How Agatha Christie Described Women?: The Behaviour of *She* in Christie's Novels

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This paper describes a stylometric analysis of Agatha Christie's works with a special reference to the use of the feminine personal pronoun *she* in her novels. In a previous study, Tsuchimura (2016), as a result of the statistical analysis, it is shown that Christie tends to use the word *she* much more frequently than her contemporary Dorothy Sayers, a British mystery writer. She occurs about 12,000 times per million words in Christie's works whereas it occurs about 5,500 times in Sayers' works. A number of characteristic words were identified in the study, and this study focuses on the use of the word *she* in collocations within Christie's works.

It is possible to hypothesize that *she* occurs frequently in Christie's works because although the protagonists in Sayers' works are all male (Lord Peter Wimsey), Christie frequently employs female protagonists (Miss Marple and Tuppence Beresford). In order to test this hypothesis, a Random Forest (Breiman, 2001) classifier is trained on the 500 most common words from all of Sayers' works (55 texts) and Christie's works whose protagonists are not females (173 texts). As is shown in Figure 1, looking at the mean decrease in the GINI importance of the model per word, which measures the relative importance of each word in classifying a text as that of Sayers' or Christie's, the word *she* contributes strongly to classification of texts into 2 groups regardless of the protagonists' gender. We can see that Christie tends to use the word *she* frequently even in the works having or foregrounding male protagonists.
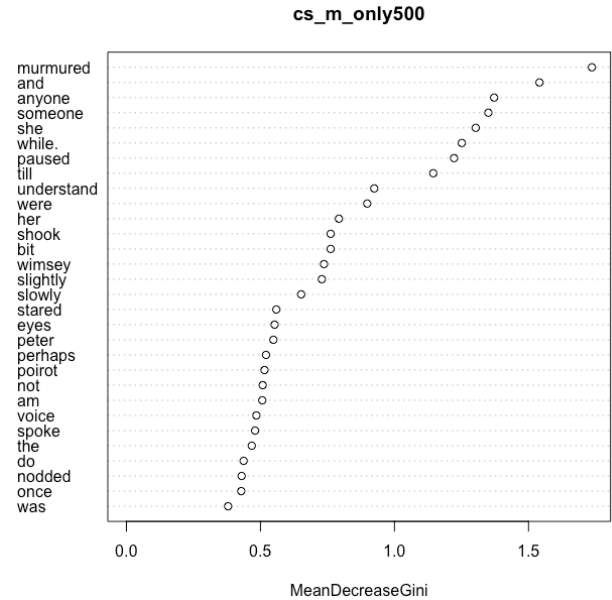

Figure 1. Variable Importance Plot of the result of Random Forests

The question arises as to how the word *she* is used in Christie's novels. To clarify its behaviour, this study examines collocations containing *she* in Christie's works. Following Sinclair and Jones (1974), who state that 'for any node, a very high proportion of relevant information could be obtained by examining collocates at positions N-4 to N+4,' this study deals only with collocates at position N-4 to N+4. From a number of statistical measures commonly used to calculate the significance of collocations, this study chooses the MI-score, for 'MI-score tends to give information about its lexical behaviour, but particularly about the more idiomatic ('fixed') co-occurrences' (Hunston, 2002: 74). The minimum frequency of collocates was set at 10, and the threshold of the MI-score was set at 3.0.

The extracted collocates of *she* in Christie's works amount to 104, when proper nouns are excluded, the number of remaining types of collocates is 79. When compared with collocates of *she* in Sayers' works, those in Sayers' novels are mostly function words. It is thus difficult to see the behaviour of *she* in Sayers' works and in comparison with Christie's works.

When we compare collocates of *she* with those of *he* in Christie's works, we can see stereotypical femininity. The collocates of *she* in Christie works consist of a large number of words related to crying (*sobbed, wept, wailed, screamed, crying*) and actions indicative of fear or sadness (*prostrated, frightens, fainted, shrank, clung, swayed, shivered*). These collocates contrast with those of *he*, which include words such as *hummed* and *laughs.* Moreover, we can see from the collocates of *she*

and *he* that it is *she* who is *choked* or *strangled* by a male criminal while it is *he* who *killed* a female. This paper discusses in great detail how Christie describes female in her works from the perspective of collocates of *she*.

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