**CONNORS — Function**

<3 figures [one is a table]>

**Function Word Stylistics and Interpretation: Elizabeth Cary’s *Mariam***

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This paper describes the results of a computational study of Early Modern Tragedy with particular reference to Elizabeth Cary’s 1613 closet play, *The Tragedy of Mariam*. Critical responses to *Mariam* are contradictory, and this paper explores the extent to which a function word study can provide insights that complement or clarify criticisms arising from more orthodox approaches.

**Theoretical Framework**

This paper suggests that Langacker’s Cognitive Grammar provides a theoretical framework to support an interpretive application of computational stylistics. Cognitive Grammar is aligned with other functional approaches to linguistics and appears to provide a theoretical explanation at the linguistic level for the results that are produced in a function word study, providing

• A framework for the types of authorship studies that have dominated computational stylistics.

• A way of extending the results in a more interpretive context.

Key to this paper is Langacker’s view of function words, which, he argues, ‘make a semantic contribution to the constructions they appear in, even though this contribution may be fairly schematic’ (Langacker, 1987, 19). This is through the role that function words play in the construal of meaning.

This paper considers *Mariam* in the context of other plays from the period. The study includes a total of 60 plays printed between 1580 and 1641. Within this group of 60 there are 12 closet plays and 48 plays written for the commercial stage. As well as *Mariam*, the set of texts includes the other eleven closet tragedies associated with the ‘Sidney Circle’. The only other female-authored text in the group, Mary Sidney’s *Antonius*, is a translation, as is Thomas Kyd’s *Cornelia*.

The Sidnean closet tragedies have been described as ‘strikingly alike, and strikingly unlike any other dramas in English’ (Witherspoon, 1968, 179). Their known authorship, along with their formal similarity, makes these plays an interesting set for non-authorship study. Critical responses to *Mariam* are divided on several key questions, including ideas about women’s speech, notions of performance and privacy, and how closet drama relates to Early Modern literary and dramatic culture. Much of the criticism is strongly biographical in its approach, reading the play in the context of Cary’s conversion to Catholicism in 1626 and related conflicts.

Mimetic readings are further encouraged by the existence of a biography of Cary by one of her daughters. Although biographically informed arguments of *Mariam* have been developed in more complex ways, Cary’s textual engagement is typically considered in terms of ideological and personal constraints as a text that is about a woman’s right to freedom of conscience within the bounds of marriage. It is then suggested by analogy that 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 government.

Results of these analyses, however, are somewhat conflicting. Suggestions that the play is the most stageable of the closets sit uncomfortably alongside claims that the play is rejection of female performativity in favour of interiority. Closet drama is acknowledged as a specifically political form, and male-authored closet texts are commonly seen as reflecting Jacobean anxieties over the relation between monarch and advisor and engaging with the ‘advice’ genre. This is not, however, the case with *Mariam.* One study, by William Hamlin, resists the tendency to consider *Mariam* in terms of constraints on agency and reads it instead as an exercise in moral philosophy that explores the problem of doubt and epistemological uncertainty. Given the diversity of critical responses to Mariam, the application of computational stylistics seemed to offer a way to contribute something new to this body of criticism.

**Method and Results**

As a first step, a discriminant analysis on the basis of the frequency scores of 241 function words was carried out to see what sorts of differences, if any, would be picked up between the two groups of plays.1 The discriminant analysis used 563 two-thousand-word segments (104 from closet plays and 459 from stage plays). Step-wise leave-one-out analysis was used to cross-validate the results. A step-wise discriminant analysis used only 38 function words from the full list to identify 100% of the segments correctly as either a closet segment or a stage segment. Figure 1 graphs the discriminant scores and shows the groups separating into two distinct sections, both of which represent something close to separate normal curves.



Figure 1. Histogram of discriminant scores for public and closet play segments from 60 tragedies in 200-word segments.

These results were subjected to a range of further tests to exclude the possibility of artefact playing a role in the delineation of closet or non-closet status. In all cases, the results showed 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.

As a way of understanding how Cary’s play relates to other plays from the period, the texts were subject to a Principal Component Analysis (PCA). Given that *Mariam* conforms very closely with the formal requirements of neo-classical tragedy, is constrained by an adherence to a strict rhyme scheme, and that Cary would have been subject to a restrictive set of gendered cultural assumptions concerning authorship and publication, the identification of *Mariam* as more like a play for the stage than any of the other Sidnean texts was a surprising result (Figure 2).



Figure 2. Principal component analysis for 60 tragedies in 4,000-word segments for 100 most frequently occurring function words.

The stage texts with which *Mariam* bears the closest relationship appear to be 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). 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 in this study, although they have been described as ‘even more classical, though less specifically Senecan than the School of Pembroke’ (Lucas, 1973, p. 112).

In order to identify the function words that occur most frequently in *Mariam* in comparison to the other texts in the study, a table of *z*-scores was produced. Table 1 lists the fifteen highest *z*-scores for *Mariam* grouped by word class.



Table 1. Fifteen highest *Mariam z*-scores—241 function words in 60 tragedies.

**Discussion**

The study aims to link particular variables that are identified as markers for *Mariam* with a specific rhetorical strategy. The paper argues that Cary’s use of auxiliary verbs, modal auxiliaries, and conjunctions can be linked to Hamlin’s reading of the text, 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.

Using Cognitive Grammar as a framework, the paper argues that Cary’s use of function words operates at a structural level to reinforce the themes explored in the play. Auxiliary verbs function to control the extent to which the reader engages emotionally with the text and control how the elements of a sentence being profiled relate to the conception of reality that is being discussed. Cary’s frequent recourse to particular auxiliary forms points to conditional constructions and is a grammatical sign that the counterfactual space is in focus (Fauconnier, 2007, 357–58).

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 as well as challenges to their autonomy. In terms of conjunctions, the effect is one of ‘mental juxtaposition’ (Langacker, 2009, p. 354) relating to cognitive phenomena associated with notions of ‘dynamicity, fictivity, and mental spaces’ (Langacker, 2009, 354). Cary’s use of conjunctions, like her use of modals and auxiliaries, can 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 these forms.

**Conclusion**

Through a computational stylistic analysis, the contradictory readings associated with *Mariam* begin to make sense. The text is the most theatrical of the closets, but many other features signal a strategic alignment with classical conventions and literary/philosophical discourses typically associated with closet texts. The idea of contradiction is present at a very basic linguistic level and is central to understanding the inconsistencies identified by scholars working in more orthodox traditions. Computational stylistics provides an insight into the text as a work of moral philosophy, highlighting the way the variables function to construct the world of the play and the readers as interpreters, providing subtle clues about the uncertainty and doubt that prevails in the text and in the world.

**Note**

1. The list of function words is based on an existing list used by the Centre for Literary and Linguistic Computing at the University of Newcastle.

**References**

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