

AAS 2013 – Panel #300
Computational Tools and Digital Resources for Chinese
History and Literature

The China Biographical Database

Modeling Life Histories - from anecdote to data

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中國歷代人物傳記資料庫

中央研究院歷史語言研究所、哈佛大學、北京大學中國古代史研究中心合作開發
Developed through collaboration among Academia Sinica, Harvard University, and Peking University

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The China Biographical Database - *Modeling Life Histories - from anecdote to data*

Biography
Prosopography
Social Network Analysis
Geospatial Analysis

Today's outline

- ✓ How we model the lives of Chinese historical elites
 - ✓ Biography
 - ✓ Prosopography
 - ✓ Social network analysis
 - ✓ Geospatial analysis

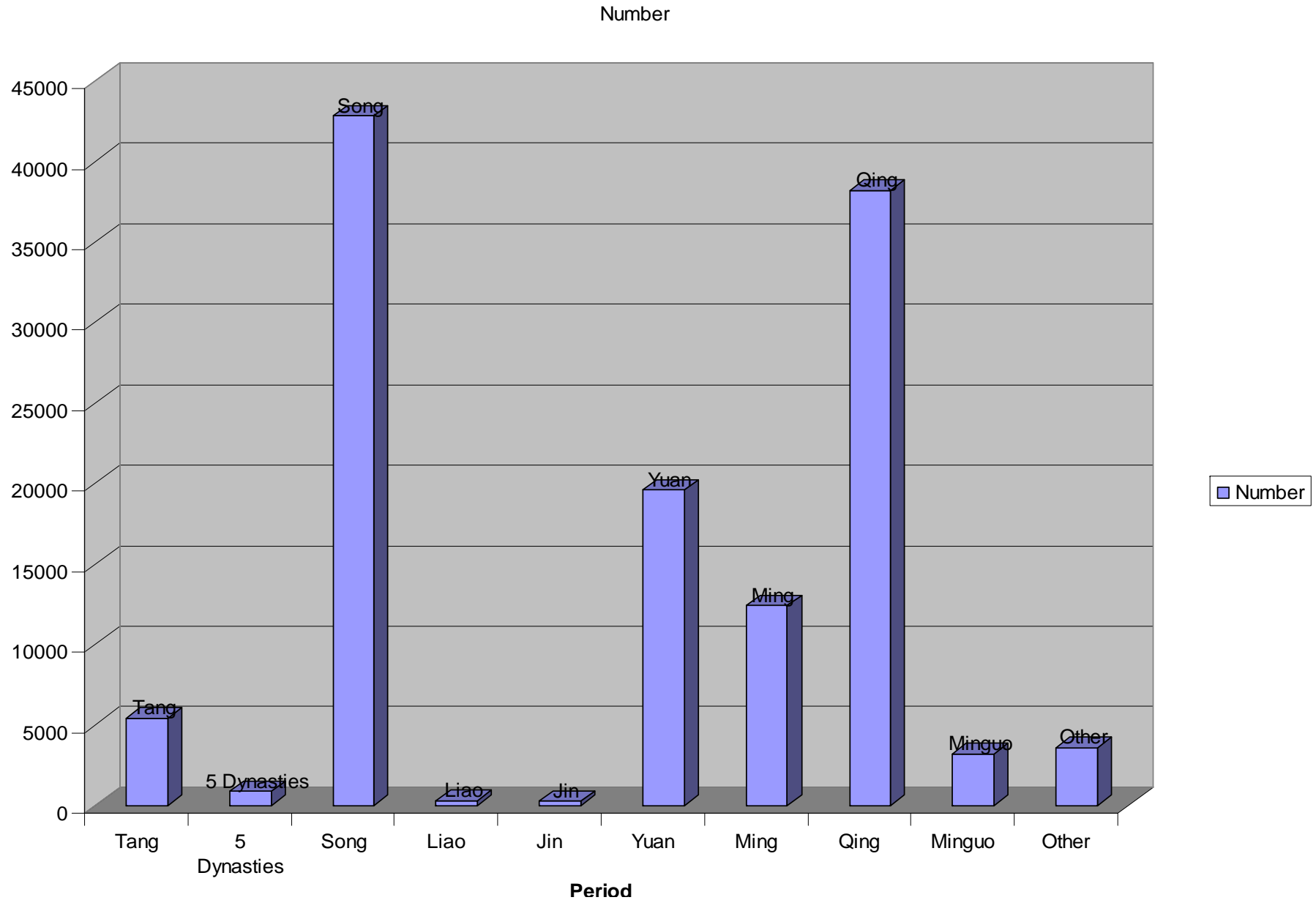
Outline (conti.)

- How we extract biographical data from historical records (texts) via computational methods
 - Regular expressions and the Regex Machine
 - Extracting data from 2,000 local gazetteers
- What we provide for system interoperability between databases
 - CBDB API

What is CBDB

- CBDB is an online relational database with biographical information about **121,000** individuals (March 2013), primarily from the 7th through 19th centuries.
- Sources: dynastic histories, local gazetteers, grave biographies, and more.
 - [Go to our website to find out more](#)

30,000 waiting for upload (Ming-Qing). Now collecting 15,000 Jinshi and 19,000 Juren. More to discover from 2,000 local gazetteers.



From anecdote to data

- CBDB is not just a biographical dictionary.
- We are not collecting biographical texts.
- Our goal is to enable users to use **large quantities of prosopographical data** to explore historical questions via the means of **statistical, social network, and spatial analyses**
- **Texts → Data** (non-structured → structured): there is a model behind

3/23/2013

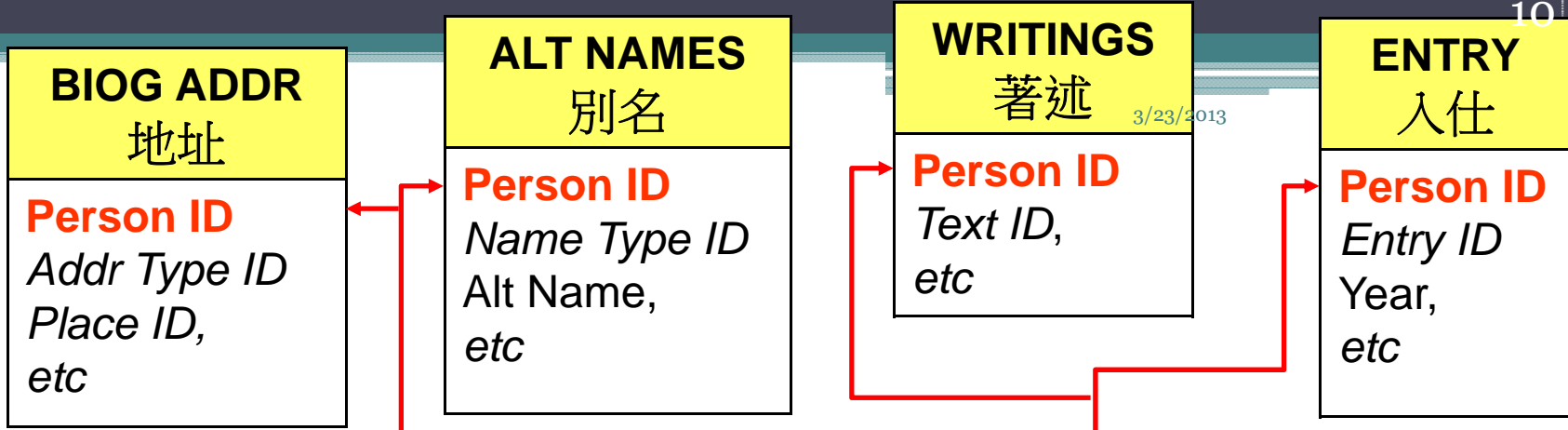
Lü Zuqian (呂祖謙, 1137-1181), whose style name was Bogong (伯恭), was a grandson of the Right Assistant Director to the Imperial Secretary (尙書右丞) Haowen (好問). His family had lived in Wuzhou (婺州) since his grandfather's generation. ii The learning of Zuqian was based on family [tradition], and embodied the textual transmission from the central plain (中原文獻之傳). When he grew up, Zuqian studied with Lin Zhiqi (林之奇, 1112-1176), Wang Yingchen (汪應辰, 1119-1176), and Hu Xian (胡憲, 1082-1162) respectively. He also, maintaining close relationships with Zhang Shi (張栻 1133-1180) and Zhu Xi (朱熹 1130-1200), discussed and investigated [the Way], and strove for a more sophisticated understanding [of the Way]. iii

“Factoids” in biographical texts

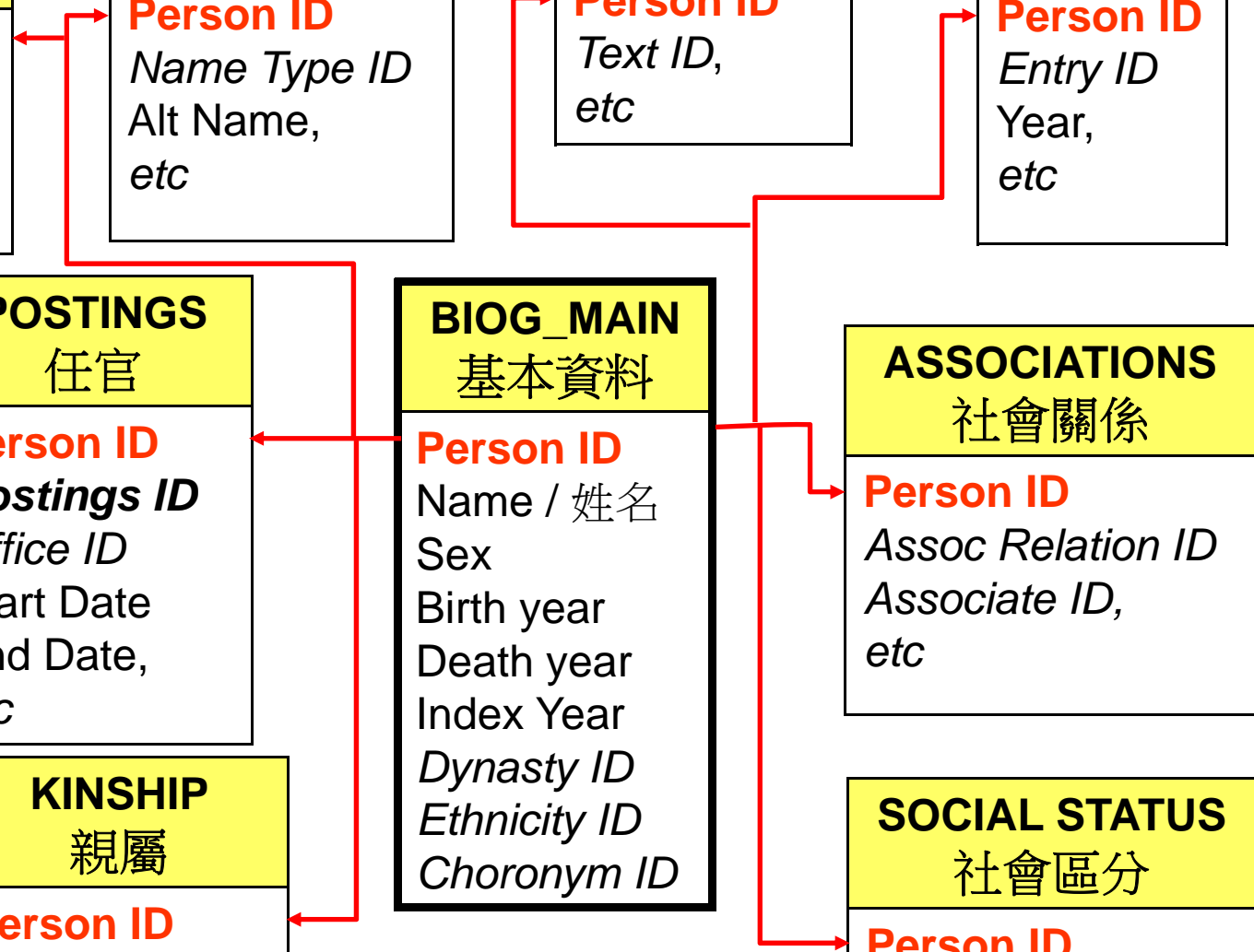
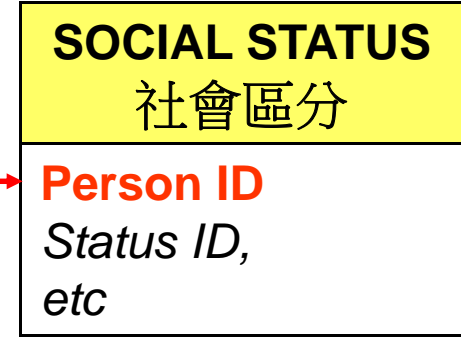
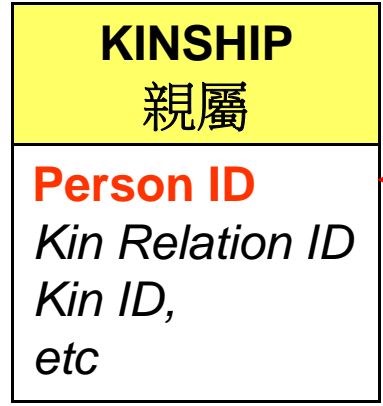
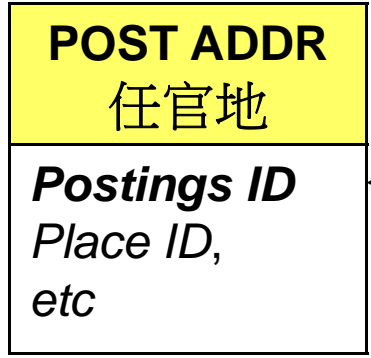
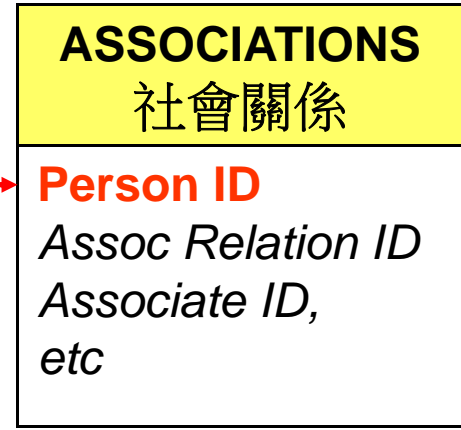
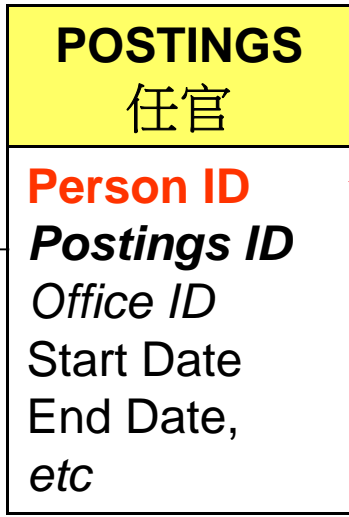
呂祖謙字伯恭，尙書右丞好問之孫也。自其祖始居婺州。祖謙之學本之家庭，有中原文獻之傳。長從林之奇、汪應辰、胡憲游，既又友張栻、朱熹，講索益精。初，蔭補入官，後舉進士，復中博學宏詞科，調南外宗教。丁內艱，居明招山，四方之士爭趨之。除太學博士，時中都官待次者例補外，添差教授嚴州，尋復召爲博士兼國史院編修官、實錄院檢討官。輪對，勉孝宗留意聖學。且言：

Data points

- Names——人名
- Time——時間
- Places——地址
- Events——事件
- Offices——職官
- Modes of entry——入仕途徑
- Writings——著作
- Social Distinctiveness——社會區分
- Kinship——親屬關係
- Social associations——社會關係
- Possessions——財產
- Education——教育

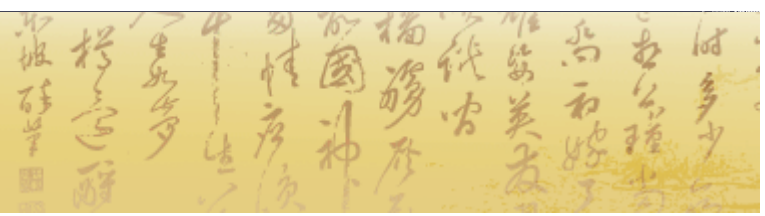


Data tables are linked to each other via Person IDs.
這些資料表通過人物代碼關聯起來。

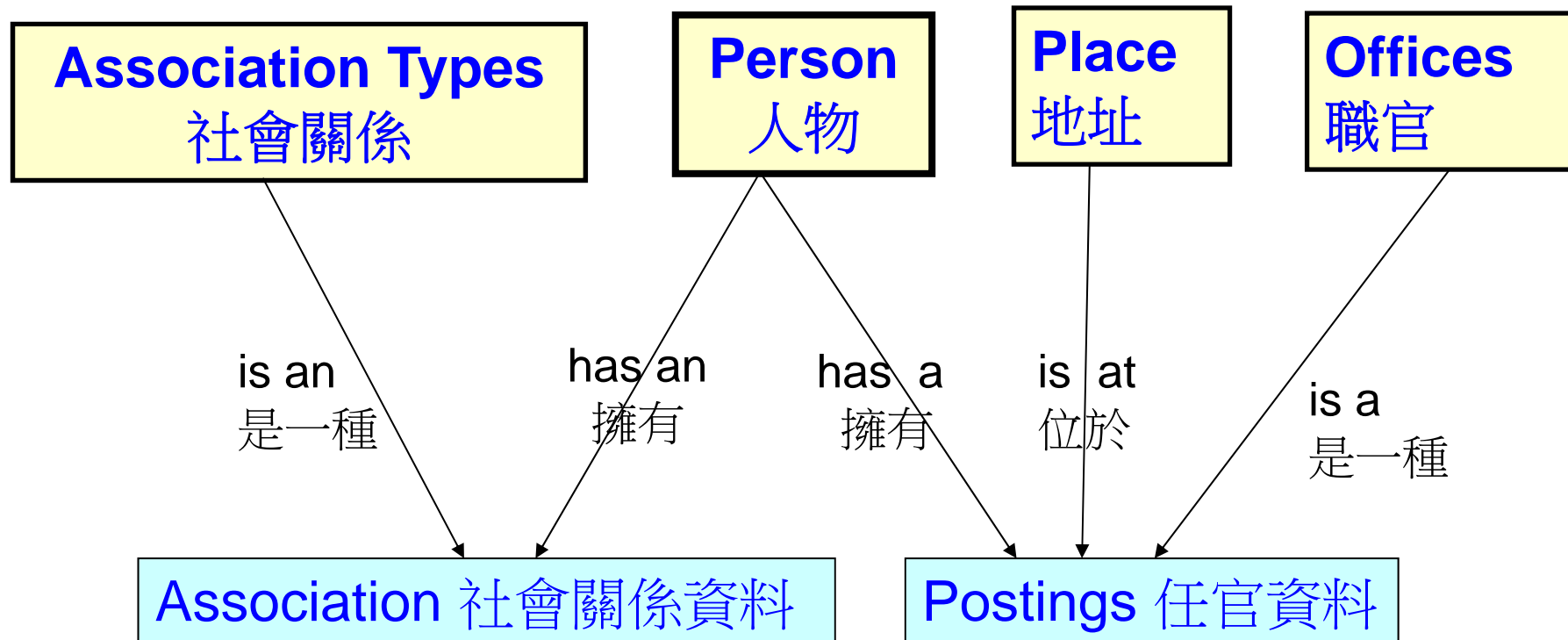


中國歷代人物傳記資料庫

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Entity Relations Modeling:
Abstracting the features of the Biographical World
實體關係建模：
將傳記資料的特徵抽象化



Approach the biographical data from different aspects



China Biographical Database Project (CBDB) Hi, Guest login

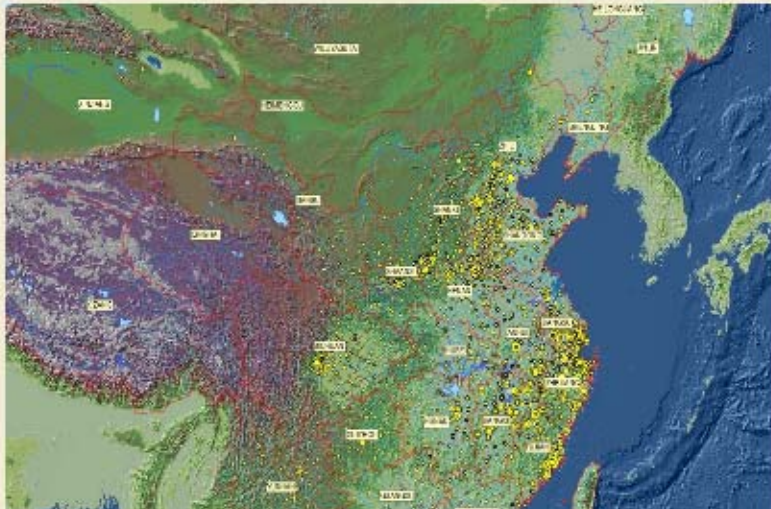
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Home

Welcome

Introduction

The China Biographical Database is an online relational database with biographical information about approximately **116,150 individuals as of January 2012**, primarily from the 7th through 19th centuries. The data is meant to be useful for statistical, social network, and spatial analysis as well as serving as a kind of biographical reference. The following image shows the **spatial distribution** of the 67,000 people in CBDB whose basic affiliation (籍貫) is known: (click to enlarge)



Accessing CBDB data online:

- The [English](#) online query system
- The [Chinese](#) online query system: 線上查詢系統
- [Online inputting system](#): 錄入系統

Use "GUEST" to log in. No password required. Use **Internet Explorer (IE)** for stability. This will allow you to see how data is entered, view the codes, and review information on any person in the database. --you will not be able to save changes or delete data -- use the buttons and links on the page. If you use the enter key or the forward and back buttons on your browser you may be logged off, in which case simply log on again.

Or, download the standalone version:

- Please go to the Download page: Click the "**Download**" link above the page, and then select "**Download CBDB Standalone Database**". You



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管理者: HUCSP

最近新增人名:

書名新增:

人名新增:

人名查詢:

呂祖謙 (1筆)

1. 呂祖謙 (Lv Zuqian)

呂祖謙 (Lv Zuqian)

基本資料 地址(54) 別名(3) 著述(57) 官名(31)
入仕(3) 事件(0) 社會區分(4) 親屬(14) 社會關係(429)
財產(0)

基本資料 Basic

person id	0007055		
姓	呂 <input type="text"/>	「必填欄位」	Xing Lv <input type="text"/>
名	祖謙 <input type="text"/>	「必填欄位」	Ming Zuqian <input type="text"/>
外文姓	<input type="text"/> 外文名 <input type="text"/>		
外文Xing(羅馬字)	<input type="text"/> 外文Ming(羅馬字) <input type="text"/>		
姓名(中)	呂祖謙 「系統自動產生欄位」		
姓名(英)	Lv Zuqian 「系統自動產生欄位」		
外文全名	「系統自動產生欄位」		
外文XingMing	「系統自動產生欄位」		
性別(原female)	0男 <input type="text"/>	部、族 <input type="text"/>	種族 <input type="text"/> <input type="button" value="選"/>
生年(birth year)	1137 年號 紹興 <input type="text"/>	<input type="button" value="選"/> 7 年 時限 <input type="text"/>	<input type="text"/>
	閏 <input type="text"/>	2 月 17 日 日(干支) <input type="text"/>	<input type="text"/>

China Biographical Database Project (CBDB)

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- Search by Name
- Search by Address
- Search by Office
- Keyword Search
- Advanced Search
- Kinship and Social Associations
- Export Search Results
- Social Network Analysis
- User Guide
- Explanation of Terms

Search by Name

Search Results 1 Records

Individual Data

Name

Index Year

Dynastic Period

Address



Basic Biographical Search Matches 1 Records

Name	Lv Zuqian呂祖謙
Index Year	1181
Gender	男
Year of Birth	1137南宋紹興7年
Year of Death	1181南宋淳熙8年
Age	45
Dynasty	宋Song
Choronym	Dongping東平
Source	宋人傳記資料索引(電子版)Song ren zhuan ji zi liao suo yin (dian zi ban)Index to Song Biographical Materials (頁:6664)
Notes	Lv Zuqian [7055] Haowen's [8099] great grandson, Bengzhong's [1320] grandson, Han Yuanji's [669] son-in-law. Zeng Ji [1692] was the father's father, Daqi [3652]. His maternal great grandfather was Fang Meng [7220], who was also his uncle Datong's [3653] grandfather-in-law. Zuc end of Wu Fei's [1970] son, Hong [4015]. His younger brother and Zeng Ji's [1692] grandson-in-law, Zujian [3655], was appointed Taifu since he was cashiered from the service and exiled to Yunzhou, a remote area of Kiangsi, in 1195 when he opposed the replacement of Chief minister Zhao Ruyi [3200], with Han Tuozhou [3326], Han Qi's [630] great grandson. Zujian's younger brother, Zutai [3656], who had moved from JinhangzhouBIOG_MAIN 0007056 M 0007056 M
Alternate Names	Bogong伯恭(Courtesy name字); Cheng成(Posthumous Name諡號); Donglai xiansheng東萊先生(Studio name, Style name室名、別號)
相關資料庫連結	

#	Address Location	Address Type	Sequence of Moves	First Year at Address	Last Year at Address	Address Source	Address N
1.	宋朝-浙東路-婺州-金華(Jinhua)	Basic Affiliation籍貫(基本地址)		1137	1181		
2.	宋朝-江南東路(Jiangnandong Lu)	visited or went to遊歷或曾經到過		1146	1146	東萊呂太史年譜Donglai Lv taishi nianpuChronology of Lv Zuqian (頁:229)	隨父-江南東路提學司
3.	宋朝-浙東路-婺州-金華(Jinhua)	visited or went to遊歷或曾經到過		1147	1151		
4.	宋朝-浙東路-紹興府(Shaoxing Fu)	visited or went to遊歷或曾經到過		1151	1155	東萊呂太史年譜Donglai Lv taishi nianpuChronology of Lv Zuqian (頁:229)	隨父浙東提刑幹官
5.	宋朝-福建路-福州(Fu Zhou)	visited or went to遊歷或曾經到過		1155	1156	東萊呂太史年譜Donglai Lv taishi nianpuChronology of Lv Zuqian (頁:230)	隨父官
6.	宋朝-浙東路-台州(Tai Zhou)	visited or went to遊歷或曾經到過		1157	1157	東萊呂太史年譜Donglai Lv taishi nianpuChronology of Lv Zuqian (頁:230)	省外祖曾幾
7.	宋朝-福建路-福州(Fu Zhou)	visited or went to遊歷或曾經到過		1157	1157	東萊呂太史年譜Donglai Lv taishi nianpuChronology of Lv Zuqian (頁:230)	

CBDB standalone database 3/23/2013

- Free download for academic use

CHINA BIOGRAPHICAL DATABASE PROJECT (CBDB)

中國歷代人物傳記資料庫

Look Up Data on an Individual 按人查詢

Query by Methods of Entry into Government
按入仕途徑查詢

Query Office Holding 官職查詢

Query Kinship 查詢親屬關係

Query Associations 查詢社會關係

Query Social Networks 查詢社會關係網絡

Query Pair-wise Associations 查詢兩人之間社會關係

Complete data set
Built-in queries

Export to GIS
software

Export to Social
Network Analysis
software

The concept behind the built-in queries

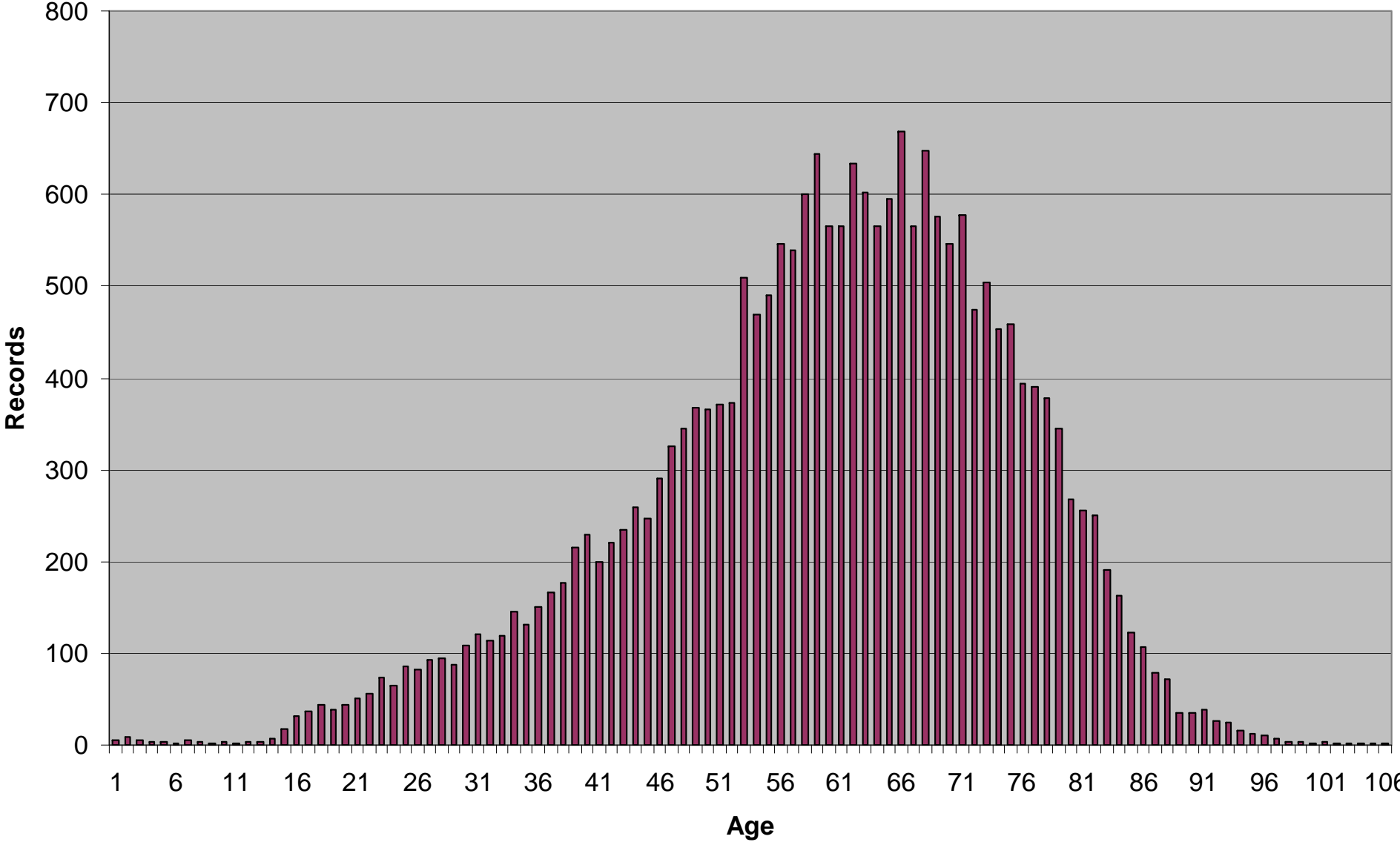
- Identifying a group of people
 - **Using various aspects other than names** -- place, time, entry, office, social distinction, writings, social associations, kinship, etc.
 - E.g., Jinshi degree holders, Tang/Song/Ming/Qing elites, decedents of officials, all women, all men...
- Then observe patterns of their
 - Ages of death, marriage, men getting degrees, women giving birth to their 1st child...; entries; offices held
 - Spatial distribution
 - Social networks

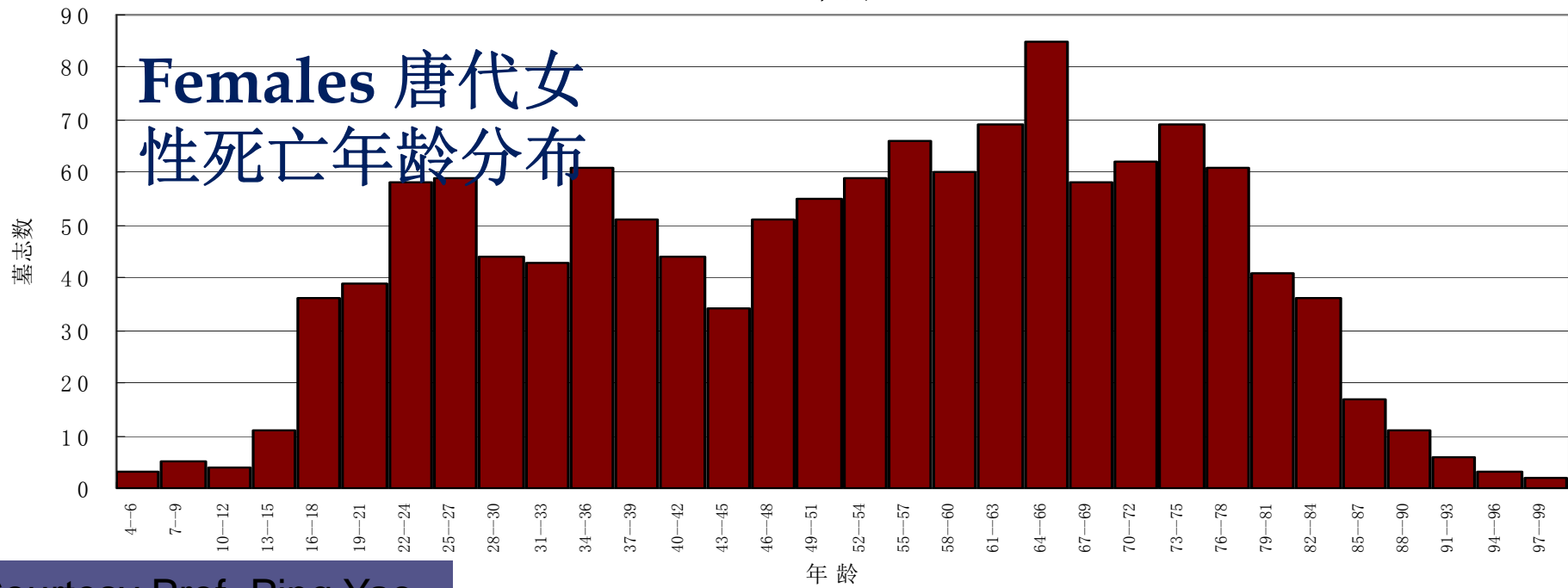
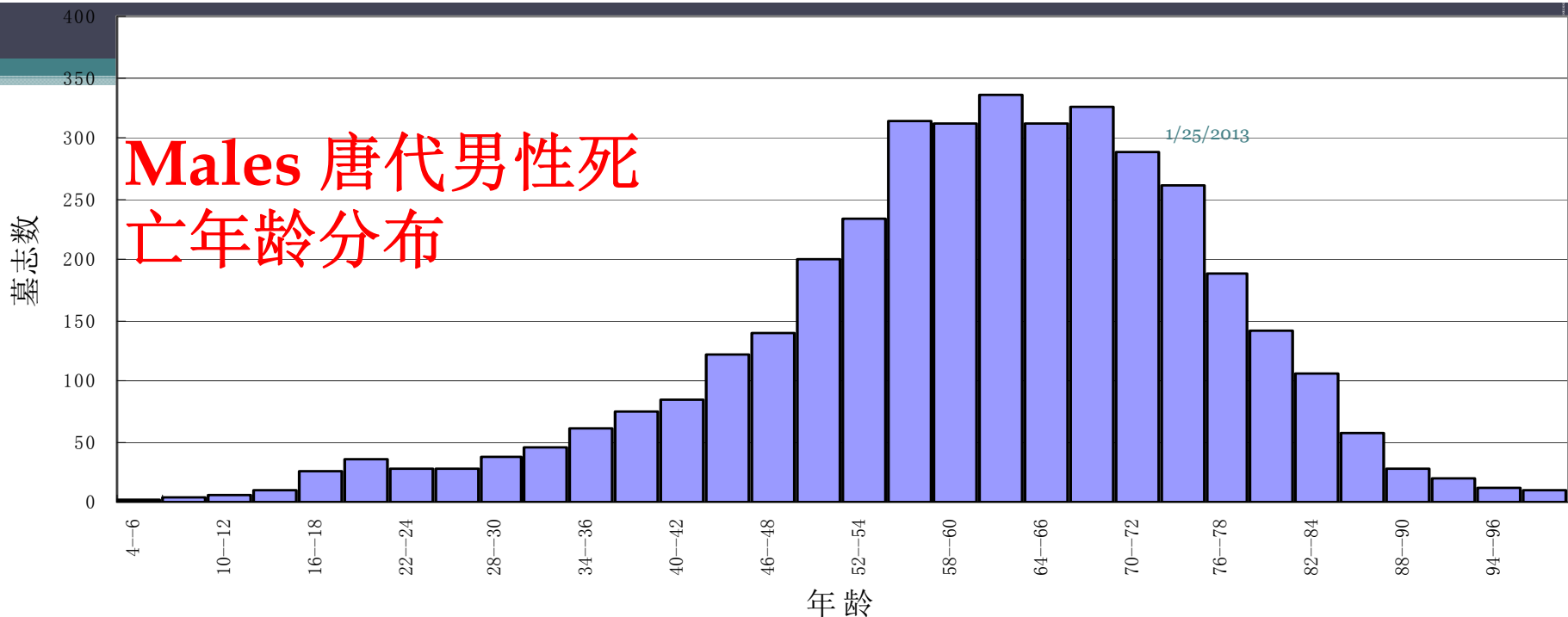
Using content systems and analytic tools in historical research

- Finding the age of death for elites in the Chinese history
- Where local officials came from
- The distribution of jinshi
- Networks of connections
- distribution of social associations
- Scholarly letter exchanges 1150-1210
- Spread of Neo-Confucianism

Age at Death-CBDB data Tang through Qing - 22270 persons

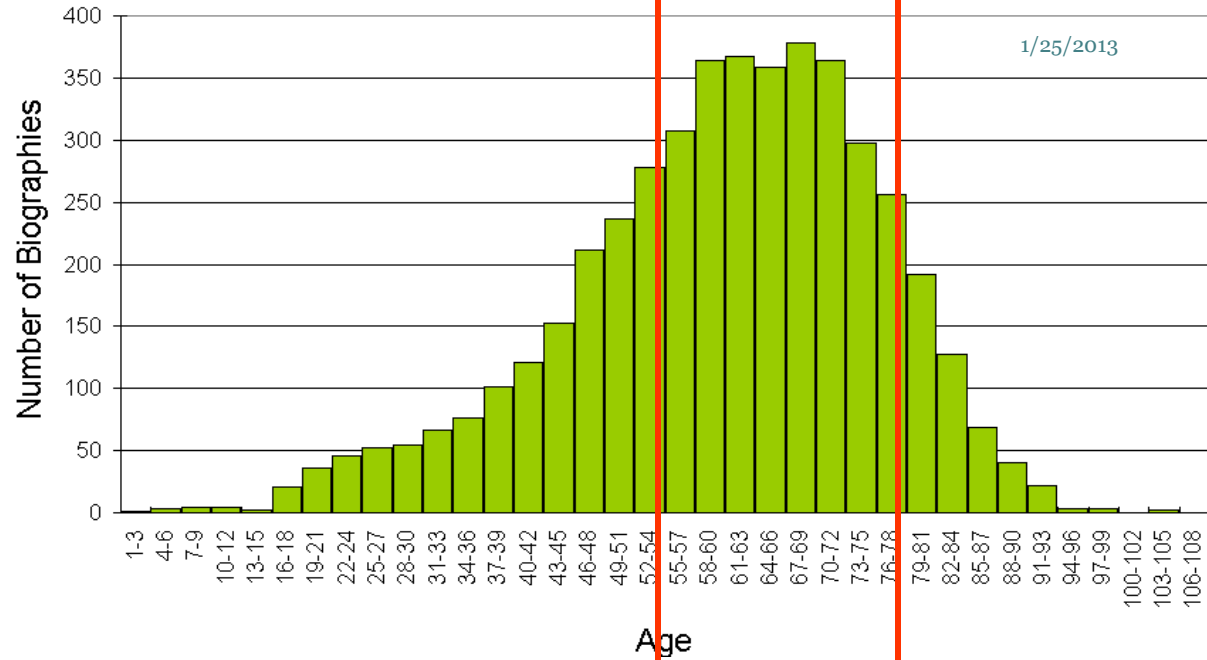
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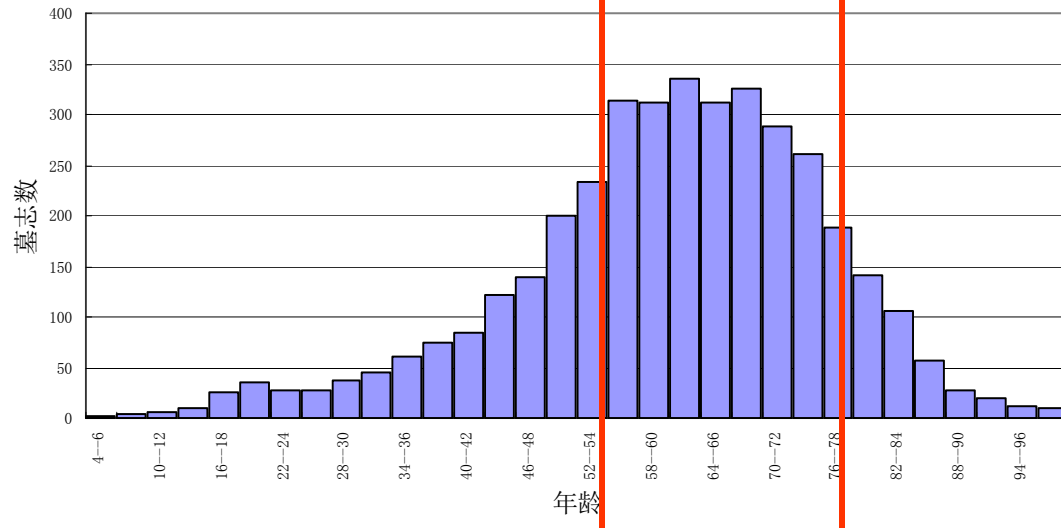


Courtesy Prof. Ping Yao

Song (960-1279) elite male lifespans



Tang (918-907) elite male lifespans (source: Yao Ping)

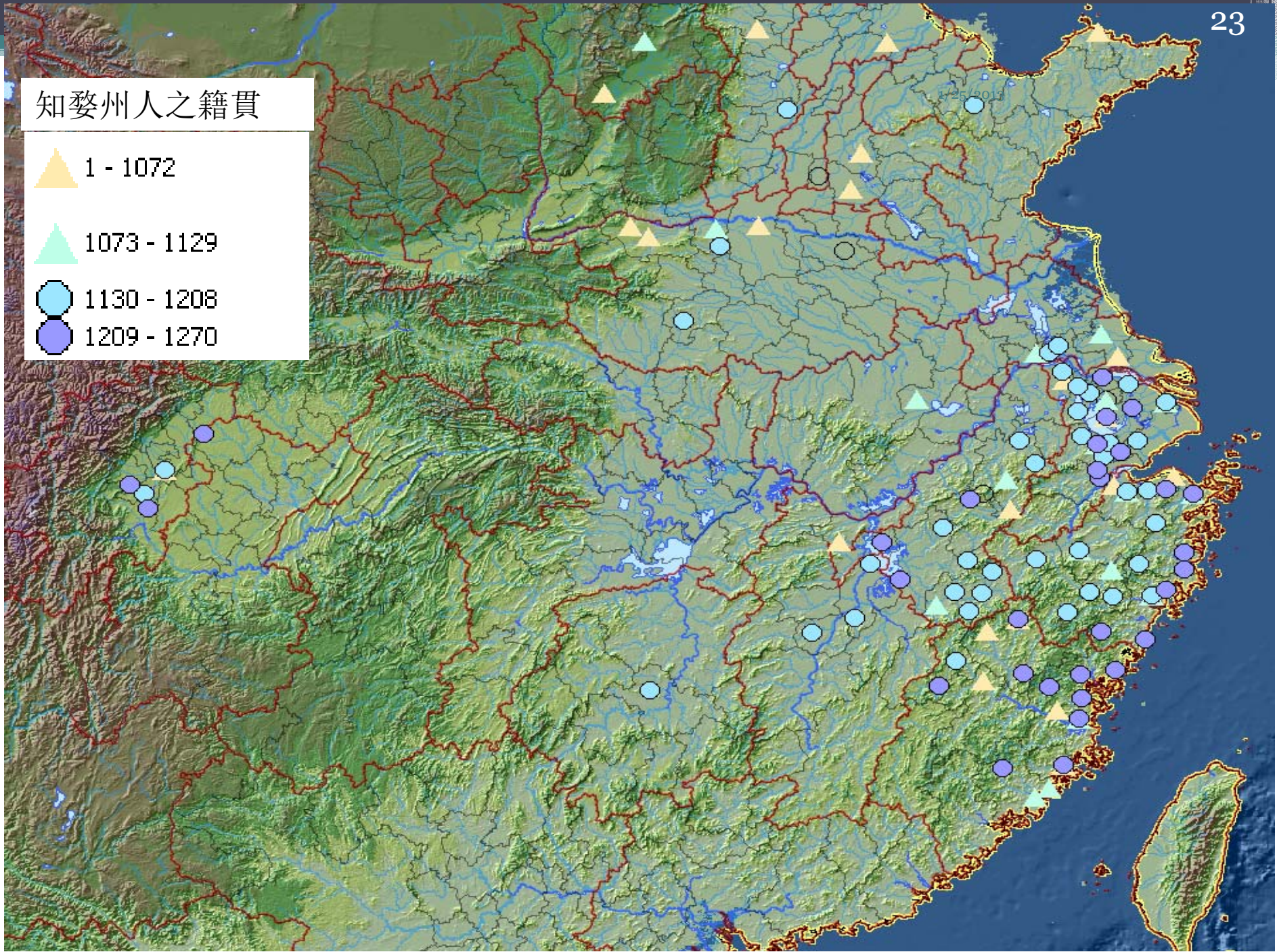


Using content systems and analytic tools in historical research

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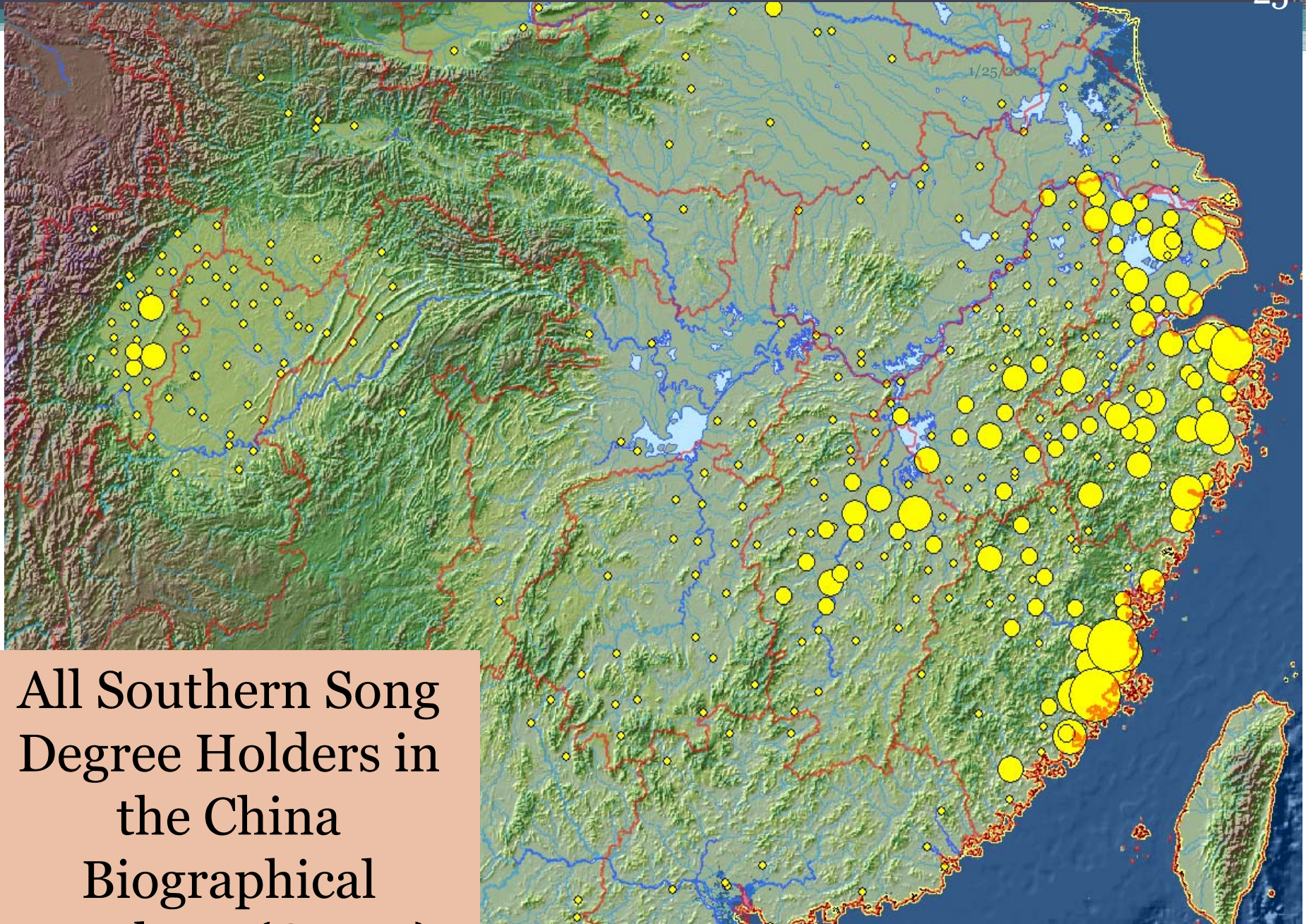
知婺州人之籍貫

- ▲ 1 - 1072
- ▲ 1073 - 1129
- 1130 - 1208
- 1209 - 1270

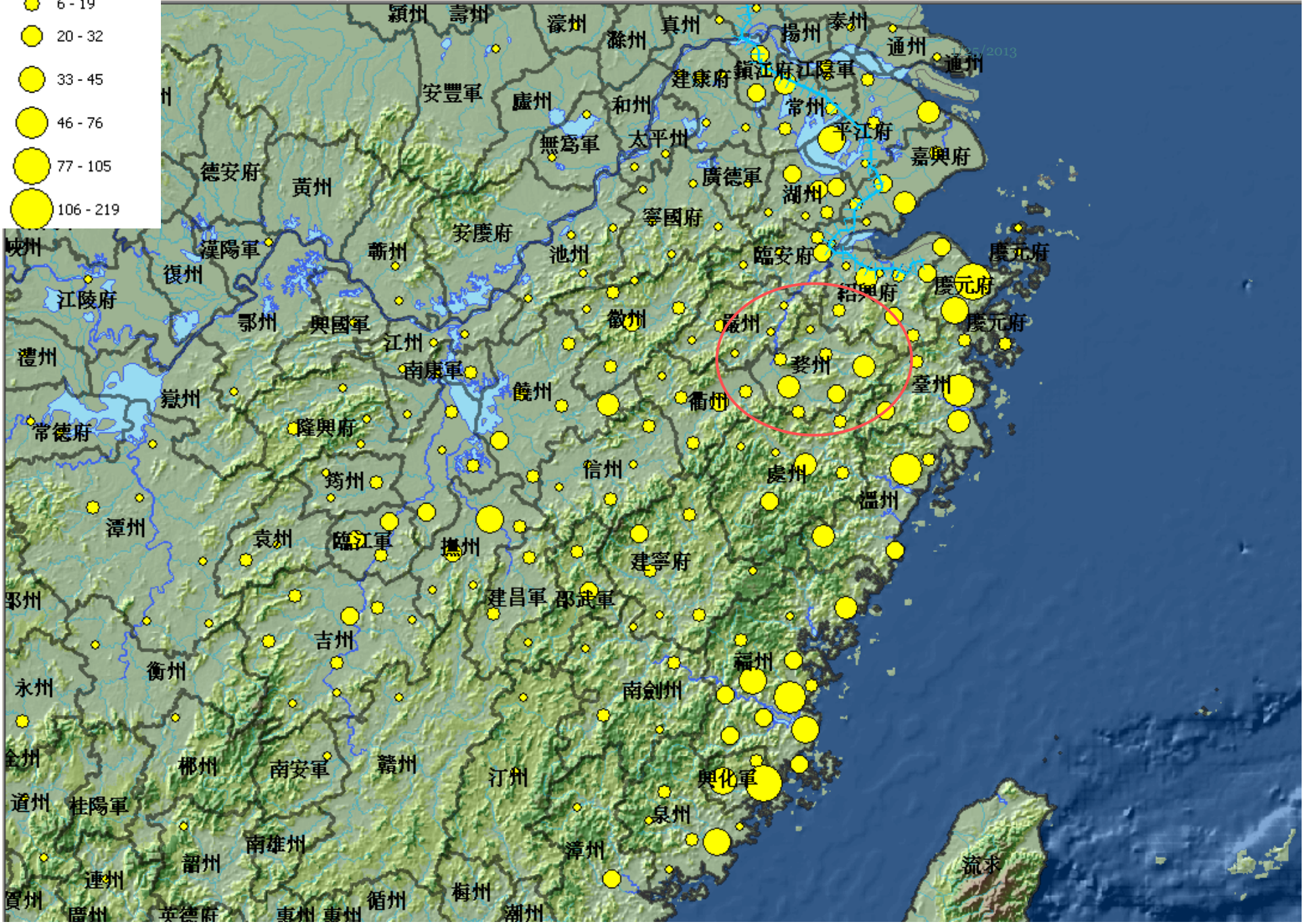
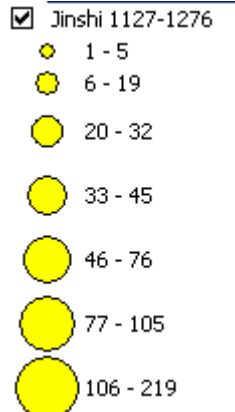


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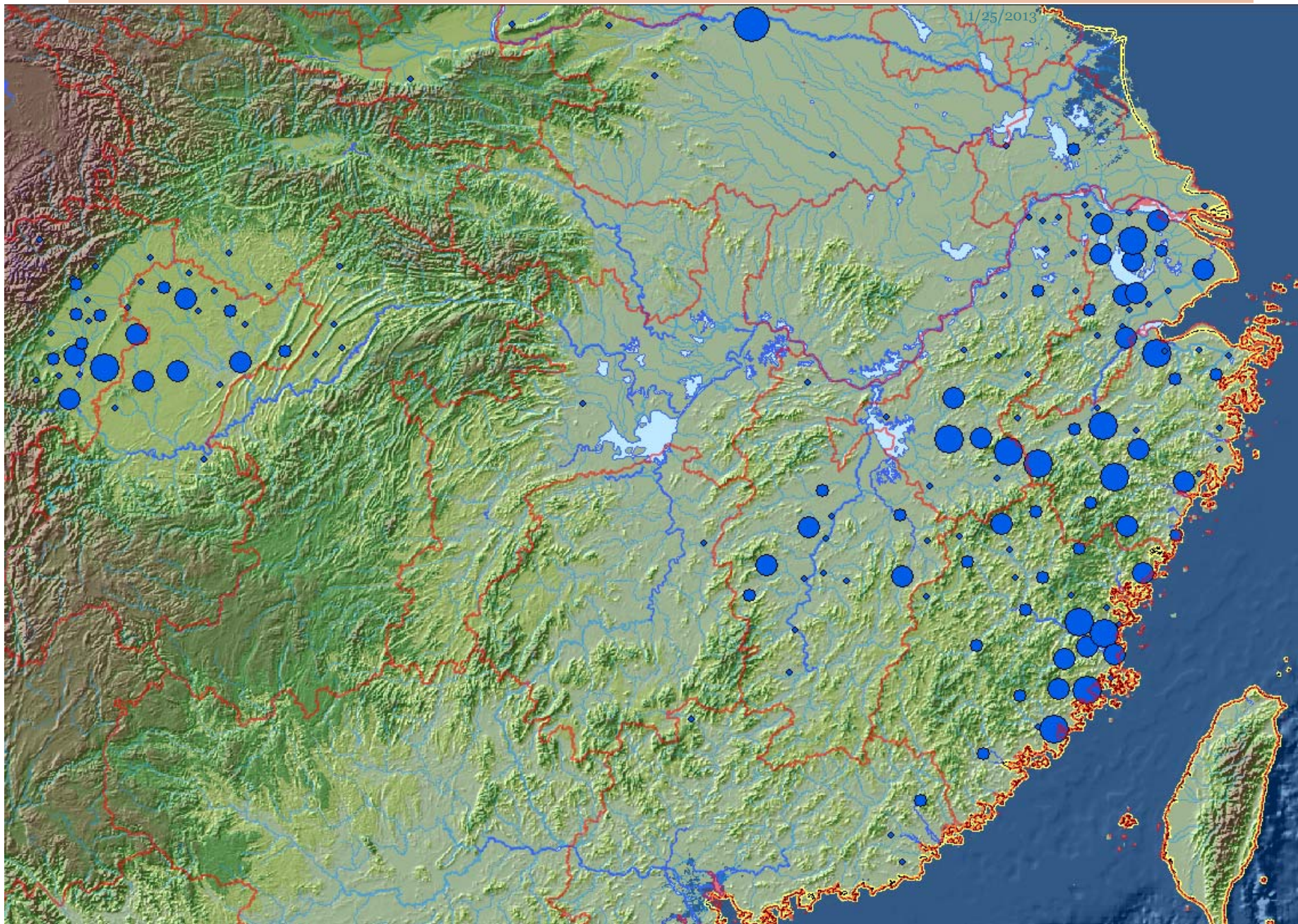


All Southern Song
Degree Holders in
the China
Biographical
Database (CBDB)

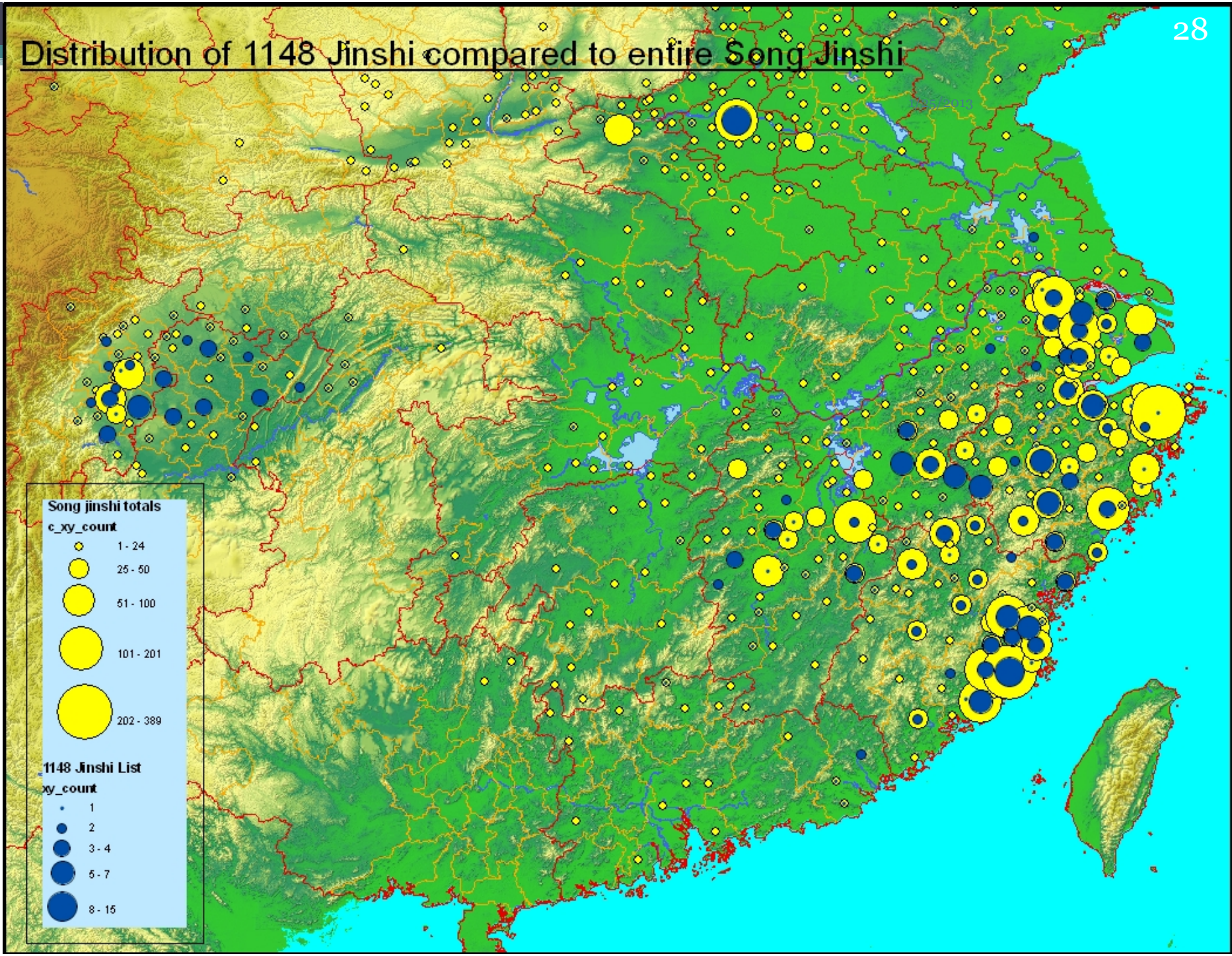


The 1148 Civil Service Examination List

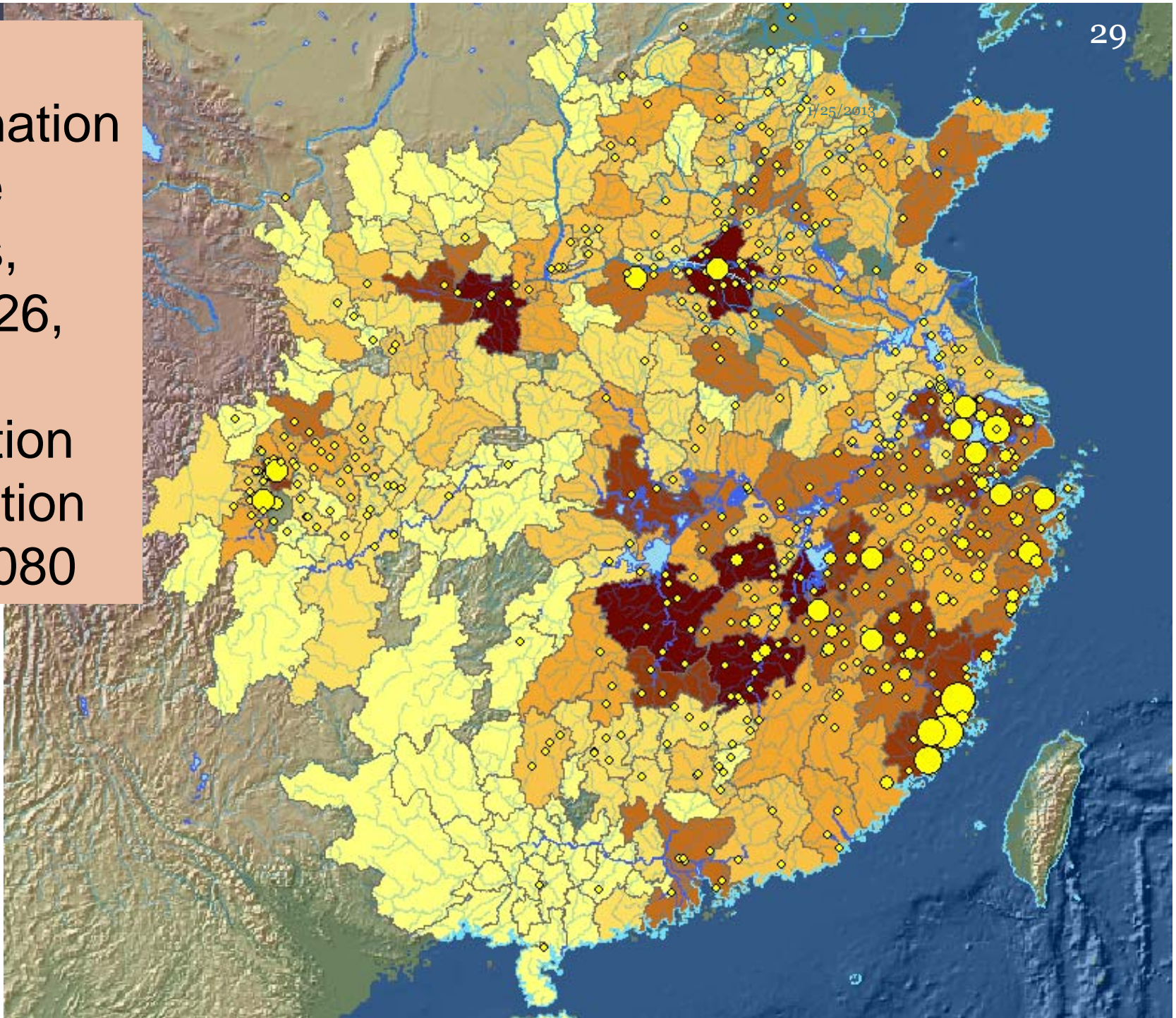
27



Distribution of 1148 Jinshi compared to entire Song Jinshi



4730
Examination
Degree
holders,
960-1126,
with
population
distribution
as of 1080



Data Legend

- Map Layers
 - Society & Demographics
 - CH_NSong_Exams
 - NSong Density Exams
 - CH_Ming_Exams
 - Ming Density Exams
 - CH_Qing_Exam_2
 - Qing Density Exams
 - Rivers, Streams, Lakes
 - Rivers_1820
 - Boundaries
 - Provincial boundaries in 1911
 - County boundaries in 1911
 - Prefectural boundaries in 1911
 - Skinner_Macoregions
 - v3_1820_prov_pgn_utf
 - Prefectures_1820
 - Transportation
 - Ming-Qing P0stal Routes Main lines
 - Ming Qing Postal Routes - Minor
 - Ming Qing Postal Stations
 - China Railroads 1990
 - Courier_Routes
 - Place Locations
 - Three Chan Schools in Jin Dynasty
 - Prefectural seats in 1911
 - County seats in 1911
 - China 1820 "Busy" Xian
 - Utilities & Infrastructure
 - Global_NightLights
 - Imagery & Base Maps
 - General
 - Jinhua shi City Map 金华市区图
 - Background
 - OpenStreetMap
 - Google Roadmap
 - Google Terrain
 - Google Hybrid
 - ESRI World Imagery
 - Google Satellite

Enter search... [Search](#) [Reset](#)



ChinaMap

Welcome **pkbo!**

Powered by WorldMap

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[Add Layers](#) | [Save](#) | [Identify](#) | [Link](#) | [Print](#) | [About](#) | [Google Earth](#) | [Street View](#) |

Data | **Legend**

Qing Entry Exams (Persons)

- 1 - 5
- 6 - 10
- 11 - 15
- 16 - 30
- 31 - 45
- 46 - 90
- 91 - 215

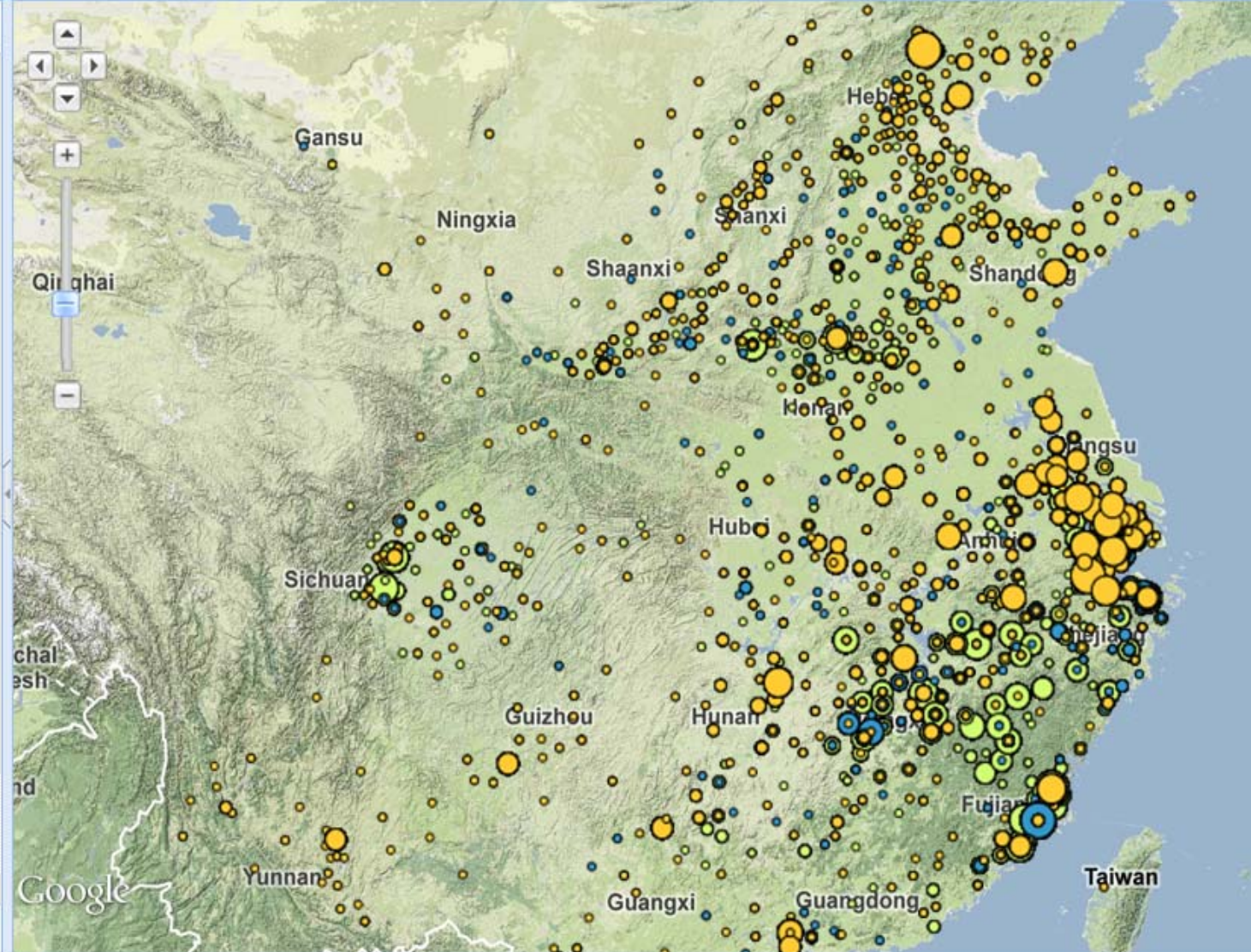
Ming Entry Exams (Persons)

- 1 - 5
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- 11 - 15
- 16 - 30
- 31 - 45
- 46 - 90
- 91 - 215

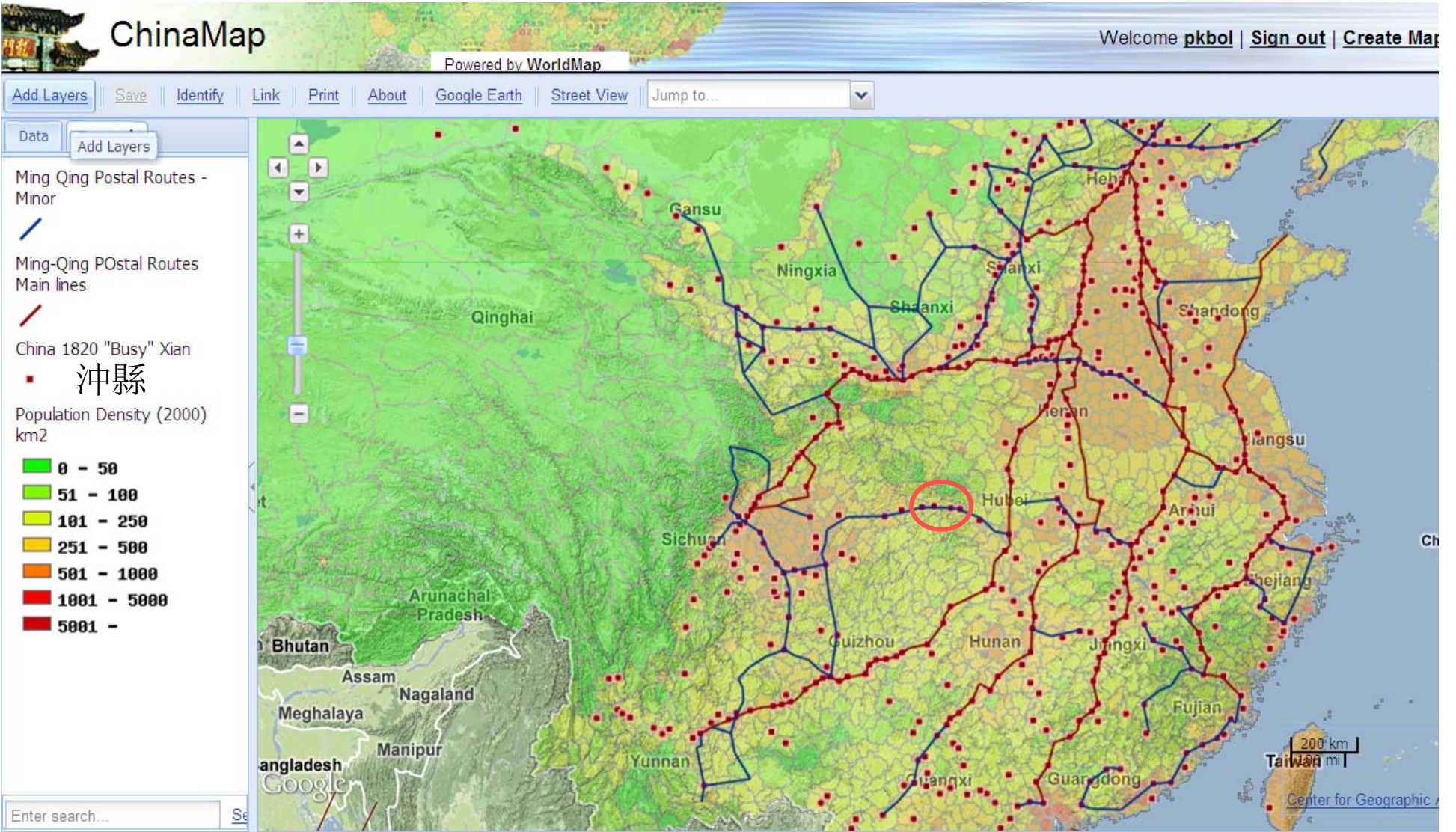
N. Song Entry Exams (Persons)

- 1 - 5
- 6 - 10
- 11 - 15
- 16 - 30

Enter search...



1/25/2013

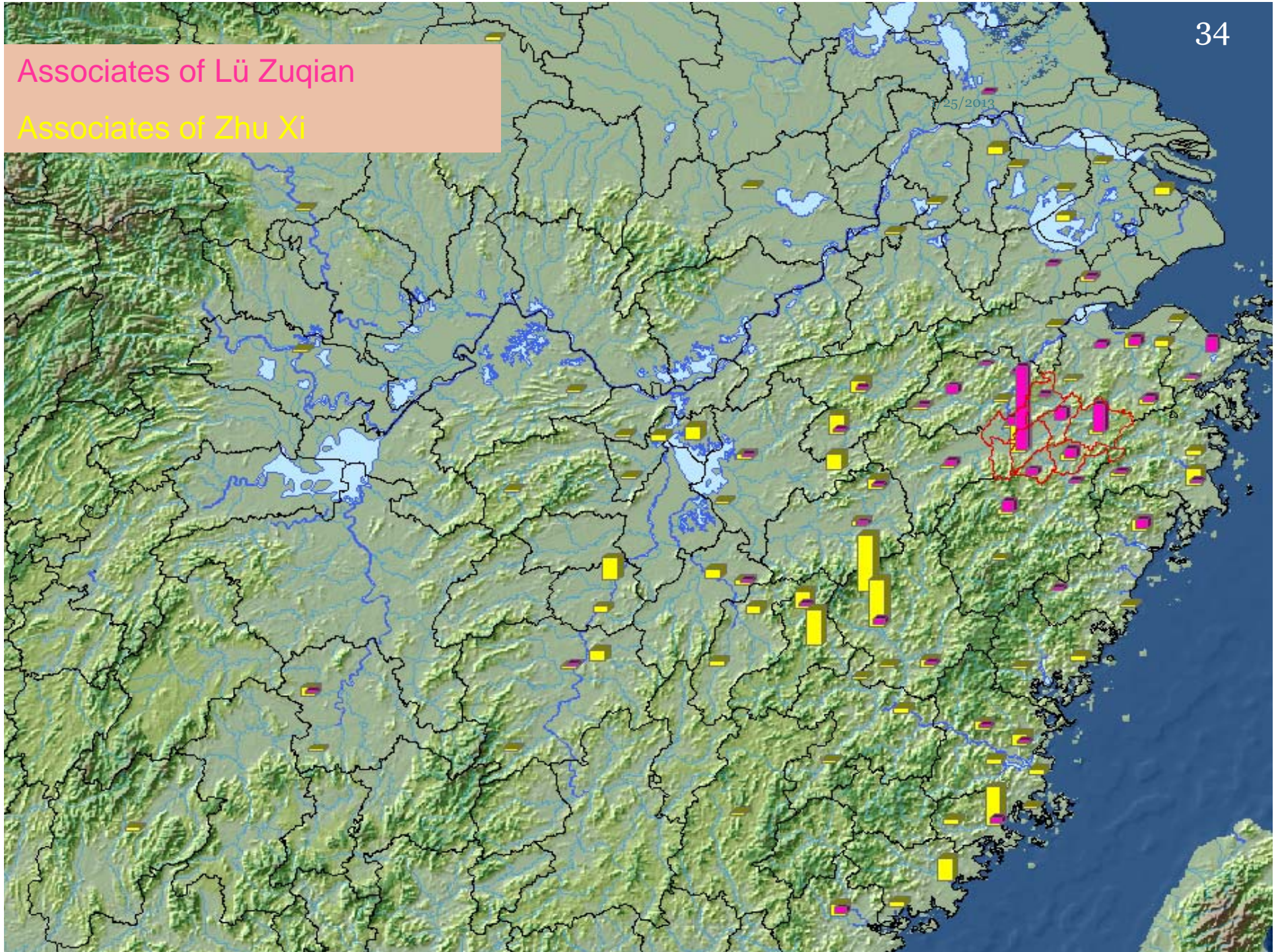


Using content systems and analytic tools in historical research

- Finding the age of death for elites in the Chinese history
- Where local officials came from
- The distribution of jinshi
- Networks of connections
- **distribution of social associations** 社會關係的分佈
- Scholarly letter exchanges 1150-1210
- Spread of Neo-Confucianism

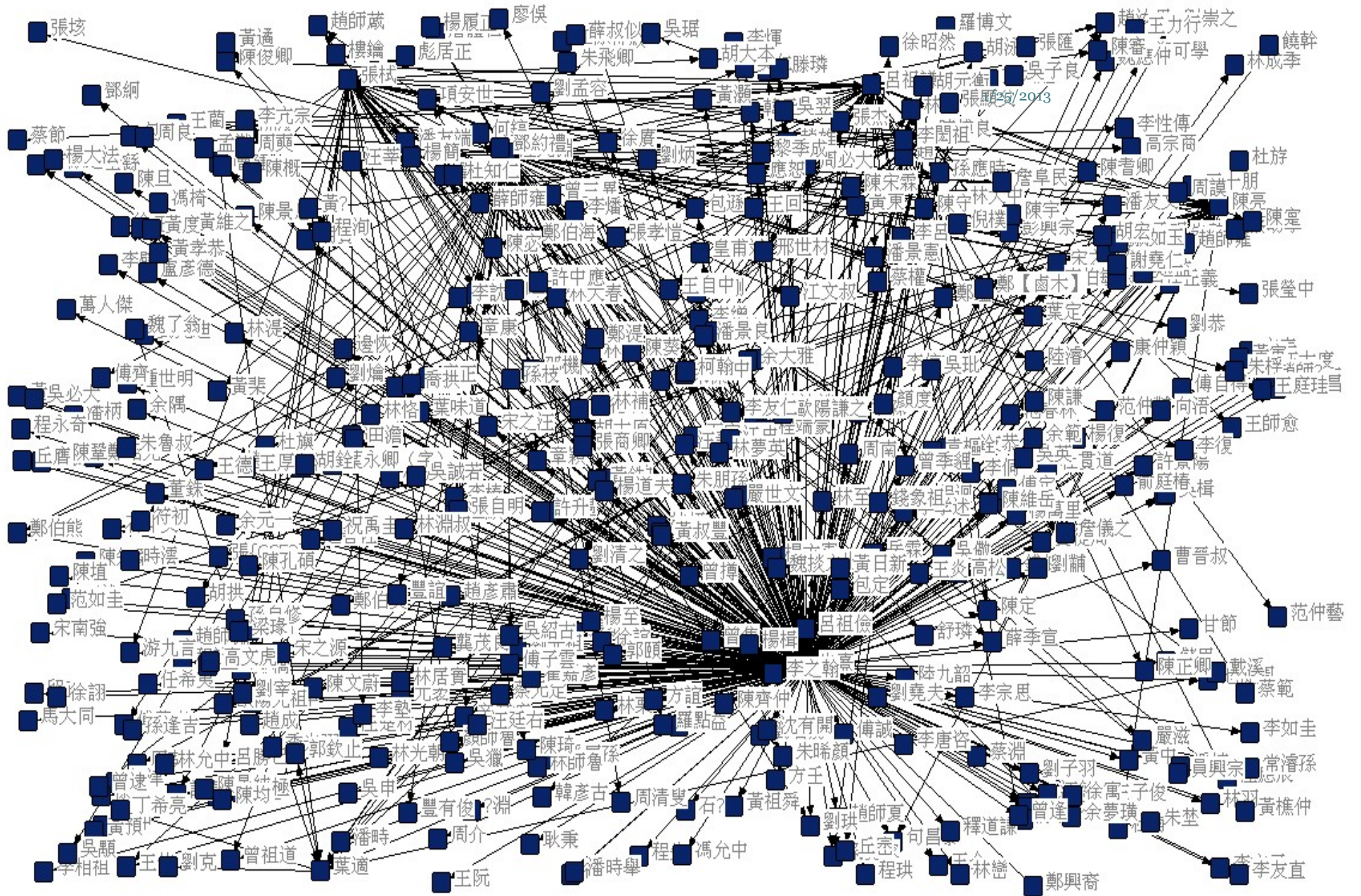
Associates of Lü Zuqian

Associates of Zhu Xi

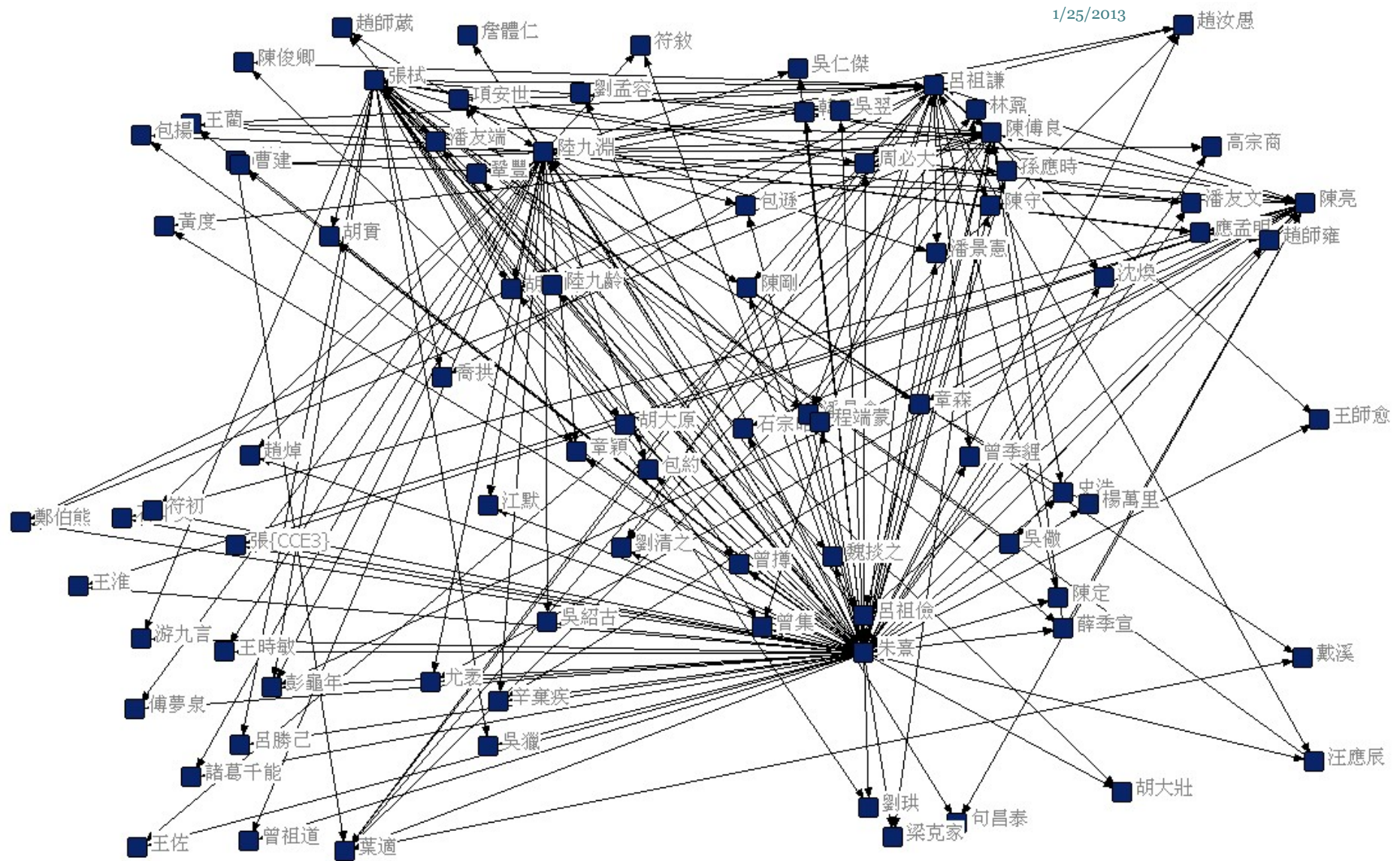


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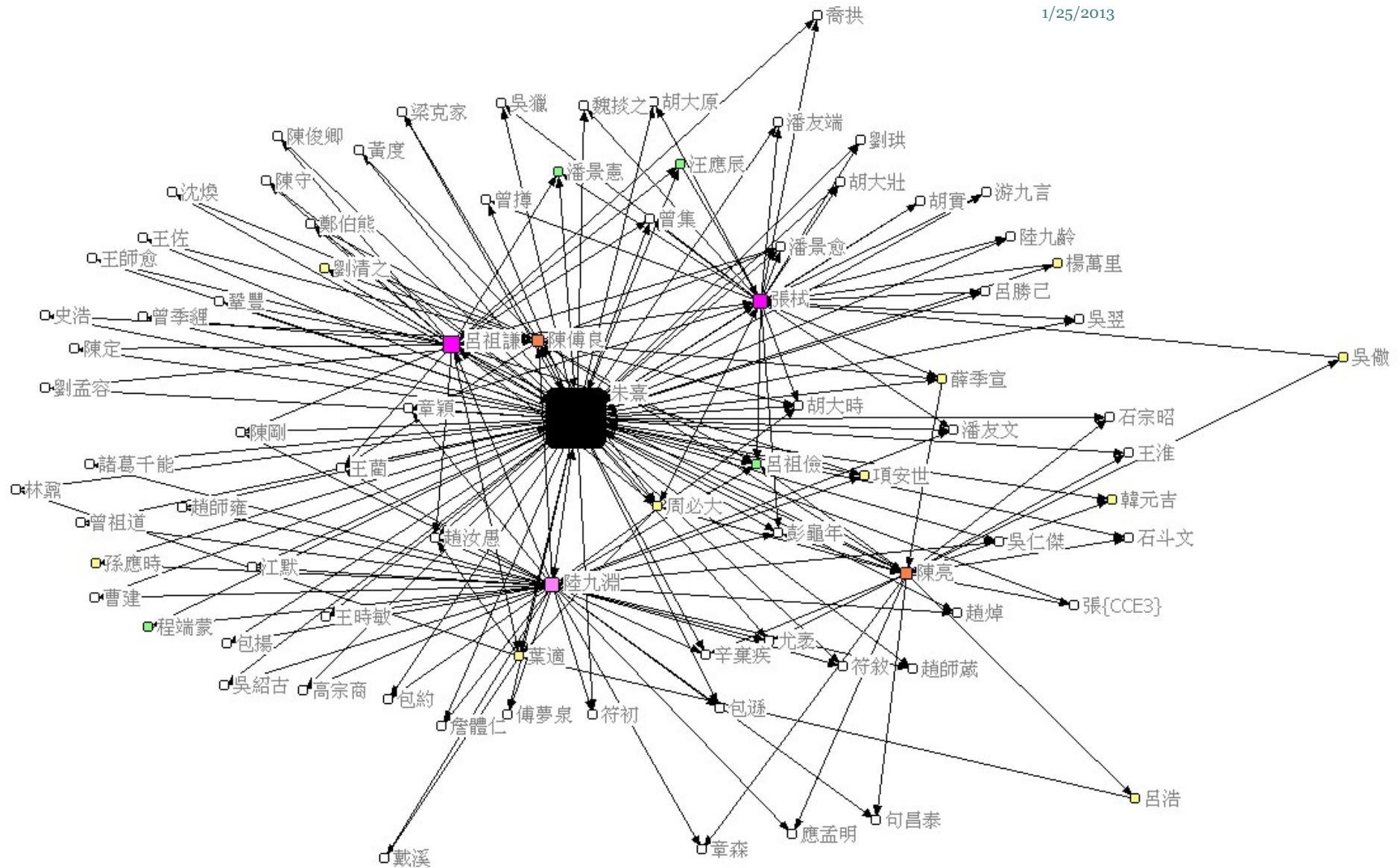


2717 letters from and to leading Neo-Confucians of Zhu Xi's generation; 453 persons

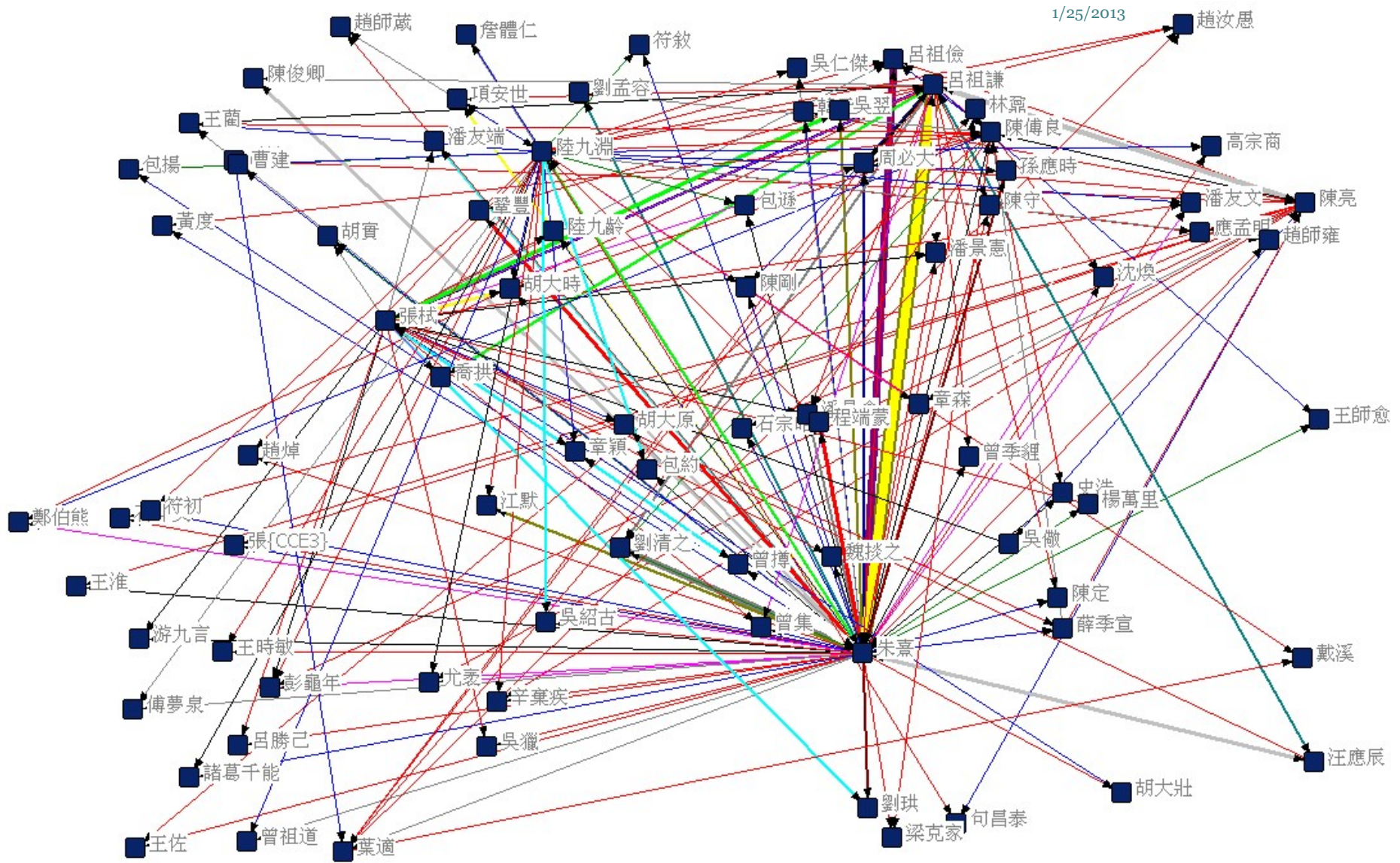


Showing only those who corresponded with at least two people in the dataset

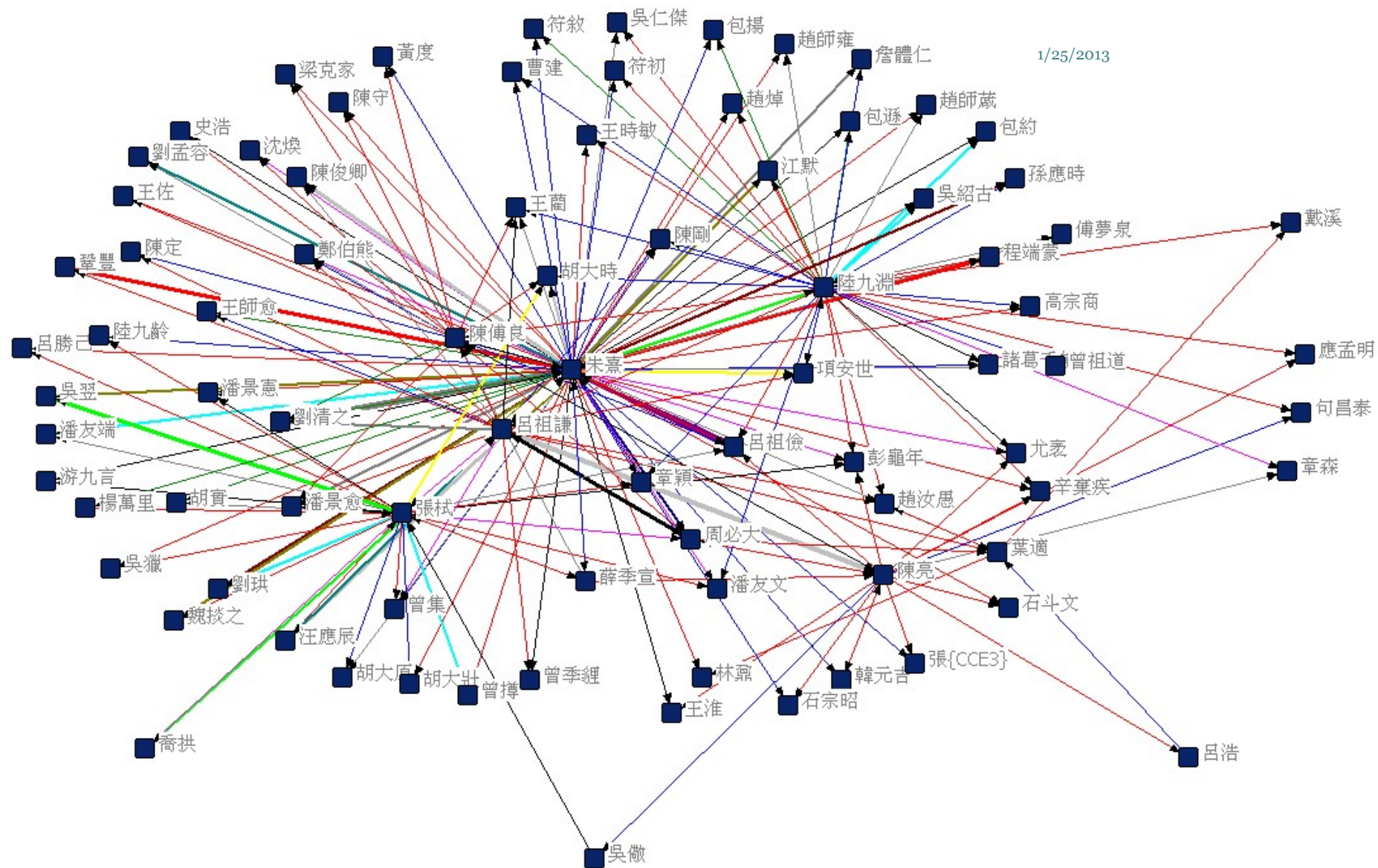
1/25/2013



Node size reflects the relative number of letters written by an individual

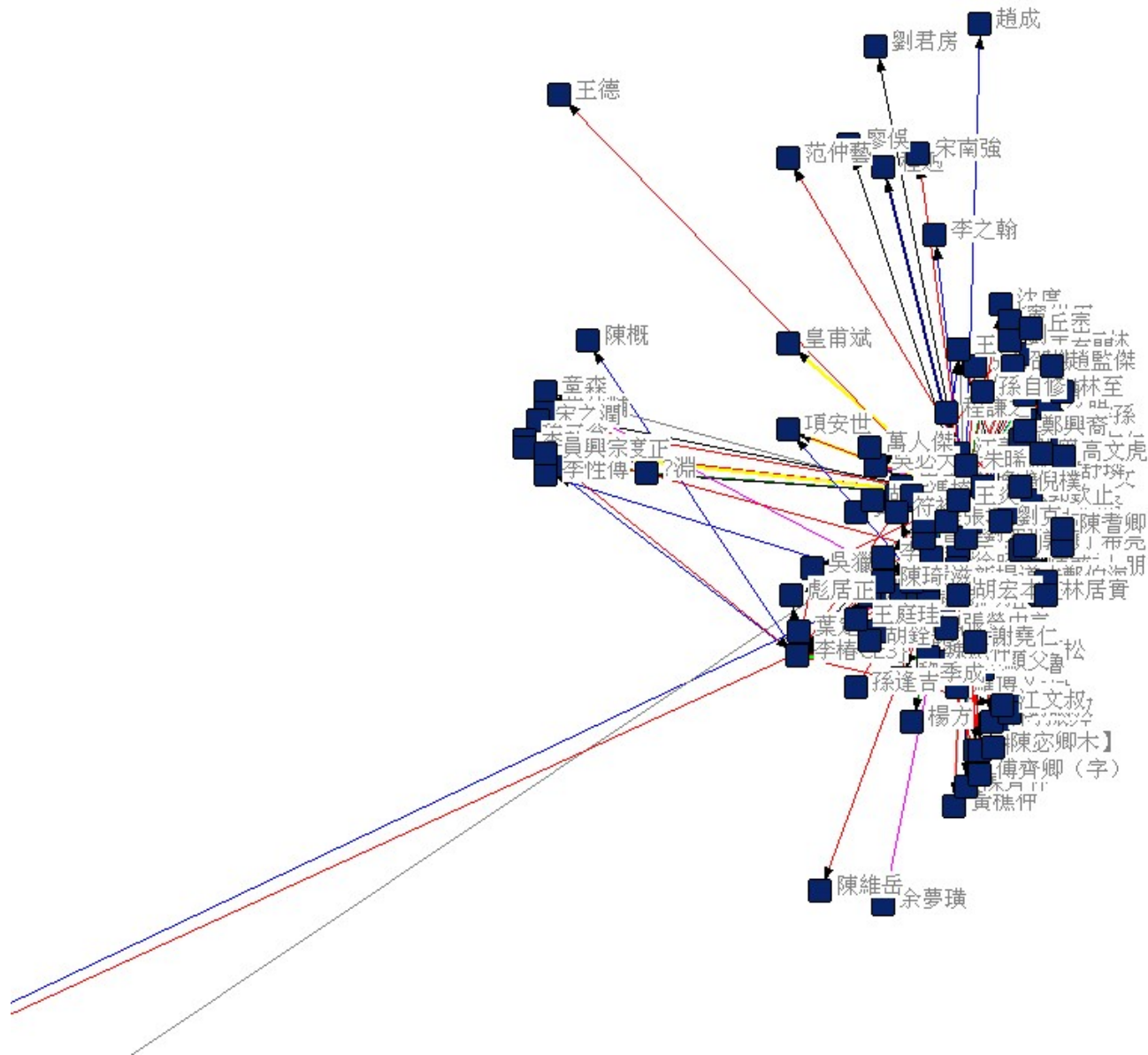


Lines show by size and color the number of letters between two individuals



Lines show by size and color the number of letters between two individuals; node repulsion with equal edge length bias

1/25/2013

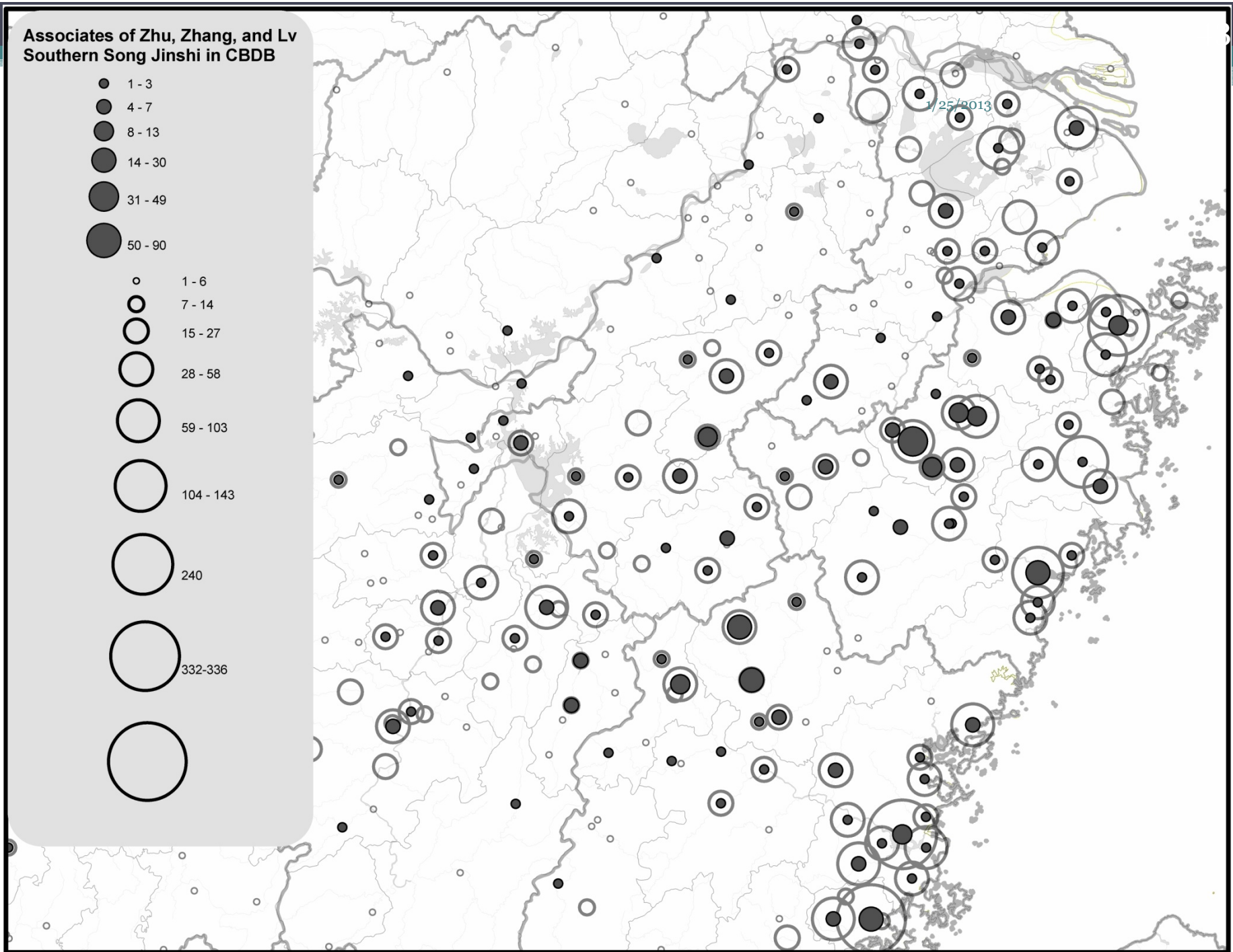
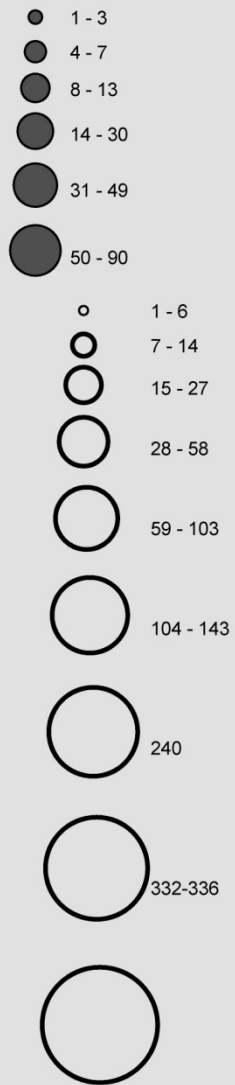


Location based on coordinates; line thickness and color reflect the number of letters

Using content systems and analytic tools in historical research

- Finding periods of heightened government attention
- Where local officials came from
- The distribution of jinshi
- Networks of connections
- distribution of social associations
- Scholarly letter exchanges 1150-1210
- Spread of Neo-Confucianism 宋明理學的傳播

Associates of Zhu, Zhang, and Lv
Southern Song Jinshi in CBDB



Reflection

- Identifying a group of people
- Then observe patterns
- Text → Data (model)
- We hope to make this model available to scholars in other fields so that they can put in their own data and extend this model.

Data extraction: collecting data in a faster fashion

- Besides manually inputting, CBDB also uses computational method to extract biographical data from historical records
- Observation: biographical information often repeats in regular patterns
- => Regular expressions + Python programs

3/23/2013

- Alternative names
- Addresses
- Kinship relations
- Entry
- official titles received
- offices held
- Social relations

Lü Zuqian, whose style name was Bogong, was a grandson of the Right Assistant Director to the Imperial Secretary Haowen. His family lived in Wuzhou beginning in his grandfather's generation. The learning of Zuqian was based on family tradition, and embodied the textual transmission from the Central Plain of the north. When he grew up, Zuqian studied with Lin Zhiqi, Wang Yingchen, and Hu Xian. He also was friends with Zhang Shi and Zhu Xi, and thereby his understanding gained in clarity.

At first he obtained official rank by way of the protection privilege but later he obtained his Presented Scholar degree and also passed the special decree examination for "Erudite Learning and Exceptional Literary Composition." Then he was appointed as the instructor at School for the Imperial Clan in the Southern Outer Office of the Hostel for the Imperial Clan.

呂祖謙字伯恭，尚書右丞好問之孫也。自其祖始居婺州。祖謙之學本之家庭，有中原文獻之傳。長從林之奇、汪應辰、胡憲游，既又友張栻、朱熹，講索益精。初，蔭補入官，後舉進士，復中博學宏詞科，調南外宗教。

3/23/2013

Processing Biographical Texts

- Manual information extraction is slow, costly
 - 1 year for 8 editors to process 5000 short biographies



- Semi-automated processing is fast
 - Crude search methods? process data fast
 - Editors can work on the results quickly



CBDB Regex Machine

- Developed by Elif Yamagil
- A graphical user interface (GUI) that enables people who do not have programming skills to
 - graphically **design patterns**
 - **match** them against a corpus of texts
 - see results immediately via a user-friendly color-coding scheme
 - export to XML

Active Regex: to be matched against the text

Building blocks: to be used when compiling Active Regex

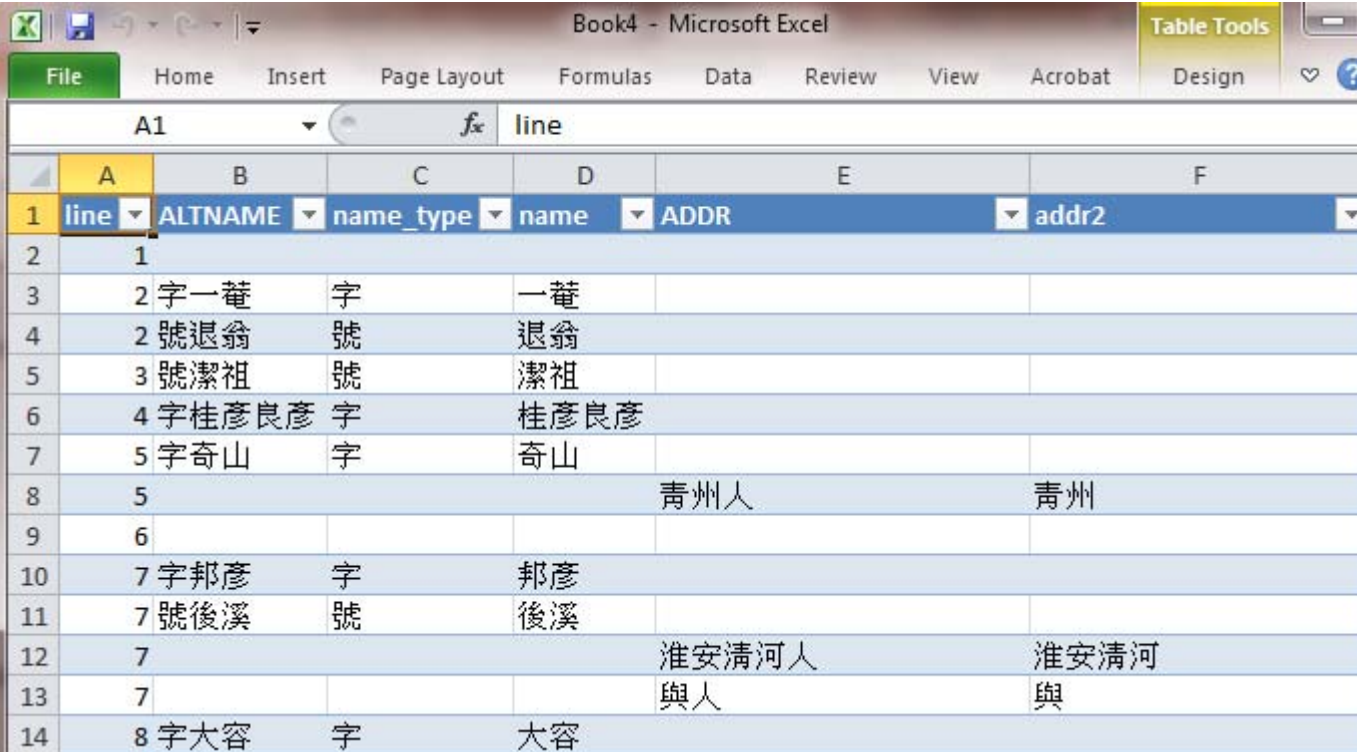
The screenshot shows the CBDB Regex Machine interface. The 'Active Regex' section contains several rules, with the first one highlighted in blue. The 'Term Lists' section contains three terms: NIANHAO, NUMBERS, and PERIOD_DESIGNATORS. The 'Auxiliary Regex' section contains five terms: DELIM, NONDELIM, YEAR, MONTH, DAY, and INTERCALARY. The 'Data View' section shows a table with columns for ID, Name, Birth Year, Death Year, and Biography. The biography text is highlighted with various colors corresponding to the active regex rules. A status bar at the bottom indicates '294 match(es) found.'

s1	姓名	生年	卒年	傳記文
1	一如	1352	1425	字一覺，號退翁，上虞孫氏子。年十三為僧，居杭州上天竺寺。永樂中奉命輯禪宗語錄，後又輯法苑珠林。就深祖，處陸歐陽氏子。宣德初落髮，主開山弘慶寺，道風浩蕩，朝野知名。正統中入住雙徑禪院，祝髮後嘗刺血書華嚴經八十一卷。善吟詠，有寒泓稿。與太子正字桂彥良彥，一日太祖問彥良在奇山，曹州人。崇禎中以隊長擊賊於河南江北間，累著戰功。史可法鎮揚州，以邦才為副將。弘光鄧州諸生，崇禎十四年字自成陷登州，抗節死。
2	一清天			字邦彥，號後溪，淮安清河人，嘉靖三十八年進士第一。萬曆初歷吏部左侍郎，居官絕饋遺，與人處退然若無能。意所不可，輒拂然見辭色。遭父
3	一覺			字大容，號東陵，浙江新昌人。天順八年進士，授監察御史。成化中上言會昌侯孫繼宗父子權重，宜加裁損。萬妃專寵，干預外政，復上疏論諫。
4	乙邦才			號竹坡，瑞金人。精於翎毛，兼善山水，時作枯木，蕭疎有致。
5	丁一統			字秀夫，宜興人。性耿介，登萬曆二十九年進士，令金谿六載，有惠政，纖毫不染，擬擢御史，候命卒於京。
6	丁士美			
7	丁川	1431	1478	
8	丁文暹			
9	丁天毓			

Loaded-in Text: with matched strings highlighted

Open the outputting XML in MS Excel

- Excel automatically transforms the XML to rows of records: easy to verify the extraction result by human eyes



The screenshot shows a Microsoft Excel spreadsheet with the following data:

line	ALTNAME	name_type	name	ADDR	addr2
1					
2	字一菴	字	一菴		
2	號退翁	號	退翁		
3	號潔祖	號	潔祖		
4	字桂彥良彥	字	桂彥良彥		
5	字奇山	字	奇山		
5				青州人	青州
6					
7	字邦彥	字	邦彥		
7	號後溪	號	後溪		
7				淮安清河人	淮安清河
7				與人	與
8	字大容	字	大容		

Extracting more data from texts

- Creating new data sets by extracting data from historical texts
- What can 2,000 Gazetteers/Difangzhi provide if we can extract information out of their full texts?
 - Posting data (任官) for CBDB
 - Adam Mitchell is extracting disaster data from 147 地方志 in 浙江 from Song to Qing.

Disaster
type

Location

Date

Raw descriptions
written in the
gazetteers (extracted)

Source

	A	B	C	D	E	F	G	H	I	J	K	L	M	T	U
1269	蟲災	Infestati	蟲	紹興府	Shaoxing	會稽	Huiji	120.58	30	宋	乾道	乾道三年	三	乾道三年秋淫雨蟲生害稼五穀多腐	康熙會稽縣志
1270				紹興府	Shaoxing	紹興	Shaoxing	120.58	30	宋	乾道	乾道三年八月	三	乾道三年八月上虞縣水壞田廬積潦至於九月禾稼皆腐	乾隆紹興府志
1271				嘉興府	Jiaxing	嘉興	Jiaxing	120.75	30.77	宋	乾道	乾道三年八月	三	乾道三年八月湖秀州水壞田廬積潦至九月禾稼皆腐	光緒嘉興府志
1272	先兆	Omens	雨土	杭州府	Hangzhou	杭州	Hangzhou	120.17	30.29	宋	乾道	乾道四年三月	四	乾道四年三月己丑雨土若塵宋史五行志下並同	乾隆杭州府志
1273	大饑	Famine	民饑	紹興府	Shaoxing	會稽	Huiji	120.58	30	宋	乾道	乾道四年	四	乾道四年大水九年旱民饑疫	康熙會稽縣志
1274	旱災	Droughts	旱	杭州府	Hangzhou	杭州	Hangzhou	120.17	30.29	宋	乾道	乾道四年六月	四	乾道四年六月旱帝將徹蓋親禱于太乙宮而雨	乾隆杭州府志
1275	旱災	Droughts	旱災	紹興府	Shaoxing	會稽	Huiji	120.58	30	宋	乾道	乾道四年	四	乾道四年大水九年旱民饑疫	康熙會稽縣志
1276	水災	Floods	大水	溫州府	Wenzhou	長興	Changxin	119.9	31.01	宋	隆興	隆興六年五月	六	隆興六年五月湖州大水宋史五行志	同治長興縣志
1277	水災	Floods	大水	紹興府	Shaoxing	諸暨	Zhuji	120.23	29.71	宋	乾道	乾道四年七月	四	乾道四年七月壬戌諸暨大水害稼隆慶縣志	乾隆諸暨縣志
1278	水災	Floods	大水	紹興府	Shaoxing	會稽	Huiji	120.58	30	宋	乾道	乾道四年	四	乾道四年大水	萬曆會稽縣志
1279	水災	Floods	大水	紹興府	Shaoxing	山陰	Shanyin	120.58	30	宋	乾道	乾道四年七月	四	乾道四年七月大水舊志	嘉慶山陰縣志
1280	水災	Floods	大水	紹興府	Shaoxing	紹興	Shaoxing	120.58	30	宋	乾道	乾道四年七月	四	乾道四年七月壬戌諸暨大水害稼	乾隆紹興府志
1281	水災	Floods	水災	紹興府	Shaoxing	諸暨	Zhuji	120.23	29.71	宋	乾道	乾道四年	四	乾道四年準史浩奏湖田米折帛萬歷紹興府志	乾隆諸暨縣志
1282	水災	Floods	霖雨	嘉興府	Jiaxing	嘉興	Jiaxing	120.75	30.77	宋	乾道	乾道四年四月	四	乾道四年四月霖雨至於五月浙東西郡縣壞圩田害蠶麥蔬種以上文	光緒嘉興府志
1283	火災	Fires	大火	溫州府	Wenzhou	永嘉	Yongjia	120.65	28.02	宋	乾道	乾道四年八月	四	乾道四年八月州大火舊府志	光緒永嘉縣志
1284	火災	Fires	大火	溫州府	Wenzhou	温州	Wenzhou	120.65	28.02	宋	乾道	乾道四年秋八月	四	乾道四年秋八月州大火	嘉靖溫州府志
1285	疫災	Epidemics	大疫	紹興府	Shaoxing	會稽	Huiji	120.58	30	宋	乾道	乾道四年	四	乾道四年大水九年旱民饑疫	康熙會稽縣志
1286	風災	Tempests	大風雨	紹興府	Shaoxing	紹興	Shaoxing	120.58	30	宋	乾道	乾道四年九月	四	乾道四年九月餘姚大風雨海溢	乾隆紹興府志
1287	龍見	Dragon	龍見	杭州府	Hangzhou	杭州	Hangzhou	120.17	30.29	宋	乾道	乾道四年八月	四	乾道四年八月頒皇祐祀龍法于郡縣	乾隆杭州府志
1288				杭州府	Hangzhou	杭州	Hangzhou	120.17	30.29	宋	乾道	乾道四年四月	四	乾道四年四月陰雨朔月	乾隆杭州府志
1289				杭州府	Hangzhou	杭州	Hangzhou	120.17	30.29	宋	乾道	乾道四年五月	四	乾道四年五月餘杭縣民婦產子青而毛兩肉角又有二家婦產子毛角	乾隆杭州府志
1290	先兆	Omens	民婦產子青	杭州府	Hangzhou	餘杭	Yuhang	119.94	30.27	宋	乾道	乾道五年五月	五	乾道五年五月餘杭縣民婦產子青而毛兩肉角又有二家婦產子毛角	嘉慶餘杭縣志
1291	大饑	Famine	大饑	杭州府	Hangzhou	錢塘	Qiantang	120.17	30.29	宋	隆興	隆興七年	七	隆興七年大饑	康熙錢塘縣志
1292	天變	Celestial	關於南斗	紹興府	Shaoxing	紹興	Shaoxing	120.58	30	宋	乾道	乾道五年五月	五	乾道五年五月入南斗	乾隆紹興府志
1293	旱災	Droughts	旱災	金華府	Jinhua	永康	Yongkang	120.03	28.9	宋	乾道	乾道五年	五	乾道五年旱	光緒永康縣志
1294	水災	Floods	大風水溢	台州府	Taizhou	臨海	Linhai	121.12	28.84	宋	乾道	乾道五年	五	乾道五年饑大風水漂民廬壞田稼人畜死者甚?	康熙臨海縣志
1295	水災	Floods	水災	溫州府	Wenzhou	永嘉	Yongjia	120.65	28.02	宋	乾道	乾道五年夏秋	五	乾道五年夏秋凡三大風水漂民廬壞田稼人溺死者甚?十月振被水	光緒永嘉縣志
1296	水災	Floods	風暴雨海溢	溫州府	Wenzhou	平陽	Pingyang	120.56	27.68	宋	乾道	乾道時		元大德丁酉風暴雨海溢瀕海民居漂溺如乾道時省發官?二千八百	隆慶平陽縣志
1297	火災	Fires	火	杭州府	Hangzhou	杭州	Hangzhou	120.17	30.29	宋	乾道	乾道五年十二月	五	乾道五年十二月壬申太室東北垣外民舍火	乾隆杭州府志
1298	賑濟	Relief	免租	溫州府	Wenzhou	平陽	Pingyang	120.56	27.68	宋	乾道	乾道時		元大德丁酉風暴雨海溢瀕海民居漂溺如乾道時省發官?二千八百	隆慶平陽縣志
1299	震災		地震	杭州府	Hangzhou	杭州	Hangzhou	120.17	30.29	宋	乾道	乾道五年二月	五	乾道五年二月丙午雷震	乾隆杭州府志

Disaster types: Earthquakes and fires; Epidemics and Insect Plagues; Snow, Ice, and Tempests; Floods and Droughts; Famines, Hyperinflation, and Relief Efforts.

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Figure 13: Yuan Disasters

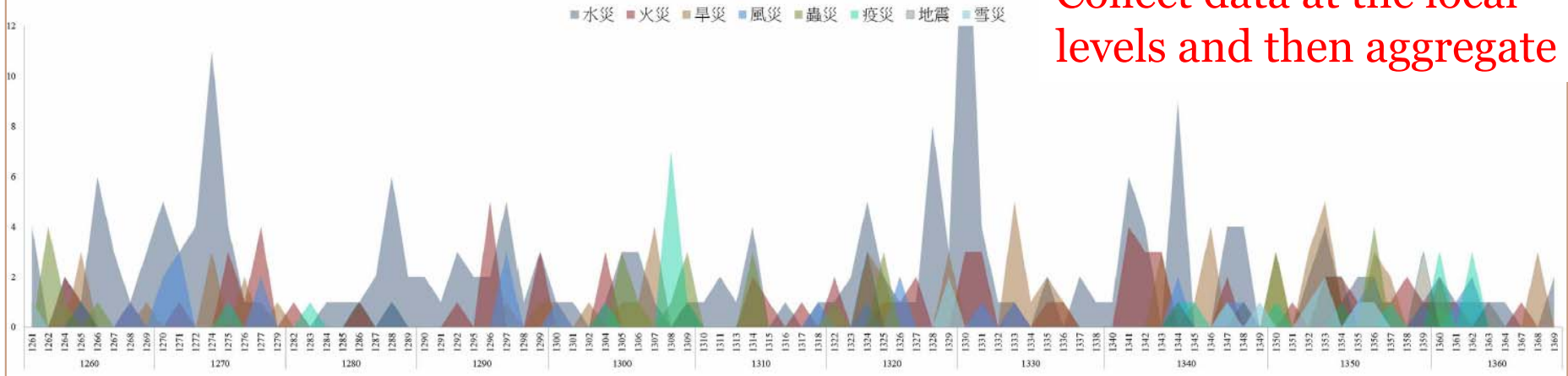
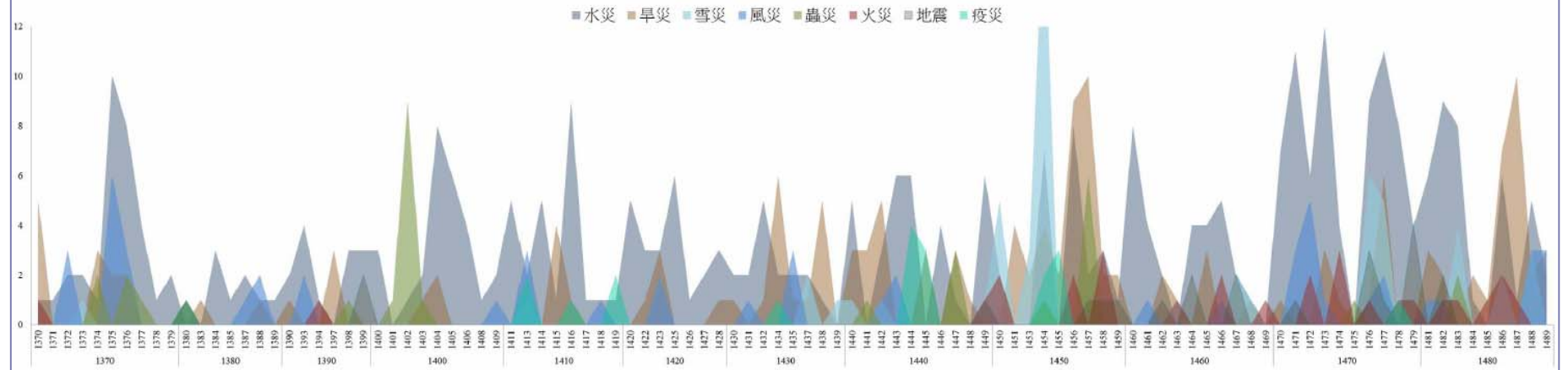


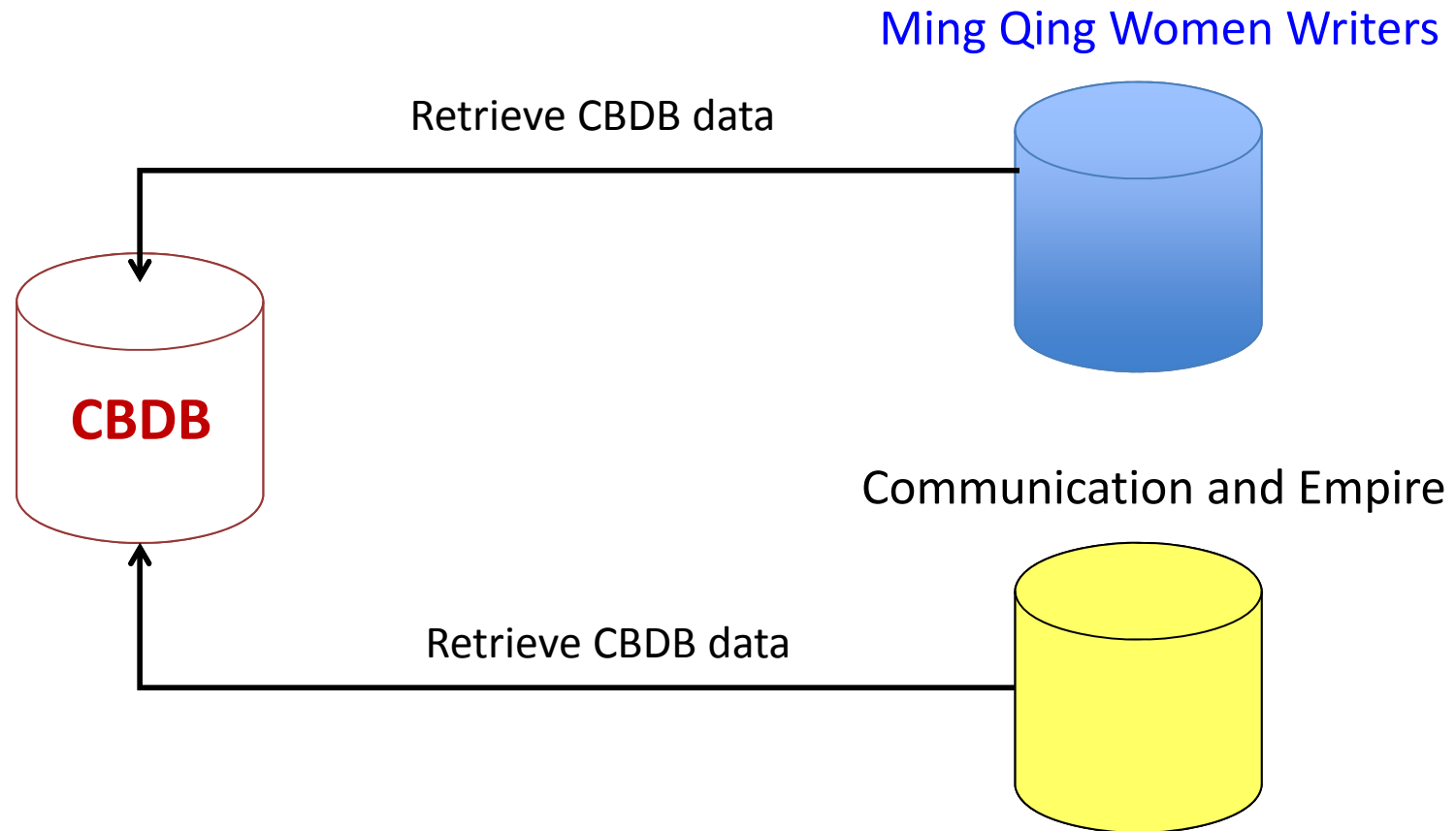
Figure 14: Early Ming Disasters



CBDB API: system interoperability

- Scholars are building databases regarding their research interests. Each database has its own focus and strength.
- CBDB API (application programming interfaces) allows other databases to retrieve and represent CBDB data *on the fly* in order to supplement to its own data.
- <http://cbdb.fas.harvard.edu/cbdbapi/>

System Interoperability



Calling CBDB API

- Send the following http request to CBDB API, get response, and then represent the result in your database:
 - Query by person ID:
 - <http://cbdb.fas.harvard.edu/cbdbapi/person.php?id=1762> (the ID of Wang Anshi)
 - Query by person name:
 - <http://cbdb.fas.harvard.edu/cbdbapi/person.php?name=王安石>
 - <http://cbdb.fas.harvard.edu/cbdbapi/person.php?name=Wang Anshi>

Result format 1: HTML

3/23/2013

1762

CBDB ID: 1762

索引/中文/英文名稱: /王安石/Wang Anshi

指數年 (index year): 1080

生年: 北宋元祐5年 (1021)

卒年: 北宋元祐1年 (1086)

享年: 66

郡望: 太原

出處: 宋人傳記資料索引(電子版), 頁1536

註: Wang(2) Anshi [1762] Yi(3)'s [7082] son, Guan(1)'s [1841] grandnephew, Anguo's [7076], Anli's [1760], and Anshang's [1761] brother, Fang's [1803] uncle, Jue(1)'s [1796] great grandfather, Zhu(1) Mingzhi's [526] and Shen(2) Jichang's [1445] brother-in-law, Cai(1) Bian's [8131] father-in-law and uncle-in-law, and Wu(3) Anchi's [1957] father-in-law. Anshi was Zhang(1) Jifu's [195], Xu(3) Xi's [753] and Yang(2) Wei's [2032] patron, Li(2) Ding(1)'s [1097] patron and teacher, Gong(2) Yuan's [941] teacher, and the teacher of Wang(2) Pin's [7381] uncle, Boqi [3970]. He was the grandnephew of Wang(2) Guanzhi [3965], the father-in-law of Zhou(1) Jiazheng's [480] son, Yanxian [3250]. His mother was Wu(3) Shi and his wife was Wu(3) Shi. He once arranged for a marriage between his wife's younger sister and Wang(2) Ling [3967] whose scholarship he admired. The sister's, and therefore Wang Anshi's wife's, grandfather, Wu(3) Min [4017], had the same generational name and address as Anshi's maternal grandfather, Wu(3) Tian [7396], so that it can be assumed that they were brothers or cousins. When Wang Anshi composed the funerary inscription for the two women's father, Wu(3) Ben [4020], in 1054, neither daughter was married. Wang(2) Ling died in 1059 at the age of 28. Wang Anshi was 32 in 1054. Wang(2) Ling was Wu(3) Yue's [1992] maternal grandfather. The mother of Yan(5) Shu's [2073] grandnephew, Fang [4118], was the younger sister of Wang(2) Anshi's wife, Wu(2) Shi. Songshi yi, 5.5b discusses the coalitional significance of the fact that Lu(9) Jiawen's [1294] son married the daughter of Wang Anshi's son, Pang(a) [3968], and that Cai(1) Bian [8131] married Pang's elder sister. Anshi was a friend of Wang(2) Ping's [1856] son, Hui [3958] and his older and younger brothers were tongnianyou with the sons of Chen(1) Jiansu [7101]. XCB, 177.2a, 179.3a, 184.15a, 188.8a, 189.3a, 18a, 191.9a-10a, 192.4a-4b, 7a; XCBSB, 4.4b, 15.17a, 16.14b; Shen Gou, WJ, 2.48b; SHY:ZG, 5.1a; Zeng Gong, WJ, 45.4b; Du Dagui, 'xia,' 14.1a; Wang Anshi, WJ, 97.998, 98.1012; Wang Ling, WJ, 'fu,' 13b. CBD, 1, 277-281. From Hartwell's ACTIVITY table:1075: Working on the railroad all the time all the time all the time

基本資料 Basic Information

別名: 字介甫, 室名、別號半山老人, 諡號文, 小字獯郎。

別名 Alternative names

地理資訊: 籍貫(基本地址): 宋朝 / 江南西路 / 撫州 / 臨川

出處: , 頁

註:

地址 Addresses

任官:

- 參知政事: 地點: 宋朝。起始年: 1069。赴任。
出處: 宋人傳記資料索引(電子版)(頁1536)。
註: Hartwell defined the office as Canzhi zhengshi (參知政事)
- 三司度支判官: 地點: 宋朝。起始年: 1058。赴任。
出處: 宋人傳記資料索引(電子版)(頁1536)。
註: Hartwell defined the office as Duzhi panguan (度支判官)
- 正授 群牧判官: 地點: 宋朝。起始年: 1054。終止年: 1055。赴任。
出處: 未知。
註: Hartwell defined the office as Qunmu panguan (群牧判官)
- 同中書門下平章事: 地點: 宋朝。起始年: 1071。赴任。
出處: 宋人傳記資料索引(電子版)(頁1536)。
註: Hartwell defined the office as Tong Zhongshu Menxia Pingzhang shi (同中書門下平章事)

任官 Postings

Result format 2: XML

```

- <Package>
- <PersonAuthority DataSource="CBDB">
  - <PersonInfo>
    - <Person>
      - <BasicInfo>
        <PersonId>1762</PersonId>
        <EngName>Wang Anshi</EngName>
        <ChName>王安石</ChName>
        <IndexYear>1080</IndexYear>
        <Gender>0</Gender>
        <YearBirth>1021</YearBirth>
        <DynastyBirth>北宋</DynastyBirth>
        <EraBirth>元祐</EraBirth>
        <EraYearBirth>5</EraYearBirth>
        <YearDeath>1086</YearDeath>
        <DynastyDeath>北宋</DynastyDeath>
        <EraDeath>元祐</EraDeath>
        <EraYearDeath>1</EraYearDeath>
        <YearsLived>66</YearsLived>
        <Dynasty>宋</Dynasty>
        <JunWang>太原</JunWang>
        <Source>宋人傳記資料索引(電子版)</Source>
        <Pages>1536</Pages>
      + <Notes></Notes>
    </BasicInfo>
  - <PersonAliases>
    - <Alias>
      <AliasType>字</AliasType>
      <AliasName>介甫</AliasName>
    </Alias>
    - <Alias>
      <AliasType>室名、別號</AliasType>
      <AliasName>半山老人</AliasName>
    </Alias>
    - <Alias>
      <AliasType>諡號</AliasType>
      <AliasName>文</AliasName>
    </Alias>
  
```

Format 3: Json

3/23/2013

```

{
  "Package" : {
    "PersonAuthority" : {
      "DataSource" : "CBDB",
    }
  },
  "PersonInfo" : {
    "Person" : {
      "BasicInfo" : {
        "PersonId" : "1762",
        "EngName" : "Wang Anshi",
        "ChName" : "王安石",
        "IndexYear" : "1080",
        "Gender" : "0",
        "YearBirth" : "1021",
        "DynastyBirth" : "北宋",
        "EraBirth" : "元祐",
        "EraYearBirth" : "5",
        "YearDeath" : "1086",
        "DynastyDeath" : "北宋",
        "EraDeath" : "元祐",
        "EraYearDeath" : "1",
        "YearsLived" : "66",
        "Dynasty" : "宋",
        "JunWang" : "太原",
        "Source" : "宋人傳記資料索引(電子版)",
        "Pages" : "1536",
        "Notes" : "Wang(2) Anshi [1762] Yi(3)'s [7082] son, Gu
      },
      "PersonAliases" : { "Alias" :[{
        "AliasType" : "字",
        "AliasName" : "介甫"
      }],{
        "AliasType" : "室名、別號",
        "AliasName" : "半山老人"
      }],{
        "AliasType" : "諡號",
        "AliasName" : "文"
      }],{
        "AliasType" : "小字",
        "AliasName" : "獯郎"
      }
    }
  },
  "PersonAddresses" : {
  
```

Using CBDB data

- Through the online query system
- Download the standalone version with the complete data set and built-in queries
- Using CBDB API