Who is Chen Duxiu (1879-1942)?

- Political radical
- Founder of the Chinese Communist Party, 1920
- Culural iconoclast:
  - Leader of the New Culture Movement, ca. 1915-1923
  - Leader of the Chinese literary revolution
  - Publisher of the influential New Youth magazine
- Hailed as the “general marshal” by Mao Zedong

Why Study Chen Duxiu?

- His life reflected the historical changes of early 20th century China
- His actions precipitated China’s turn to communism
- His writings led to a cultural movement in China
- His call for scientific thinking and democracy influenced generations of Chinese

Thought Analysis via Text Mining

Data

- Chen Duxiu zhuzuo xuanbian published in 2009
- 6 volumes, 890 writings, 1,381,183 Chinese characters
- Genres: essays, correspondences, poems, etc.
- Topics: politics, culture, education, philosophy, etc.

Goal

- How did Chen’s conception of “umbrella words” change over the course of his life?
- “Citizen,” “Freedom,” “Chinese person”

Methodology

- Search for the umbrella words through all of his writings
  - High frequency ≠ importance
  - Zipf’s law: \( f_1:f_2 = \frac{1}{f_1} \cdot \frac{1}{f_2} \)

Table of Umbrella Words

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<th>Bi.</th>
<th>Tri.</th>
<th>Quadr.</th>
<th>Penta.</th>
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</thead>
<tbody>
<tr>
<td>政治 (politics)</td>
<td>政府 (government)</td>
<td>政權 (political power)</td>
<td>政黨 (political party)</td>
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<tr>
<td>共產主義 (communism)</td>
<td>社會主義 (socialism)</td>
<td>资本主義 (capitalism)</td>
<td>無產階級 (proletariat)</td>
</tr>
<tr>
<td>帝國主義者 (imperialist)</td>
<td>國民政府 (National government)</td>
<td>國民革命 (Citizen revolution)</td>
<td>國民 (Citizen)</td>
</tr>
<tr>
<td>官僚資產階級 (bureaucratic bourgeoisie)</td>
<td>國民政府 (Guomindang government)</td>
<td>國民政府 (Chinese Nationalist Party, Anti-Communist government)</td>
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- Interpret the umbrella words in a dynamic way
- Companion words in different periods
- Pearson’s correlation coefficient: \( r_{1,2} = \frac{\sum_{k=1}^{K} (f_{1,k} - \bar{f}_1)(f_{2,k} - \bar{f}_2)}{\sqrt{\sum_{k=1}^{K} (f_{1,k} - \bar{f}_1)^2 \sum_{k=1}^{K} (f_{2,k} - \bar{f}_2)^2}} \)

Social Network Visualizations

Data

- Membership latent matrix
  - Chen Duxiu and 415 members from 13 provinces
  - 21 most influential networks in Chen’s life
- Associated personal data: hometown, politics, etc.

Goals

- How to visualize the tightly knit Anhui bond throughout Chen’s life?
- What political persuasion did the members of Chen's networks eventually follow?

Methodology

- Plot Chen’s social networks
  - Outer square: each organization
  - Central star: Chen Duxiu
  - Inner circle: each person
  - Radius: 21 - # of shared organizations
  - Inscribed angle: starting time
  - Line between square and circle: membership
  - Red: Chen’s Anhui co-provincials
- Chen’s Anhui bond
  - 6 of 10 closest friends are from Anhui
  - The bond became stronger in his later life

Summary

- Chen’s nationalism changed from a Western ideal of individual freedom to the Marxian ideal of proletarian dictatorship. But before he died he praised the freedom that resulted in a rich European cultural tradition.