

Explore Mindfulness without Deflection: A Data Art Based on The Book of Songs



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Project Background



What is The Books of Songs
Why The Books of Songs

The Book of Songs

- **What is The Book of Songs?**
 - The origin of traditional Chinese culture
 - Officially assembled by Confucius in the Late Zhou Dynasty, around 3000 years ago
 - Structure
 - It consists of 305 poems with three genres: *Songs* (风), *Odes and Epics* (雅), and *Hymns* (颂)
 - Themes
 - It covers various themes to portray the whole society in the Late Zhou Dynasty
 - Including not only ballads, folk-customs of ordinary people, but also sacrifice, banquet, and the musical dance of nobility



Folk-customs



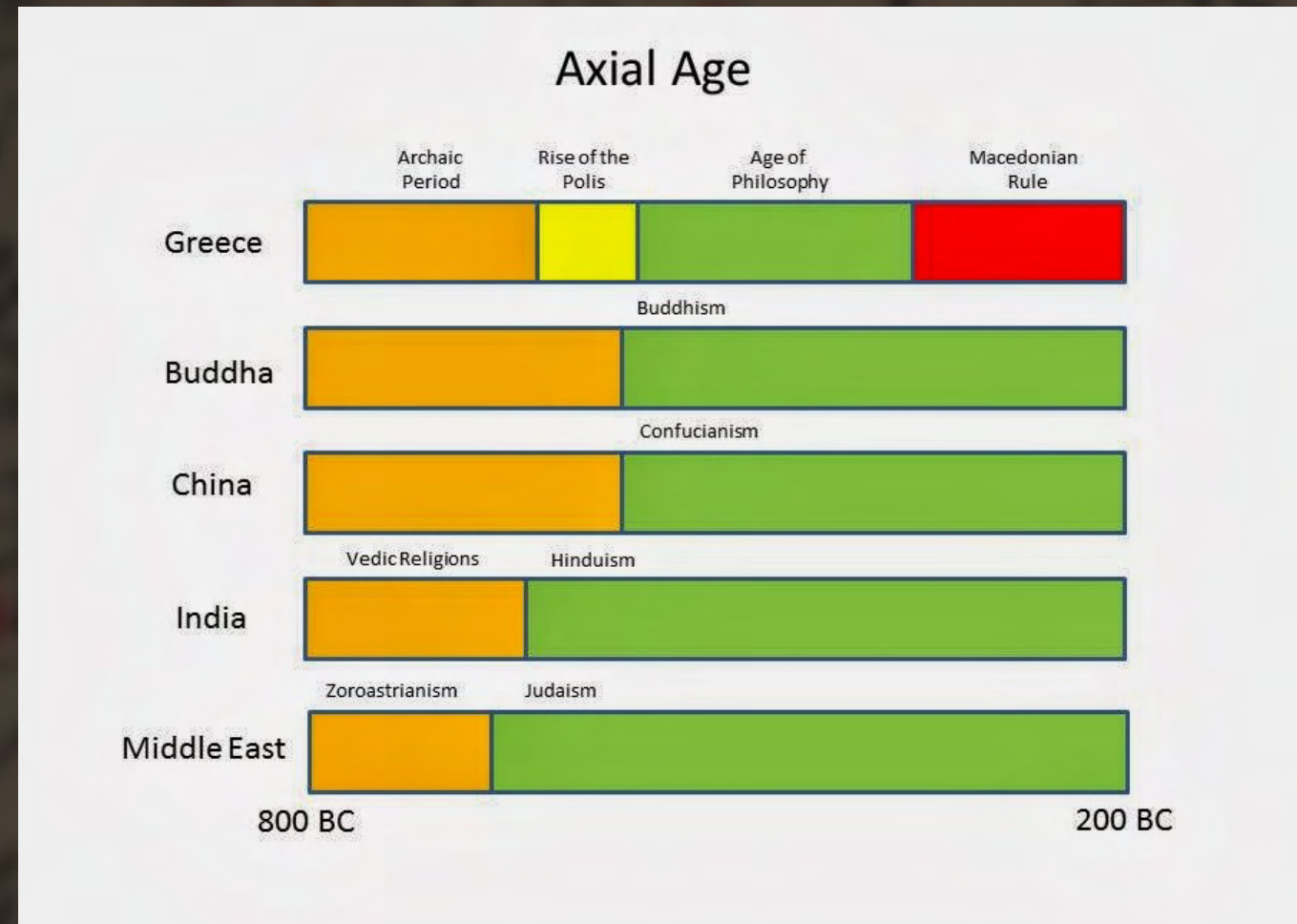
Sacrifice



Banquet

The Book of Songs

- Why The Book of Songs?
 - History Value: Axial Period



The Book of Songs

- **Why The Book of Songs?**

- History Value: Axial Period
- Cultural Value: Impacted the whole East Asian culture

诗经

The Book of Songs

楚辞

Songs of Chu

汉赋

Han fu

唐诗

Tang Poetry

宋词

Song Ci

元曲

Yuan Qu

The Book of Songs

- **Why** The Book of Songs?

- History Value: Axial Period
- Cultural Value: Impacted the whole East Asian culture
- Aesthetic Value: **Rhythm**, **Euphemism**, and **Morality**



蒹葭苍苍

When reed and rush grew green, grew green

白露为霜

And dews to hoar-frost changed

所谓伊人

One whom they speak of as "that man"

在水一方

Somewhere the river ranged



The Book of Songs

- **Why The Book of Songs?**

- **Micro Level (Euphemism).** Imageries – Connecting the abstract themes and the subjective emotions and feelings expressed by the authors
- **Macro Level (The Book of Songs).** Establishing a time tunnel to connect people today and their ancestors, to help us understand the distant and precious cultural heritage and the universal, everlasting, and poetical human lives



Workflow and Design



Data Dimensions
Workflow
Visual Design

Data Collection

- **Raw Data**

- Chinese and English versions of the Book of Songs
- Paintings of plants and animals drawn by Hosoi Jun in Qing Dynasty

Images



Texts

燕燕子飞，
O the swallows onward flying,
差池其羽！
Wings aslant, irregular!

——《國風·邶風·燕燕》
——Friends in Distress, the Fung of P'El, Fung

尸鳩在桑，
There in the mulberry-tree the dove,
其子七兮。
Sits on, seven young ones at her side.

——《國風·曹風·鸚鳩》
——Praise of An Excellent Ruler, the Fung of TS'ÂU, Fung

The Shi king
the old Poetry classic
of the Chinese

William Jennings

Data Dimensions

- **The Books of Songs**

Genre

- Volkslieder (风)
- Hymns (雅)
- Odes (颂)

Function

- Stimulation (兴)
- Contemplation (观)
- Communication (群)
- Criticism (怨)

Rhetoric

- Narrative (赋)
- Analogy (比)
- Association (兴)

Poem

- Chinese
- English

Emotion

- Love (爱)
- Happy (喜)
- Desire (欲)
- Neutrality (中性)
- Fear (惧)
- Depression (哀)
- Anger (怒)
- Hate (恶)

Topic

- War (战争)
- Feast (宴享)
- Fete (祭祀)
- Sarcasm (讽刺)
- Love-Song (恋曲)
- ...

Imagery

- Herbage (草)
- Tree (木)
- Bird (鸟)
- Livestock (兽)
- Insects (虫)
- Fish (鱼)

Imagery

- Images by Hosoi Jun



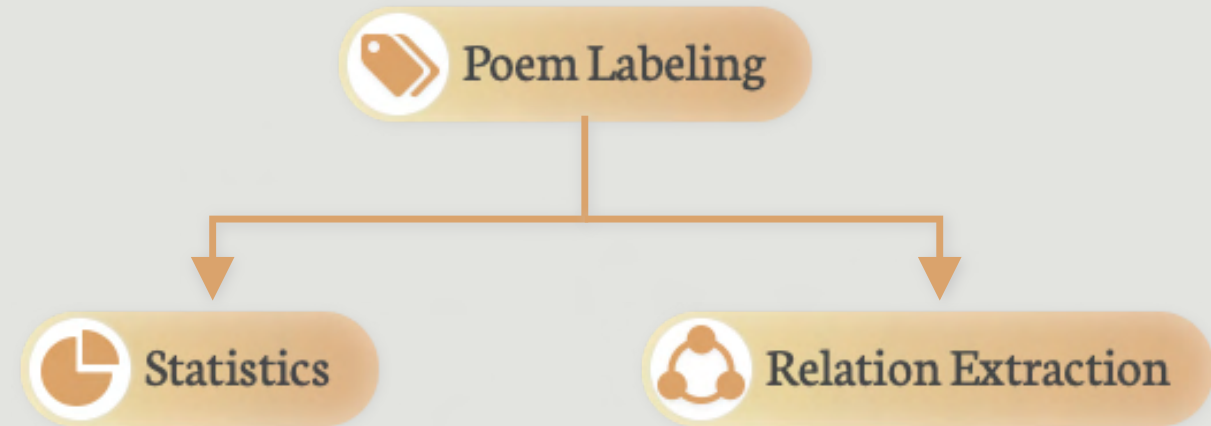
Workflow



	A	B	C	D	E	F	G	H	I
1	Index	Genre	Location	Name	、宴餉、戰爭、頌歌、贊歌、祭祀、自傷	Function (興觀群怨)	Theme	Emotion (中國傳統七情-喜怒哀懼愛惡欲)	修辭 (賦比興)
2	0	國風	周南	關雎	戀曲	興	渴慕戀人，求而不得	哀	比
3	1	國風	周南	葛覃	民俗	興	回家探親，歸心似箭	喜	興
4	2	國風	周南	卷耳	戀曲	怨	兩處閑愁，別後相思	哀	興
5	3	國風	周南	樛木	民俗	群	祝願新人，平安喜樂	喜	比
6	4	國風	周南	蠡斯	民俗	群	祝福新人，多子多孫	喜	興
7	5	國風	周南	桃夭	民俗	群	祝福新人，婚姻幸福	喜	比
8	6	國風	周南	兔置	頌歌	興	贊頌武士英勇	中性	賦
9	7	國風	周南	采芣苢	民俗	興	采芣苢時的勞動歌曲	中性	賦
10	8	國風	周南	汜水	戀曲	興	熱戀漢水另一端的女子，卻無法接近	愛	興
11	9	國風	周南	汝墳	戀曲	興	妻子熱烈思念丈夫	哀	興
12	10	國風	周南	麟之趾	頌歌	觀	歌頌貴族公子的仁德	中性	比
13	11	國風	召南	鵲巢	民俗	觀	描述女子出嫁的盛況	喜	比
14	12	國風	召南	采芣苢	民俗	怨	女僕為公侯祭祀采摘白蒿	哀	賦
15	13	國風	召南	草虫	戀曲	興	女子飽受相思苦，終得相見	愛	興
16	14	國風	召南	采蘋	祭祀	觀	描寫祭祀前後的活動	中性	興
17	15	國風	召南	甘棠	諷諫	興	懷念召伯政德	中性	興
18	16	國風	召南	行露	民俗	觀	女子大膽反抗逼婚	怒	興
19	17	國風	召南	羔羊	贊歌	觀	(爭議) 描述官吏退朝吃飯	中性	賦
20	18	國風	召南	殷其雷	戀曲	興	女子擔心冒雨外出的丈夫	愛	興
21	19	國風	召南	標有梅	戀曲	興	采梅女子盼望追求她的心上人趕快來求婚	欲	興
22	20	國風	召南	小星	自傷	怨	底層官吏哀嘆命運不公	哀	賦
23	21	國風	召南	江有汜	自傷	怨	棄婦的哀訴	哀	興
24	22	國風	召南	野有死麋	民俗	興	男女幽會的緊張和興奮	欲	興
25	23	國風	召南	何彼禴矣	民俗	觀	貴族女子出嫁、出行的奢侈場面	喜	比 ⁴
26	24	國風	召南	驂虞	贊歌	群	贊美獵人善於射箭	中性	賦

Workflow

1. Plant/Animal relations (i.e., concurrence)
2. Top frequent plants and animals with their original poems

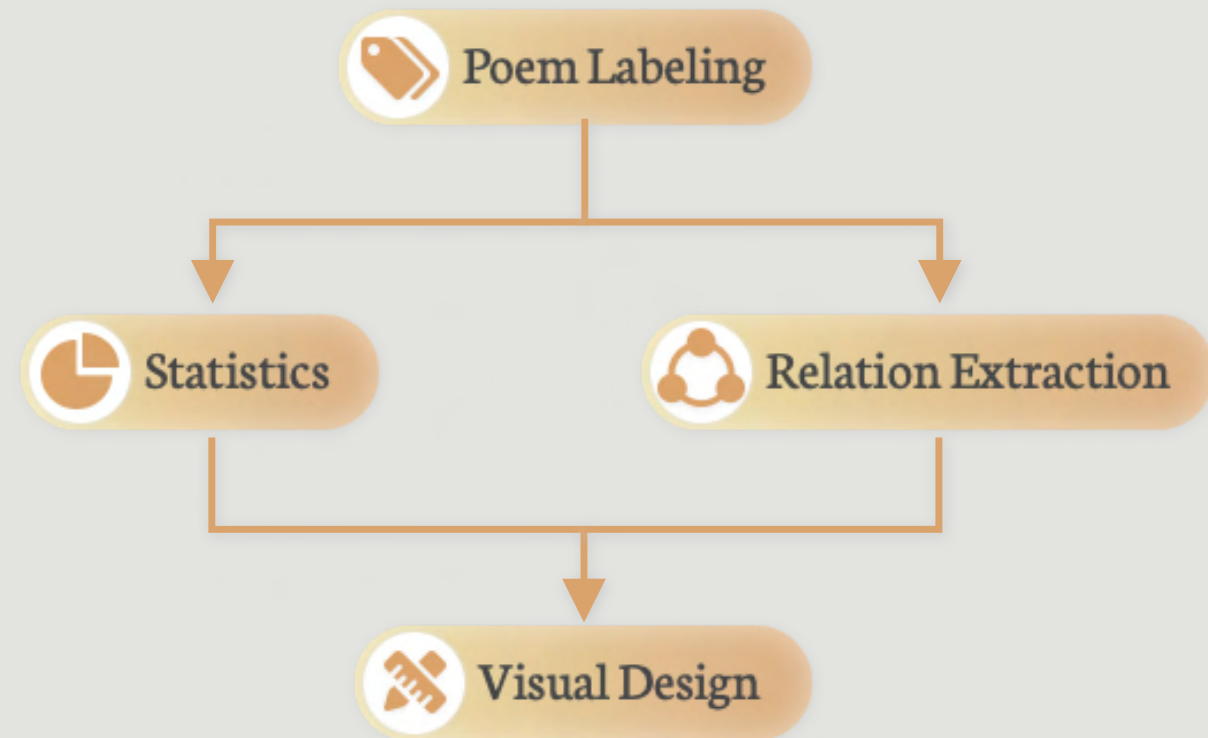


	A	B	C	D	E
1		count			
2	莫	19			
3	葛	2			
4	卷耳	1			
5	楚	4			
6	葵	1			
7	棘	9			
8	茶	7			
9	匏	4			
10	桐	2			
11	梓	1			
12	桑	11			
13	椅	1			
14	栗	8			
15	榛	3			
16	漆	5			
17	来	30			
18	蕤	1			
19	葭	3			
20	芬	1			

	A	B	C	D
1		object	poem index list	frequency
2	0	马	[1, 2, 8, 26, 30, 31, 33, 43, 49, 52, 53, 56, 57,	96
3	1	鱼	[9, 42, 103, 137, 148, 158, 166, 169, 170, 177, 18	19
4	2	燕	[27, 42, 160, 170, 172, 176, 179, 204, 208, 217, 2	18
5	3	羊	[17, 65, 79, 119, 145, 153, 164, 189, 208, 210, 23	15
6	4	牛	[65, 166, 189, 202, 204, 208, 226, 244, 245, 259,	15
7	5	虎	[24, 37, 77, 127, 130, 194, 199, 233, 260, 261, 26	12
8	6	狐	[36, 40, 62, 100, 129, 145, 153, 224, 233]	9
9	7	鹿	[22, 155, 160, 179, 196, 241, 256, 260]	8
10	8	龙	[83, 127, 172, 282, 292, 299, 302, 303]	8
11	9	鲂	[9, 103, 137, 158, 169, 225, 260]	7
12	10	咒	[2, 153, 179, 214, 233, 291]	6
13	11	鼠	[16, 51, 112, 153, 188, 193]	6
14	12	鲐	[42, 171, 224, 241, 245, 299]	6
15	13	鸡	[65, 81, 89, 95, 153, 198]	6
16	14	贼	[203, 211, 255, 256, 263, 264]	6
17	15	鸠	[0, 11, 57, 151, 195]	5
18	16	黄鸟	[1, 31, 130, 186, 229]	5
19	17	兔	[6, 69, 196, 197, 230]	5
20	18	龟	[194, 236, 243, 298, 299]	5
21	19	虺	[2, 29, 188, 191]	4
22	20	雉	[32, 33, 69, 196]	4
23	21	雁	[33, 77, 81, 180]	4

Workflow

- Sankey overview
- Glyph



The Data Art



思无邪

《诗经》是中华文化的元典。《诗经》传为春秋时孔子所辑录的民谣、典礼祭祀、乐舞和出于贵族宴饮的歌词，创作时期跨越了从西周初期至东周春秋中叶五百年的时间即西元前十一世纪—西元前五世纪。其中，颂在前，雅次之，风在后。凡三百零五篇，因此又称为【诗三百】或【三百篇】。

由于《诗经》诞生于中国文学发展中的特殊时期，在历史文化、文学艺术、语言流变等三个层面都具有十分重要的研究价值。

七情

- 喜 恨
- 爱 哀
- 欲 怒
- 无 恶

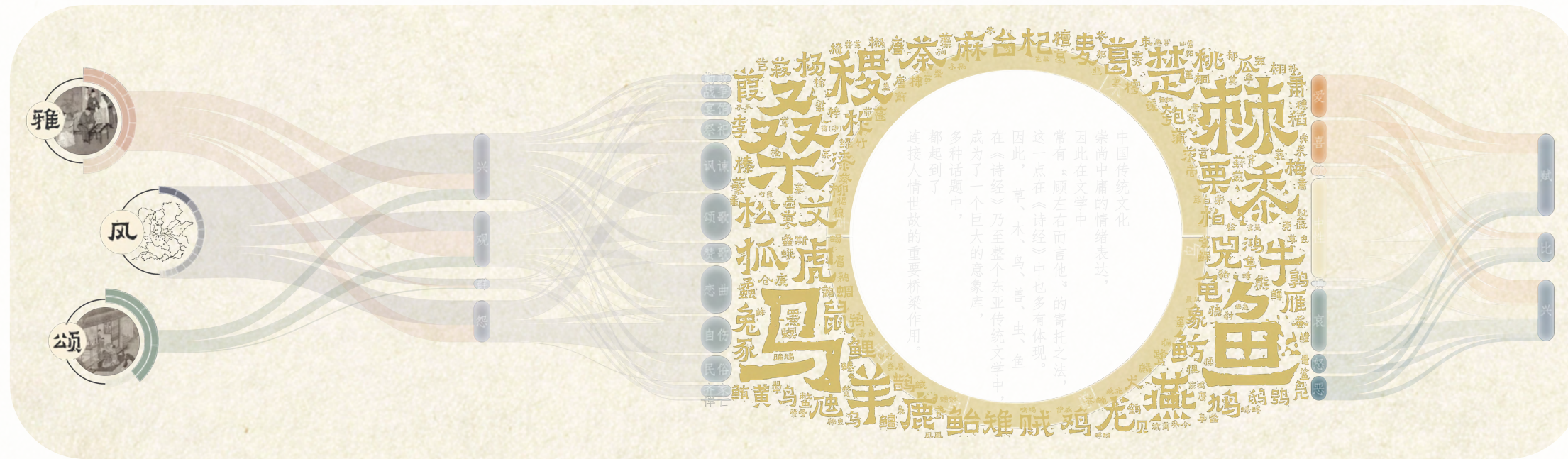
体裁

- 风 修辞
- 雅 功能
- 颂 主题

其他



Visual Design



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思无邪

• Overview 其他

- | | | |
|---|---|----|
| 情 | 裁 | 其他 |
| 喜 | 恨 | |
| 爱 | 哀 | 风 |
| 欲 | 怒 | 雅 |
| 无 | 恶 | 颂 |
| | | 修辞 |
| | | 功能 |
| | | 主题 |



Visual Design

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中国传统文化崇尚中庸的情绪表达，因此在文学中常有“顾左右而言他”的寄托之法，这一点在《诗经》中也有体现。因此，草、木、鸟、兽、虫、鱼在《诗经》乃至整个东亚传统文学中，成为了一个巨大的意象库，多种话题中，都起到了连接人情世故的重要桥梁作用。

• Top Frequent imageries



• Overview

- 喜 恨
- 爱 哀
- 欲 怒
- 无 恶
- 风
- 雅
- 颂
- 修辞
- 功能
- 主题

Visual Design



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七情	体裁	其他
喜 恨		
爱 哀	风	修辞
欲 怒	雅	功能
无 恶	颂	主题



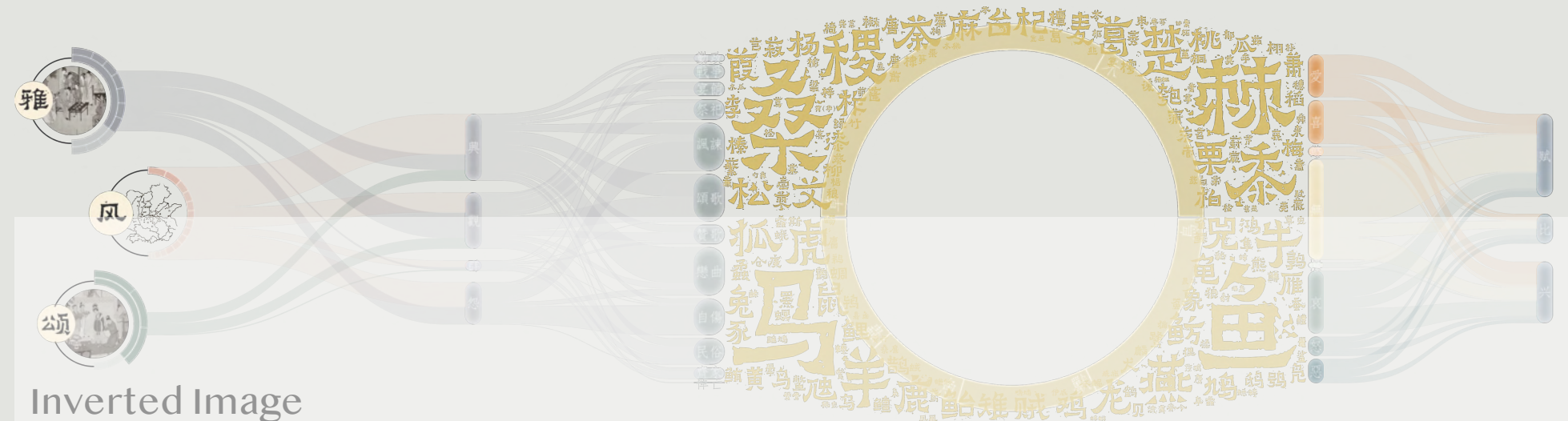
• Legends and Introductions

Visual Design: Overview

- Overview
 - Summarizes all the 305 poems in the Book of Songs
 - Sanky Diagram → Bridge



The traditional Chinese arc bridge
Photo by Charriot ZHAI on [Unsplash](#)

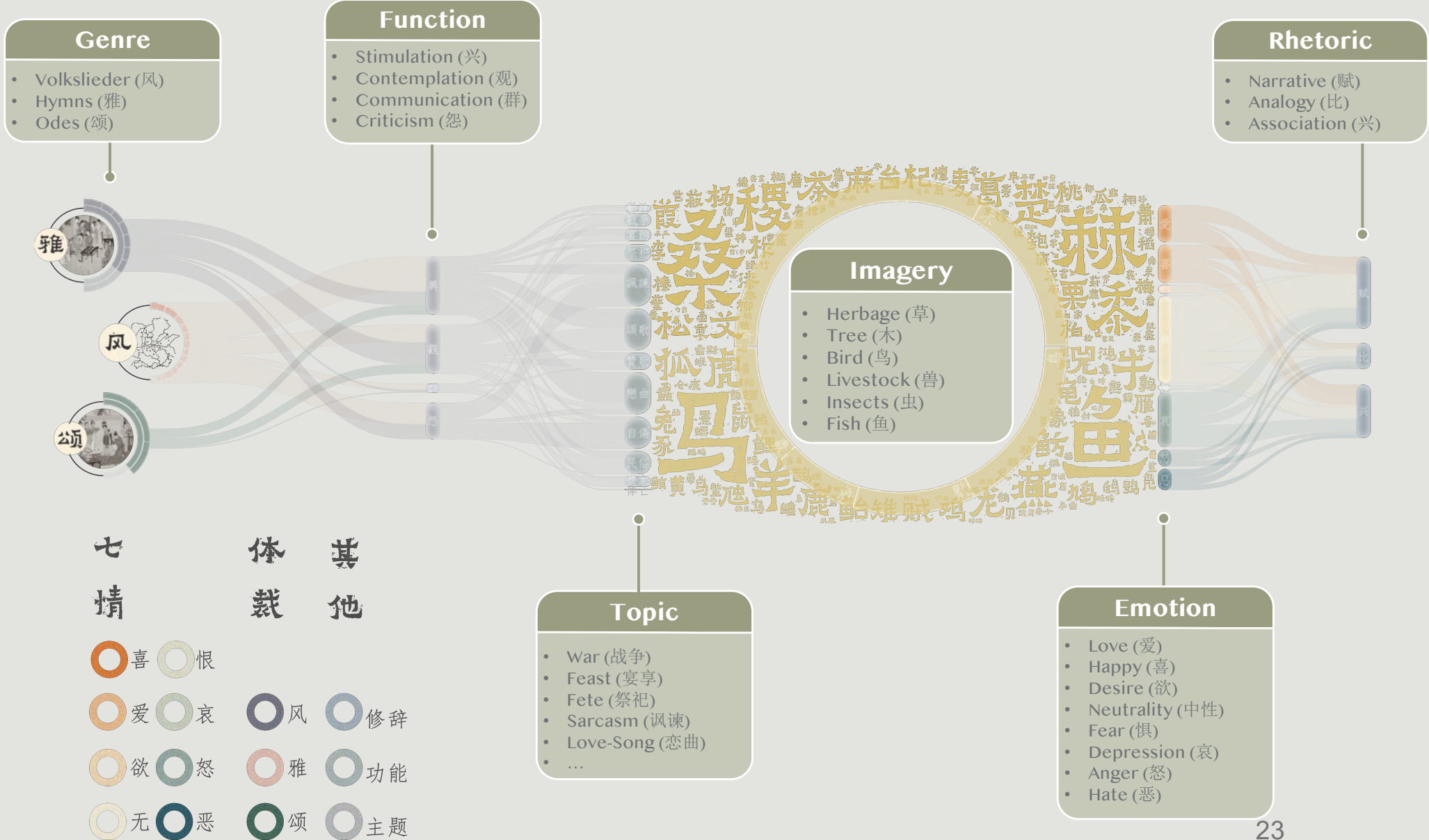


Visual Design: Overview

- Overview
 - Sanky Diagram
 - Bridge

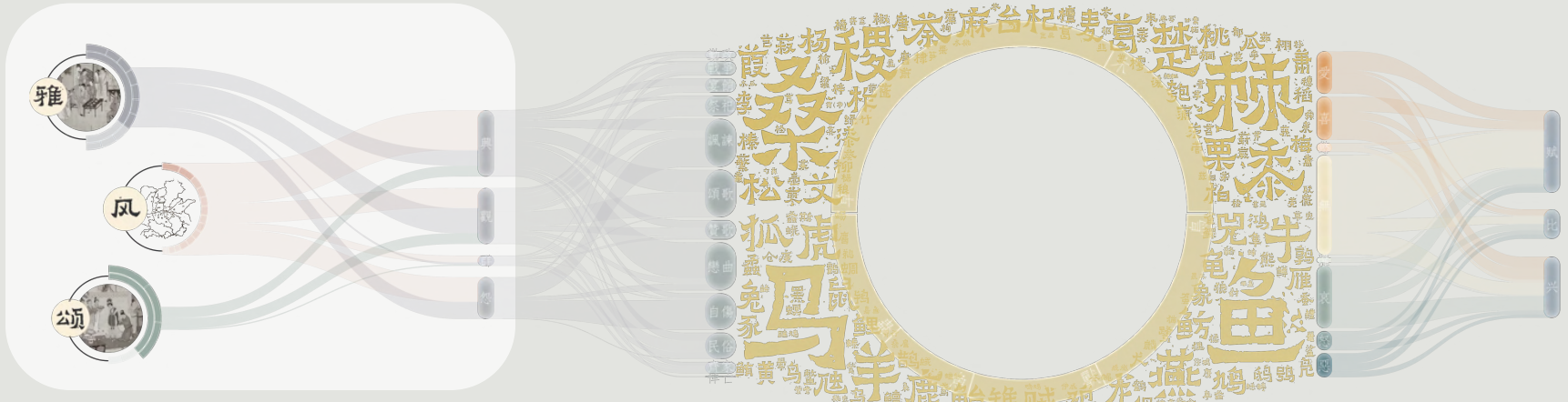


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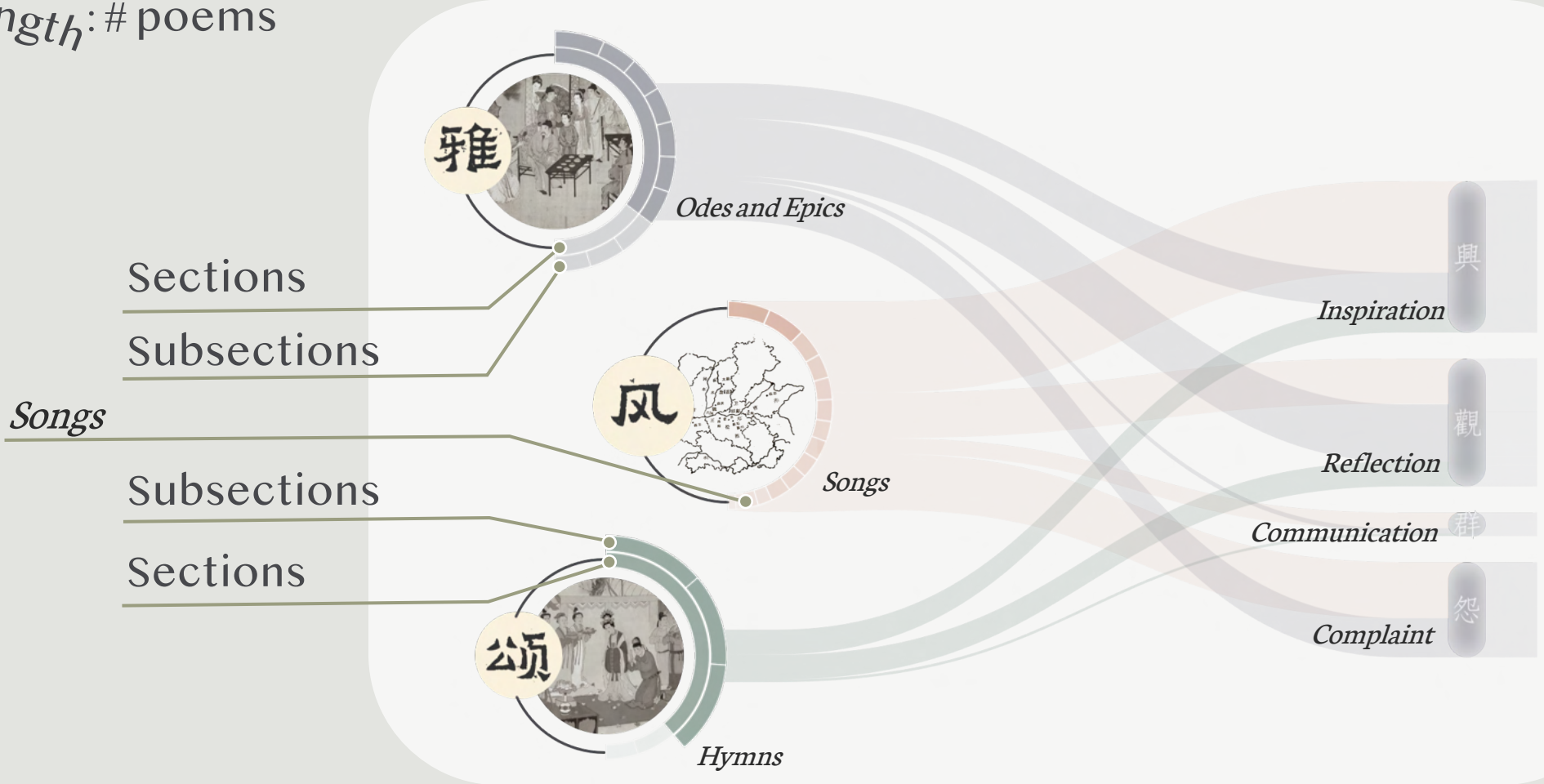


Visual Design: Overview

- Overview
 - Sanky Diagram
 - Bridge
- Glyph Encoding
 - $Opacity + \text{Arc length} : \# \text{ poems}$



Genre	Location	Count
國風	卫风	10
	召南	14
	周南	11
	唐风	12
	曹风	4
	桧风	4
	王风	10
	秦风	10
	豳风	7
	邶风	19
	郑风	21
	鄘风	10
	陈风	10
	魏风	7
	齐风	11



Visual Design: Overview

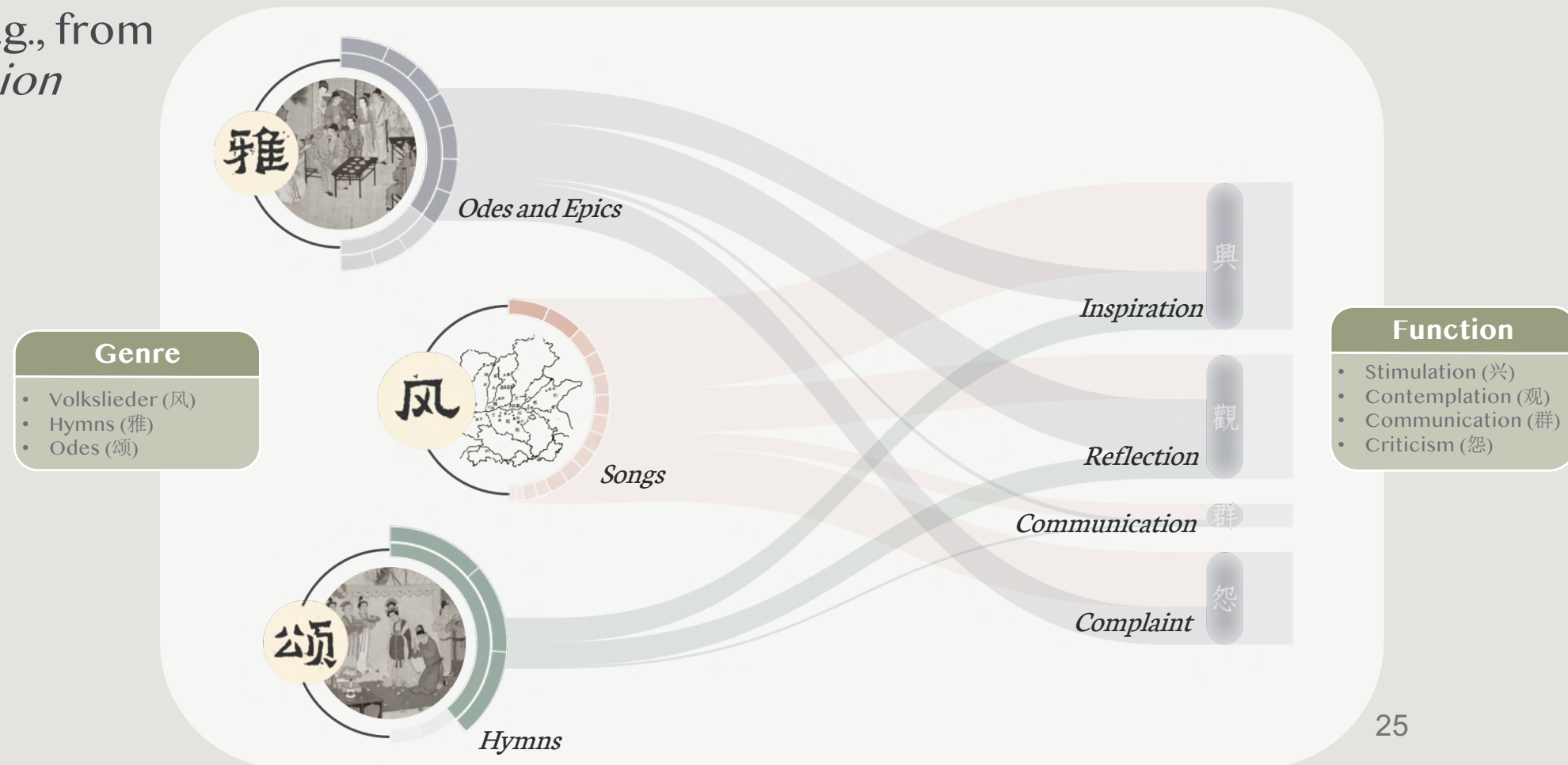
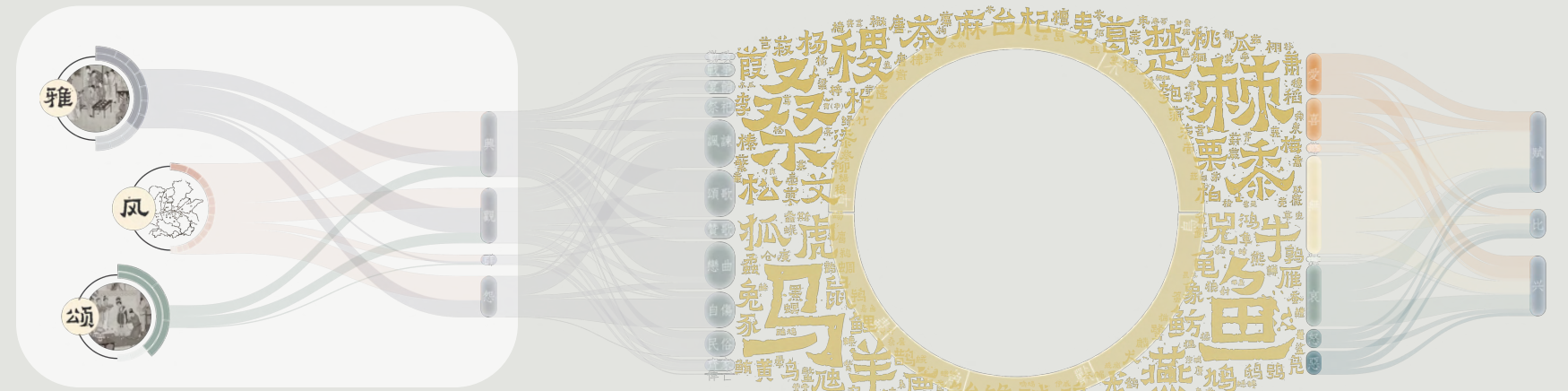
- Overview

- Sanky Diagram
- Bridge

- Flow Encoding

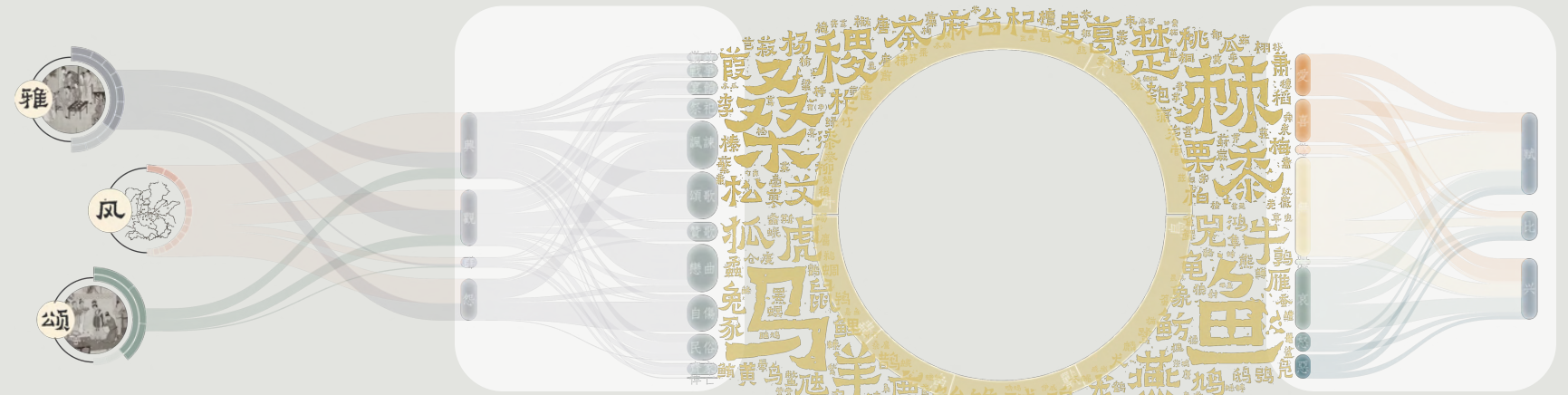
- Height of flow : # poems, e.g., from *Odes and Epics to Inspiration*

Genre	Function (興觀群怨)	Count
國風	怨	43
	群	12
	興	70
雅	觀	35
	怨	30
	群	4
頌	興	27
	觀	44
	群	2
頌	興	19
	觀	19

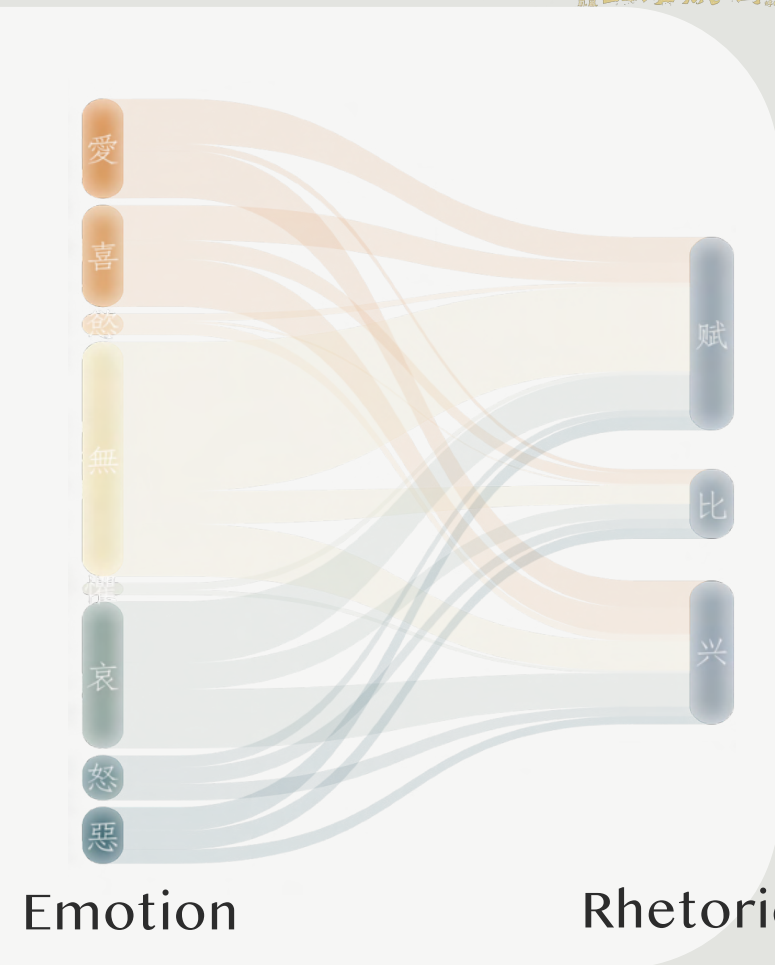
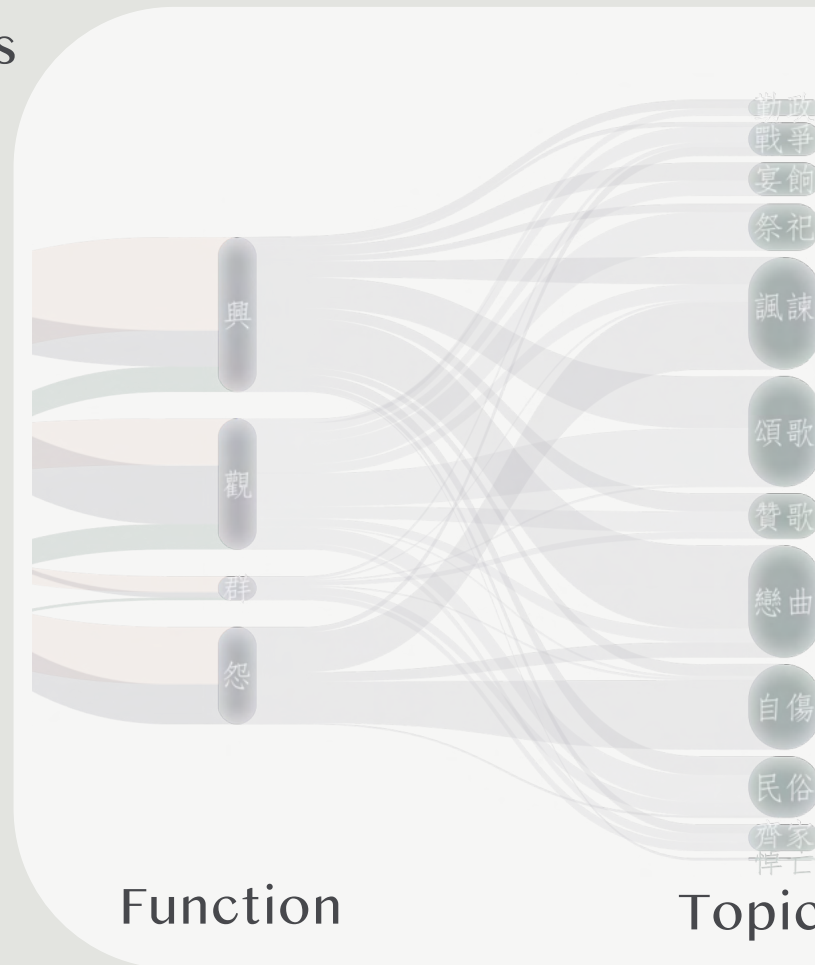


Visual Design: Overview

- Overview
 - Sanky Diagram
 - Bridge
- Flow Encoding
 - Height: # poems



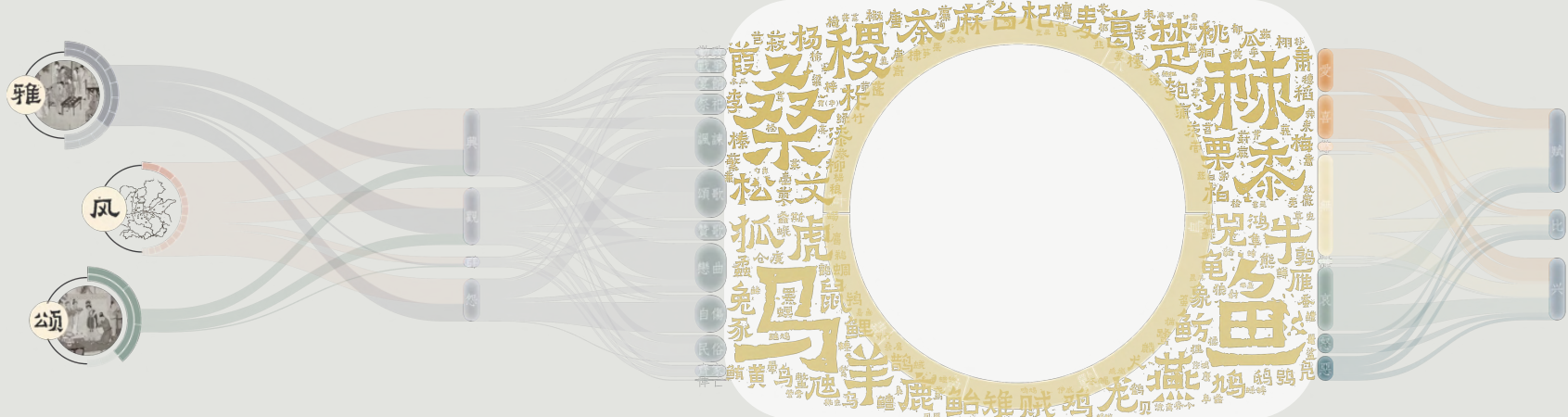
Function (興觀群怨)	Topic (戀曲、民俗、諷諫、宴餉、戰爭、頌歌、贊歌、祭祀、自傷、齊家、悼亡、勤政.....)	Count
怨	戀曲	7
	戰爭	4
	民俗	1
	自傷	31
群	諷諫	30
	戰爭	2
	民俗	6
	自傷	1
	諷諫	1
	贊歌	3
	頌歌	1
	齊家	4
	勤政	4
	興	



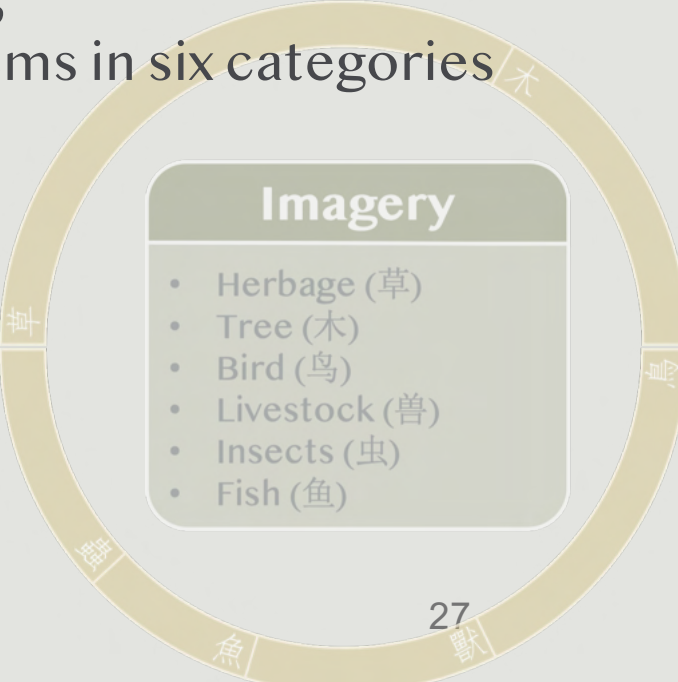
Emotion (中國傳統七情-喜怒哀懼愛惡欲)	修辞 (賦比興)	Count
中性	兴	22
	比	14
	賦	63
哀	兴	25
	比	11
喜	賦	26
	兴	20
怒	比	8
	賦	15
怒	兴	7
	比	7
惡	賦	5

Visual Design: Overview

- Overview
 - Sanky Diagram
 - Bridge



- Word Encoding
 - Size: # poems for each imagery
- Donut Encoding
 - Arc length: # poems in six categories



Visual Design: Glyph

- Glyph

- To emphasize the importance of imageries as a connection between objective themes and subjective emotions
- Pick the top frequent imageries in herbage/tree/bird/livestock/fish/insect
- Present poem **statistics** and **relations** with other imageries



Proso Millet / *Herbage*



Mulberry / *Tree*



Swallow / *Bird*



Horse / *Livestock*



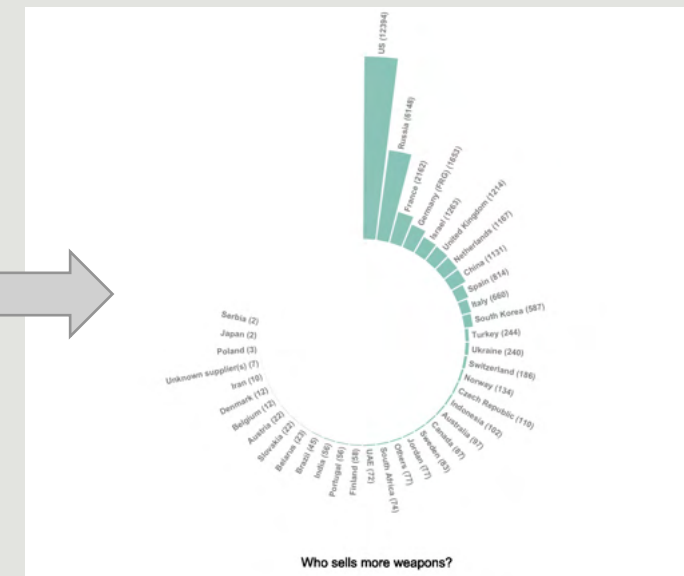
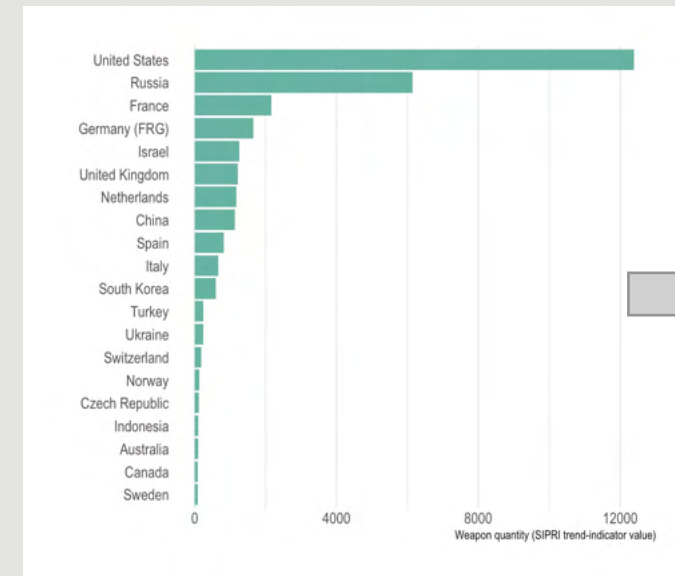
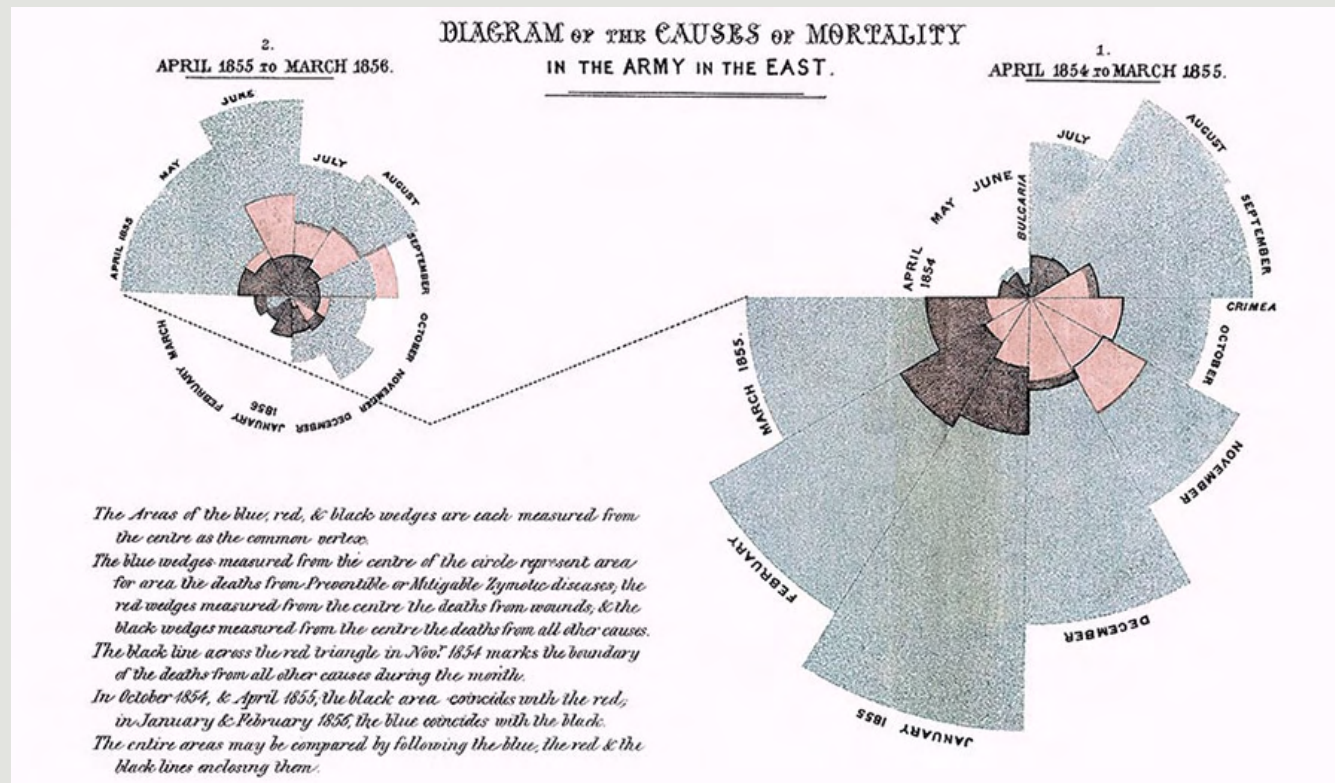
Pest / *Insects*



Black Bream / *Fish*

Visual Design: Glyph

- The Traditional Coxcomb Diagram
- Visual Encoding
 - Bar chart in the polar coordinate
 - Length of radius: the value of target attributes



Visual Design: Glyph

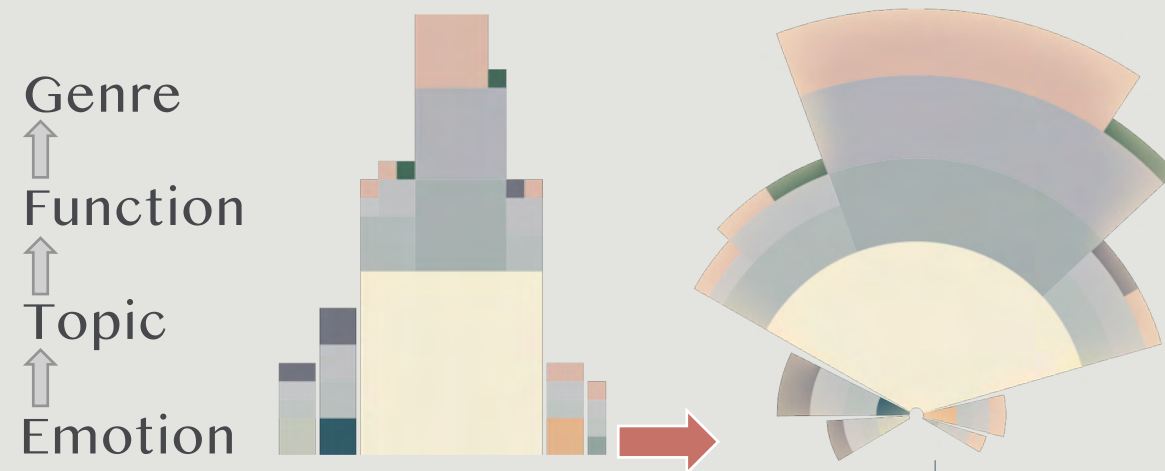
- Improvements
 - To emphasize the differences among imageries
 - To make it aesthetic and unified



Visual Design: Glyph

- Improvements

- To emphasize the differences among imageries
- To make it aesthetic and unified

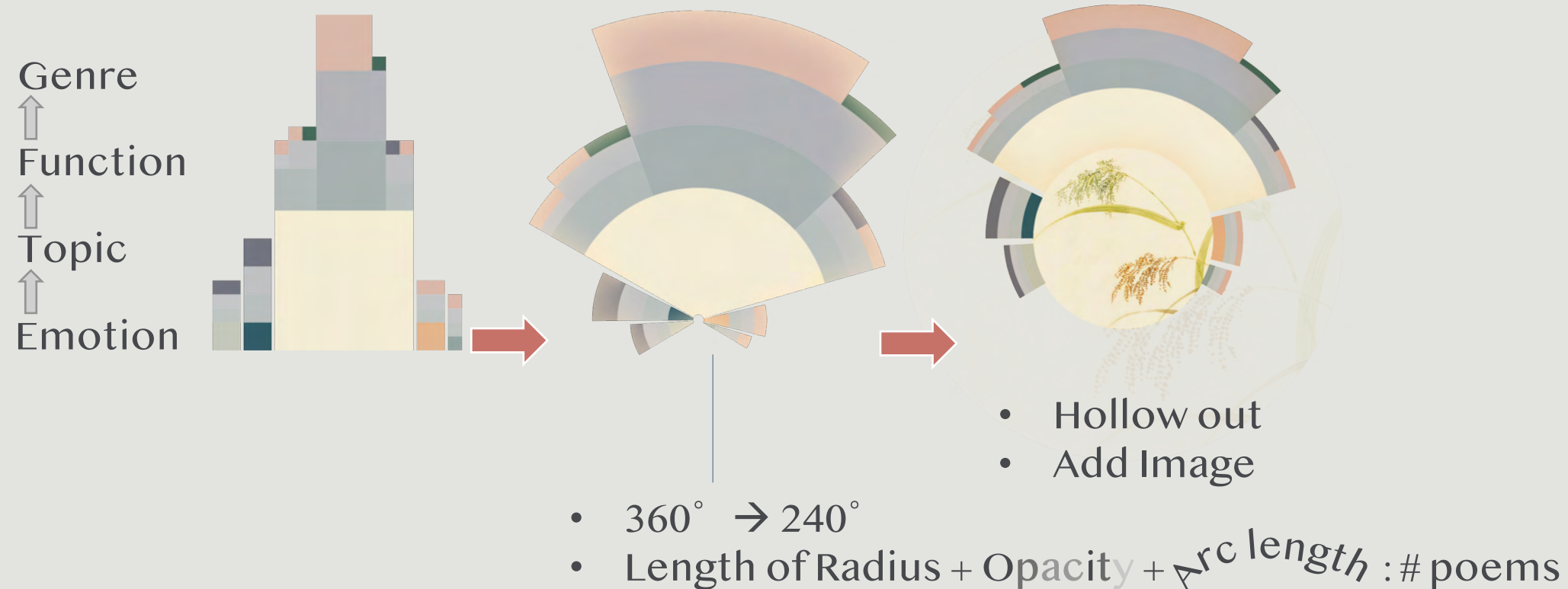


- $360^\circ \rightarrow 240^\circ$
- Length of Radius + Opacity + Arc length : # poems

Visual Design: Glyph

- Improvements

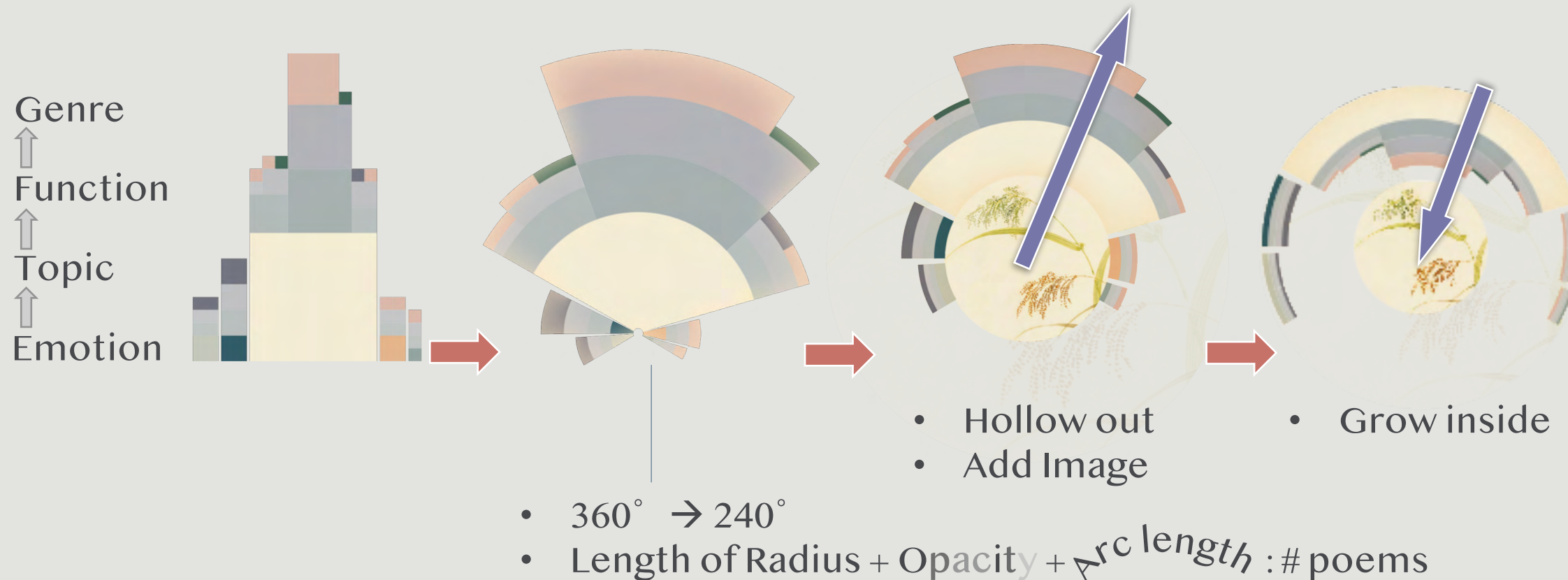
- To emphasize the differences among imageries
- To make it aesthetic and unified



Visual Design: Glyph

- Improvements

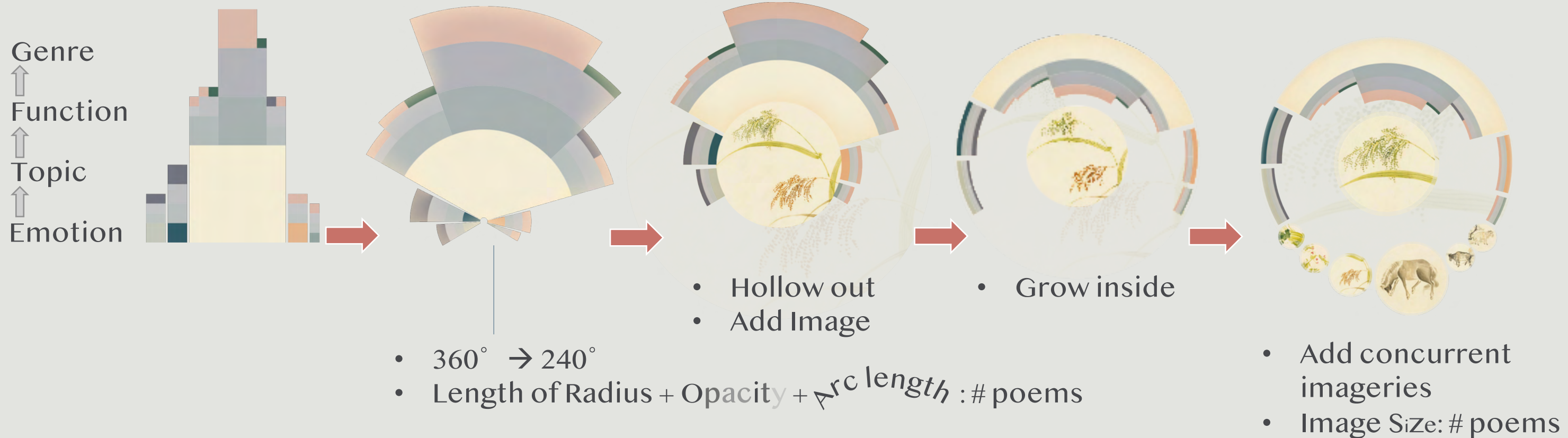
- To emphasize the differences among imageries
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Visual Design: Glyph

- Improvements

- To emphasize the differences among imageries
- To make it aesthetic and unified



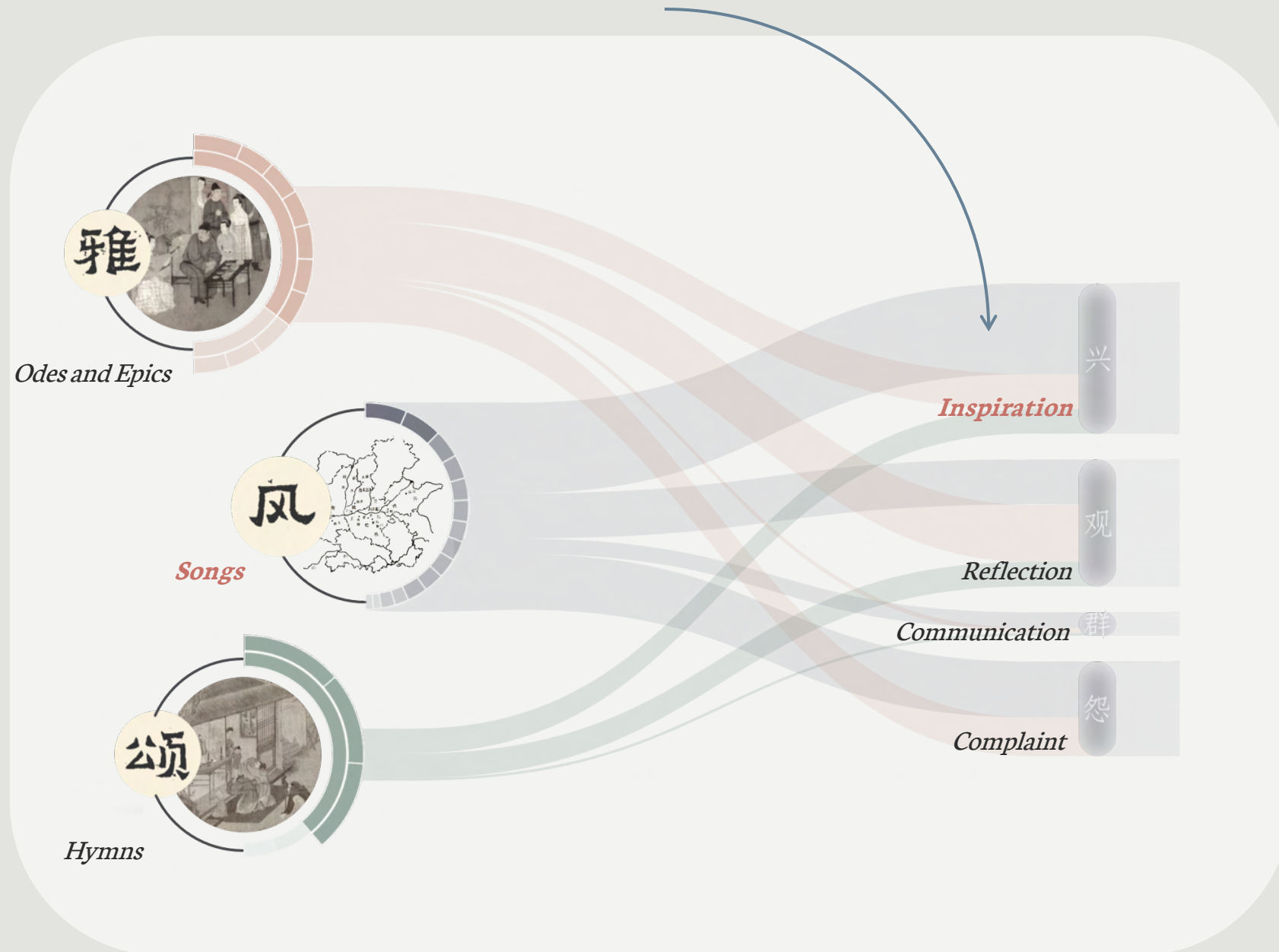
Poem Flow
Imagery Glyph
Feedback

Findings and Feedback



Poem Flow

- The *Songs* flows to the *Inspiration*



Poem Flow

- The word cloud: the frequently used imageries of plants and animals

The word cloud is a circular arrangement of Chinese characters. The most prominent characters are '刺' (thorn), '松' (pine), '文' (writing), '虎' (tiger), '鼠' (rat), '兔' (rabbit), '马' (horse), '羊' (sheep), '鹿' (deer), '鸡' (chicken), '龙' (dragon), '田' (field), '鱼' (fish), '象' (elephant), '龟' (turtle), '牛' (ox), and '鸟' (bird). Other characters include '桃' (peach), '李' (plum), '杏' (almond), '梨' (pear), '枣' (date), '栗' (chestnut), '松' (pine), '柏' (cypress), '梅' (plum), '柳' (willow), '榆' (elm), '槐' (locust), '桐' (camellia), '梓' (catalpa), '桑' (mulberry), '榆' (elm), '槐' (locust), '桐' (camellia), '梓' (catalpa), '桑' (mulberry), '榆' (elm), '槐' (locust), '桐' (camellia), '梓' (catalpa), '桑' (mulberry).

Ziziphus Jujuba

Horse

The circular inset images show a branch with red berries (likely Ziziphus Jujuba) and a horse.

Imagery Glyph

- Mulberry

尸鳩在桑

There in the mulberry-tree the dove

其子七兮

Sits on,—seven young ones at her side

淑人君子

A virtuous man our Chief doth prove

其儀一兮

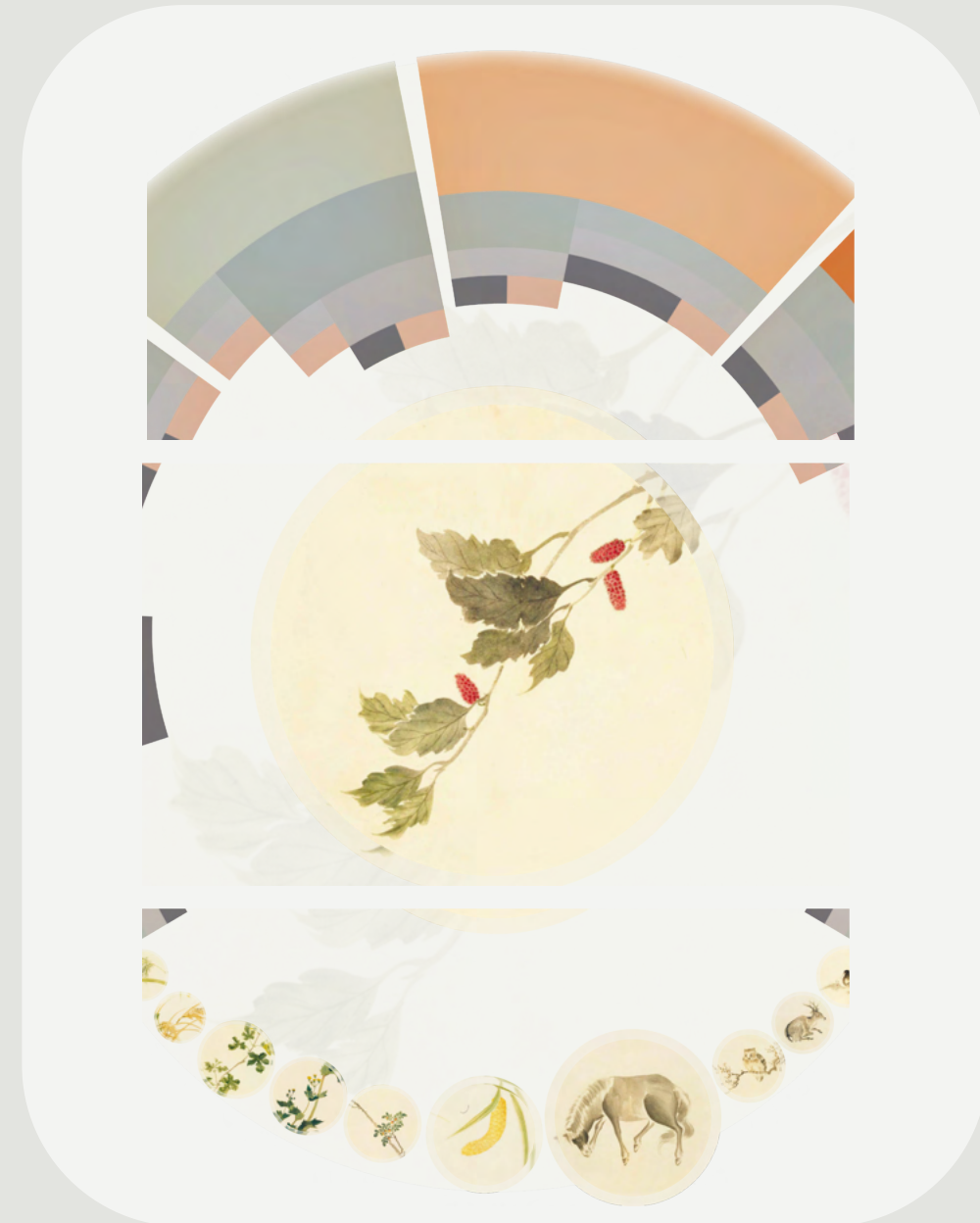
In action dignified

其儀一兮

So wholly dignified

心如結兮

As were he† bound thereto and tied



Feedback

- Four User Groups
 - Artists and Designers
 - Experts in Traditional Chinese Literature
 - Chinese Teacher
 - General Audience
- Key Points
 - **Design.** Most audiences regarded the pictorial as intuitive and aesthetic
 - **Insights.** The audiences appreciated the statistics, which could help them verify previous knowledge and learn new stories.
 - **Suggestions.**
 - Adding detailed information such as the raw poems and explanations for specific imageries
 - List all the imageries using the glyph design
 - Improve it into an interactive web application

Summary
Q&A



Conclusion

Summary

Contributions

- A pictorial summarizing **the Book of Songs** and **the top frequent imageries** from different dimensions

Future Directions

- Improve it into an interactive web application
- Add more information (e.g., raw poems and explanations)

Explore Mindfulness without Deflection: A Data Art Based on The Book of Songs



Yifang Wang¹



Yifan Cao¹



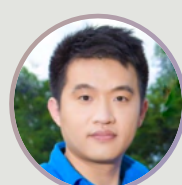
Junxiu Tang²



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Q&A

- For more information, please visit project website: <http://wangyifang.top/visap2021-shijing/>
- For collaboration, please contact yifang.wang@connect.ust.hk

《詩經》是中華文化的元典。
《詩經》傳為春秋時孔子所輯錄的民謠、典禮
祭祀樂舞和出於貴族宴飲的歌詞，創作時期跨
越了從西周初期至東周春秋中葉五百年的時間
即西元前十一世紀至西元前五世紀。其中，頌在
前，雅次之，風在後。凡三百零五篇，因此又
稱【詩三百】或【三百篇】。
由於《詩經》誕生於中國文學發展中的特殊時
期，在歷史文化、文學藝術、語言流變等三個
層面都具有十分重要的研究價值。

思無邪