



GAME OF THRONES™

SOCIAL NETWORK ANALYSIS

Team 8: Sindu Bhavanam, Andrew Gatchalian, Hyo Won Lee,
Dimitrios Mousouroulis, Kuan-I Wu

TABLE OF CONTENTS

1. INTRODUCTION - GOT BACKGROUND / PURPOSE
2. DATA / METHODOLOGY
3. SOCIAL NETWORK ANALYSIS - GOT OVERVIEW
4. BOOKS 1 & 2 ANALYSIS
5. CHARACTER EVOLUTION
6. BOOKS 3, 4 & 5 ANALYSIS
7. CHARACTER EVOLUTION (ALL) & KEY EVENTS
8. IMPLICATIONS, FINDINGS, KEY RELATIONSHIPS
9. MAJOR CHARACTERS (JUSTIFIED BY CENTRALITY MEASURES)
10. CONCLUSION & FUTURE RESEARCH



I. INTRODUCTION

- ❖ What is Game of Thrones?
 - Popular television series from HBO
 - Based on the highly acclaimed: *A Song of Ice and Fire* by George R.R. Martin
- ❖ Epic fantasy set in the world of Westeros
 - Noble families fight for control of the Iron Throne and rule over the Seven Kingdoms
- ❖ Purpose of social network analysis (SNA):
 - Complex social structures/narrative
 - Rich ensemble of characters
 - Diverse network of power
 - Influence and communication



2. DATA / METHODOLOGY

- ❖ Dataset from [GitHub](#)
- ❖ Character interactions from ‘*A Song of Ice and Fire*’ (ASOIAF) saga
 - “Co-occurrence” - when two character names (or nicknames) appear within 15 words of one another in the book
- ❖ Network Representation:
 - Nodes - Characters (‘Source’ and ‘Target’)
 - Edges - Relationship between characters (‘Type’)
 - Edge Weight - Strength of interaction (frequency of co-occurrences)



GitHub

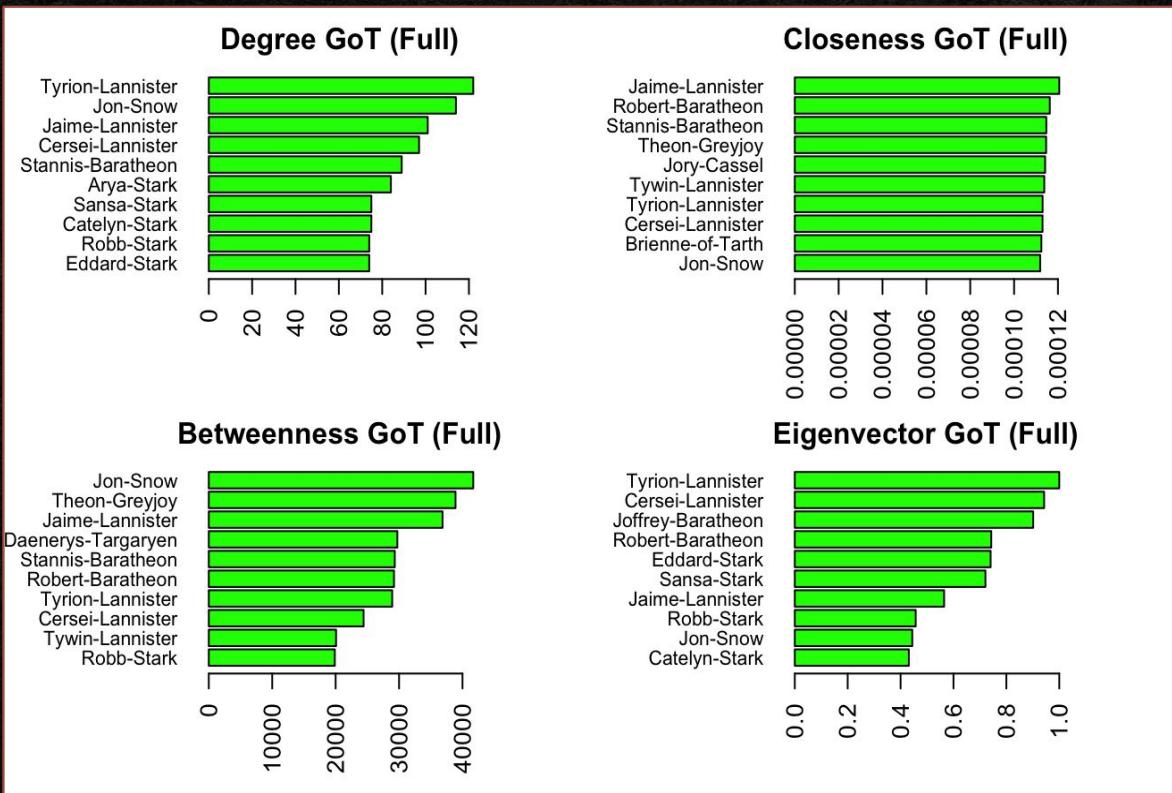


	Source	Target	Type	id	weight
1	Addam-Marbrand	Brynden-Tully	Undirected	1	3
2	Addam-Marbrand	Cersei-Lannister	Undirected	2	3
3	Addam-Marbrand	Gyles-Rosby	Undirected	3	14
4	Addam-Marbrand	Jaime-Lannister	Undirected	4	3
5	Addam-Marbrand	Jalahbar-Xho	Undirected	5	3
6	Addam-Marbrand	Joffrey-Baratheon	Undirected	6	3
7	Addam-Marbrand	Kevan-Lannister	Undirected	7	4
8	Addam-Marbrand	Lyle-Crakehall	Undirected	8	3
9	Addam-Marbrand	Oberyn-Martell	Undirected	9	7
10	Addam-Marbrand	Tyrion-Lannister	Undirected	10	6
11	Addam-Marbrand	Tywin-Lannister	Undirected	11	4
12	Addam-Marbrand	Varys	Undirected	12	4
13	Aegon-Frey-(son-of-Stevron)	Catelyn-Stark	Undirected		





3. SOCIAL NETWORK ANALYSIS (GOT OVERVIEW)

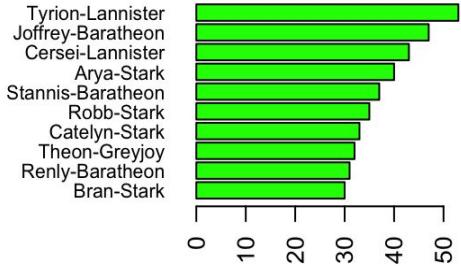


- ❖ Network Overview
- ❖ Network Diameter
- ❖ Degree Distribution
- ❖ Centrality Measures:
 - Degree (ties)
 - Closeness (strategic positioning)
 - Betweenness (bridging networks)
 - Eigenvector (influence)

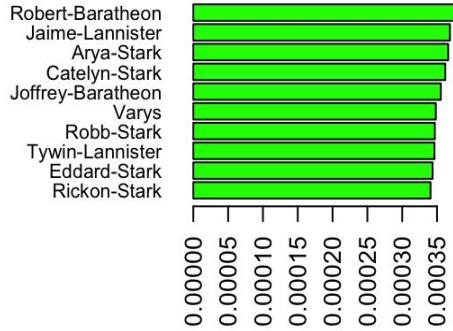
4. BOOKS 1-2 ANALYSIS



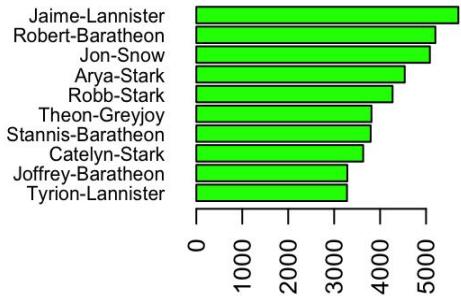
Degree GoT Book 2



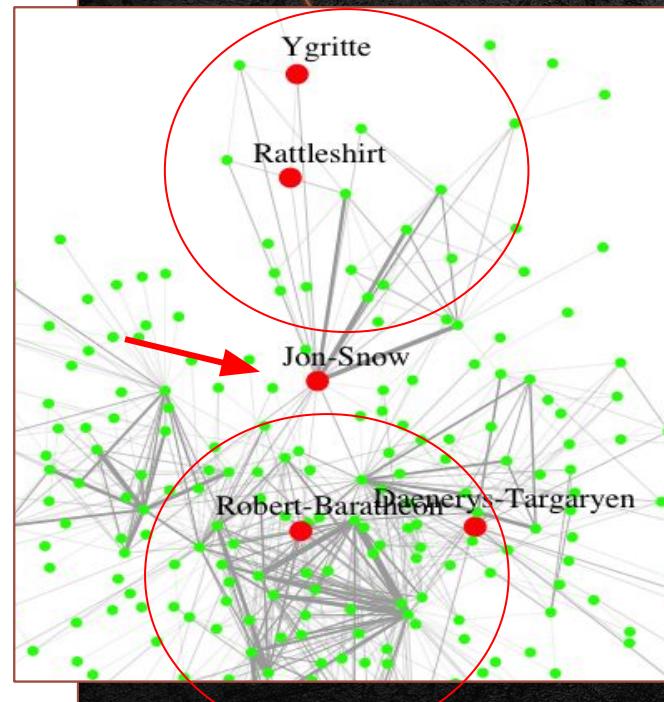
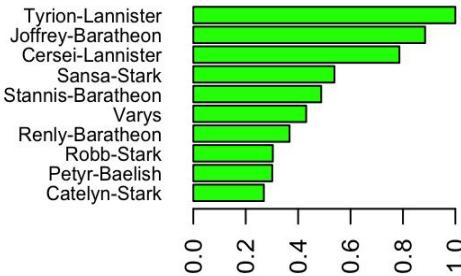
Closeness GoT Book 2



Betweenness GoT Book 2



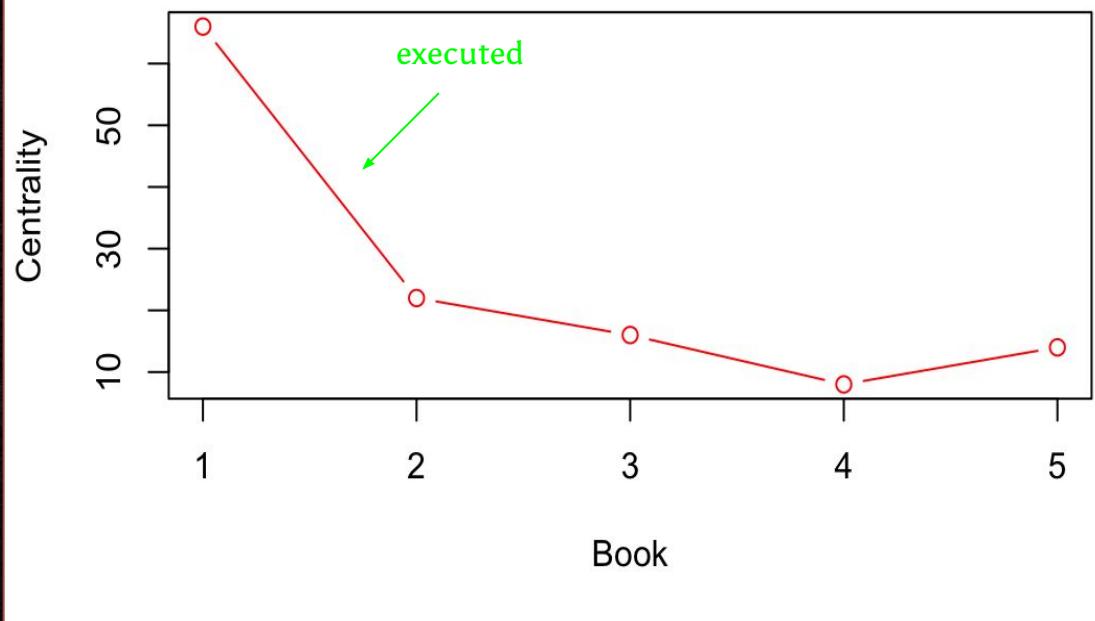
Eigenvector GoT Book 2



5. CHARACTER EVOLUTION (1/3)



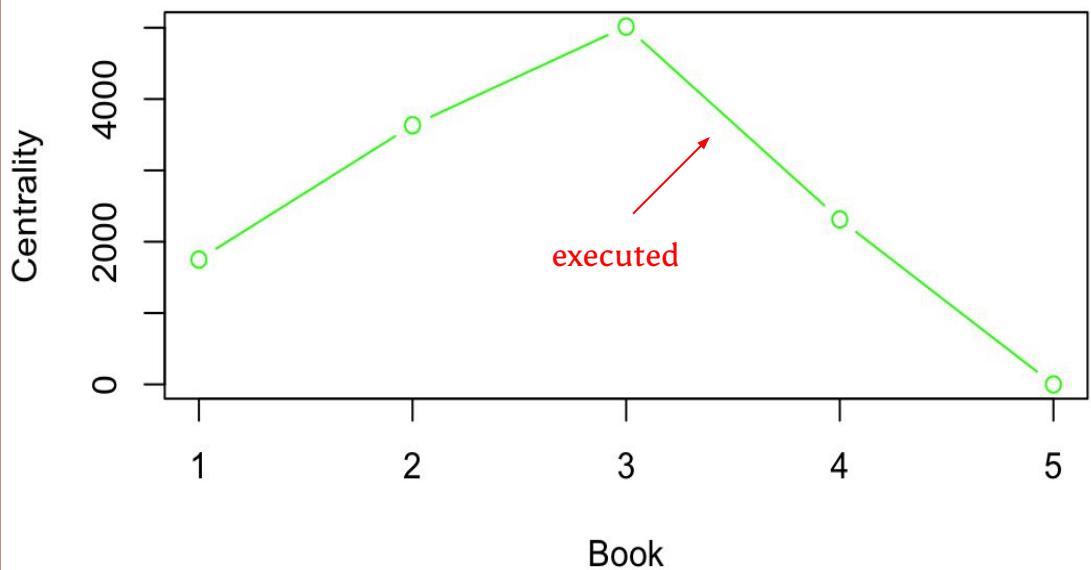
Eddard Stark's Degree Centrality Evolution



5. CHARACTER EVOLUTION (2/3)



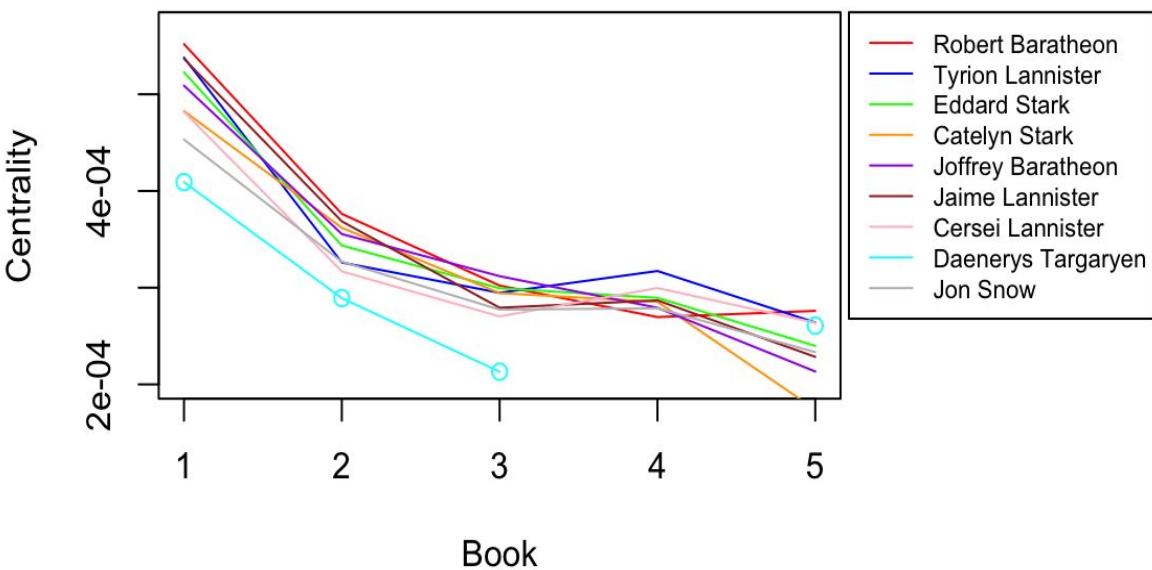
Catelyn Stark's Betweenness Centrality Evolution





5. CHARACTER EVOLUTION - ALL (3/3)

GoT Character Closeness Centrality Evolution



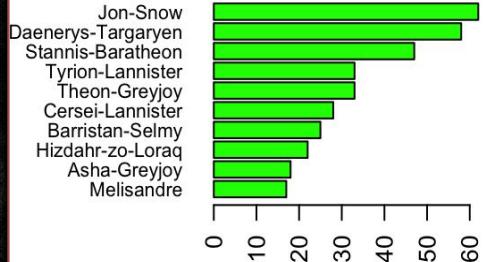
What is happening to closeness centrality?

- ❖ A downward trend for all characters owed to:
 - Expansion of the network
 - Fragmented storyline
 - Deaths and isolation

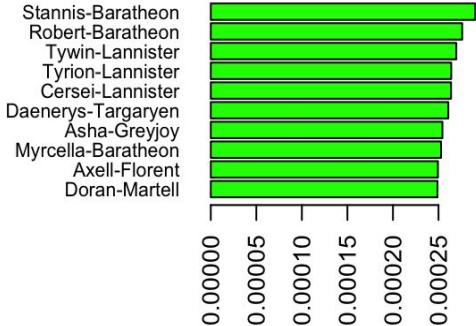
6. BOOKS 3-5 ANALYSIS



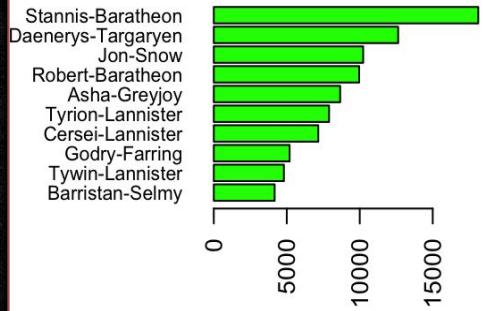
Degree GoT Book 5



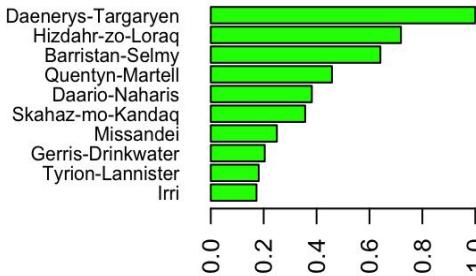
Closeness GoT Book 5



Betweenness GoT Book 5



Eigenvector GoT Book 5



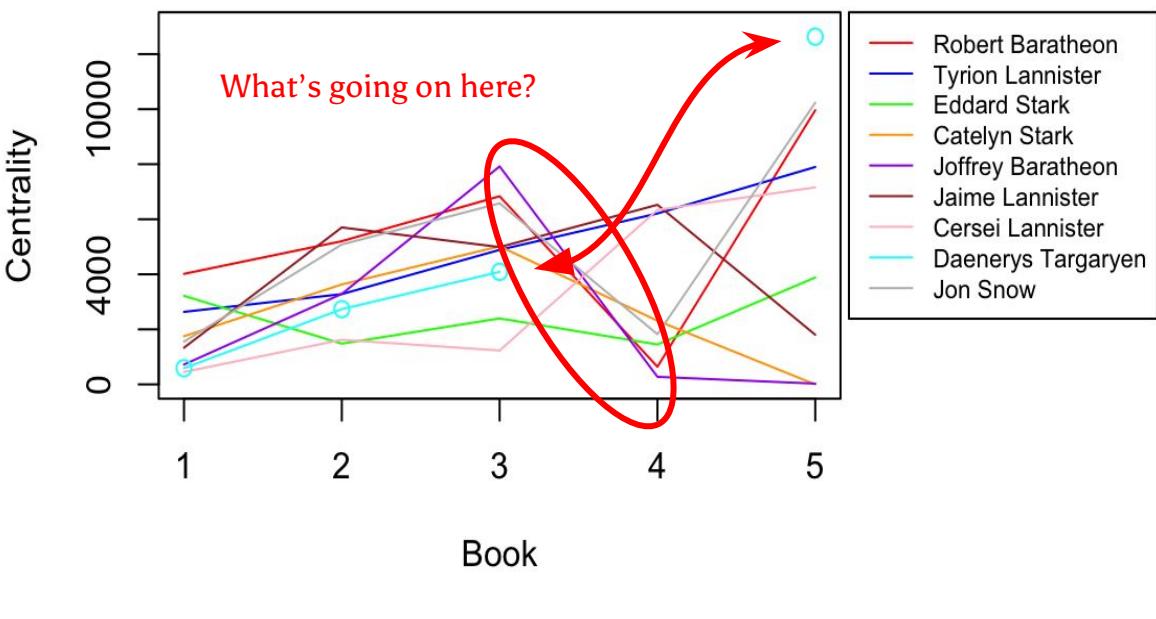
What is happening to degree centrality?

- ❖ Each book is different from the other
- ❖ Book 4, “A Feast for Crows”, is completely different compared to other books in the series in terms of narrative structure, character focus etc.

7. CHARACTER EVOLUTION (ALL) & KEY EVENTS



GoT Character Betweenness Centrality Evolution



What is happening to betweenness centrality?

- ❖ Downward trends characterized by notable character deaths including Joffrey Baratheon
- ❖ Daenerys does not appear in Book 4 as the story is divided regionally therefore excluding her

8. IMPLICATIONS, FINDINGS, KEY RELATIONSHIPS

- ❖ Network identifies key subcomponents (North vs. South)
- ❖ Centrality measures reveal the role of each character
- ❖ Evolution of centrality attributed to events
- ❖ Decreasing closeness through books 1-5 indicative of the expansion of networks
- ❖ Who are the major players in Game of Thrones?





9. MAJOR CHARACTERS (JUSTIFIED BY CENTRALITY)



JAI ME LANNISTER
(THE CONNECTOR)

- ❖ Closeness
- ❖ Betweenness



TYRION LANNISTER
(THE INFLUENCER)

- ❖ Degree
- ❖ Eigenvector



CERSEI LANNISTER
(THE POWER BROKER)

- ❖ Eigenvector



JON SNOW
(THE BRIDGE)

- ❖ Betweenness
- ❖ Degree



THE RIGHTFUL HEIR?

10. CONCLUSION + FUTURE RESEARCH

- ❖ Dynamic character networks & complex narrative
- ❖ Centrality measures identify key characters and events that influence the story's progression
- ❖ **Limitations:**
 - Undirected network
 - “Co-occurrence” definition
- ❖ **Future Research:**
 - ASOIAF vs. GoT (HBO)
 - ❖ As of 2023, ASOIAF Book 6: *The Winds of Winter* is still under development...



DAENERYS TARGARYEN
(THE NEXT QUEEN?)

- ❖ Degree
- ❖ Betweenness
- ❖ Closeness
- ❖ Eigenvector

THANK YOU!
ANY QUESTIONS?

