An Exploration into the Knowledge Network of *The Journey to the West*-A Digital Humanities Approach
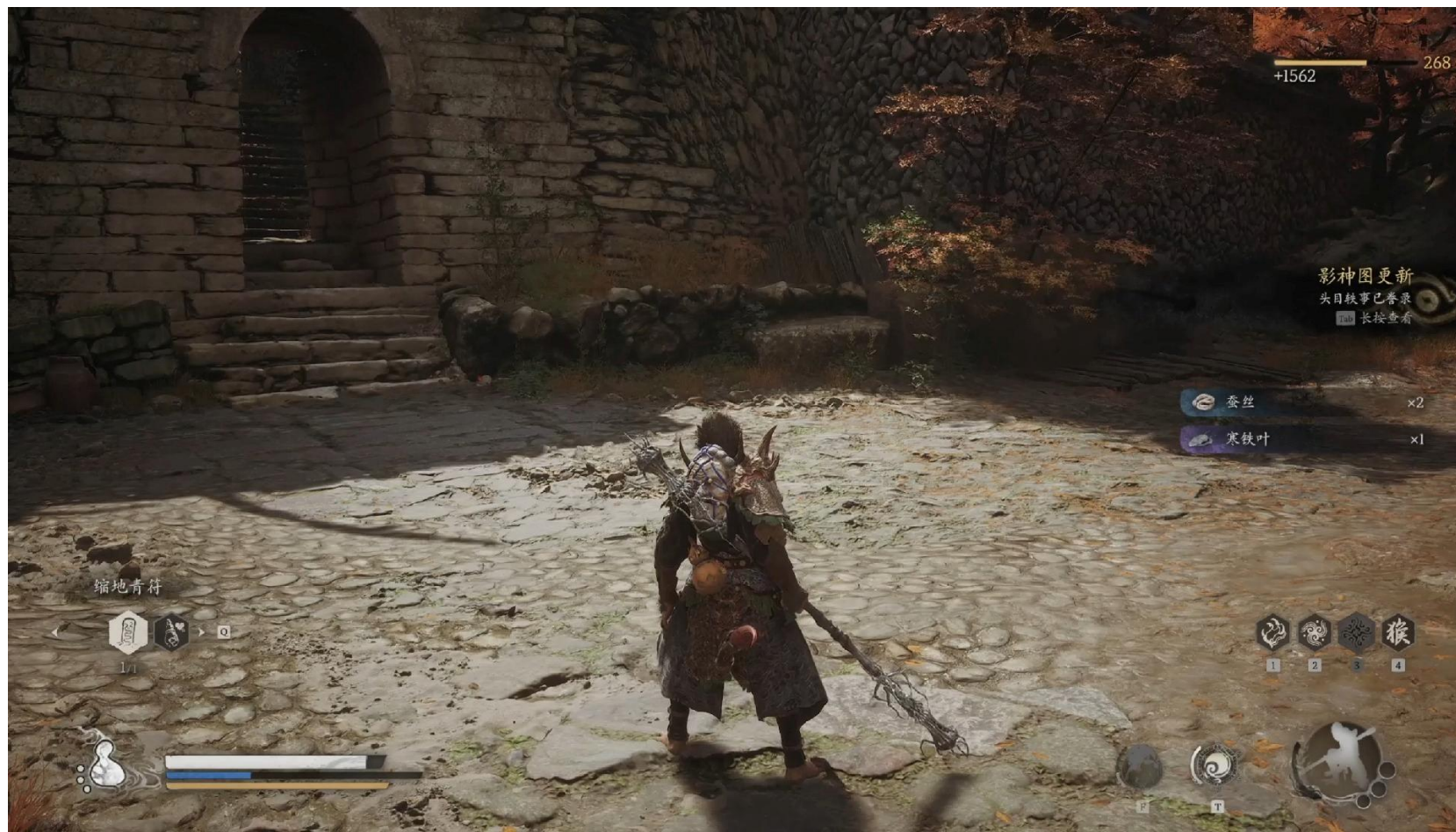
HUI LIU

ASSOCIATE PROFESSOR

COLLEGE OF FOREIGN LANGUAGES

NANJING UNIVERSITY OF AERONAUTICS AND ASTRONAUTICS (NUAA)
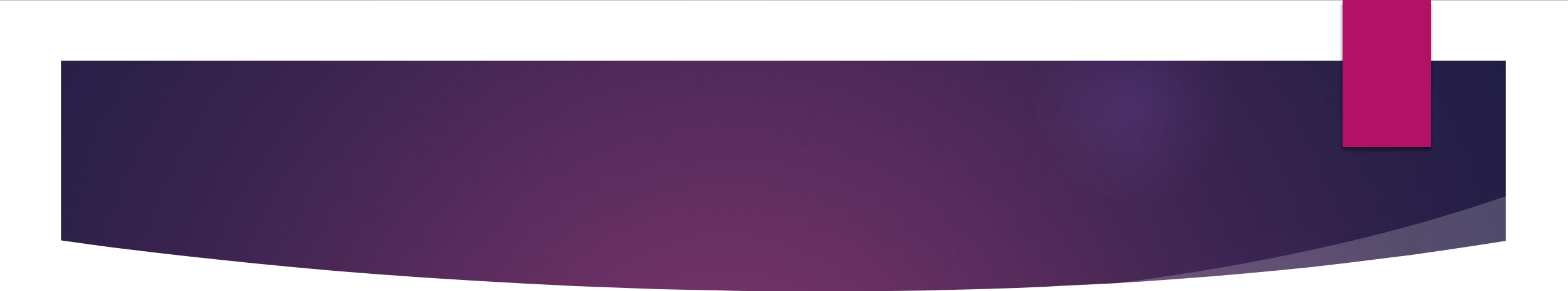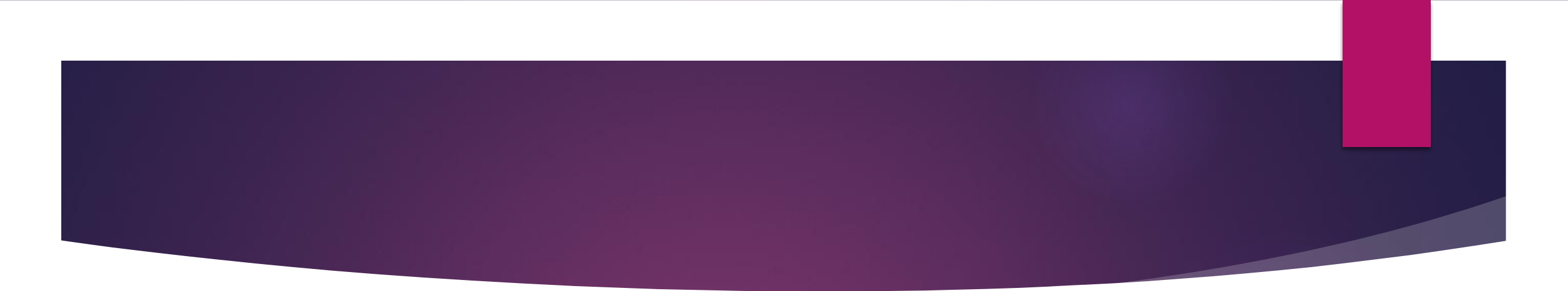
Do you know "Black Myth: Wukong"?

Content

- 1. An introduction to *The Journey to the West*
- 2. Anthony Christopher Yu and his translation of *The Journey to the West*
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1. An Introduction to *The Journey to the West*

▶ a late-Ming novel of prose fiction built upon meandering pilgrimage to India by the seventh-century monk Tripitaka

▶ 100 chapters and 4 unequal parts:

▶ Part 1: a self-contained introduction to the main story

▶ Part 2: introduces Tripitaka through his early biography and the background to his great journey

- Part 3: the longest section of the work, an episodic adventure story in which Tripitaka sets out to bring back Buddhist scriptures from India, but encounters various evils along the way

- Part 4: the return journey to the Tang Empire, and the aftermath in which each traveler receives a reward in the form of posts in the bureaucracy of the heavens

- It is regarded as one of the greatest Classic Chinese novels, and has been described as one of the most popular literary works in East Asia.
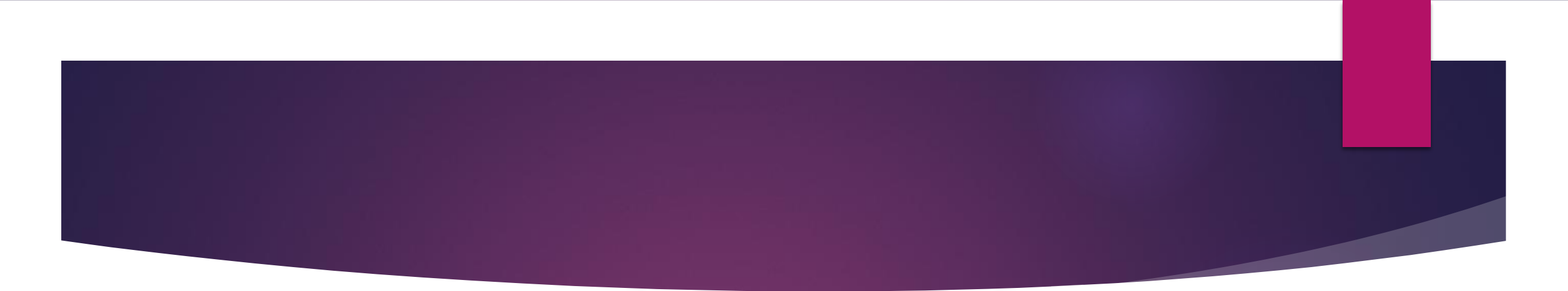
2. Anthony Christopher Yu and his translation of *The Journey to the West*
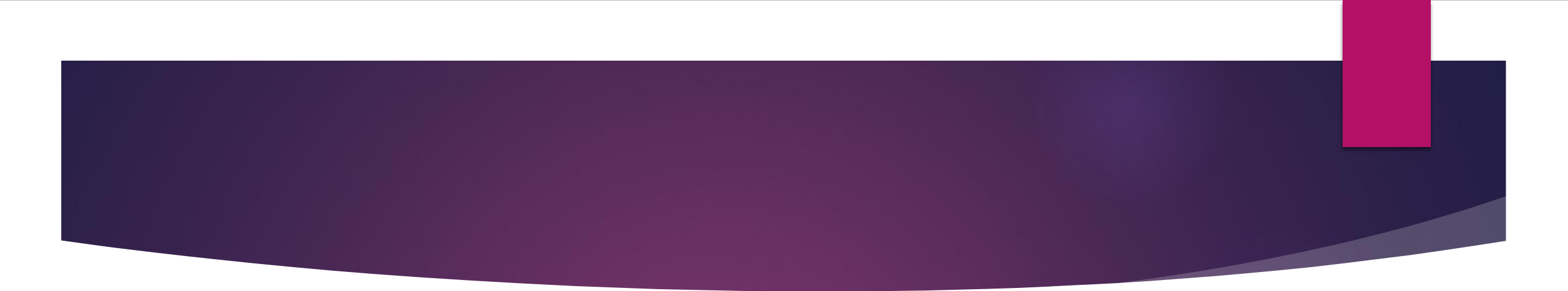
- Anthony Christopher Yu, born on Oct. 6, 1938, in Hong Kong, was an eminent scholar of both religious studies and literature. He was the Carl Darling Buck Distinguished Service Professor Emeritus in the Humanities and Professor Emeritus of Religion and Literature in the Chicago Divinity School as well as a member of the Committee on Social Thought at the University of Chicago.

Existing studies about Yu and his translation

- 3 Groups:

- Group 1: made up of book reviews and essays aiming at giving a full assessment of his translation (see, e.g. Wang&Xu, 2016). This kind of remarks puts emphasis on discussion of translation quality, techniques and strategies as well as praises on the wide-ranging and detailed footnotes attached in the translation.

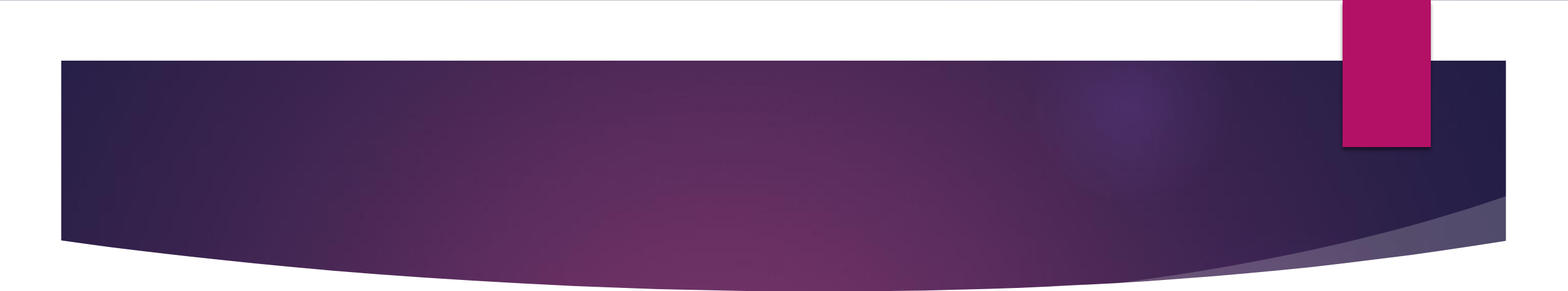▶ Group 2: includes essays written in retrospect and prospect of sinology development outside China including the achievements made by Yu. For instance, many sinologists' achievements would be listed with just a few words summarizing their thinking and logic. He (2011) points out that Yu's research of sinology is based on psychology, and the major research approach he adopts is cross-cultural analysis.

- Group 3: centers on Yu's research on Chinese classics and religion. While considerable attention has been paid in the past to the translation of *The Journey to the West*, interest of Yu's study on Chinese classics has emerged only very slowly and in a more scattered way. These lone voices include Thomas DuBois and Blaine Gaustad. DuBois (2007) provides a framework to address the indivisibility of statecraft and religion, therefore "warrants the effort of multiple readings" and Gaustad (2007) gives high praise on Yu's *State and Religion in China: Historical and Textual Perspectives*.

3. Previous Studies on translations of *The Journey to the West*

▶ Arthur Waley's early 20th-century translation, while praised for its accessibility, has been critiqued for taking certain liberties in interpreting the original text.

▶ Yu's four-volume translation, completed in the late 20th century, is widely regarded as a comprehensive and faithful rendition, capturing the nuances of the narrative and the philosophical underpinnings of Confucianism, Taoism, and Buddhism. This translation, however, has faced scrutiny for its scholarly density, making it challenging for casual readers.

- This study takes a digital humanities approach to delve into the intricate network of knowledge found within Yu's translation. By employing ConText for LDA topic modeling and LancsBox for further analysis, the study uncovers three main channels of knowledge in the notes of Yu's translation, namely, Taoism, Buddhism and Confucianism.

4. OBTAINING AND HANDLING OF DATA

▶ Firstly, 1,240 footnotes in Yu's translation of *The Journey to the West* were collected and saved in txt format to form a corpus.

▶ Then the corpus was cleaned with the documents segmented, manually proofread, and stop words removed.

▶ Topic modeling is performed using ConText developed by Jana Diesner and her team in University of Illinois.

▶ Finally, LancsBox is used for further analysis of selected themes and collocates.

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Quick Installation Guide

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- ConText should run automatically after the installation process is completed.
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5. Findings

▶ 1) Topic modeling of the translation of the whole book

▶ Topic modeling can give a string of words that best represent a topic. Based on table 1, we can see clearly that the words "Chinese," "daoist," "buddhism," and "liji" suggest an interplay of cultural, religious, and literary themes of *The Journey to the West.*

Table 1. Topic modeling of footnotes in Yu's translation of *The Journey to the West*

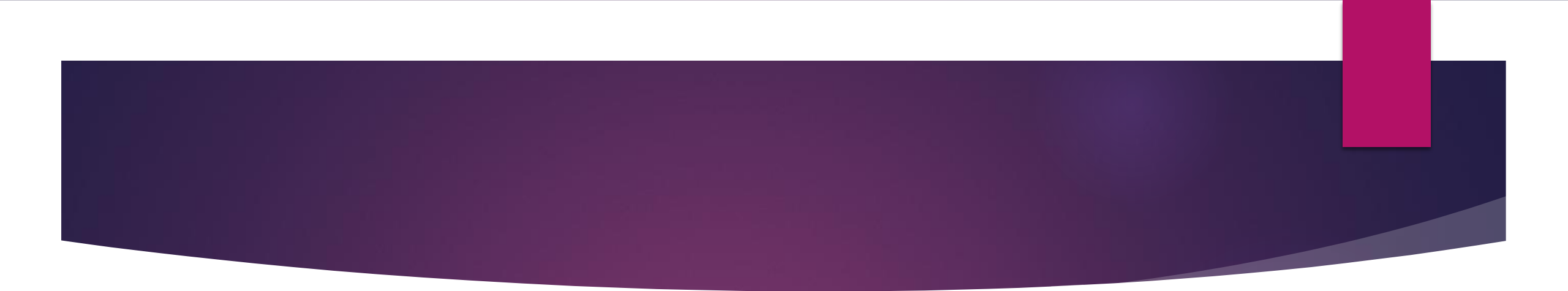| Topic	Weight	Topic Members
1	7.8655	chinese - chapter - term - text - daoist - poem - line - literally - body - buddhism -
2	1.3866	appeared - grove - phenomena - works - smith - pool - allude - shaped - evil - issues -
3	1.3769	tiantai - xue - quatrain - chi - leading - rhetorical - stick - energetics - empire - powerful -
4	1.3696	stock - ways - purple - sticks - black - lotus - dame - guo - venerated - national -
5	1.3619	passage - scheme - provinces - flying - liji - designation - stages - commandments - boar - myth -
6	1.3617	power - flower - star - common - alternately - warring - flowing - ghosts - belief - rabbit -
7	1.3556	schafer - magic - death - qian - production - memorial - astronomical - rivers - cave - pan -

- 2) A collocate is a word that frequently appears near another specific word, and analyzing collocates can reveal patterns of language usage and associations between words. Figures 1-3 show the collocates of dao, Buddhism and Confucius respectively.

Figure 1. Collocates of *dao*

	Collocate	Rank	FreqLR	FreqL	FreqR	Range	Likelihood	Effect
1	way	1	5	3	2	1	26.976	5.271
2	entanglement	2	2	0	2	1	22.355	9.341
3	cong	3	2	2	0	1	19.366	8.341
4	bandits	3	2	2	0	1	19.366	8.341
5	livia	3	2	2	0	1	19.366	8.341
6	kohn	6	2	2	0	1	17.679	7.756
7	lao	6	2	0	2	1	17.679	7.756
8	shiji	8	2	1	1	1	13.230	6.171
9	chan	9	3	1	2	1	12.531	4.372
10	lord	10	2	0	2	1	12.431	5.882

Figure 2. Collocates of *buddism*

	Collocate	Rank	FreqLR	FreqL	FreqR	Range	Likelihood	Effect
1	chan	1	7	6	1	1	22.266	3.596
2	stanley	2	3	2	1	1	18.311	5.743
3	weinstein	2	3	2	1	1	18.311	5.743
4	china	4	7	1	6	1	18.084	3.124
5	daoism	5	5	1	4	1	15.948	3.605
6	powerless	6	2	1	1	1	15.162	6.743
7	mahayana	6	2	1	1	1	15.162	6.743

Notes:

- *Chan is associated with a school of Mahayana Buddhism known as Zen in Japan. It is the major branch of Buddhism practiced in East Asia.*

Figure 3. Collocates of *Confucius*

	Collocate	Rank	FreqLR	FreqL	FreqR	Range	Likelihood	Effect
1	neo	1	6	6	0	1	53.525	7.782
2	traditions	2	3	3	0	1	24.934	7.367
3	analects	3	3	0	3	1	19.350	6.045
4	doctrine	4	3	0	3	1	16.932	5.460
5	transmitted	5	2	1	1	1	14.953	6.782
6	song	6	4	2	2	1	14.897	4.027
7	zeng	7	2	1	1	1	14.049	6.460

3) Further analysis of the 1,240 notes

▶ i. distribution of footnotes: all the footnotes were classified into four categories based on thick translation theory and Genette's theory of paratexts:

▶ (1) notes that trace the source (this kind of notes can include an account of the source and the source of information);

▶ (2) notes that explain the background information;

▶ (3) notes that integrate the relevant information which can also summarize extra-textual knowledge, other people's comments, related research, etc.;

▶ (4) notes that serve as commentary or criticism.

Thick translation

- Kwame Anthony Appiah (1993, p. 817) defines thick translation as a translation that not only seeks to render a text from one language into another but also aims to provide a rich cultural and contextual understanding of the text for the reader. This approach goes beyond mere linguistic translation and includes detailed annotations, commentary, and explanations that help the reader grasp the cultural, historical, and social contexts of the original text. This concept of thick translation is influenced by the anthropological idea of thick description, which involves an in-depth explanation of cultural phenomena.

Genette's theory of paratexts

▶ Genette's theory of paratexts is a significant contribution to literary theory, particularly in understanding how texts are framed and contextualized. Genette (1997, p. 5) divides paratexts into two main categories: 1)peritexts-elements that are physically attached to the main text within the same volume which usually are titles, prefaces, forewords, footnotes, chapter titles, epilogues, and cover designs and 2)epitexts-elements related to the text but are not physically attached to it. Epitexts usually include author interviews, letters, diaries, promotional material, reviews, and critical essays.

Table 2. Footnote categorization in Yu's translation of *The Journey to the West*

Category of Notes	Total number of footnotes	Percentage of each categorization of notes
1	142	11.45%
2	751	60.56%
3	25	20.57%
4	92	7.42%
Total	1,240	100%

Figure 4. Number of Footnotes per Chapter by Note Category

Number of Footnotes per Chapter by Note Category
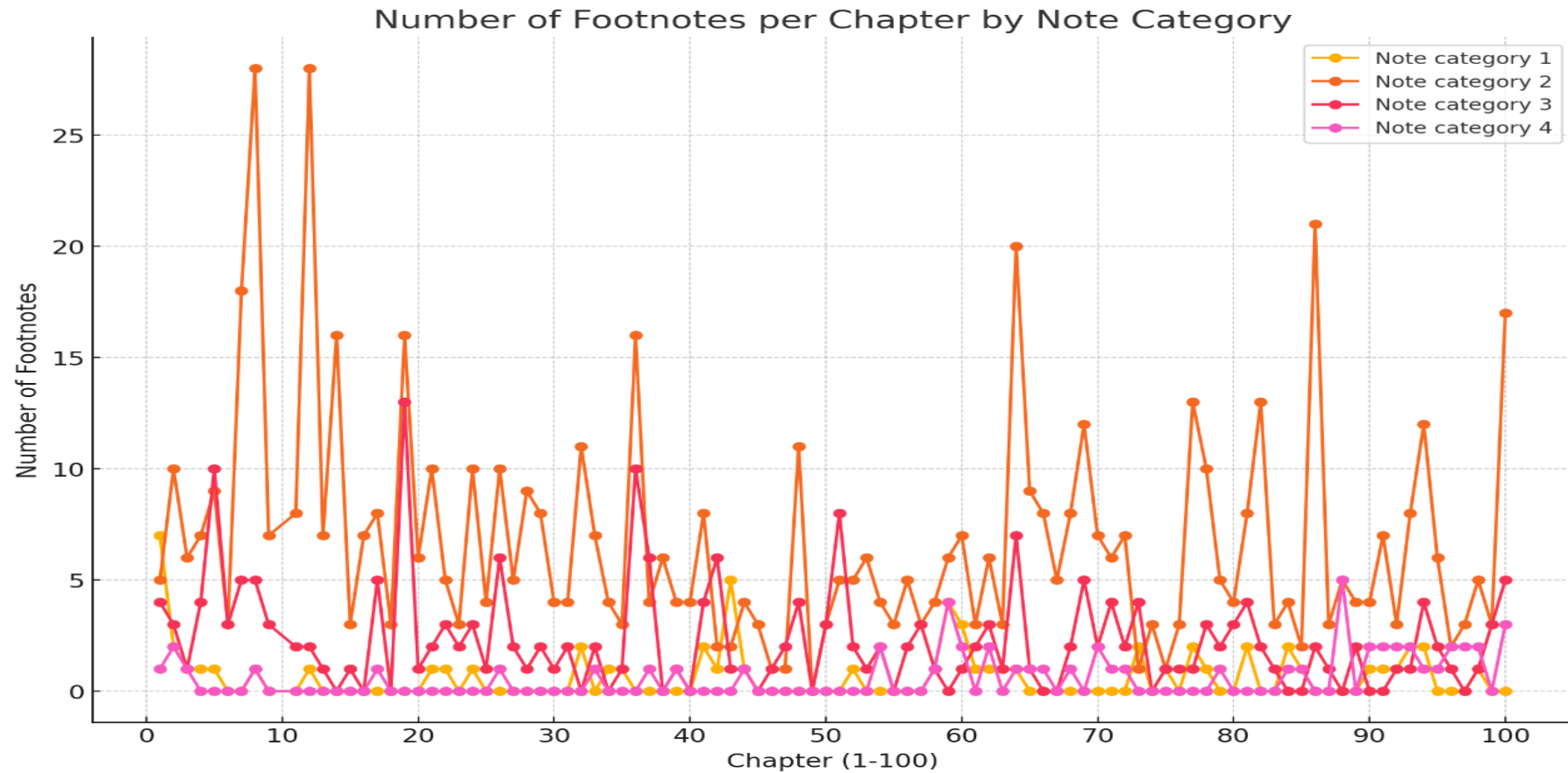
4) Topic modeling of 4 categories of notes
Figure 5. Topic modeling of footnotes category No. 1 in Yu's translation of *The Journey to the West*

Topic	Weight	TopicMembers
Topic1	8.9601	chinese - chapter - daoist - text - buddhism - xiyouji - alc...
Topic2	1.7514	real - tianzun - wood - baopuzi - city - shidetang - world ...
Topic3	1.7368	officials - autumn - abbot - scholarship - good - underw...
Topic4	1.7362	hour - days - argued - region - spirit - huandan - andrew...
Topic5	1.722	discourse - assembly - preserved - imagined - stages - d...
Topic6	1.7015	gold - pilgrimage - antiquity - disciple - attained - years -...
Topic7	1.7007	wisdom - symbolic - daxue - pearl - guardians - allegory ...

Figure 6. Topic modeling of footnotes category No. 2 in Yu's translation of *The Journey to the West*

Topic	Weight	TopicMembers
Topic1	6.2965	chinese - chapter - daoist - term - poem - line - text - bu...
Topic2	0.7887	student - daxue - argued - tianshi - conversation - fair - k...
Topic3	0.787	place - illusion - triple - pool - worthy - emperors - saliva...
Topic4	0.7632	selection - temple - study - cyclical - universe - asked - lu...
Topic5	0.733	poetic - fish-basket - zhouyi - dark - relevant - zhejiang -...
Topic6	0.7109	divine - law - submission - festival - realize - traditions - ...
Topic7	0.6957	fsz - emphasis - rhyme - reprint - theories - bamboo - pa...

# Figure 7. Topic modeling of footnotes category No. 3 in Yu's translation of *The Journey to the West*

Topic	Weight	TopicMembers
Topic1	10.5891	chapter - chinese - poem - body - term - palace - text - cl...
Topic2	2.3289	man - transformation - pass - form - earliest - mersus - liji...
Topic3	2.3273	vols - bamboo - han - novel's - zhao - indian - sui - peaco...
Topic4	2.3025	found - king - level - phases - discussion - section - water...
Topic5	2.2923	chu - p.m - structural - spirit - wrote - time - one's - trans...
Topic6	2.2654	follow - imperial - story - rod - zhu - club - rule - apricot -...
Topic7	2.2607	lines - zhuangzi - premodern - front - texts - east - pian - ...

Figure 8. Topic modeling of footnotes category No. 4 in Yu's translation of *The Journey to the West*

Topic	Weight	TopicMembers
Topic1	10.7389	chapter - chinese - term - line - literally - moon - text - p...
Topic2	2.4902	zwx - earliest - leaves - teaching - dyadic - tonal - emper...
Topic3	2.4088	famous - correlated - cycle - a.m - received - smith - iii - ...
Topic4	2.3101	meaning - souls - chen - xyj - sun - quotation - taking - b...
Topic5	2.2509	nature - action - antiquity - fusion - images - narrated - s...
Topic6	2.2295	flower - episode - west - narration - textual - opening - q...
Topic7	2.2135	chapters - estrade - river - process - quoted - patriarch's ...

5) Findings based on collocates
Figure 9. Collocates of main subject terms for footnotes category no.2 generated by LancsBox

Figure 10. Collocates of main subject terms for footnotes category no.3 generated by LancsBox
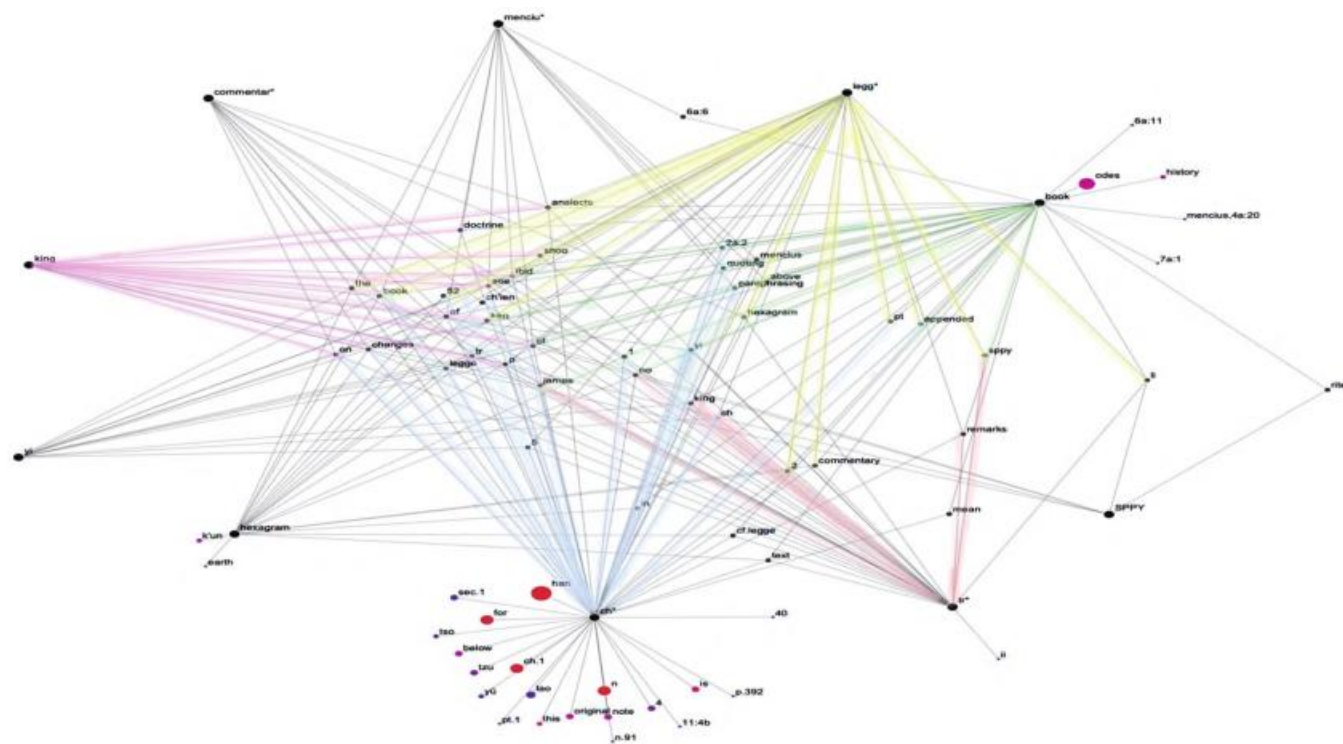
Discoveries based on figure 9-10

- Discovery1:Depiction of Buddhist Deities

- Discovery 2: Taoist Concepts of Wu Wei (Non-Action)

- Discovery 3: Filial Piety and Ethical Conduct

- Discovery 4: Confucian Social Hierarchy

Summary

▶ By providing detailed explanations, historical context, and philosophical insights, Anthony C. Yu's footnotes enrich readers' understanding of *The Journey to the West*. They highlight the complex entanglement of Buddhism, Taoism, and Confucianism, offering a comprehensive view of how these traditions coexist and influence the narrative.

Future Work

- Interconnections between deities and different civilizations in the novel

6. References

1) DuBois, T. Reviewed work: *State and Religion in China: Historical and Textual Perspectives* by Anthony C. Yu[J]. *China Review International*. Vol. 14, No. 1 (SPRING 2007), pp. 292-296.

2) Gaustad, B. Review on *State and Religion in China: Historical and Textual Perspectives* by Anthony C. Yu [J] .*The Journal of Asian Studies*, 2007(4), p.139.

3) Giulianelli, M., Tredici, M. D. &R. Fernández. Analysing lexical semantic change with contextualised word representations[R]. In Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics, 2020. https://doi.org/10.18653/v1/2020.acl-main.365

4) He, M. A survey on the English translations of Qing fictions and their characteristics [J]. *Journal of Xi'an International Studies University*. Volume 19, Issue4, pp.109-112.

5) Kozlowski, A. C., Taddy, M. & J. A. Evans. The geometry of culture: Analyzing the meanings of class through word embeddings [J]. *American Sociological Review*, 2019(5). https://doi.org/10.1177/0003122419877135

6. References

6) Michel, J. B. et al. Quantitative analysis of culture using millions of digitized books[J]. *Science*, 2011(2). DOI: 10.1126/science.11996

7) Newberry, M. G. et al. Detecting evolutionary forces in language change[J]. *Nature*, 2017(4). https://doi.org/10.1038/nature24455

8) Newberry, M. G. & J. B. Plotkin. Measuring frequency-dependent selection in culture [J]. *Nature Human Behaviour*, 2022(8). https://doi.org/10.1038/s41562-022-01342-6

9) Wang, R. G. & D. F. Xu. Three decades' reworking on the Monk: the Monkey, and the fiction of allegory [J]. *The Journal of Religion*, 2016(1), pp.102,108-109.

10) Welfare, T. L. et al. Content analysis of 150 years of British periodicals [J]. Proceedings of the National Academy of Sciences of the United States of America, 2017(4). https://doi.org/10.1073/pnas.1606380114.

Thanks for your attention!

▶ luisaliu0339@gmail.com

▶ https://www.linkedin.com/in/hui-liu-066b948a/