Reading Assignment 2
Vocabulary Changes in Agatha Christies Mysteries as an Indication of Dementia
Ian Lancashire and Graeme Hirst 2009

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I. DESCRIPTION OF THE STUDY

Ian Lancashire and Graeme Hirst wrote this paper about the late author Agatha Christie and how her dementia affected her writing. The main purpose of this article is to show how dementia affects ones ability to properly communicate with others. According to their research people with Alzheimer's use more indefinite words and repeat words more often than people who are healthy and the same age. The main research question that the authors have is does dementia and other Alzheimer's diseases cause a significant decline in vocabulary size and an increase in repeated phrases and indefinite words.

II. METHODS AND DESIGN

The way that they obtain the data is optimal for what they were trying to achieve. The authors discuss outliers and future work they are going to do to validate their hypothesis even further. The authors also said that all of the novels they analyzed each contain between $55,000$ and $75,000$ words. The way the authors analyzed the books were as follows:

- They analyzed the first $50,000$ words of each novel
- Measured vocabulary size which is a count of different words that Christie used
- Measured vocabulary richness which are defined by the length of the words and how often the word was used

The sample size is representative of her condition because it covers a wide range of her age as well as the robustness of the vocabulary used in the books. The authors clearly described the entire process they went through to find and process all the data they acquired. I believe that the work that the authors have done can be replicated because they laid out the entire process and how they obtained all their data.

III. ANALYSIS

They analyzed 16 of Christie's books from when she was 28 to when she was 82. The max amount of wordtypes was a count of 5576 when she was 32, and the lowest was 3762 when she was 81. Christie's actual highest wordtype book was actually 5583 when she was 79 years old but that was not a mystery book she wrote by herself, it was a thriller that was written with some research from a book. The data was appropriate for the hypothesis they formed. The peak of her work in terms of using high wordtypes and low indefinite words was between the ages of 59-63. She had a high word type but relatively high indefinite words where the percentage of words was about 0.4% of total words.

IV. RESULTS

The results from the work of the authors clearly show that through the lifetime of Agatha Christie her lexicon was severely diminished by her dementia. Vocabulary size for her last 3 books were the lowest and the book she wrote when she was 81 was almost 31% lower than a book she wrote 18 years earlier. In this case her book Frankfurt is an outlier because not only was the book written with the help of a research book, but also because she borrowed most of the vocabulary from the book she referenced. The amount of repeated phrases and indefinite words also imply a decline with her age.

V. LIMITATIONS

The main limitations of the analysis done by the authors is that they didn't use the entire book that she wrote. Another limitation that they have is that they only use the books that Christie wrote herself and didn't compare it to a control group. There might be a significant drop in all of three categories with an increase in age for all individuals.

VI. CONCLUSION

The article was very well written with extremely indepth analysis of how and why the authors worked with the data they were presented. They also listed what they could do to improve on their work as well as outliers which might throw off the values. I feel like they could improve the article by adding a control group to the article before they published it. As of right now it is clear that Christie did have diminishing communication in her books but we aren't sure the hypothesis can be confirmed. They also added one book that contained research and said it was an outlier for all but one section. I did not understand why they would choose to add that book if it contained that much of variance. I also did not agree with the use of the first 50,000 words. I would have done something different like use a random selection of words or just use the whole book and normalize the values. The authors should have done more work before publishing this article.

REFERENCES

[1] Lancashire, Ian, and Hirst, Graeme . Vocabulary Changes in Agatha Christies Mysteries as an Indication of Dementia: A Case Study. 2009.