Analysing Character Development in the Harry Potter Series Through Movie Dialogues

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Introduction

1. Background

Introduction

A large factor that makes characters in fictional narratives relatable despite the stark contrast between reader's reality and the book's reality is the character development through the challenges they face and how the characters themselves are written to evolve. For the narratives turned into movies, they are presented with a double edged sword: while characters are fleshed out and far more relatable, insights into character development is now limited by screen time and shared with plot development. This particular research will look into the extent of character development in the Harry Potter movies with comparisons drawn to existing character analysis from the books, with focus on Harry Potter, Ron Weasley and Hermione Granger (here on dubbed simply as the Golden Trio).

Choice of Interest

Watching the adventures of the Golden Trio come to life from the pages of the books onto movie screens was exhilarating, especially so as the Trio grew up alongside its audience. Fans could now associate the well-loved characters to real faces. In terms of character development, however, the books have already long established a fixed sequence of character evolution in terms of the Trio's development. This lead to numerous fan discussions popping up on multiple forums which claimed a significant lack of character development in the movie series. While many informal posts were made, none approached the claims formally via specific analysis of the movies. With our research interests stationed in the area of computationally determining reader to narrative relatability, this claim is an opportunity to research and prove its validity. In particular, we will utilise the scripts from each movie to be the corpus.

2. Research Scope

Dialogue Tagging

Dialogue is considered one of the primary means of communication, aside from writing. For books, there is freedom in describing character traits extensively via dialogue, actions and insights into the thoughts of the characters, by virtue of narrator omniscience. On the other hand, movies lack the thought omniscience and is restricted to only using character actions and dialogues to present development in character personality traits. As much of the action is heavily tied to the plot and cannot be condensed into isolated objective descriptions, it makes a poor target of analysis that is extremely subjected to viewer's bias and interpretation.

On the other hand, dialogue can be analysed computationally and objectively through existing methods. The particular method that this research utilises is the identification of dialogue acts (henceforth DAs) and tagging accordingly. Simply put, DAs identify the illocutionary meaning behind the dialogue itself, which is suitable in the case of movie scripts, as the meaning of dialogue is analysed without the plot context affecting it. DA tagging has been extensively researched as the initial steps into understanding spontaneous dialogues (Stolcke, 2000). In other areas, character analysis is incorporated into dialogue tagging as part of generating more personable human-like chatbot replies for customer services (Meguro 2009). Since our Golden Trio have very identifiable personality traits at the end of the Harry Potter series thanks to the extensive character development in the books, this research will draw comparisons between the canon traits and the DA tags in the scripts to reach its conclusions.

Objectives

With an identified means of analysis and corpus to be analysed, the research will aim to answer the following research question: To see if the trends in the distributions of DAs across the eight movies accurately reflect the cultivation of unique personality traits of each character of the Golden Trio as part of character development.

Methodology

The DA tags used came from Natural Language ToolKit's (henceforth NLTK) corpus, specifically nps chat, which is a collection of online conversations. This was chosen as the dialogues in the movie scripts were more akin to conversations between characters than independent monologues. The 15 tags are as follows: Accept, Bye, Clarify, Continuer, Emotion, Emphasis, Greet, No Answer, Other, Reject, Statement, System, Wh-Question, Yes Answer, Yes/No Question.

1. Generating an informed hypothesis about a predicted distribution of DAs

Having read and watched the series ourselves, and inspired by one of the character analysis essays (Lucas, 2011) we came across, we hypothesised the following:

As the movie series proceeded, more emotional scenes were introduced and hence the frequency of Emotion tag will increase in the later movies.

For Hermione, she is thought to have more Answer typed tags at the start due to her know-it-all attitude and eagerness to answer people's questions. However, this will decrease in later movies as she realises that book-smarts is not everything. Instead, frequency of Clarification tags will increase as she observes her environments and shed insights to the situation around the Trio.

For Ron, he is thought to have more Statement tags and Emphasis tags as he is by nature more expressive and comical than the other two.

For Harry, who is usually in an internal emotional turmoil and lack the awareness to observe his surroundings, his Question typed tags will increase throughout. This is exacerbated by the fact that he is always left in the dark about information about the Dark Lord, and is left with many questions that others refuses to answer.

2. Obtain and format the movie scripts into manageable text files. Pick out lines said by the Golden Trio in particular.

The digital movie scripts were stripped of the formatting and coded to associate each dialogue to their speakers more clearly. Checks were made to ensure that dialogues were preserved properly to avoid data corruption or accidental manipulation. Finally, lines said specifically by the Golden Trio were saved

separately, to a total of 24 files. Each dialogue within these files are then split by sentences to ensure high accuracy in tagging.

3. Prepare Naive Bayes classifier using NLTK's nps chat as training data

As NLTK's nps chat comes pre-tagged with one of the 15 tags mentioned above, it can be easily parsed through to the Naive Bayes classifier. While we recognise that the dialogue in the training corpus and in the movie scripts are different by virtue due to the difference in context and dialogue content, which can potentially cause the classifier to misidentify, we took into assumptions that by the nature of DA tagging, only the illocutionary meaning of the dialogue will be analysed. Since both the nps chat and movie scripts have similar sentence structure and grammatical features, we went ahead with the research with the aforementioned assumption in mind.

4. Parse the tidied movie scripts through the classifier and keep counts on the frequency of each DA's occurrences

Counters for each DA is set up and raw data (Appendix A) is recorded in tables in order to generate visualisations for result interpretations in the following section.

Results and Insights

With the obtained frequencies of each DA tag as seen from Appendix A, we realised that the data set was heavily skewed towards specific tags over others. As such, we decided to group some tags together to form a more general category to facilitate analysis. The tags are now grouped according as such:

- Insignificant: Bye, Continuer, Emotion, Greet, Other, System

These are the tags with the lowest frequencies. Upon closer inspection, some tags do not apply to the context of the dialogues in all the movies either. Both Bye and Greet referred to dialogues that are forms of formal and informal greetings to other characters, while in the movies, these were portrayed as actions instead. Other refers to dialogues that do not fit in the other 14 DAs and hence can be ignored in favour of the general distribution that is significant. System refers to guided instructions from third party narrator, which does not apply to first person dialogues used in this research.
However, it was surprising to see Emotion having such low frequencies as there were many emotional rollercoasters and character losses throughout the movies, which would have driven up the frequency as seen from our hypothesis. Nonetheless, it was similarly placed under Insignificant.

- Plot-Driving Answers: Accept, Clarify, No Answer, Reject, Yes Answer

These are the tags that can be generally categorised as forms of answers, either to other character's questions, or to shed understanding on the current plot sequence.

- Question: Wh-Question, Yes/No Question

As stated in their names, these are the questions asked in the dialogues.

- Emphasis: Emphasis

This could be the reason for the low frequency in Emotion as they may have been categorised as dialogues with emphasis instead.

- Statement: Statement

These are dialogues made as a statement to the plot context.

With the new categories of tags, the frequencies are now represented in the following interactive diagrams in their respective links:

Harry Potter: https://public.flourish.studio/visualisation/1080330/
Ron Weasley: https://public.flourish.studio/visualisation/1094086/
Hermione Granger: https://public.flourish.studio/visualisation/1094081/

All analyses were done on the interactive diagrams. Below shows the static overview of DA tags for each character.

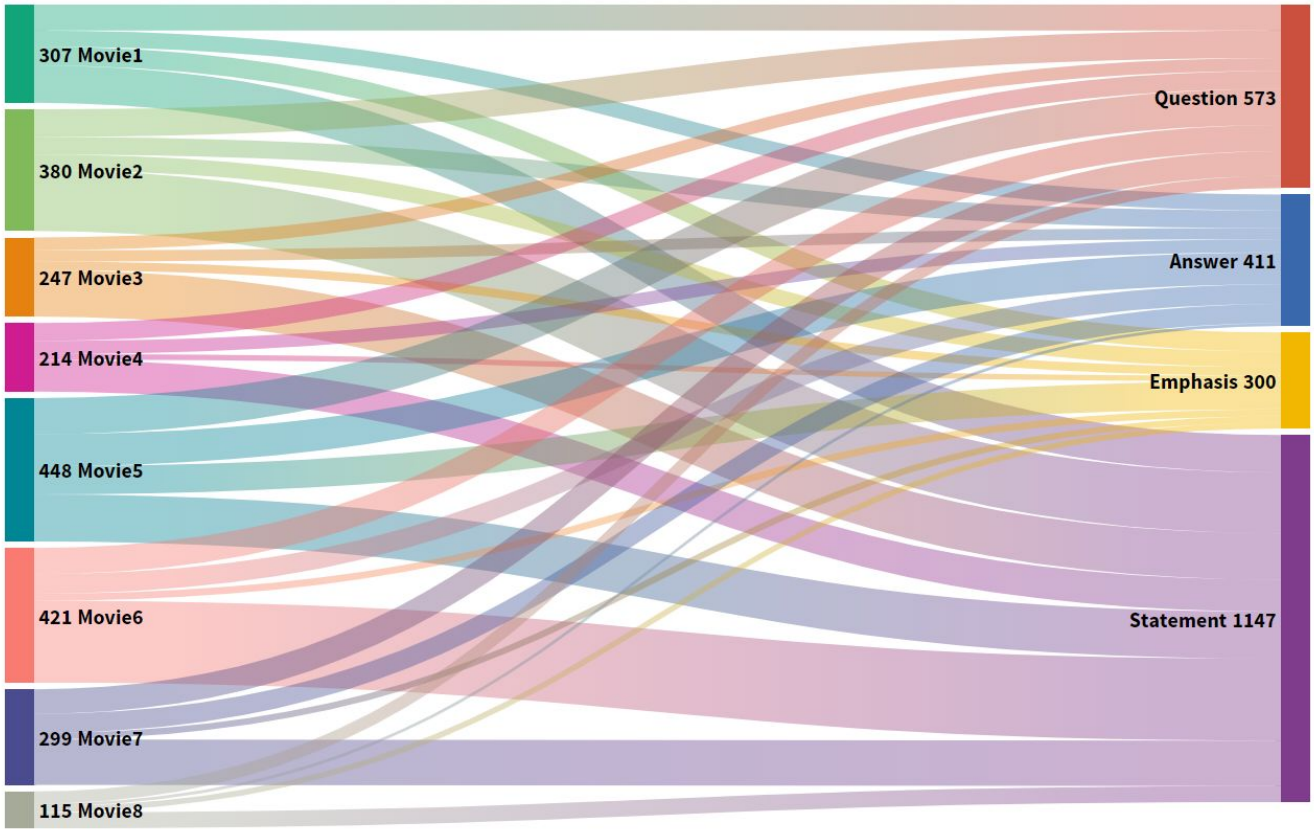

Figure 1: Distribution of DA tags for Harry Potter

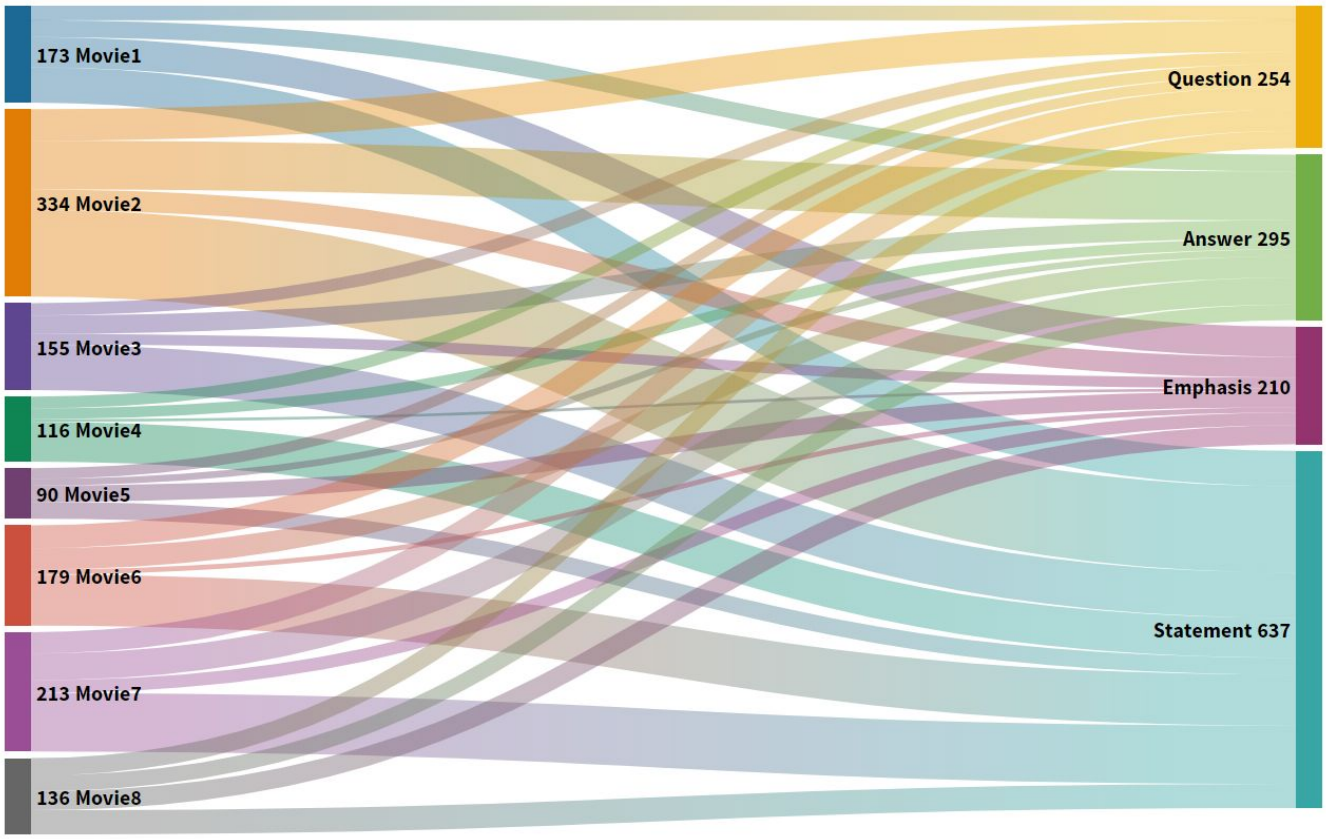

Figure 2: Distribution of DA tags for Ron Weasley

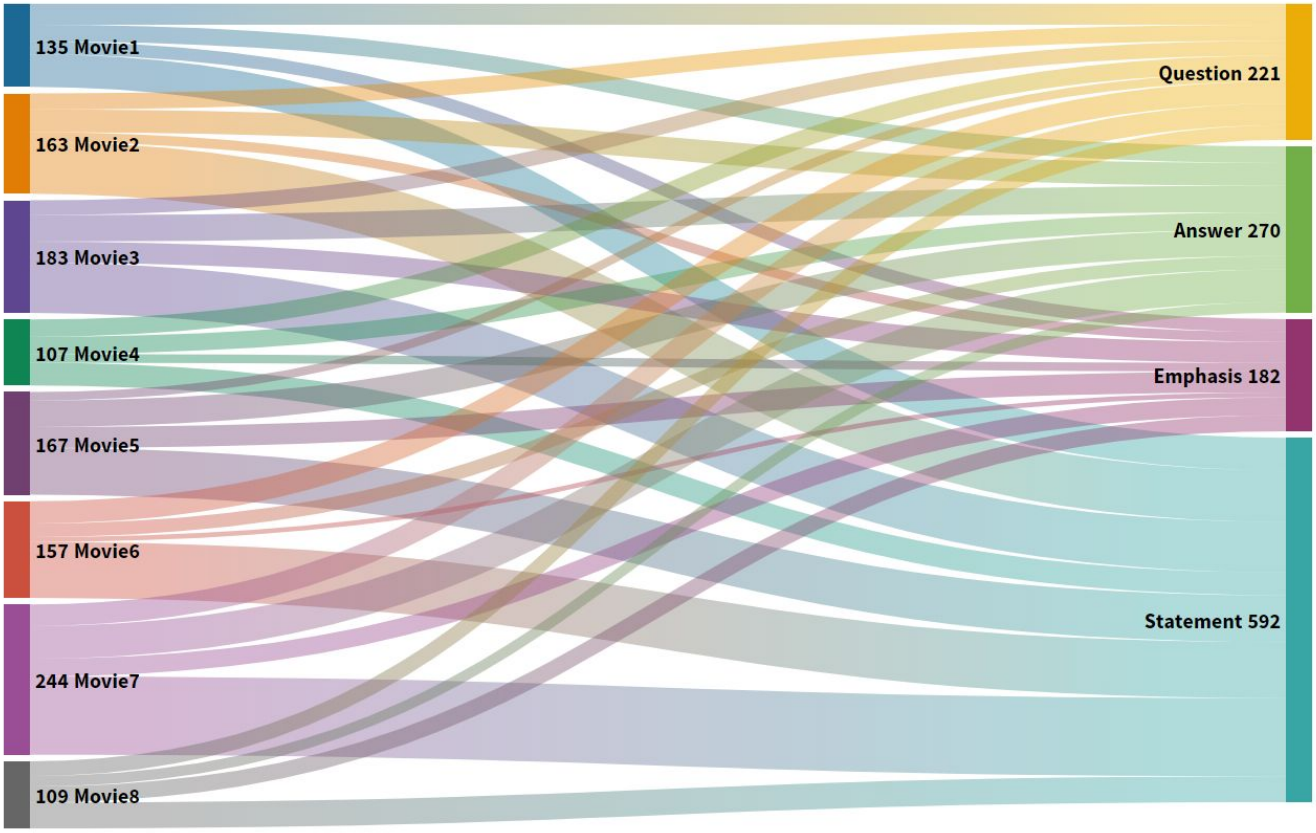

Figure 3: Distribution of DA tags for Hermione Granger

From the diagrams, no clear trends was observed across characters or across the movies for each character, which was disappointing. Every character displayed a similar distribution of DA tags across the movies, which makes them indifferentiable from one another. Within one character, the data is obviously skewed towards Statement which was its own category and tag, highlighting that further analysis is required with more specific tags for Statement-typed dialogues.

One possible conclusion that could be drawn from this is that the scripts may have followed a template or “formula” which distributes the type of dialogues similarly across the different movies. This is highly likely as Harry Potter being a hugely successful movie franchise with a large following would have to be consistent if not better for every subsequent movies. They might have chosen to a format that worked, catered to the audience, and ensured success. Since movies also tend to pander to a wider and more diverse audience, they might have left out the nuances and dynamics of the dialogues and conversations between characters, and focused on the action, scene, mood more.

Limitations and Further Studies

Throughout the course of this research, these are some recognised limitations and proposed future approaches:

From the distributions of the DAs, the choice of using the 15 DAs provided by NLTK may not have been optimal as seen from the skewness in the proportions of Statements versus every other types. Even if the dialogues are tagged accurately, there are lost data as the set of DA tags used did not have further categories as to the type of Statements made. Future studies could be made by using the recognised Switchboard Dialogue Act Corpus (henceforth SwDA) which provides 44 tags that are much more specific and is built upon a larger and more varied set of corpus.

Another recognised limitation comes from the assumption that was made in the methodology, namely that the classifier would only pick up the illocutionary meaning of the dialogue that is isolated from the plot that is laced in it. Upon closer readings after the completion of analysis, there is a significant portion of the dialogues in the scripts that heavily references the plot, as much as we have wanted to avoid that. Another issue arises from the fact that the classifier is unable to fully differentiate the emotions behind the movie dialogues as they are fed through the classifier individually. Future studies could look into personally tagging a small sample of the movie dialogue first and parsing it as training data to the classifier to train higher accuracy in identification. This could be a reason as to why some tags which were hypothesized to have high frequencies turned out to be much lower.

Conclusion

The use of movie scripts alone could be flawed from the start as scripts are written with much more details than merely directing the dialogues that goes between the actors and actresses in each scene. Subtle character development may have been primarily portrayed through actions, such as Harry's kindness is shown through unwillingness to cast torture spells onto others (ironically, through a lack of dialogue rather than the presence of dialogue). Due to limited screen time, character development through heavy dialogue may have been forgone in favour of action scenes. Ultimately, the audience is there for the magical realm and fantasy that is set in Magical London, which could have influenced the structure of filming to capitalise on the action than on the dialogues instead.

Citations

- Stolcke, A., Ries, K., Coccaro, N., Shriberg, E., Bates, R., Jurafsky, D., ... & Meteer, M. (2000). Dialogue act modeling for automatic tagging and recognition of conversational speech. Computational linguistics, 26(3), 339-373.
- Meguro, T., Higashinaka, R., Dohsaka, K., Minami, Y., & Isozaki, H. (2009). Effects of personality traits on listening oriented dialogue. In *Proc. International Workshop on Spoken Dialogue Systems Technology (IWSDS)* (pp. 104-107).
- Lucas J.W. Johnson (5 August 2011), Retrieved from http://lucasjwjohnson.com/2011/08/05/character-development-in-harry-potter/

Appendix A

HARRY	Movie 1	Movie 2	Movie 3	Movie 4	Movie 5	Movie 6	Movie 7	Movie 8
Accept	4	1	2	3	15	9	2	0
Bye	0	0	0	1	1	1	0	1
Clarify	6	17	11	4	21	5	17	4
Continuer	0	3	1	0	4	0	5	2
Emotion	0	0	0	0	0	0	0	0
Emphasis	59	49	27	17	88	22	20	18
Greet	0	0	0	1	1	1	0	0
nAnswer	13	7	3	9	19	13	16	0
Other	9	7	4	2	8	11	12	2
Reject	23	28	16	17	32	27	22	3
Statement	117	190	145	100	147	256	142	50
System	5	9	11	9	2	20	15	3
whQuestion	51	47	26	30	85	49	49	21
yAnswer	4	2	3	8	13	7	3	2
ynQuestion	30	39	14	26	28	33	28	17

RON	Movie 1	Movie 2	Movie 3	Movie 4	Movie 5	Movie 6	Movie 7	Movie 8
Accept	1	1	1	0	1	3	4	1
Bye	0	0	0	1	0	0	0	0
Clarify	10	24	9	5	3	10	13	7
Continuer	0	3	3	1	1	1	2	0
Emotion	0	0	0	0	0	0	0	0
Emphasis	54	37	19	5	29	9	23	34

Greet	1	2	0	1	1	0	1	1
nAnswer	3	26	16	1	0	16	7	3
Other	4	18	13	4	2	15	10	7
Reject	16	35	7	11	7	9	22	16
Statement	63	154	81	71	30	91	104	43
System	5	18	12	1	2	9	10	5
whQuestion	13	39	16	11	15	22	28	16
yAnswer	0	1	0	2	1	0	2	1
ynQuestion	13	17	6	10	4	19	10	15

HERMIONE	Movie 1	Movie 2	Movie 3	Movie 4	Movie 5	Movie 6	Movie 7	Movie 8
Accept	1	1	0	0	0	1	0	1
Bye	0	0	0	1	0	0	0	1
Clarify	8	10	12	9	15	1	19	3
Continuer	1	3	0	0	1	4	3	1
Emotion	0	0	0	0	0	0	0	0
Emphasis	21	16	34	14	34	8	29	26
Greet	0	0	0	0	1	0	0	0
nAnswer	5	9	5	6	6	12	11	6
Other	3	9	4	2	10	8	13	4
Reject	13	14	23	11	18	7	20	6
Statement	53	84	82	37	76	91	127	42
System	6	4	3	3	0	8	11	2
whQuestion	21	13	17	16	12	18	23	19
yAnswer	0	3	3	2	4	1	3	1
ynQuestion	13	13	7	12	2	18	12	5

Appendix B

Examples of each DA tag. All examples are taken randomly from Harry's set of data.

Accept: (Yeah, that does seem weird. , Accept)

Bye: (Bye. , Bye)

Clarify: (She'd been sent here by the Ministry. , Clarify)

Continuer: (But the quill has some sort of spell on it. , Continuer)

Emotion: None as no Emotion tag was reported across all data

Emphasis: (Hedwig! , Emphasis)

Greet: (Hi. , Greet)

nAnswer: (School rules? No. , nAnswer)

Other: (Please don't be dead, please don't be dead... , Other)

Reject: (No, there isn't! , Reject)

Statement: (That was really good. , Statement)

System: (Dementors. , System)

whQuestion: (What are you doing here? , whQuestion)

yAnswer: (Yes, but- , yAnswer)

ynQuestion: (Or are you calling me a murderer? , ynQuestion)