Probationary Faculty Development Grant: Report (June 2023)
Amelia Ying Qin
Dept. of Humanities and Religious Studies & Dept. of History

Using Digital Humanities Methods to Detect Gender Biases in the Dialogue Networks of Tang Dynasty (618-907 CE) China

Project Objectives:
1) This project applies the interdisciplinary approach of digital humanities to the study of Chinese historical anecdotes and explores gender-biased historiography in premodern China.
2) The project serves as a pilot study for a large-scale, digital analysis of the social and political interactions among historical figures during the Chinese middle period.
3) The project also offers itself as a case-study for the critique of this new interdisciplinary approach by identifying the advantages and limitations of applying digital methods to similar projects.
4) The project and its research results will serve as pedagogical tools for students to become familiar with digital humanities resources in the classroom, while also conveying the potential for technology to discern patterns of gender biases in historical anecdotes and narratives.

Project Description:
Digital humanities is a rapidly-growing field that brings digital tools and computer-aided analysis to the humanities.[1] In particular, recent developments in social network analysis (SNA) offer quantitative and statistical methods for examining relational patterns among groups of people.[2] Social network analysis is employed in a wide range of disciplines and interdisciplinary fields, including political science, international relations, policy and decision making, and economic and financial systems.

---

[1] For overviews of the field and discussions of methodology and philosophy, see Peter K. Bol, "Introduction to the Special Issue," *Journal of Chinese History* 4 (2020): 251–57; Michael A. Fuller, "Digital Humanities and the Discontents of Meaning," *Journal of Chinese History* 4 (2020): 259–75; Jing Chen and Lik Hang Tsui, Chapter 6 "Debating and Developing Digital Humanities in China: *New or Old?*" in *Global Debates in the Digital Humanities*, edited by Domenico Fiormonte, Sukanta Chaudhuri, and Paola Ricaurte (Minneapolis, MN: University of Minnesota Press, 2022), 71-86.

[2] Stanley Wasserman and Katherine Faust, *Social Network Analysis: Methods and Applications* (Cambridge University Press, 1994); Albert-laszlo Barabasi and Jennifer Frangos, *Linked: The New Science Of Networks Science Of Networks* (Cambridge, MA: Perseus Books Group, 2002); Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford: Oxford University Press, 2005); Alexander R. Galloway and Eugene Thacker, *The Exploit: A Theory of Networks* (Minneapolis: University of Minnesota Press, 2007); Mark E. J. Newman, *Networks: An Introduction* (Oxford: Oxford University Press, 2010); John Scott, *Social Network Analysis*, 4th Edition (SAGE Publications Ltd, 2017); and many other works.

This study takes an innovative approach to anecdotal representations of the past by applying social network analysis (SNA) to a collection of historical anecdotes to discern gender-biased patterns in the text's dialogue networks. For this pilot project I use a late Northern Song (960–1127) collection of anecdotes about the Tang (618-907), entitled *Forest of Conversations on the Tang*. In the Gephi visualization of the dialogue network, nodes represent historical figures engaged in conversations and edges indicate dialogues between two figures, weighted according to the number of countable interactions. Clusters of interactive groups offer the opportunity to examine multivalent interactions between these figures. The project hopes to discover patterns across large sets of data to answer the following research questions:

1) What kind of connections become evident between the anecdotal material's textual features and digital representations of its dialogue networks?
2) What kind of dialogues were selected for preservation as the literary record of the Tang dynasty when this collection was assembled centuries later? Whose voices were retained? Whose words to whom, and on what topics?
3) Are there gender-related hierarchies and power structures in the networks of conversation that are otherwise undiscernible with conventional methods of close reading? What patterns of gender-biases can be revealed through the visualization and statistical analysis of the dialogue networks?

Results and Discussion:

After the construction of data, and data visualization and statistical analysis using the software Gephi, the project finds the following results: First, rulers are the most important persons in the collection's dialogue network. Second, the dialogues in this network focus on responding to and influencing rulers. Third, network analysis revealed gender-related hierarchies in the dialogue structures. For example, in this network, Empress Wu Zetian, is depicted as a more passive figure—more of a listener than a speaker—when compared with the male rulers of the Tang dynasty. This feature is also reflected collectively in the representation of female figures in the network.

Project Outcomes:

First, I gave a talk to the Sacramento State community of faculty and students in Spring 2023, on Thu. April 27th, from 4:30pm-6:00pm, at 2022-2023 Talk and Discussion Series, entitled "Women in the Humanities," sponsored by the Department of Humanities and Religious Studies and the Department of Women's & Gender Studies.

Second, I presented my project and its research results, in the form of a draft paper, at the international conference "The Third Middle Period China Humanities Conference" hosted by Yale University during June 22-25, 2023 (For more information about the conference, see: https://ceas.yale.edu/3rd-Middle-Period-China-Humanities-Conference).

This project helped to advance my research agenda as it established a pilot study leading into a future project on a larger scale. The talk to the CSUS community and the conference presentation also allowed me to receive feedback and suggestions from colleagues and peers, both within the university and on international level. I was able to submit the draft article to an academic journal in my field. I have also submitted this report and a one-page poster to the Office of Graduate Studies, Graduate Diversity Programs and provided a copy of each to the Department Chairs of HRS and History, and the College Dean.

ACKNOWLEDGEMENTS