Herod’s love from Mariam have retir’d” (4.8.533-55).

At a fundamental level, the modals that are selected as significant in Mariam reveal the type of internal conflict with which the characters are engaged. They struggle with difficult moral questions about conscience, duty, and integrity. The premise of Cary’s Mariam relies entirely on a counterfactual scenario arising from the supposed death of Herod, the tyrannical king, and the consequences that flow from the testing of this alternative reality space prior to his return. Herod’s absence creates an environment in which his oppressed subjects can begin to conceive of possibilities for personal freedom and individual expression undreamt of while the king lived.

The modals that are predominant in Mariam point to the epistemic status of the conceptualisations that are being described. The characters speculate about whether or not Herod is truly dead and the implications this may have on their various futures. They reflect on historical events where they were pressured to act in ways that contradicted their values, and they speculate about actions they intend to carry out. The use of might and could/couldst adds further to the text’s use of conditional forms with a focus on reflection and speculation. Mariam, for example, realises that Herod had
arranged for her own death should he be killed and comments, “Might Herod’s life a trusty servant find, / My death to his had been unseparated” (1.1.49-50). She later realises that she has made a miscalculation with respect to her safety when she exclaims, “Had I but with humility been grac’d, / As well as faire I might have prov’d me wise.” (4.8.559-60).

Cary’s use of modals can be seen as a function of Senecan topoi characteristic of closet drama, such as for example, the consideration of multiple perspectives and hypothetical scenarios leading eventually to a position of stoic equanimity or “an ideal of self-control, self-sufficiency, and immunity to the assaults of any external force” (Straznicky, “Profane” 110). Thus the use of might, could, and cannot, indicates the testing out of alternatives and the obstacles with which these possibilities meet. In a force-dynamic sense it represents the construction of an “argument space” where successive points “oppose or reinforce another point” leading an argument “closer to or further from one of the opposing conclusions” (Talmy, "Force" 88). The use of modals also highlights the focus on epistemic uncertainty that is a key feature of the play and is reflective of the way in which the characters doubt themselves and their world.

Cary’s use of cannot is additionally interesting since like auxiliary do, cannot has an emphatic function. Langacker argues that negation “has conceptual import that can be analysed and characterized with reference to other notions” (Langacker, Descriptive 271). This is because “Negation is the marked member of the positive/negative opposition” (Langacker, Descriptive 132). By this Langacker means that as language users we are primarily interested “with what is” (Langacker, Descriptive 132). Reference to “what is not” implicitly evokes the positive situation, or “it makes salient (though schematic) internal reference to the situation whose existence it denies” (Langacker, Descriptive 132). This is relevant to a reading to some of the key speeches in the play.

Salome’s speech on inequities in Jewish law with respect to divorce uses cannot three times. The first occasion confirms that even though Herod is her brother, his death “cannot cast / My coales of love to quench” (1.4.6); the second highlights the fact that she is responsible for marrying Constabarus which means she “cannot be the faire Arabian Bride” (1.4. 20); and the third asks if men are “in greater grace with Heaven? / Or cannot women hate as well as men? (1.4. 47-48). Salome’s speech defies the claims of almost every early modern conduct book claim concerning appropriate womanly
behaviour. Salome is ruthless in her pursuit of her goals and her language emphasises both her strength of will and the fact that her proposed actions are a radical challenge to the status quo. Her language also draws in the force dynamic image of social obstacles that Salome will challenge in order to achieve her aims. When told of his wife’s plans, Constabarus asks “Are Hebrew women now transformed to men?” (1.6.421). Salome comments, somewhat presciently, that she won’t be the last that “to this course do bend” (1.6.435).

11.3.4 Cognitive Grammar and conjunctions

Conjunctions are important conceptually because they signal the relationship between elements of a linguistic event. Langacker uses the more neutral term “connector”, rather than conjunction, since there are a number of linguistic elements that can play a coordination function (Langacker, *Introduction* 406). *For, but, and because* fit with Langacker’s model of a conjunction, but *yet*, is described within Cognitive Grammar as a “disjunction” (Langacker, *Investigations* 353). Langacker contrasts AND constructions, which involve “a simultaneous applicability” with OR constructions, where “the key notion is alternation” as only one construction is valid (Langacker, *Investigations* 354). Both types of constructions are described in terms of what Langacker describes as “mental juxtaposition” (Langacker, *Investigations* 354) and relate to cognitive phenomena associated with notions of “dynamicity, fictivity, and mental spaces” (Langacker, *Investigations* 354). A conjunction like *or* or *yet* involves the coordination of constructions that refer to two separate mental spaces. In constructions of this type, there is what Langacker calls “a target situation” or entity and an “alternative conception” of what that entity might be (Langacker, *Investigations* 355).

In traditional grammars, *yet* is seen as a coordinating conjunction, meaning that it links two independent clauses. Cognitive Grammar also views conjunctions, including *yet*, as having a coordinating function and argues that as such, they provide information about the way the elements that are being conjoined relate to one another (Langacker, *Introduction* 408). In the example below, Mariam’s use of *yet* suggests an alternative to her present situation, in which she claims that she would rather be a milkmaid, than married to Herod. In the world of the text, the alternative scenario in which Mariam is a milkmaid is virtual or fictive, in that it describes the mental space represented by her desire.
And more I owe him for his love to me,
The deepest love that ever yet was seen;
Yet had I rather a much a milkmaid be,
Than be the monarch of Judea’s queen. (1.1.55-58)

It is not uncommon for *yet* to function as an adverb of time, similar to *even, still, since*,
and *eventually*, or as a synonym for *nevertheless* or *still* as in “Yet do I fear this tale of
Herod’s death / At last will prove a very tale indeed” (2.2.147-48) and “Yet we will not
return till Herod’s end / Be more confirm’d. Perchance he is not slain;” (2.3.260-61).
The use of *yet* in this way parallels Langacker’s analysis of *or* structures, and represents
“potential forms that the target situation might assume” (Langacker, *Investigations* 355),
without suggesting that the alternative conception will actually take form, it is also thus
fictive or virtual in nature.

It is through the establishment of fictive scenarios that the concept of mental spaces
becomes relevant. The use of forms like *yet* and *but* means that scenarios are “not being
activated simultaneously, but one at a time, in alternating fashion” (Langacker,
*Investigations* 355). Thus, like Mariam, the reader “flips back and forth between the
alternate interpretations rather than entertaining them simultaneously” (Langacker,
*Investigations* 355) and it is in this way that the concept of “dynamicity” becomes part
of the picture when *yet* is used (as opposed to *and*). We see this in lines such as “But yet
too chaste a scholar was my heart, / To learn to love another then my lord” (1.1.27-28)
and “I know by fits, he shew’d some signs of love / And yet not love, but raging lunacy”
(1.2.123-24). Langacker suggests that the mental progression between alternative
scenarios creates a kind of “conceptual tension” (Langacker, *Investigations* n. 4 355).
Issues arising from the dynamicity of conceptualisations are resolved through a listener
or reader’s ability to impose a “simultaneous summary view on an inherently dynamic
configuration” (Langacker, *Investigations* 356). Cary’s use of *yet* can, like her use of
modals, be linked to features of the genre in which she is writing, and to the lack of
equilibrium that characterises the internal world of the characters who employ this form.
The contrastive effect that can be linked to Cary’s use of *yet* is also evident in the use of
*but*. Langacker notes that when a connector occurs it is typically one of two types, each
of which has a particular semantic impact, and they typically reflect conflict and
tension. *Mariam* is an intellectual exercise with a focus on questions of moral and
emotional integrity in the context of a challenging personal and political environment.
The overall effect of the modals in the text are a function of this focus and provide subtle cues to the reader about the uncertainty and doubt that prevails in the world of the text.

11.4 Linking cognitive stylistics and Burrows-style stylistics in *Mariam*

11.4.1 Overview

_The Tragedy of Mariam_ is a curious text for a number of reasons. It is modelled closely on the plays of the French poet and dramatist, Robert Garnier, and as such is aligned with a tradition of elite, scholarly drama. It is a highly structured text that observes the classical unities and is constructed almost entirely using rhyming quatrains, some of which form sonnet sequences (Bell 17). In many ways it conforms to the model of early seventeenth century women’s writing as a ‘private’ activity restricted to aristocratic literary coteries and manuscript culture. The play, however, displays a number of features associated with dramatic performance, which distinguish it from its closet colleagues and from its generic template. In general, the text works to interrogate early modern prescriptions about marriage and by implication, relationships of authority and duty, exposing the fragility of power that depends on exploitation of hierarchies. The play explores the role of the subject in a network of courtly relationships and the strategies that can be employed to survive. It also interrogates the idea of epistemological certainty through its analysis of “the human tendency to rush to judgment” (Hamlin, “Elizabeth Cary” par. 3) and should be seen as an exercise in virtuous action designed to align with ‘advice’ discourses and the provision of counsel (Raber, *Dramatic Difference* 154).

The text, however, is not commonly read as being politically engaged as male-authored texts. The gender of its author tends to guide readings, which inevitably focus on early modern constraints concerning women’s subjectivity. The text is seen as variously as enacting or challenging concepts of agency and voice using parallels drawn from the author’s life. In this approach the gendered body of the author becomes conflated to varying degrees with the text in a way that produces readings that can only reflect the original assumptions about women and writing. The results of a Burrows-style analysis when combined with a cognitive framework help to position the text in relation to male-authored traditions and suggest that textual and literary engagement with concepts such as theatricality/untheatricality and public/private, are less defined by gender than some
critiques suggest. Cognitive Grammar allows us to connect function word variables identified in a Burrows-style computational study with the construction of alternative scenarios and counterfactual spaces that support the consideration of multiple points of view associated with the text’s intellectual and generic ambitions. Biographical insights highlight Cary’s commitment to engagement with literary and political discourse, computational analysis highlights the text’s intersections with performance traditions, and more detailed analysis of function word variables can indicate how the text engages with intellectual and philosophical concerns.

11.4.2 Deixis

Deictic cues, the majority of which are function words, play a critical role in the way language is received and understood. Deixis is inherent to the way in which individuals apprehend the world (Langacker, *Theoretical 126*) and in the case of texts, as noted in chapter six, it affects the extent to which readers feel “immersed in the world of the text” (Stockwell, *Cognitive Poetics* 41). Deictic cues may refer to a number of elements such as space (as in *here, there, this that*), time (*now, today, yesterday*) and person deixis (as in *I, me, you, we*) (Semino, "Deixis" 421). Language users have “the ability to mentally adopt (or at least perceive and accommodate) the vantage point” of various discourse participants (Langacker, *Theoretical 140-41*). This facility, as Langacker points out, is one factor that controls the level of confusion that could potentially arise when speakers use personal pronouns, such as *you* and *I* in “referentially contradictory ways” (Langacker, 1987 140-41) as in sentences like *If I were you, I wouldn’t do that,* or when texts employ different narrative modes, or indeed when a character, such as Mariam, begins a speech with the words “how oft have I with public voice runne on” (1.1.1).

An important aspect of deixis discussed by Langacker is the degree of objectivity or subjectivity at which the ground element – the participants and setting – are construed. The degree of subjectivity associated with the deictic cues in the text plays an important role in the way readers engage with Mariam and with closet texts in general and may lead to an understanding of why the critical response to closet plays has been somewhat mixed. Langacker speaks of an optimal viewing arrangement in a construal relationship, arguing that the optimal viewing arrangement features maximal subjectivity and maximal objectivity simultaneously (Langacker, *Theoretical 129*).
The idea of maximal subjectivity or objectivity is not a value judgement about what constitutes an ideal arrangement, but a notional benchmark that reflects the degree of engagement between the conceptualiser and the conceptualisation. When maximal subjectivity and objectivity is achieved, the observer loses all sense of their role as observer. Deixis affects this relationship to the extent that some cues act to increase or decrease the level of objectivity for the observer and/or the entity being observed. This is relevant to the way readers and listeners engage in drama because of the way it affects the accessibility of the text in cognitive terms. In closet plays, the deictic cues create a more distant reading experience than the deixis that is characteristic of stage plays.

In the case of drama there is a metatextual aspect to this model as there is an “audience” participating directly in the usage event (the characters in the play), and there is an additional audience (the readers in the case of a closet play) participating in the event at one remove. Cognitive Grammar posits that the same basic conceptual processes are involved at all levels of participation. So for the purposes of this discussion the audience/reader of a closet text or stage text is conceptualised in the same way that Langacker conceptualises the ‘audience’ in the usage event. The reading audience experiences the same subjective relationship with the conceptualisations that are being presented ‘onstage’ as the addressee, and respond to the same cues in relation to ‘conceptual distance’. For example, the way speakers use nominal forms and pronominal forms can have very subtle effects on the listener’s understanding of an expression in terms of how accessible a concept is for the discourse participants. Mariam’s intellectual focus and engagement with questions around doubt and uncertainty is reflected in the deictic cues the text employs. This effect is complicated by the dramatic conventions Cary references in the text.

As a way of understanding some of the less positive responses to Mariam, it is suggested that the combined effects of features like the ones discussed above create a text that is somewhat distant and less accessible than a play for the public stage. Although, as the computational results seem to indicate, Cary draws on dramatic conventions, her text appears more like a play for the private stage than the public stage. In a prototypical stage play, as in a drama performed in a public playhouse, the relationship between the observer and the observed is an integrated one: the observer has a low level of subjectivity and the observed is characterised by a low level of objectivity. The experience of watching or reading a stage play is qualitatively different
to reading or watching more literary drama as the style of deictic projection that is encouraged by stage drama brings the observer and observed closer together to the extent that the observer’s sense of separateness is diminished. The opposite effect in closet tragedy gives rise to the sense in readers that closet plays tend too much towards the “intellectual” and the “philosophical” and that they lack “heart” (Witherspoon 81).

This effect of deixis in relation to subjectivity can be best illustrated by returning to the PCA results in chapter ten and one or two examples of dialogue from the plays. The PCA results presented in Figure 10.7 indicate a more frequent use in stage plays of pronouns such as you, your, and I, articles such as a, and demonstratives, such as this. These variables ground the dialogue “by relating it to the context of the speech” (Langacker, Cognitive Grammar 123). This can be seen in the direct style of address that begins a play like Kyd’s Spanish Tragedy, in which the Ghost of Andrea tells the audience and Revenge, “I was a courtier in the Spanish court: My name was Don Andrea” (1.1.1-2) before proceeding with a narrative that explains, in graphic terms, the circumstances of his death and his journey through the underworld.

In contrast, for readers of closet plays, deictic cues correspond to a high degree of speaker subjectification. At the same time, the object of conceptualisation is viewed with a high degree of objectivity. In Cary’s play, the reader is somewhat alienated from Mariam and Mariam is alienated from herself. The language of the text facilitates an engagement with intellectual concepts and shifts between multiple options and ways of looking at the world rather than an identification with a character and their motivations. Mariam, the other closet plays, and the literary dramas, tend to feature function words that suggest a more abstract style of discourse with reference to complex sentence structures through the use of pronouns such as who, which, and whose and in modals such as may and could. This reflects a level of uncertainty in relation to the propositions that are being expressed and produces a reading experience in which ideas are profiled, rather than actions.

Looking at Mariam more closely, the soliloquy that introduces the protagonist to the reader begins with a rhetorical question to no one in particular and then continues as a lengthy, introspective discourse on the history of the relationship between Mariam and Herod in which Mariam vacillates between grief at the loss of her husband, and relief that he has been killed. Although Mariam’s recollections lead her to wish that news of Herod’s death “may firmly hold” (1.1.52) as the speech draws to a close she finds
herself fighting tears and comments that love “doth to my heart begin to creep again” (1.1.73). The characters that speak in Mariam are uncertain of their world, as Purkiss says, they are engaged with a “covert and anxious figuration of the self” (Three Tragedies xviii).

11.4.3 Mental spaces and conceptual integration

Deixis in Mariam can be linked with rhetorical strategies that reflect the careful construction of an allegorical drama that explores some of the issues Curtis Perry identifies in Kyd’s Cornelia, namely “problematic questions about liberty and governance” (“Uneasy” 539). These questions are examined from multiple perspectives through the extensive analysis by individual characters of their predicaments and through the development of a type of hypothetical ‘wish’ world within the world of the play in which the tyrant Herod is presumed dead, giving his subjects the freedom to exercise authority over their own lives. One way of understanding how this is achieved from a cognitive perspective is through the extension of the notion of deictic projection to the consideration of mental spaces and blended spaces.

In a cognitive framework, mental spaces are crucial in understanding discourse and reference, as well as the fictional worlds that are created through stories, films, and plays (Langacker, Descriptive 97). Fauconnier and Turner’s theory of blending explains how allegorical texts function through an analysis of the way in which we integrate cognitive inputs to produce new blends. In Mariam the input spaces are the domestic world of marriage and the historical world drawn from Lodge’s translation. The output space is created by a blend of these inputs. Mental space theory involves “understanding the cognitive tracking of entities, relations and processes as a mental space” (Stockwell 96). Locatives or prepositions such as in and at, adverbials such as actually and really, and conditionals “open a new space or shift focus to a new part of an existing space” (Leech 118). Cues for tense and mood also contribute to the structure of spaces, as do other function word elements such as copulative verbs (Stockwell, Cognitive Poetics 97).

Langacker draws on the work of Gilles Fauconnier to explain how an understanding of mental spaces can demonstrate the ways in which discourse incorporates different points of view. Fauconnier and Turner define mental spaces as “very partial assemblies constructed as we think and talk for the purposes of local understanding and action”
"Conceptual Integration" 137). They consist of “input structures, generic structures, and blend structures” ("Conceptual Integration" 137). Mental spaces are linked to each other through the process of metaphorical mappings, which is the process that allows allegories to operate and counterfactual scenarios to be considered. The deictic cues that feature in a text characterise the features of the mental spaces that it creates.

Function words operate as ‘space builders’ in the mind of the reader. They are deictic cues that help us to orientate ourselves in relation to the real world, to the world of the text, and to counterfactual scenarios. The “linguistic and contextual triggers” (McIntyre 123) associated with shifts between deictic fields assist discourse participants to navigate movements between multiple mental spaces. Discourse participants track “a reality space with mental representations of everything we perceive” (Stockwell, *Cognitive Poetics* 96) and fictional or projected spaces “whenever we make a prediction, description, imagine a counterfactual, anticipate or recall” (Stockwell, *Cognitive Poetics* 96). Mental spaces of particular interest in *Mariam* are related to history and the discussion of past events such as Herod’s cruelty to Mariam’s family, Salome’s history of sexual independence, and Mariam’s treatment of Herod’s first wife, Doris. The extent of Cary’s use of past tense forms is clear in a comparison of $z$-scores. *Mariam* has the highest $z$-score for *had* and *been* of all sixty plays in the study, and the second highest score for *did* (see Table 10.5). This reflects the way in which *Mariam* reflects on the past to create a blend that will help the characters make sense of the present and the future.

Modals set up conditional spaces in the mind of the reader, but we can see this phenomenon at work in the characters and the world of the text as well. The coherence of Herod’s internal world, the mental space he has constructed in which Mariam outshines “day’s dark taper” (4.1.8), depends completely on Mariam’s cooperation. Herod relies on Mariam for a kind of cognitive coherence and this makes him vulnerable to her challenge and to Salome’s manipulations. In the blend Salome presents, Mariam as a “white enchantress” (4.4.176), a “beauteous body” that hides a “loathsome soul” (4.4.178). Mariam’s response – “Is this a dream?” (4.4.184) – highlights the instability of the relationship between fiction and reality, and references the plays concerns with “knowing, perceiving, seeming, and believing” (Hamlin “Critique” par. 1). The play resonates almost perfectly with cognitive understandings about the way we find ourselves “running multiple mental spaces, or more generally,
multiple constellated networks of mental spaces, when we should be absorbed by only one, and blending them when they should be kept apart” (Turner, "Conceptual Integration" 378). As Turner says, and Cary implies, “this is at the root of what makes us human” ("Conceptual Integration" 378).

11.4.4 Cognitive metaphor

Popova argues “cognitive semantics provides the methodology to recover significant patterns of imagery, operating at a basic level in a text. These very patterns can then be seen to explain and lend coherence to other elements of text structure like plot and characterization” (Popova 49-50). An analysis of metaphorical conceptualisations in *Mariam* provides an explanation for the conflicting nature of responses to *Mariam* as well as a guide to reading the text. The theory of conceptual metaphor proposes that these basic concepts are grounded in our physical experience of being in the world. Therefore, “many everyday expressions seem to share underlying conceptual structures that in turn are shared by groups of people. For example, in English … GOOD IS UP … seems to underlie many expressions” (Stockwell, *Cognitive Poetics* 109). Following this approach, function words in *Mariam* can be linked in a more general way to the sustained use of conceptual metaphors concerned with the idea of balance, justice, and notions of moral certainty.

The idea of a just world being a balanced one, and moral certainty being represented by being ‘upright’ as opposed to a sense of being torn by conflicting emotions, is central to an understanding of *Mariam*. Lakoff and Johnson find evidence of these same metaphors in Kant, noting that:

> … doing one’s duty requires the strength of will to do what the moral law, as given by Reason, commands, without one’s Will being ‘subordinated to forces of evil or temptation, no matter how strong they might be. For will to do what Reason commands, it must be strong enough to fend off the assault of bodily passions, needs, and inclinations. (qtd. in Lakoff and Johnson 425-6)

This notion of resistance to forces external to the self is central to *Mariam*, a play that valorises the idea of constancy, even though the world and our innately human tendency to fall victim to our desires, mitigates against achieving it. The linguistic evidence reveals traces of these internal struggles through the modals that Cary uses, through the way deictic cues establish counterfactual spaces, and through the way conjunctions
create a kind of tension between the ideas with which the characters struggle. These features also, however, point to the instability of the world of the text and the absence of certainty.

Lakoff and Johnson comment “We experience the imbalance of an unrighted wrong” even though “the notion of Justice as Balance is not part of an objective universe” (Lakoff and Johnson 509). This is a pervasive metaphor for the characters in Mariam. As Constabarus says:

> Let all the world be topsy-turved quite.
> Let fishes graze, beasts [swim], and birds descend,
> Let fire burn downwards whilst the earth aspires:
> Let winter’s head and summer’s cold offend,
> Let thistles grow on vines, and grapes on briars,
> Set us to spin or sew, or at the best
> Make us wood-hewers, water-bearing wights
> For sacred service let us take no rest,
> Use us as Joshua did the Gibonites. (1.6.424-432)

The world of the text is unstable and subject to all kinds of reversals and this underlying metaphor runs through the text. We see evidence of it in Salome’s radical challenge to social norms, Mariam’s execution in spite of her innocence, the deaths of Constabarus, Sohemus and the sons of Babas simply because Herod willed it to happen, Alexandra’s treachery towards her daughter, the sudden change in Doris’s fortunes, and Herod’s eventual madness. The function word features in Mariam identified through stylistic analysis support this reading in a fundamental way and thus point to a way in which formal features can be seen as supporting Cary’s rhetorical and intellectual agenda.

11.5 Conclusion

A key question addressed by this thesis is whether a formalist approach can help shape an interpretation of a particular text. Closet plays explore the role of the subject/self in a volatile political context. Orthodox approaches have produced a set of contradictory readings about Mariam, and obscured the ways in which the text engages with dramatic, social, and political traditions. A stylistic analysis points to the text’s engagement with
dramatic culture associated with the private hall theatres and the politicised drama that was associated with these venues. A cognitive framework shows how function word variables can be linked to an understanding of the author’s intellectual and philosophical agenda, and how an apparently formalist analysis can contribute to literary critical debates more generally.

Cognitive Grammar supports an understanding of function words through the particular construal they impose on a text and the events the text describes. Analysis of these linguistic elements provides a point of access to the writer, text, and audience, all of which contribute to the particular “usage event” under examination (Langacker, "Discourse" 144). Function words point to an understanding of the rhetorical strategies employed in the text by the author, and the way it is construed in the mind of the reader. They thus play a fundamental role in meaning as well as textual reception and interpretation. Function words in *Mariam* support a reading of the text as an exploration of the consequences of epistemological uncertainty and the human susceptibility to rash judgement and delusions. This focus of the text is thus highly compatible with a cognitive approach.
Chapter 12. Conclusion

12.1 Overview

In a study of Shakespeare’s work, Lyn Magnusson notes that it is surprising that in the period since new historicism has emerged as a major influence in literary criticism, only a small number of stylistic studies have engaged with the problem of linking the linguistic structure of texts to “social, cultural, and ideological practices” (9). Magnusson also comments that very few historicist studies have attempted to analyse evidence of political and social constructs as they may be reflected in textual form, or as she describes it, “linguistic detail or texture” (9). This thesis outlines a conceptual framework that aims to support the kind of engagement Magnusson speaks of, and applies the method to a study of early modern drama with a particular focus on Elizabeth Cary’s Tragedy of Mariam.

The first part of this thesis gives an overview of Burrows-style computational stylistics including criticisms of the approach. I then argue that criticisms of Burrows-style stylistics stem from an account of language that has been challenged by developments in the cognitive sciences. I suggest that Langacker’s Cognitive Grammar can provide a bridge between stylistics and literary criticism. Cognitive Grammar and cognitive stylistics more generally appear to offer a theoretical and a methodological framework that support Burrows-style computational stylistics. I test this assumption in the second part of the thesis in an analysis of sixty early modern tragedies dating from 1580 to 1641 that looks for patterns of similarity or difference that might point to larger critical questions.

12.2 Contribution to the literature

A key aim of this thesis is to demonstrate that Cognitive Grammar provides a link between the results of a function word analysis and an interpretive reading of a literary text. The apparently formalist associations of computational stylistics have made it difficult for scholars working with computational methods to gain any critical purchase in the discipline more broadly. This is partly because there has been a mismatch at a very basic level between the theoretical assumptions that inform both approaches, but it is also because computational scholars have not been able to articulate how or why their
methods work. A cognitive framework appears to resolve these problems and provide a way for stylistics to engage with literary criticism.

The case study for the proposed conceptual approach is modelled on Burrows and Craig’s study of Romantic and Restoration (“Mountebanks”) but the focus of the present study is on early modern closet tragedy and stage tragedy. The results of the study in this thesis align with those of the previous study, finding that there are differences in the way function words are used between sets of texts, and that these can be linked to understandings about the genre with which they are associated. The results of the present study problematise binaries such as ‘theatrical/antithetrical’ as they are applied to closet texts, and highlight the ways in which early modern dramatic traditions relate to each other. These results also provide insight into the connections between Elizabeth Cary’s Mariam and early modern dramatic discourse, and into contradictions into the critical commentary on the play.

12.3 Summary of findings

12.3.1 Mariam

Traditional critical approaches to Mariam produce contradictory readings of the text and do not explain the many paradoxes that emerge through close analysis. It is difficult for example, to align arguments that the text rejects the notion of performance with the ways it gestures towards the stage and dramatic presentation. Dramatic elements in the play also appear to contradict the common assumption that the intellectual and literary associations that are characteristic of Sidnean closet drama reflect a deliberate effort to correct the defects of the public stage referred to Sidney’s Defense. Insights arising from a computational analysis suggest that Cary’s engagement with print culture and political discourse was far more active and less conflicted than some criticisms suggest.

Computational findings problematise the binaries that contribute to debates about closet plays and Mariam in the critical literature. The results of computational analysis support the view that Mariam is a paradoxical text but they bring a new perspective to the ways in which the play relates to other texts from the period and help to identify likely explanations for some of the questions raised by more traditional approaches. These findings support the arguments of some scholars working in more orthodox critical traditions, such as Martha Straznicky, who has suggested that Mariam should be seen as aligned with plays of the private, or hall theatres, as well as closet plays and the practice.
of play reading (*Privacy* 66). Computational results also challenge claims that *Mariam* represents a strategic retreat to interiority (Acheson), pointing instead to an engagement with intellectual and literary discourses and an ambitious personal and political agenda.

The results of stylistic analysis based on function words support Hamlin’s view that *Mariam* should be read in the context of discourses associated moral philosophy and epistemological uncertainty. It is therefore, a play about reason and passion and the human tendency to succumb to wishful thinking and delusions. Cary’s text can be seen as an example of intellectual display and a demonstration of her commitment to humanist ideals. The results thus show how a formalist – or hyperformalist – approach can contribute to discussions about modes of performance and forms of public and political engagement by a woman writer in early modern England.

12.3.2 Computational stylistics

Burrows-style computational stylistics has produced strong results in the area of authorial attribution but there has been little interest in the wider scholarly community of the results of these tests, or possible applications of these tests to more interpretive questions. A significant problem has been the lack of an integrated theory of language that explains why the tests work and how the results might be understood in the context of reading and comprehending literary texts. Cognitive Grammar appears to fill this gap, providing a framework in which the counting of function words and empirical approaches more generally are validated, but also allowing the results of a computational study to be understood in an interpretive context.

Cognitive Grammar supports the interpretation of stylistic results in an integrated, rhetorically motivated and non-reductive way and supports an engagement with the psychological, socio-cultural, and historical elements of the text. The key to this is the concept of embodiment and its insistence that language is a product of cognitive phenomena and is both produced and constrained by perceptual systems. Cognitive Grammar can explain the existence of computational results in a way that other accounts of language cannot. It offers a rich interpretive model that does not neglect the importance of author, reader, or context through its approach to language and literature as an expression of an innately constrained and embodied human mind.

A stylistic analysis that draws on Cognitive Grammar suggests that the use of function words can be linked to formal textual features and to thematic concerns. Cognitive
Grammar brings an interpretive framework to computational results that allow the numbers and the variables to be linked back to texts and their contexts, and shows that a discussion of form can combine with contemporary critical concerns (Dubrow, "Politics of Aesthetics" 74). The results of computational stylistics can thus be seen as more than meaningless frequency counts or the grammatical idiosyncrasies of a particular author.

12.4 Future work

The combination of Cognitive Grammar and computational stylistics provides a supporting framework for the practice of attribution studies, as well as a way of linking the results back to the text and its contexts. This approach may help offer more grounded links between results and interpretation than were available to Burrows and Craig in 1994 in their study of Restoration and Romantic drama (“Mountebanks”). These techniques could also be usefully applied to some of the unresolved issues concerning attribution and texts that are linked to Cary. This would be particularly interesting in the case of the Edward II manuscripts, analyses of which as Reeves notes, are almost always prefaced with a “consideration of attribution” (Reeves 129). Preliminary investigations of idiolect and characterisation in Mariam suggest that this might also be a fruitful line of enquiry. Analysis of Herod’s dialogue at the end of the play appears to reflect the emotional volatility that is characteristic of Mariam’s language at the beginning. This suggests that in terms of the linguistic variables identified as significant in Mariam, and the gendered framework of neo-stoicism that constructs women as representative of vulnerability and inconstancy, Herod becomes literally unmanned. This result would challenge claims in relation to women’s speech and a lack of heteroglossic or polyphonic complexity (Bruster, "Women's Speech" 238).
Chapter 13.  Appendices

There are six Appendix tables:

1. Tragedies used in this study
2. Function word list
3. List of 38 most discriminating function words identified in step-wise discriminant analysis
4. Tragedies listed by closet, private, or public status
5. Key and detailed data of PCA for 4000 word segments and factor scores based on 100 most frequent function words
6. Key for figure 10.5 and detailed data of PCA for 4000 word segments and factor scores with vector 1 values in the range 0 to 1.5 based on 100 most frequent function words
### Appendix 1

Table 13.1 Tragedies used in the study

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Note: Authorship, date, date of publication of earliest text, classification and auspices are as in Harbage (1964) Annals of English Drama, second edition

* Harbage notes that Gismond of Salerne by Wilmot.R; Stafford; Hatton; Noel; Al., G. was performed in 1566-1568 and revised by Wilmot in 1591 as Tancred and Gismond

** Malone Soc. Reprints

*** Edited from the manuscript in the Folger Shakespeare Library and published 1938.
## Appendix 2

Table 13.2 Function word list

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<td>221</td>
<td>somebody</td>
<td></td>
<td></td>
</tr>
<tr>
<td>158</td>
<td>yours</td>
<td>190</td>
<td>doing</td>
<td>222</td>
<td>inside</td>
<td></td>
<td></td>
</tr>
<tr>
<td>159</td>
<td>because</td>
<td>191</td>
<td>mayst</td>
<td>223</td>
<td>everyone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>neither</td>
<td>192</td>
<td>towards</td>
<td>224</td>
<td>until</td>
<td></td>
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</tr>
</tbody>
</table>
## Appendix 3

Table 13.3 List of 38 most discriminating function words identified in step-wise discriminant analysis

<table>
<thead>
<tr>
<th>Step</th>
<th>Word</th>
<th>Step</th>
<th>Word</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>doth</td>
<td>20</td>
<td>before</td>
</tr>
<tr>
<td>2</td>
<td>yet</td>
<td>21</td>
<td>even</td>
</tr>
<tr>
<td>3</td>
<td>did</td>
<td>22</td>
<td>however</td>
</tr>
<tr>
<td>4</td>
<td>whom</td>
<td>23</td>
<td>other</td>
</tr>
<tr>
<td>5</td>
<td>unto</td>
<td>24</td>
<td>under</td>
</tr>
<tr>
<td>6</td>
<td>own</td>
<td>25</td>
<td>be</td>
</tr>
<tr>
<td>7</td>
<td>it</td>
<td>26</td>
<td>too</td>
</tr>
<tr>
<td>8</td>
<td>these</td>
<td>27</td>
<td>can</td>
</tr>
<tr>
<td>9</td>
<td>everywhere</td>
<td>28</td>
<td>despite</td>
</tr>
<tr>
<td>10</td>
<td>ever</td>
<td>29</td>
<td>where</td>
</tr>
<tr>
<td>11</td>
<td>do</td>
<td>30</td>
<td>had</td>
</tr>
<tr>
<td>12</td>
<td>might</td>
<td>31</td>
<td>was</td>
</tr>
<tr>
<td>13</td>
<td>while</td>
<td>32</td>
<td>or</td>
</tr>
<tr>
<td>14</td>
<td>never</td>
<td>33</td>
<td>over</td>
</tr>
<tr>
<td>15</td>
<td>who</td>
<td>34</td>
<td>does</td>
</tr>
<tr>
<td>16</td>
<td>every</td>
<td>35</td>
<td>in</td>
</tr>
<tr>
<td>17</td>
<td>amongst</td>
<td>36</td>
<td>beyond</td>
</tr>
<tr>
<td>18</td>
<td>some</td>
<td>37</td>
<td>would</td>
</tr>
<tr>
<td>19</td>
<td>always</td>
<td>38</td>
<td>still</td>
</tr>
</tbody>
</table>

Note: Words entered in stepwise fashion to minimise the Wilk’s Lambda statistic. These 38 words added predictive power to the discriminant function and were highly significant.
## Appendix 4

Table 13.4 Tragedies listed by closet, private, or public status

<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
<th>Year first presented</th>
<th>Auspices / Company</th>
<th>Playhouse</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kyd, Thomas</td>
<td><em>Spanish Tragedy</em></td>
<td>1587</td>
<td>Stranger's/Admiral's</td>
<td>Rose/Fortune</td>
<td>Public</td>
</tr>
<tr>
<td>Marlowe, Christopher</td>
<td><em>Jew of Malta</em></td>
<td>1589</td>
<td>Strange's</td>
<td>Theatre?</td>
<td>Public</td>
</tr>
<tr>
<td>Sidney (Herbert), Mary</td>
<td><em>Antonius</em></td>
<td>1590</td>
<td>Closet</td>
<td>Closet</td>
<td>Closet</td>
</tr>
<tr>
<td>Anonymous</td>
<td><em>Arden of Faversham</em></td>
<td>1591</td>
<td>Unknown</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>Marlowe &amp; Rowley</td>
<td><em>Doctor Faustus</em></td>
<td>1592</td>
<td>Strange's/Admiral's</td>
<td>Rose?</td>
<td>Public</td>
</tr>
<tr>
<td>Daniel, Samuel</td>
<td><em>Cleopatra</em></td>
<td>1593</td>
<td>Closet</td>
<td>Closet</td>
<td>Closet</td>
</tr>
<tr>
<td>Shakespeare, William</td>
<td><em>Titus Andronicus</em></td>
<td>1594</td>
<td>Strange's/Pembroke's/Sussex's/Chamberlain's</td>
<td>Rose?/Theatre?/Rose/Cockpit</td>
<td>Public</td>
</tr>
<tr>
<td>Kyd, Thomas</td>
<td><em>Cornelia</em></td>
<td>1594</td>
<td>Closet</td>
<td>Closet</td>
<td>Closet</td>
</tr>
<tr>
<td>Shakespeare, William</td>
<td><em>Romeo and Juliet</em></td>
<td>1595</td>
<td>Chamberlain's</td>
<td>Theatre?/Globe</td>
<td>Public</td>
</tr>
<tr>
<td>Greville, Fulke</td>
<td><em>Mustapha</em></td>
<td>1596</td>
<td>Closet</td>
<td>Closet</td>
<td>Closet</td>
</tr>
<tr>
<td>Brandon, Samuel</td>
<td><em>Virtuous Octavia</em></td>
<td>1598</td>
<td>Closet</td>
<td>Closet</td>
<td>Closet</td>
</tr>
<tr>
<td>Shakespeare, William</td>
<td><em>Julius Caesar</em></td>
<td>1599</td>
<td>Chamberlain's</td>
<td>Globe</td>
<td>Public</td>
</tr>
<tr>
<td>Marston, John</td>
<td><em>Antonio's Revenge</em></td>
<td>1600</td>
<td>Paul's</td>
<td>Paul's</td>
<td>Private</td>
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<tr>
<td>Greville, Fulke</td>
<td><em>Alaham</em></td>
<td>1600</td>
<td>Closet</td>
<td>Closet</td>
<td>Closet</td>
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<tr>
<td>Shakespeare, William</td>
<td><em>Hamlet</em></td>
<td>1601</td>
<td>Chamberlain's</td>
<td>Globe</td>
<td>Public</td>
</tr>
<tr>
<td>Shakespeare, William</td>
<td><em>Troilus and Cressida</em></td>
<td>1602</td>
<td>Chamberlain's</td>
<td>Globe?</td>
<td>Public</td>
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<tr>
<td>Jonson, Ben</td>
<td><em>Sejanus his Fall</em></td>
<td>1603</td>
<td>King's</td>
<td>Globe</td>
<td>Public</td>
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<tr>
<td>Alexander, William</td>
<td><em>Darius</em></td>
<td>1603</td>
<td>Closet</td>
<td>Closet</td>
<td>Closet</td>
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<tr>
<td>Shakespeare, William</td>
<td><em>Othello</em></td>
<td>1604</td>
<td>King's/Chamberlain's</td>
<td>Globe / Blackfriars</td>
<td>Public</td>
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</table>

For notes, see end of Table.
Table 13.4 (continued)

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<tr>
<th>Author</th>
<th>Title</th>
<th>Year first presented</th>
<th>Auspices / Company</th>
<th>Playhouse</th>
<th>Status</th>
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<tr>
<td>Alexander, William</td>
<td>Croesus</td>
<td>1604</td>
<td>Closet</td>
<td>Closet</td>
<td>Closet</td>
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<tr>
<td>Cary, Elizabeth</td>
<td>The Tragedy of Mariam</td>
<td>1604</td>
<td>Closet</td>
<td>Closet</td>
<td>Closet</td>
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<tr>
<td>Daniel, Samuel</td>
<td>Philotas</td>
<td>1604</td>
<td>Queen's Revels</td>
<td>Closet (performed at court)</td>
<td>Closet</td>
</tr>
<tr>
<td>Shakespeare, William</td>
<td>King Lear</td>
<td>1605</td>
<td>King's</td>
<td>Globe</td>
<td>Public</td>
</tr>
<tr>
<td>Marston, John</td>
<td>The Wonder of Women</td>
<td>1605</td>
<td>Queen's Revels/Blackfriar's Children</td>
<td>Blackfriars</td>
<td>Private</td>
</tr>
<tr>
<td>Anonymous</td>
<td>Yorkshire Tragedy</td>
<td>1606</td>
<td>King's</td>
<td>Globe</td>
<td>Public</td>
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<tr>
<td>Anonymous</td>
<td>Revenger's Tragedy</td>
<td>1606</td>
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<td>Globe</td>
<td>Public</td>
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<tr>
<td>Shakespeare, William</td>
<td>Macbeth</td>
<td>1606</td>
<td>King's</td>
<td>Globe</td>
<td>Public</td>
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<tr>
<td>Shakespeare, William</td>
<td>Timon of Athens</td>
<td>1607</td>
<td>Unacted?</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>Shakespeare, William</td>
<td>Antony and Cleopatra</td>
<td>1607</td>
<td>King's</td>
<td>Globe</td>
<td>Public</td>
</tr>
<tr>
<td>Alexander, William</td>
<td>Julius Caesar (WA)</td>
<td>1607</td>
<td>Closet</td>
<td>Closet</td>
<td>Closet</td>
</tr>
<tr>
<td>Alexander, William</td>
<td>The Alexandrean Tragedy</td>
<td>1607</td>
<td>Closet</td>
<td>Closet</td>
<td>Closet</td>
</tr>
<tr>
<td>Shakespeare, William</td>
<td>Coriolanus</td>
<td>1608</td>
<td>King's</td>
<td>Globe</td>
<td>Public</td>
</tr>
<tr>
<td>Tourneur, Cyril</td>
<td>Atheist's Tragedy</td>
<td>1609</td>
<td>King's</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>Beaumont and Fletcher</td>
<td>Maid's Tragedy</td>
<td>1610</td>
<td>King's</td>
<td>Blackfriars</td>
<td>Private</td>
</tr>
<tr>
<td>Chapman, George</td>
<td>Revenge of Bussy d'Ambois</td>
<td>1610</td>
<td>Queen's Revels/Blackfriar's Children</td>
<td>Whitefriars?</td>
<td>Private</td>
</tr>
<tr>
<td>Anonymous (Middleton)</td>
<td>Second Maiden's Tragedy</td>
<td>1611</td>
<td>King's</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>Jonson, Ben</td>
<td>Catiline his Conspiracy</td>
<td>1611</td>
<td>King's</td>
<td>Globe/Blackfriars</td>
<td>Public</td>
</tr>
<tr>
<td>Webster, John</td>
<td>White Devil</td>
<td>1612</td>
<td>Queen Anne's / Queen Henrietta's</td>
<td>Red Bull / Cockpit</td>
<td>Public</td>
</tr>
<tr>
<td>Fletcher, John</td>
<td>Valentinian</td>
<td>1614</td>
<td>King's</td>
<td>Globe?/Blackfriars?</td>
<td>Public</td>
</tr>
<tr>
<td>Webster, John</td>
<td>The Duchess of Malfi</td>
<td>1614</td>
<td>King's</td>
<td>Blackfriars/Globe</td>
<td>Private</td>
</tr>
<tr>
<td>Middleton, Thomas</td>
<td>Hengist, King of Kent</td>
<td>1618</td>
<td>Unknown (King's 1541)</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>Goffe, Thomas</td>
<td>Courageous Turk</td>
<td>1618</td>
<td>Christ Church, Oxford</td>
<td>Christ Church Oxford</td>
<td>Private</td>
</tr>
</tbody>
</table>

For notes, see end of Table.
Table 13.4 (continued)

| Author                  | Title                  | Year first presented | Year first presented | Year first presented | Author                  | Title                  | Year first presented | Year first presented | Year first presented | Author                  | Title                  | Year first presented | Year first presented | Year first presented | Author                  | Title                  | Year first presented | Year first presented | Year first presented | Author                  | Title                  | Year first presented | Year first presented | Year first presented | Author                  | Title                  | Year first presented | Year first presented | Year first presented | Author                  | Title                  | Year first presented | Year first presented | Year first presented |
|------------------------|------------------------|----------------------|----------------------|----------------------|------------------------|------------------------|----------------------|----------------------|----------------------|------------------------|------------------------|----------------------|----------------------|----------------------|------------------------|------------------------|----------------------|----------------------|----------------------|------------------------|------------------------|----------------------|----------------------|----------------------|------------------------|------------------------|----------------------|----------------------|----------------------|
| Fletcher, John         | Bloody Brother         | 1619                 | King's (?)           | Blackfriars           | Rowley, William        | All's Lost by Lust      | 1619                 | Prince's (Lady Elizabeth's)/Queen Anne's/Beeston's Boys | Red Bull / Cockpit   | Public                | Fletcher and Massinger | Double Marriage       | 1620                 | King's                | Blackfriars           | Middleton, Thomas      | Women Beware Women    | 1621                 | King's (?)           | Unknown              | Markham and Sampson   | Herod and Antipater   | 1622                 | Red Bull Company (Revels) | Red Bull               | Public                |
| Middleton and Rowley   | Changeling             | 1622                 | Lady Elizabeth's     | Cockpit               | Massinger, Philip      | Unnatural Combat        | 1626                 | King's                | Globe                | Public                | Massinger, Philip      | Roman Actor            | 1626                 | King's                | Blackfriars           | Ford, John             | Broken Heart           | 1629                 | King's                | Blackfriars           | Shirley, James         | Love's Cruelty        | 1631                 | Queen Henrietta's     | Cockpit               | Shirley, James         | The Traitor            | 1631                 | Queen Henrietta's     | Cockpit               | Ford, John             | Love's Sacrifice       | 1632                 | Queen Henrietta's     | Cockpit               | Ford, John             | Tis Pity She's a Whore | 1632                 | Queen Henrietta's/Beeston's Boys | Cockpit               | Private                |
| Shirley, James         | Love's Sacrifice       | 1632                 | Queen Henrietta's    | Cockpit               | Shirley, James         | The Traitor             | 1631                 | Queen Henrietta's    | Cockpit               | Private                | Shirley, James         | Cardinal              | 1641                 | King's                | Blackfriars           | Suckling, John         | Aglaura                | 1637                 | King's                | Blackfriars           | Ford, John             | Love's Sacrifice       | 1632                 | Queen Henrietta's     | Cockpit               | Shirley, James         | Cardinal              | 1641                 | King's                | Blackfriars           |
| Davenant, William      | Unfortunate Lovers     | 1638                 | King's               | Blackfriar's          | Shirley, James         | Cardinal               | 1641                 | King's                | Blackfriars           | Shirley, James         | Cardinal              | 1641                 | King's                | Blackfriars           | Shirley, James         | Cardinal              | 1641                 | King's                | Blackfriars           |

Note: Authorship, date, classification and auspices are as in Harbage (1964) Annals of English Drama, second edition. 'Auspices' ('Company') and 'Playhouse' cross-checked against Gurr (Shakespearean App. 1).

* Harbage notes that Gismond of Salerne by Wilmot.R; Stafford; Hatton; Noel; Al., G. was performed in 1566-1568 and revised by Wilmot in 1591 as Tancred and Gismond

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*** Edited from the manuscript in the Folger Shakespeare Library and published 1938.
### Table 13.5 Key and detailed data of PCA for 4000 word segments and factor scores based on 100 most frequent function words

<table>
<thead>
<tr>
<th>Segment</th>
<th>Factor One</th>
<th>Factor Two</th>
<th>Type</th>
<th>Name</th>
<th>Segment</th>
<th>Factor One</th>
<th>Factor Two</th>
<th>Status</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>2.45784</td>
<td>1.26457</td>
<td>Closet</td>
<td>Alexandrian Tragedy</td>
<td>AD2</td>
<td>-0.10186</td>
<td>-1.8102</td>
<td>Public</td>
<td>Faustus</td>
</tr>
<tr>
<td>A2</td>
<td>3.21035</td>
<td>2.04164</td>
<td>Closet</td>
<td>Alexandrian Tragedy</td>
<td>AD3</td>
<td>-0.45168</td>
<td>-0.77897</td>
<td>Public</td>
<td>Faustus</td>
</tr>
<tr>
<td>A3</td>
<td>2.93431</td>
<td>1.9619</td>
<td>Closet</td>
<td>Alexandrian Tragedy</td>
<td>AE1</td>
<td>0.22444</td>
<td>-0.63789</td>
<td>Public</td>
<td>Jew of Malta</td>
</tr>
<tr>
<td>A4</td>
<td>2.66619</td>
<td>1.90831</td>
<td>Closet</td>
<td>Alexandrian Tragedy</td>
<td>AE2</td>
<td>-0.77432</td>
<td>-0.36319</td>
<td>Public</td>
<td>Jew of Malta</td>
</tr>
<tr>
<td>A5</td>
<td>2.9079</td>
<td>1.39256</td>
<td>Closet</td>
<td>Alexandrian Tragedy</td>
<td>AE3</td>
<td>-0.9118</td>
<td>-0.36369</td>
<td>Public</td>
<td>Jew of Malta</td>
</tr>
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<td>2.93622</td>
<td>1.79691</td>
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<td>Alexandrian Tragedy</td>
<td>AE4</td>
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<td>Public</td>
<td>Jew of Malta</td>
</tr>
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<td>-0.71156</td>
<td>Public</td>
<td>Sejanus His Fall</td>
<td>AF1</td>
<td>-0.13845</td>
<td>-1.56696</td>
<td>Private</td>
<td>Antonio's Revenge</td>
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<td>-0.17135</td>
<td>Public</td>
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<td>AF2</td>
<td>-0.23792</td>
<td>-1.46319</td>
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<tr>
<td>AA3</td>
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<td>-0.92702</td>
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<td>Sejanus His Fall</td>
<td>AF3</td>
<td>-0.14016</td>
<td>-1.49921</td>
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<tr>
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<td>1.01444</td>
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<td>0.35163</td>
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<td>Sejanus His Fall</td>
<td>AG3</td>
<td>0.57731</td>
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<td>AH1</td>
<td>0.44328</td>
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</tr>
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<td>-1.75822</td>
<td>Closet</td>
<td>Cornelia</td>
<td>AH2</td>
<td>0.0601</td>
<td>0.37483</td>
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<td>Roman Actor</td>
</tr>
<tr>
<td>AB3</td>
<td>1.53124</td>
<td>-1.91262</td>
<td>Closet</td>
<td>Cornelia</td>
<td>AH3</td>
<td>0.1453</td>
<td>-0.25388</td>
<td>Private</td>
<td>Roman Actor</td>
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<tr>
<td>AC1</td>
<td>0.68519</td>
<td>-2.12481</td>
<td>Public</td>
<td>Spanish Tragedy</td>
<td>AH4</td>
<td>0.04353</td>
<td>-0.1066</td>
<td>Private</td>
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<td>0.04834</td>
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<td>Spanish Tragedy</td>
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<td>0.32947</td>
<td>0.19445</td>
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<td>-1.13825</td>
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<td>Spanish Tragedy</td>
<td>AI2</td>
<td>-0.09718</td>
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Chapter 14. Bibliography


---. *The History of the Life, Reign, and Death of Edward II, King of England, and Lord of Ireland. With the Rise and Fall of His Great Favourites, Gaveston and the Spencers. Written by E.F. In the Year 1627, and Printed Verbatim from the Original*. 1627. 1680. Print.

---. *The History of the Most Unfortunate Prince, Edward the Second. With Choice Political Observations on Him and His Unhappy Favourites, Gaveston & Spencer: Containing Several Rare Passages of Those Times, Not Found in Other Historians. Found among the Papers of, and (Supposed to Be) Writ by, the Right Honourable Henry Viscount Faulkland, Sometime Lord Deputy of Ireland*. London: Playford, 1680. Print.


---. *The Reply of the Most Illustrious Cardinall of Perron, to the Answere of the Most Excellent King of Great Britaine, the First Tome*. Douay: M. Bogart, 1630. Print.


---. "Matter, System, and Early Modern Studies: Outlines for a Materialist Linguistics."  

Hogrefe, Pearl. *Tudor Women: Commoners and Queens*. Ames: The Iowa State 

Holland, Peter, and Stephen Orgel. *From Performance to Print in Shakespeare's 

Holmes, David I. "The Evolution of Stylometry in Humanities Scholarship."  

Holmes, David I., and Daniel W. Crofts. "The Diary of a Public Man: A Case Study in 
Traditional and Non-Traditional Authorship Attribution."  

Hoover, David L. "Another Perspective on Vocabulary Richness." *Computers and the 


---. "Searching for Style in Modern American Poetry." *Directions in Empirical Literary 
Studies: In Honor of Willie Van Peer*. Eds. Zyngier, Sonia, et al. Amsterdam, 


Word Frequency and Keyword Extraction*. Ed. Archer, Dawn. Farnham: 

Hope, Jonathan. "Reading A: Shakespeare and the English Language." *English in the 
World*. Eds. Seargeant, Philip and Joan Swann. Milton Park Abingdon: 

Hota, Sobhan, Shlomo Argamon, and Rebecca Chung. "Gender in Shakespeare: 
Automatic Stylistics Gender Classification Using Syntactic, Lexical, and Lemma Features."


Klein, David. "According to the Decorum of These Daies." *PMLA* 33.2 (1918): 244-68. Print.


