Networks of Exchange Poetry in Late Medieval China: Notes toward a Dynamic History of Tang Literature

THOMAS J. MAZANEC

Abstract This article combines qualitative and quantitative methods to rethink the literary history of late medieval China (830–960 CE). It begins with an overview of exchange poetry in the Tang dynasty and its role in the construction of the poetic subject, namely, the poetic subject's distributed textual body. A total of 10,869 poems exchanged between 2,413 individuals are cataloged to seek the structure of the collectively imagined literary relations of the time. This catalog is subjected to social-network analysis to reveal patterns and peculiarities in the extant corpus of late medieval poetry, which in turn prompt close readings of the sources. These readings lead to four conclusions about the history of late medieval poetry: (a) Buddhist monks were hubs of literary activity, (b) the poet Jia Dao became an increasingly important site of connection over time, (c) the concept of "poetic schools" is not a useful lens through which to view the Late Tang, and (d) poets at the center of the network are increasingly characterized by their mobility. This combination of network analysis and close reading highlights the dynamic nature of Chinese literary history, providing insight into the ever-shifting conjunctures of forms, genres, expectations, and relations in the late medieval literary world.

Keywords Tang poetry, literary history, social-network analysis, exchange poetry, Buddhism

The Master said: "Little ones, why do you not study poetry? Poetry can be a means of stimulation, a means of contemplation, a means of sociality . . ."
子曰：小子，何莫學夫詩。詩可以興，可以觀，可以群……
—*Analects* 17:9

Poetry in China is a social art. A poem is not a static object of aesthetic contemplation. It is a place where poets record, assert, and negotiate their relationships with one another. Through it, poets may align themselves with precursors, establish connections with kings and ministers, communicate with distant friends, and commemorate the newly departed. As such, poems are treasure troves of information about poets' literary and social relations, real and imagined. Taken in aggregate, these exchange poems can afford glimpses into other literary worlds.

Such occasional poetry is one of the main sources for the literary history of the Tang dynasty (618–907). The bulk of Tang poems were written on specific occasions for specific readers. These occasions may be either explicit or implicit and are indicated through a variety of means, including the poem's title, a preface written by its author, and the narrative context in which it may appear (e.g., a biography, funeral inscription, or literary anecdote). Recent strides made in Tang literary chronology are largely due to a more systematic analysis of the information culled from such poems. When weighed against facts found in other sources (biographies, tomb inscriptions, letters, etc.), these data provide a much fuller picture of an individual's life, travels, and social relations.[1]

In this article I go beyond such historical uses of literature in favor of doing literary history. That is, I do not mine poetry for historical facts but instead systematically analyze the corpus of extant Tang exchange poetry to describe changes in the complex web of literary relations over a 130-year period. To do so, my research assistants and I have cataloged by hand 10,869 poems exchanged between 2,413 individuals (529 authors and their interlocutors) during the last stretch of the Tang dynasty and its aftermath, or roughly 830–960 CE.[2] This bird's-eye view of the imagined literary relations of late medieval poets can provide a useful starting point for pursuing new understandings of Chinese literary history. Such an overview hints at some of the ways in which the collapse of a nearly three-hundred-year-old political power affected the poets living through that collapse, changing their relationships to one another, to their predecessors, and to the world. In particular, I show here, as the literary world changed, mobility became an increasingly important quality to have and that situating oneself between more stable entities (e.g., cliques, regions, and aesthetic forms) led to a poet's increased importance to this network.

For the humanist, digital methods are a beginning, not an end, to inquiry. A systematic catalog of exchange poetry can no more give a definitive history of Tang verse than ten years' worth of local phone books can give a definitive history of Cleveland's telecommunications. Such large data sets can provide outlines of general structures and new ways of seeing the archive that may prompt a closer look at some previously overlooked part. That is why I have accompanied all of

my quantitative analyses of the data with qualitative analyses of the corners to which the data led me.

By adopting this hybrid of quantitative and qualitative methods, I hope to resolve a problem that has long plagued literary history: how to describe changes in the large-scale development of a literary tradition without simply generalizing from close readings of a few emblematic texts, while at the same time demonstrating the way these larger structures may cause us to see individual texts in new ways.[3] If literary history is to be something besides a historicist approach to literature, it must take into account the changing system of relations between texts, the way critical and social expectations realign over time to shape the production of individual poems.[4] I am not the first to combine quantitative and qualitative methods to do literary history, but I believe this essay marks one of the first applications to medieval China, taking into account the peculiarities of the classical Chinese tradition.[5] In so doing, I hope to move beyond basic visualization to show some concrete ways in which digital methods can help us rethink Chinese literary history.

On Exchange Poetry

By the Tang dynasty (618–907), the practice of writing poetry on specific occasions had a venerable tradition. It stretched back to the font of the poetic tradition, the *Book of Odes* (*Shijing* 詩經), and was immortalized in works like the celebrated *Lanting Collection* (*Lanting ji* 蘭亭集) of poems composed on the occasion of the spring lustration festival in 353.[6] *Exchange poetry* is an umbrella term I use to describe a series of related practices that correspond to several Chinese terms: *zengdashi* 贈答詩 (poems given and answered), *jiaowangshi* 交往詩 (poems of association), and *changheshi* 唱和詩 (poems sung and harmonized).[7] The most typical exchange poems involve one person "sending" (*ji* 寄) or "giving" (*zeng* 贈) a poem to another person, which the recipient might "reply to" (*chou* 酬), "respond to" (*da* 答), or "match" (*he* 和). Starting in the late eighth century, the recipient would sometimes respond to the original poem using the same rhyme words as the original.[8]

In the Tang, collections of exchange poetry were compiled to establish a person's connections to powerful men or to represent the intimacy of a poetic friendship.[9] Some, like the *Songling Collection* 松陵集 of Lu Guimeng 陸龜蒙 (d. 881) and Pi Rixiu 皮日休 (834–83), represented poetic exchanges between two individuals, in which they took turns matching each other's rhymes. Others, like the *Record of Temples and Stūpas* (*Sita ji* 寺塔記) compiled by Duan Chengshi 段成式 (d. 863) and his friends, collected "linked verses" (*lianju* 聯句) in which a group of poets, usually two to four individuals, would write couplets to the same rhyme to create a single poem. Many of these verses explicitly

address the theme of unity in the midst of difference—one of the fundamental functions of such exchange poems.

A related practice is the remembrance of historical figures upon visiting their tombs, memorial temples, and former dwelling places. A poet-monk of this period, Xuzhong 虛中 (867?–c. 933), set a reflection on the legacy of the poet He Zhizhang 賀知章 (c. 659–744) at the site of his old home:

Passing by the Former Residence of Palace Library Director He	經賀監舊居
Not enamored of Xuanzong's favors,	不戀明皇寵
2　You came back to your niche by the reflecting water.	歸來鏡水隅
Your religious attire was recognized by sandbank cranes;	道裝汀鶴識
4　Drunk in spring, you were propped up by fishermen.	春醉釣人扶
Clouds bud slowly, like being spit—	逐朵雲如吐
6　Geese in formation rush off together.	成行雁侶驅
Were the famous scenes of Lanting still present,	蘭亭名景在
8　Your tracks would have never been alone.	蹤跡未為孤
	[*Quan Tang shi* (hereafter cited as *QTS*) 848.9605]

Xuzhong deftly balances such a poem's needs for historical reflection and for landscape description. After refusing imperial emolument, He Zhizhang returns to his true home in a remote area. Couplet 2 has He Zhizhang surrounded by the stereotypical symbols of retirement: interest in Daoism and the cranes of longevity (line 3), and drinking and fishing with rustic men (line 4). The third couplet, which may seem to be the most divorced from the poem's message, is actually crucial to its meaning: by describing the geese as flying "together" (literally "as companions," *lü* 侶), he emphasizes the sense of a community built up around He Zhizhang's work. This theme is underscored by the last couplet, with its reference to the *Lanting Collection* of 353 (line 7) and its assertion that He Zhizhang would never have been alone had the poets of that gathering still been physically present (line 8). He Zhizhang is a good man out of his time. However, Xuzhong implies that he can take comfort in the knowledge that he is part of a literary community that transcends time, that part of himself—his writing—has its place among the great writers. Xuzhong, He Zhizhang, and the poets of the *Lanting Collection* belong together. The monuments of past poets are sites where future poets gather together.

Taking a cue from this poem and others like it, I have included exchanges with the past in my catalog of exchange poems—poems that may be included or filtered out of my calculations depending on the questions I am asking. Xuzhong was not alone: many of the ties between writers in this period are expressed in their mutual love of certain historical figures. Literary relations in the ninth and tenth centuries are built on shared references to the past as much as they are on direct poetic exchange. These diachronic connections often tell us as much about how poets imagined their own position in the literary world as any real exchange with peers.

The Distributed Textual Body

An exchange poem is not just a representation of a connection between a poet and addressee. It is an object with its own agency (it acts on others) and with an embedded agency (it is a vessel by which others' intentions are extended). Poems are not static evidence of some preexisting social reality but dynamic constructors of literary-social relations.

Poets, like all of us, possess a quality known as distributed personhood. The things they produce and put out into the world are extensions of themselves. In this way, poets are "not just where their bodies [are], but in many different places (and times) simultaneously."[10] There are several different contexts in which an idea like distributed personhood would have been familiar to those who lived in the Tang. Most obvious to the literati, rulers were known to be able to distribute their agency.[11] At the other end of the spectrum of political engagement, those who pursued a hermetic life, like Shen Qianyun 沈千運 in the poem below, could understand their practice as an attempt to rid themselves of their distributed personhood. Not wanting to be tied to a life of official service, they sought to dissolve the traces of their very selves.

	Written in the Mountains	山中作
	Reclusion is not a matter of separation:	栖隱非別事
2	What I wish for is to be free of the wind and dust.	所願離風塵
	I travel without leaving the towns and cities.	不辭城邑遊
4	The rites and music tie up a person.	禮樂拘束人
	I've recently gone back to the mountains and forests:	邇來歸山林
6	Many activities are my person.	庶事皆吾身
	What is my physical body?	何者為形骸
8	Who is wise and humane?	誰是智與仁
	Being still and silent is a matter of idleness in the end,	寂寞了閒事
10	After that, one knows heavenly authenticity.[12]	而後知天真
		[*QTS* 259.2888]

The "person" (*shen* 身) here is composed precisely of all the activities or affairs (*shi* 事) in which one is involved. But to achieve the ultimate goal of reclusion, a realization of one's genuine nature endowed by heaven, one must halt all of these activities and seek instead a life of idleness. That is, one's socially articulated and dispersed personhood can be transcended only if one recognizes that it is tied up in one's daily affairs, such as the Confucian rites and music practiced while in official service. In the discourse of reclusion, the cutting of social ties helped dissolve one's grosser self.

In the same way, in the late medieval period a poem sent somewhere or inscribed on a wall allowed its writer to extend his or her agency across space and time. The textual corpus was as much a part of the poet as the physical corpus. As Cao Pi 曹丕 (187–226) wrote in an essay on literary criticism that would become foundational for medieval poetry and poetics, "The ancients entrusted their persons to their brush and ink, and revealed their intentions in their writings and collections" 古之人者，寄身於翰墨，見意於篇籍. With their personhood placed into their writings, they could extend their agency across time and space: "The span of one's life is exhausted after a certain time, and joy and honor come to a halt with the person. To bring these two things [lifespan and honor] to a state of permanence, nothing is better than the inexhaustibility of literature" 年壽有時而盡，榮樂止乎其身，二者必至之常期，未若文章之無窮.[13] Through writing, authors can ensure that they live long after their own death and that their minds may affect others.

A poem specifically could stand in for a person in Late Tang China. Its relationship to its author was essentially metonymic.[14] Thus we find many couplets where the poem offers a glimpse, across time and space, of its author or its author's mind. One of the conventions of exchange poetry is absence. In a poem sent with a letter, this is the physical absence of the recipient. In a poem on parting, this is the imminent absence of the recipient. In a poem written on a person's death or at their grave, this is their unjust absence from the present age. But objects can help bridge that gap, especially when the object is the fruit of the absent person's labors. The poet-monk Qiji 齊己 (864–937?) makes this point in one of his poems on Jia Dao 賈島 (779–843):

	Reading Jia Dao's Collected Works	讀賈島集
	You left behind three hundred poems,	遺篇三百首
2	Every poem a lingering grievance.	首首是遺冤
	I know that over a thousand years hence	知到千年外
4	They'll meet someone else to discuss them.	更逢何者論
	You left Qin, pointlessly accused,	離秦空得罪

6   And entered Shu, listening only to gibbons.[15]   入蜀但聽猿

You were like your Changsha ancestor: 還似長沙祖

8   His only remains are his words on the owl.[16]   唯餘賦鵩言

[*Qiji shiji jiaozhu*

6.301–02;

QTS 843.9525]

Jia Dao's absence troubles the speaker. He was unjustly slandered and sent to the lonely wilderness of Shu (lines 5–6). His poems need to be met by someone capable of discussing them in order to be understood, even if it is over a thousand years hence (lines 3–4).[17] The anxiety over Jia Dao's legacy, as embodied in his collected works, is summarized in the opening couplet with its repetition of the key words *yi* 遺 ("left behind" or "lingering") and *shou* 首 (the measure word for "poem"). These works are all that remains of the great master in this world. The fusion between poetry and self is stronger in the closing couplet, in which Jia Dao is compared to Jia Yi. The latter is said to be survived only by his famous poem, the "*Fu* on the Owl." The key word, *yu* 餘 (translated as "remains"), refers most literally to leftover food, the bits of a feast that remain once all have eaten their fill. This root metaphor makes an important point: leftovers are actual parts of the original food, as Jia Yi's poem was once an actual part of him. In the same way, Qiji implies, Jia Dao's three hundred poems constitute his remains, too. Jia Dao's personhood extends to Qiji and even someone writing a thousand years later. To encounter the works is to encounter the man.

This concept of distributed personhood is a close analogue to Tang poets' own understanding of the act of exchange. When a poet addressed a poem to someone else, living or dead, he consciously staged a connection with that person. He claimed, "I am here, too." The poem is a record of an assertion that their very selves are somehow commingled. Literary connections comprise the fabric of these poets' beings. Exchange poetry affords glimpses of literary relations in the Tang on their own terms.

Methodology

In pursuit of such a reconstruction of literary relations, I have cataloged over 10,000 late medieval exchange poems involving over 2,400 identifiable individuals. The two main sources I have drawn upon are the standard, large-scale anthologies of Tang poetry:

1.   The *Quan Tangshi* 全唐詩 (Complete Poetry of the Tang), commissioned by the Kangxi 康熙 emperor in 1705 and compiled by Peng Dingqiu 彭定求 (1645–1719) and others shortly thereafter

2. The *Quan Tangshi bubian* 全唐詩補編 (Supplement to the Complete Poetry of the Tang), compiled by Chen Shangjun 陳尚軍 and published in 1992[18]

These editions have been checked against and supplemented by modern, annotated editions of several dozen of the major poets. I have focused on the period of roughly 830–960.[19] Thus, what I provide here is a representation of a textual corpus as it exists in the present. Despite its gaps and deficiencies, it can give us some indications of the large-scale patterns of elite literary society in the late medieval period. In particular, exchange poems map out the connections, real and imagined, of thousands of individuals as manifested in one very important form of literary practice.

In cataloging these poems, I have examined the title—and, if available, the preface—of every exchange poem and extracted the information on the writer and addressee for my database. One major difficulty of this project is the identification of the addressee. For example, in the poem titled "Sent to Commissioned Lord Song" 寄宋使君 by Guanxiu 貫休 (832–913), I do not know who Mr. Song is without further investigation. Instead, I must rely on the annotated edition of Guanxiu's poetry, in which the modern scholar Hu Dajun identifies this person as Song Zhen 宋震. My data's usefulness depends on the ability to identify the addressees of the exchange poems, many of whom are indicated only by surname and title. Therefore, many addressees must be filtered out of any network map; otherwise, two people with the same surname and title (e.g., "Scholar Liu" 劉秀才) who lived in completely different time periods would be considered the same person and create false connections. Likewise, the same person addressed by two different titles would create problems, unnecessarily diffusing the graph. To identify addressees, I have relied on the work of other scholars, especially those who have edited annotated editions of Tang poets' works.[20] Therefore, I must stress the fact that my data are only as good as the existing scholarship. I have very rarely attempted my own identifications due to the limitations of a small team attempting a large-scale project.[21]

This is the reason that I strenuously avoid reifying my data as a direct representation of literary and social reality. More famous poets are more likely to have received the attention of modern scholars and their premodern predecessors. Therefore, more of the people addressed in the titles of poems by such famous poets will have been identified. They will thus appear more significant in a network map since they have more connections. More scholarly attention also means better sorting through variants in the titles of poems and better preservation in anthologies and other sources.[22] It is a vicious cycle: the major writers appear even more important, while the minor writers appear even less

important. Other vagaries of manuscript culture—including the initial collection of a poet's scattered writings, their preservation in safe storage places, the shifting tastes of literary culture, and the sheer luck of survival through centuries of upheaval—also shape our sources.[23]

   All of this is to say that the data found in these poems are necessarily skewed. To trust such information to accurately depict the real circumstances of literary culture in late medieval China is to take a leap of faith.[24] Future excavations of Tang tombs could reveal lost works, changing everything. Nevertheless, I hope that my graphs and analyses of them may give the reader a general idea of what we can learn from the extant corpus of late medieval Chinese poetry. As literary historians, we have no choice but to act on faith in our records, or else fall silent. All scholars of Tang poetry, including those who do not use digital methods, draw conclusions from the same incomplete sources. If poets possessed distributed personhood, then our task is to gather up their remains, analyze them as systematically as possible, and make hypotheses about the shape, movements, and interactions of the changing literary conjunctures.

Insights

The data extracted from my catalog of exchange poetry point to at least four major insights concerning changes in the late medieval Chinese literary world. Combined with a careful reading of the sources, these conclusions can be asserted with confidence: (a) Buddhist monks were hubs of literary activity, becoming increasingly important to the network in the late ninth century due to their relative mobility; (b) Jia Dao, a moderately well-connected poet in his own day, later became revered as a master craftsman after his death, linking disparate parts of the literary network as the central government crumbled; (c) the concept of "poetic schools" (*shipai* 詩派) is not a useful lens through which to view the Late Tang, since it is a classification system invented centuries later, blurs aesthetic and social categories, and does not accurately describe the connections found in exchange poetry; and (d) mobility became increasingly useful to an individual poet as the cultural center of Chang'an fell in the tenth century. Only the second of these conclusions (on Jia Dao's importance) has previously been widely accepted by scholars.[25] The other three are genuinely new ways of understanding this period in Chinese literary history.

Monks as Hubs

It is tempting to think of Buddhist monastics as somehow separate from the rest of society. By its very nature, monasticism claims to cut itself off from the dusty world of mundane life, and Chinese Buddhists were no exception in some of their rhetorical claims. Despite these ideals, Buddhists were never truly separate

from the realm of everyday life. Buddhist temples and monasteries required the patronage of wealthy, powerful donors to survive and in turn offered to create and accumulate good merit on behalf of the state or other patrons.[26] Monks from elite families often continued to be considered part of the family.[27] Buddhism was as much a means by which to engage the world as a means by which to escape it.

One way to calculate more precisely the extent to which Buddhists were involved in the literary world is to look at their connections in exchange poetry. Table 1 lists the forty poets from the late medieval period with at least sixty exchange poems to their name and calculates the percentage targeted to Buddhist monks. The first thing to notice is that no poet addressed a majority of his works to members of the clergy. Even the most prolific and best-known poet-monks—Qiji, Guanxiu, and Wuke 無可 (early ninth century)—wrote large numbers of poems to laypersons, most of whom were literati of one sort or another. This is remarkable, considering the situation in later times. The Song poet-monk Hongzhi Zhengjue 宏智正覺 (1091–1157), for example, sent 80 percent of his exchange poems to other monks.[28] This is about double the rate of the poet at the top of the Late Tang list, Qiji (see table 1). The reason for the relatively large number of poems addressed to literati in the Late Tang is related to poetry's social function. Exchange poetry was put to a variety of purposes other than the merely aesthetic: it could be used for flattering superiors, flaunting one's education, or establishing a connection with a literary hero as easily as for thanking a friend. These goals are no less important to a learned monk in the Late Tang than they are to a lay literatus.

Nevertheless, Qiji, Guanxiu, and Wuke occupy the first, sixth, and tenth positions on this list. They were more likely to have written a poem addressed to another monk than most other major poets of their day. Two of the other poets who rank high on the list, Zhou He (third) and Jia Dao (eighth), spent large portions of their lives as monks. Li Dong (second) grew up poor and spent most of his life living in reclusion near Buddhist temples. What this suggests is that, despite their pragmatic connections to the world of officialdom, poet-monks such as Qiji, Guanxiu, and Wuke, as well as ex-monks such as Zhou He and Jia Dao, maintained close ties to the Buddhist community and represented those ties in their literary works. That is, we have strong evidence that monks did not see poetry strictly or even primarily as a secular art, rooted in the Confucian classics and connected to Buddhism only through the "lay Buddhism of capital poetry."[29] Rather, their daily life as religious professionals seeped its way into their poems.

Nonmonastic poets were expected to represent their connections to Buddhists in their works, too. In my database, 1,457 of the 10,869 exchanges are

Table 1. Percentage of exchange poems addressed to clergy, ranked from highest to lowest percentage of corpus addressed to Buddhist monks. Includes poets with at least sixty exchange poems to their name. Generic and semigeneric addressees have been included in these calculations. Buddhist monks have been bolded

Rank	Poet		No. Exchanges	No. to Buddhist Monks	Percent
1	**Qiji**	齊己	**505**	**192**	**38%**
2	Li Dong	李洞	126	41	33%
3	Zhou He	周賀	78	24	31%
4	Zhang Qiao	張喬	86	26	30%
5	Cao Song	曹松	69	19	28%
6	**Guanxiu**	貫休	**410**	**112**	**27%**
7	Wu Rong	吳融	77	21	27%
8	Jia Dao	賈島	320	74	23%
9	Li Xianyong	李咸用	109	25	23%
10	**Wuke**	無可	**87**	**16**	**18%**
11	Xue Neng	薛能	98	17	17%
12	Zheng Gu	鄭谷	142	22	15%
13	Zhang Hu	張祜	194	30	15%
14	Liu Deren	劉得仁	104	16	15%
15	Yao He	姚合	330	50	15%
16	Ma Dai	馬戴	106	16	15%
17	Bao Rong	鮑溶	101	15	15%
18	Xiang Si	項斯	61	9	15%
19	Zhu Qingyu	朱慶餘	131	19	15%
20	Li Zhong	李中	179	24	13%
21	Du Xunhe	杜荀鶴	214	28	13%
22	Shi Jianwu	施肩吾	77	10	13%
23	Fang Gan	方干	246	31	13%
24	Zhang Pin	張蠙	61	7	11%
25	Xu Hun	許渾	715	80	11%
26	Xu Tang	許棠	78	7	9%
27	Zhao Gu	趙嘏	169	14	8%
28	Han Wo	韓偓	90	7	8%
29	Li Pin	李頻	145	11	8%
30	Xu Yin	徐夤	69	5	7%
31	Wei Zhuang	韋莊	111	8	7%
32	Huang Tao	黃滔	130	8	6%
33	Wen Tingyun	溫庭筠	133	8	6%
34	Pi Rixiu	皮日休	264	13	5%
35	Lu Guimeng	陸龜蒙	256	10	4%
36	Du Mu	杜牧	194	7	4%

Table 1. continued

Rank	Poet		No. Exchanges	No. to Buddhist Monks	Percent
37	Li Shangyin	李商隱	203	7	3%
38	Xu Xuan	徐鉉	220	6	3%
39	Luo Yin	羅隱	227	6	3%
40	Li Qunyu	李群玉	123	3	2%

addressed to monks (13.4 percent). This overall percentage is roughly the same as the average in any given writer's corpus of exchanges: the median and mean of the numbers listed in table 1 are both about 14 percent. Even those literati who showed no particular affection for Buddhist teachings (e.g., Luo Yin and Xu Xuan) and those whose corpora are skewed because of the nature of the sources (e.g., Pi Rixiu and Lu Guimeng, who compiled a massive collection of their exchanges with one another) have some poems addressed to monks. The seeming obviousness of this fact is worth reflecting on. The standard set of poetic topics in the Tang included poems written to Buddhists, at Buddhist sites, and on Buddhist themes. The very minimum an educated person could do was write a few poems to local monks when visiting a temple in a new town or a mountain retreat.[30]

Looking at the quantity of literary exchanges has limitations; the quality of those connections paints a slightly different picture. That is to say, a new story appears if we evaluate not just how many poems are written to certain kinds of people but the extent to which those people are connected with the poets who address their works to them.

At this point, it is helpful to distinguish between the two main functions of social network software such as Gephi. The first is to visualize data. An image can help give the viewer an intuitive sense of the network's overall shape. For example, figure 1 presents all of the relevant data I have collected for exchange poetry in the period of roughly 830–960. Just looking at this graph can give an impression of the network as a whole. Because it covers nearly one and a half centuries, the graph follows the loose structure of a timeline: poets of the mid-ninth century are on the left side, poets of the late ninth and early tenth centuries are on the right of the central cluster, and poets of the mid-tenth century are in the upper-right corner. This is the result of the kind of data included: using only poems exchanged between contemporaries (people whose lives overlapped by at least fifteen years) means that Yao He (775?–855?) and Xu Xuan (916–91) cannot be directly connected to each other. Due to the nature of the source material for Tang poetry (individual poets' collections), one might expect to see several disconnected networks across such a long period of time. Instead, there
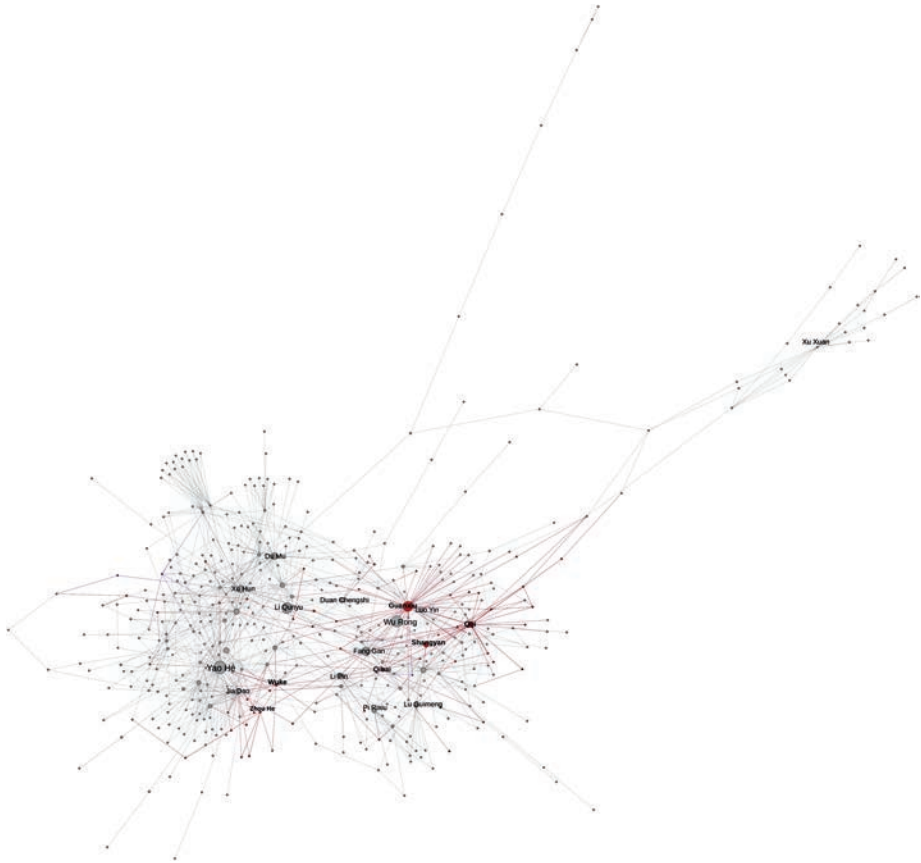
Figure 1. Overview of network graph of poems exchanged between contemporaries in the late medieval period. Buddhist monks are highlighted in red. Nodes have been filtered by degree (≥2) and sized according to betweenness centrality (on which see below). Several small clusters of fewer than five actors, disconnected from the central hub, have been removed. Produced in Gephi version 0.9.2, using the ForceAtlas2 attraction-repulsion layout.

is remarkable continuity among elite poets from one generation to the next. The relative centrality of Buddhist monks to the network is also immediately apparent: there is a lot of red in the center of the map (fig. 2). The two large, red nodes on the right side of the main cluster are Guanxiu and Qiji, the most highly regarded and prolific poet-monks of the era. Near them is the court monk Qibai 棲白, and on the left-hand side, Wuke and erstwhile monk Zhou He 周賀.

However, the results of a data visualization may vary tremendously depending on which program is used, which layout style is employed, what kinds of filters are applied, and many other choices. For this reason, to really understand the distributed personhood of poets in the late medieval period, it is important to focus on the second function of social-network software: to analyze
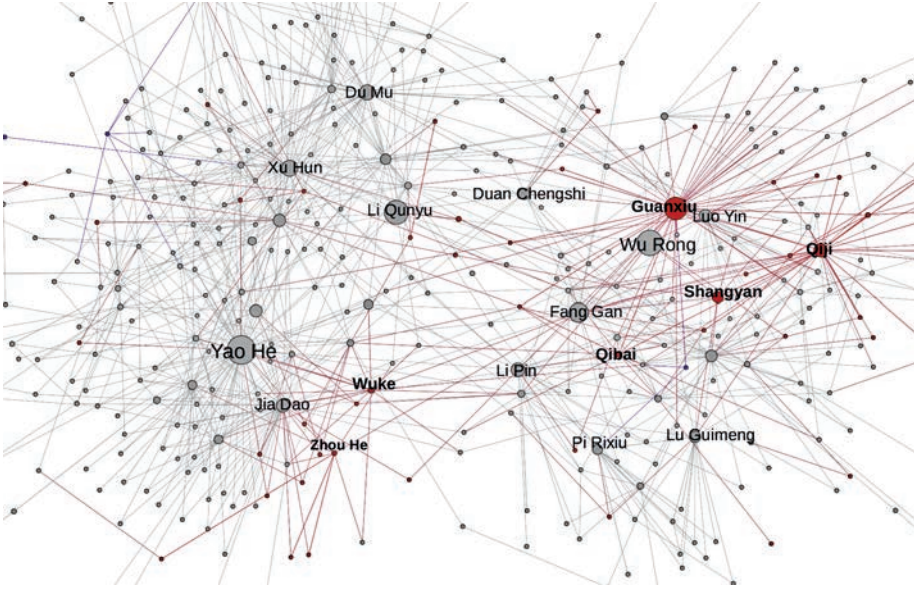
Figure 2. Detail of the network graph in figure 1. Note the centrality of Buddhist monks, whose nodes and edges are highlighted in red.

properties of the network quantitatively. That is, we must remember that the visualization is just a representation, not the data themselves. The most important metric for our purposes—the place of monks in the network—is centrality. Measures of centrality attempt to answer questions about which node is the most important in the network. There are many different ways of doing this, but the one best suited to the exchange poetry data set is *betweenness*. This metric answers the question: if one randomly selects two nodes in a network, what is the likelihood that a third node will lie on the shortest path between them? This would give us the betweenness ranking of the third node. Betweenness centrality identifies actors who have the most connections, often in the most complex portions of the network. To put it simply, if there is evidence that a poet is connected to many other actors who are also well connected, then that poet must be integral to the network.[31] Doing the calculations on the network of late medieval exchange poetry (fig. 3) reveals that Buddhist monks are three of the seventeen most "between" poets, and five of the top thirty-five.[32] This is significant, since this is around 1.4–2 times higher than the statistical average would predict.[33]

That Qiji and Guanxiu are the poet-monks with the highest betweenness centrality rankings should not be surprising. They were widely regarded in their own time as among the greatest poets of the era. They also have some of the largest surviving collections of any Tang poets (fourth and eighth largest
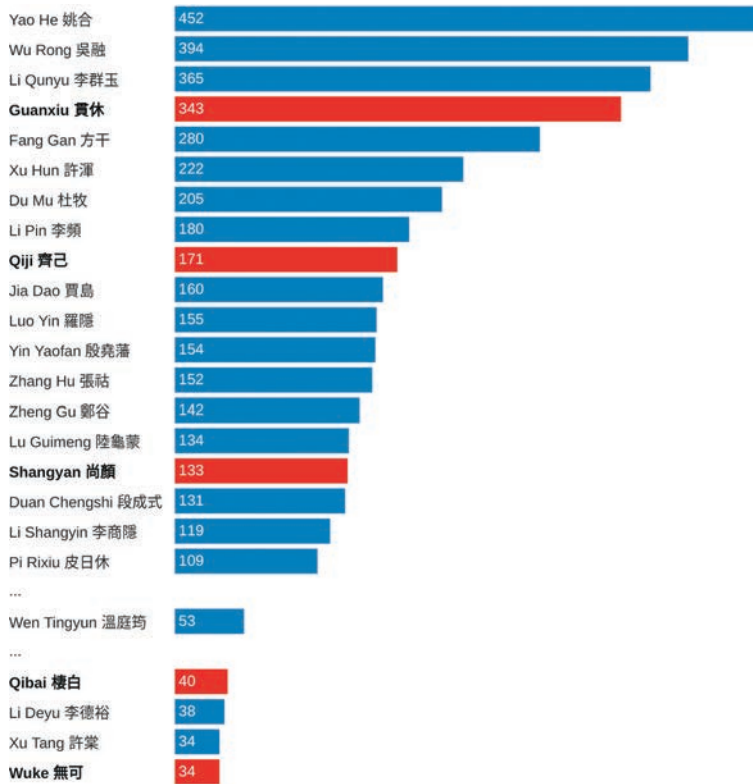
Figure 3. Chart of the betweenness centrality rankings of the major late medieval poets, listing the top nineteen plus several other well-known poets (ranked 26 and 32–35). Buddhist monks are highlighted in red. Betweenness centrality figures (normally somewhere between 0 and 1) have been multiplied by 10,000 to make the numbers more legible. Graph produced with Datawrapper (datawrapper.de).

overall).[34] But Shangyan 尚顏 (830s?–920s?), in sixteenth place, is very different from what one might expect. Only thirty-four of his poems survive, compared to about eight hundred in Qiji's collected works. His fourteen extant exchanges put him far down on our list in terms of quantity, sixty-second overall. By contrast, the other poets with high betweenness centrality have many more exchanges, ranking high on the list in terms of overall quantity of exchanges: Yao He 姚合 (775?–855?, 6th), Wu Rong 吳融 (d. 903, 35th), Li Qunyu 李群玉 (808?–862, 17th), and Guanxiu (4th). Shangyan appears central in the network because his fourteen surviving exchange poems connect him with some of the most important figures of his day, such as Qiji, Zheng Gu 鄭谷 (851?–910?), Wu Rong, Fang Gan 方干 (d. 885?), and Lu Guimeng, all of whom were themselves well connected. He also lived nearly to the age of one hundred, so his connections span several generations.

A list of poets according to betweenness centrality is not a definitive ranking of the most important poets of late medieval China, but it can serve as a useful prompt for further investigation. In traditional literary history, Shangyan is virtually unknown, and it would be easy to overlook him without a large-scale view of late medieval literary exchange. A perusal of various early sources reveals that many collections of his poetry once circulated: a four-hundred-poem collection of his pentameter and heptameter, a one-fascicle exchange poetry collection, and a five-fascicle poetry collection.[35] He was a cousin of the high official Xue Neng 薛能 (b. 817?), and he received recognition at court by the emperor and may have participated in the important Buddhist communities on Mt. Lu.[36] Most surprising of all, he sent a poem to Lu Guimeng, a poet best known for his close association with Pi Rixiu and their relatively isolated literary community centered around official circles in Suzhou 蘇州. Shangyan wrote to Lu after the latter had retired from official life:

Thinking of Recluse Lu Guimeng	懷陸龜蒙處士
Hiding in the southwest in your coarse robes,	布褐東南隱
2 You carry on the tradition of Xie Fu.[37]	相傳繼謝敷
Loftily you discuss the Way of the Master;[38]	高譚夫子道
4 In silence you look at charts of seas and mountains.[39]	靜看海山圖
In your affairs, do you avoid heartache or not?	事免傷心否
6 In chess, have you met a worthy opponent or not?	棋逢敵手無
Of the many flowers within the Pass,[40]	關中花數內
8 It's only sweetflag I can't see.[41]	獨不見菖蒲
	[*QTS* 848.9599]

Though we do not know whether this poem represents a social relationship between the two, Shangyan certainly posits a literary one, imagining himself in a position to convince the reclusive poet to join the world of men again. He adopts a friendly, conversational tone in lines 5–6, asking Lu rhetorical questions about his loneliness, pointing out what he gains and loses in his reclusion. Detachment means avoidance of heartache, but it also means no worthy companion for playing chess. The poem draws on the tradition of "beckoning recluses" (*zhaoyin* 招隱), which dates back to the turn of the common era,[42] but what is most interesting is that it reverses our expectations about the recluse and the beckoner. As modern readers, we may imagine the Buddhist monk as the hermit and the lay official as the one intent on drawing him out; in Shangyan's poem to Lu Guimeng we see the opposite. To put it in the jargon of social network

analysis, Shangyan acts as a broker, drawing Lu's relatively closed-off network of eastern Jiangnan poets closer to the center of literary activity.[43] The monk is the beckoner; the official, the recluse. This is also reflected in our betweenness centrality rankings: Lu Guimeng is ranked significantly higher than Pi Rixiu precisely because of his greater number of connections to high-ranking poets such as Shangyan, Qiji, and Luo Yin 羅隱 (833–910).

Jia Dao as Hub

One of the peculiarities of medieval Chinese exchange poems is that they are not addressed just to a writer's contemporaries. Such poems of sociality are important and form the bulk of the archive, but there is also a significant portion written to writers and worthies of the past. Of the 10,867 poems we have cataloged, 789, or 7.3 percent, are addressed to noncontemporaries. Just as with poems of sociality, these poems addressed to past masters may be written on any number of occasions or themes: visiting a person's grave or other commemorative site, reading a person's literary works (in scrolls, on temple walls, on hung placards), imitating or matching the rhymes of an earlier poet's works, critiquing contemporary powers through historical allegory, commemorating tragic figures in verse, and so forth. For some writers, only these kinds of poems survive. For example, Zhou Tan's 周曇 (late ninth cent.) extant corpus consists of 195 poems, all but two of which are poetic treatments of historical figures. It is unlikely that these were the only poems he ever wrote in his lifetime, but they were what caught the attention of the medieval reading public. They are the only poems mentioned in his earliest bibliographic records.[44]

Zhou Tan is an extreme example of a common tendency in medieval verse: the use of poetry to position oneself in a diachronic community. By writing on the past, a poet constructed a literary relationship with previous generations. Such poems addressed to noncontemporaries are valuable sources for understanding the imagined literary communities of late medieval China. In particular, adding them to the network of exchange poetry can shed light on the changing roles of individual poets over the 130 years covered by my data set.

By sheer numbers, poems on Jia Dao overwhelm any other figure for this time period. The thirty written for him in this period dwarfs the fourteen for Li Bai 李白 (701–62), the ten for Du Fu 杜甫 (712–770), and the eight for Meng Haoran 孟浩然 (689–740).[45] Adding these poems (and many others) to the data set creates a network with a different shape (fig. 4). Most notably, Jia Dao has moved from being tightly embedded in a limited circle of mid-ninth-century poets to being placed in the middle, between the middle and late ninth-century groups. There is a tension between Jia Dao's contemporary and noncontemporary connections. On the one hand, he is closely connected to many
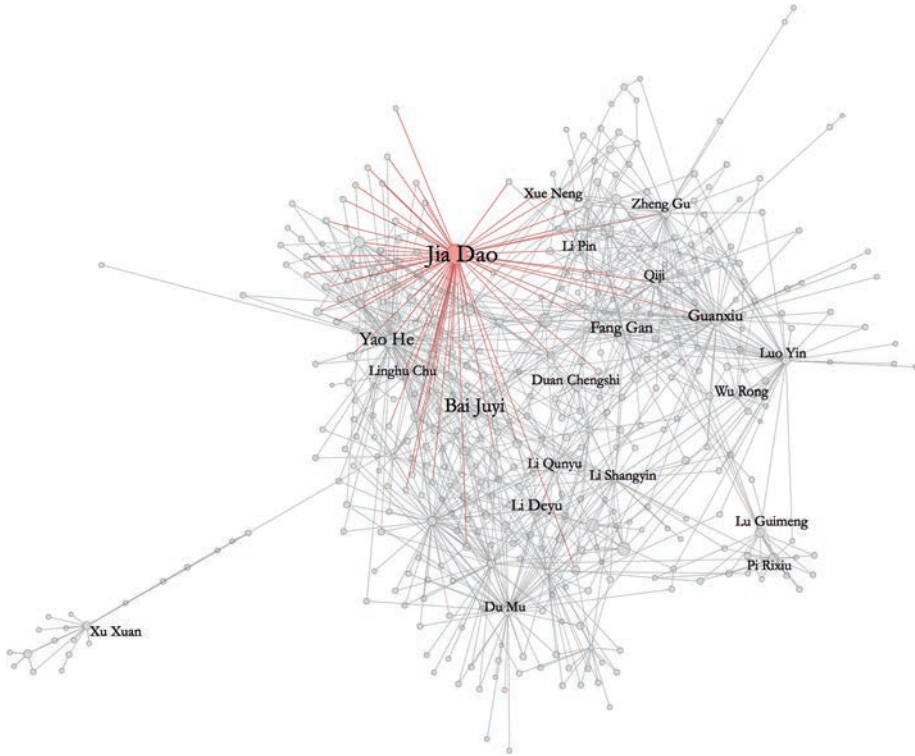
Figure 4. Network graph of exchange poems (including those on the past). It has been filtered so that it includes only nodes with a degree greater than 2 and in-degree (number of poems received) greater than 1. Nodes are sized according to in-degree. Jia Dao and his connections are highlighted in red. Produced using ForceAtlas2.

contemporaries, pulling him to the left side of the graph. Indeed, of Jia Dao's 458 connections to identifiable individuals, 428 (93 percent) are to contemporaries. On the other hand, those thirty other connections pull him closer to the center. He thus appears to be a bridge between two different ages.

To measure Jia Dao's growing importance in a more precise manner, I have calculated the betweenness centrality of the two networks I have so far depicted. The first is the network comprising only contemporaries (fig. 1), and the second is the network of all connections (both contemporaries and noncontemporaries; fig. 4). The differences between the two centrality measurements help gauge the importance of an actor connecting the literary world across time, either through later influence or through writing about important poets of the past. If Jia Dao's importance as a hub increases after his death, his betweenness centrality should increase dramatically, too. As figure 5 shows, this is the precisely the case: Jia Dao (sixth from the top) becomes much more crucial to the structure of the network after his death. He and Guanxiu (fourth from the top)
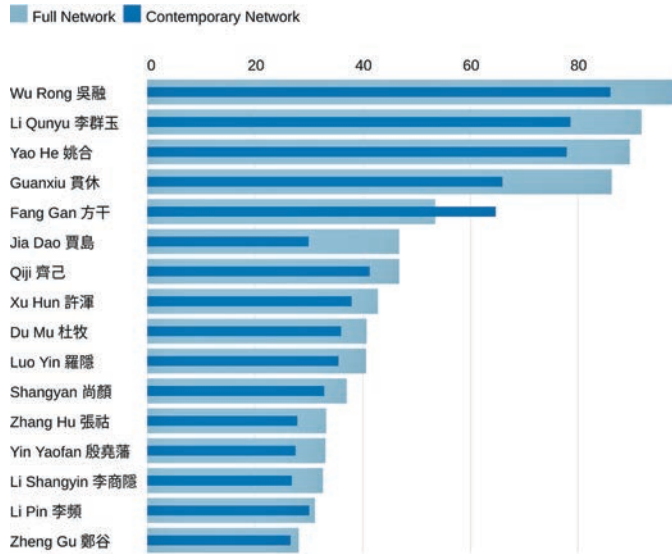
Figure 5. Betweenness centrality for the top sixteen actors in networks of exchange poetry, 830–960 CE. The dark blue line indicates figures for the network of exchanges between contemporaries; light blue, for the full network of exchanges, including contemporaries and noncontemporaries. The differences between the two help measure the importance of an actor connecting the literary world across time, either through later influence (as in the case of Jia Dao, sixth from the top) or through writing about important poets of the past (as in the case of Guanxiu, fourth from the top). Betweenness centrality figures have been multiplied by 1,000 to make the numbers more legible.

have the largest differentials.[45] The proportional differences of these numbers—that is, how much an actor's betweenness centrality increased relative to his contemporary network number—reveals that Jia Dao's growth rate (56 percent) is far greater than Guanxiu's (31 percent) and every other actor's.

Jia Dao's importance can be measured by the geographic as well as the temporal spread of his influence. It was not the case that his growing reputation remained confined to an isolated tradition of poets located in his birth region of Fanyang 範陽 in the northeast, or in the capital region where he spent most of his life, or in the southwest where he died. Poets all across the area we now call China were commemorating him in verse. Map 1 shows the main geographic areas associated with those poets who wrote to him or who quoted him in their poetry manuals during the period of 874–976.[47] A majority of these poets are most closely associated with an area where Jia Dao never spent much time, Jiangnan 江南.[48] Many of the poets who quoted him traveled through multiple regions over their lifetimes. During the period of disunity, they lived in different kingdoms: Guanxiu and Xuzhong 虛中 in Shu 蜀, Qiji in Jingnan 荊南, Du Xunhe 杜荀鶴 in the Later Liang 後梁, Xu Yin 徐夤 in Min 閩, and so forth.[49] This means that Jia Dao was a major shared reference point for poets living
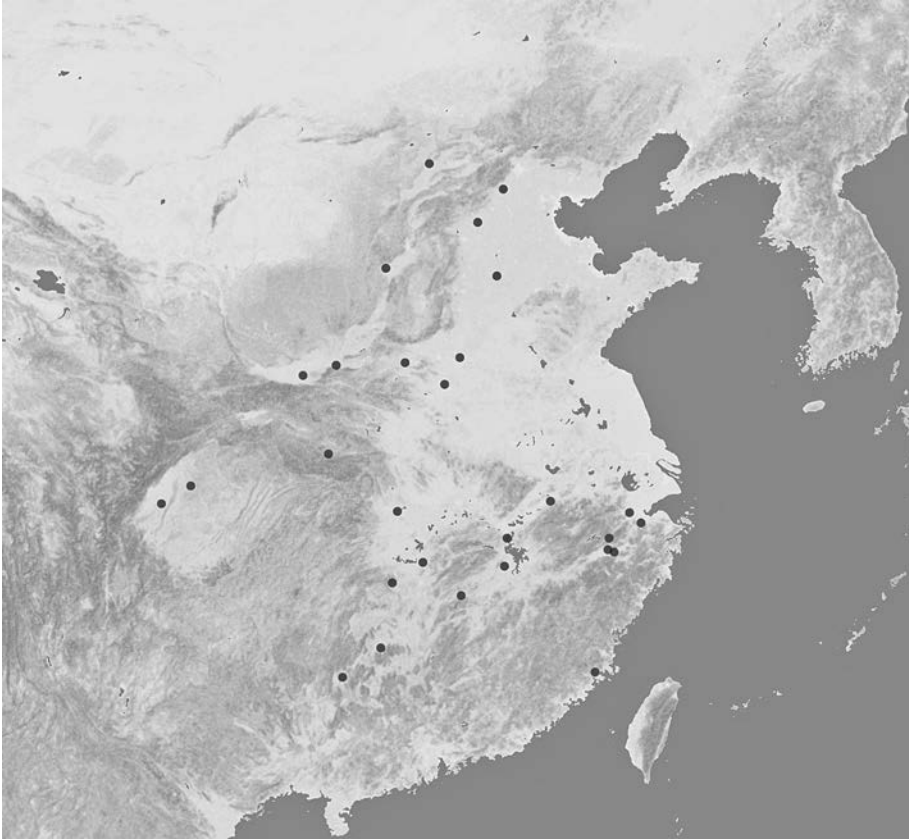
Figure 6. Map of geographic regions associated with poets who wrote poems to Jia Dao or who quoted him in their poetry manuals (*shige* 詩格) during 874–976 CE. Each poet is assigned at most three places: birthplace and as many as two places where he spent the majority of his life. Coordinates from China Historical Geographic Information Systems: sites.fas.harvard.edu/~chgis; produced with Palladio: dhlab .standford.edu/palladio; for details, see the digital appendix to this article at www.chinesepoetryforum.org/ ?page_id=1512/.

throughout the dynasties and kingdoms of the tenth century. We can even speculate that his figure was a centripetal force, working against the centrifugal force of interregnal warfare. As smugglers, rebels, and warlords divided up the former Tang empire, one of the main cultural touchstones for literati in all regions was the figure of Jia Dao. For this reason, the modern scholar Wen Yiduo 聞一多 (1899–1946) called this time period "the Jia Dao era" 賈島時代.[50] Jia Dao was the guiding light for a majority of poets in this period.

This quantitative analysis of literary records is confirmed by a close look at other sources. Later poems written to Jia Dao stress his association with *kuyin* 苦吟 (which could be translated as "bitter intoning" or "painstaking oral enactment of verse"). This term had previously been most closely associated

with Meng Jiao 孟郊 (751–814), who had used it to describe his own pains-taking writing process in preparation for the imperial examinations. Others employed it in a similar sense, using poetry as a proxy for recognition by the powerful—they labored away at their verse in hopes of their literary fame bringing success.[51] Jia Dao, however, used the term *kuyin* in a different way, making poetry an end in itself, and this is what he became known for.[52] What made Jia Dao a paragon of *kuyin* is a combination of things. First, similar to Meng Jiao, Jia Dao was considered a failure in his official career. He failed the examinations multiple times, and when he finally received an official post, it was a minor one in the obscure Sichuan backwater of Changjiang. Second, as a result of his failures, Jia Dao struggled in poverty and obscurity, neglected even by later generations.[53] This was part of the image that Jia Dao himself cultivated, and it became strongly associated with the *kuyin* aesthetic.[54]

It is fitting to follow Wen Yiduo in calling the late ninth and tenth centuries the "Jia Dao era." He is the most frequently quoted poet of this period, written about again and again by some of the best-connected poets. He was a crucial factor in connecting poets from different groups and eras. The poets who quoted him were spread all across the empire, in the collapsing Tang and in several of the kingdoms that would spring up in its aftermath. These poets admired Jia Dao for his suffering, for his devotion to poetry, for his eccentricity, and for his formal craftsmanship. That is, they admired him as a paragon of the aesthetic known as *kuyin*. Though the admirers of Jia Dao are not the poets commonly read today, they were not marginal voices at the time. They were the makers and shapers of the literary world during the collapse of the Tang dynasty and its aftermath.

Against "Schools"

The geographic spread of Jia Dao's admirers underscores another important point: we should not think of the major literary networks of late medieval China in terms of "schools" (*shipai* 詩派) or even "geographic regions" (*diyu* 地域) but as dynamic structures that evolved over time.

One of the most common ways of thinking of literary relations in the late medieval period is to classify poets according to their schools. The benefit of using this terminology is its clarity: one poet belongs to one school, or two at the most. Aesthetic influences can then be drawn up in a tree. The metaphor is relatively native to the tradition, being similar in many ways to the genealogies that have aided ancestral veneration for millennia. At its simplest, we could depict a single, direct line of aesthetic inheritance to argue for definite continuity between the styles of poets in different generations. The problem, however, is that influence is never this direct and unambiguous. The literary past mediates,

and is mediated by, the literary present. A poet will learn as much about his poetic forbears from his contemporaries as he will from directly reading earlier writers' works. A unified lineage chart clears out all the noise of the poets' multipolar relations. All the mediating work of any other actor, aside from a single teacher or student, is ignored for the sake of simplicity.

In traditional scholarship, we frequently come across simple lists of names associated with a major poet's style (*feng* 風), form (*ti* 體), or school (*pai* 派).[55] The model is of many streams flowing from a small number of fountainheads. Some branches may occasionally cross, but for the most part the streams can be followed back to a single source. There are several problems with this theoretical frame, not least of which is the confusion between the three terms mentioned above: *style*, *form*, and *school*. *School* is a social term, implying a self-conscious grouping of poets dedicated to transmitting the teachings of a master, in this case an earlier writer's approach to the aims and means of poetic composition.[56] *Form* is more concrete, referring to structural elements, such as meter, line length, and the rigidity of semantic and metrical parallelism. *Style*, by contrast, is less clear, usually referring to a mixture of form and other elements, such as the poem's sociopolitical aims (engagement or disengagement), linguistic register (vernacular or formal), approach to landscape description, and more distant literary influences. Unlike the term *school*, *form* and *style* do not imply a social organization, only affinities between various writers' works. Blurring the lines between these three terms risks muddling the distinction between poets' conscious and unconscious relations. At its worst, this reifies stylistic choices (which may be widely shared across a given time period) and mistakes them for personal relations, reinforcing several misleading stereotypes in the process.[57]

Talk of schools, in fact, does not grow out of contemporaneous criticism. The term *poetic school* (*shipai*) appears in no extant source prior to the Song dynasty. The earliest clear division of Late Tang poetry into schools was made by Yang Shen 楊慎 (1488–1559) in his *Sheng'an shihua* 升庵詩話 (Poetry Talks of the Cottage of Ascension). The great poets of the time, he says, looked back to earlier models, such as the *Songs of Chu* (*Chuci* 楚辭), the poets of the Six Dynasties, and Du Fu. Lesser poets followed Zhang Ji 張籍 (766?–830?) or Jia Dao and were nothing more than "lice in the pants" (*kunzhong zhi shi* 褌中之虱) of these giants. Anticipating objections to this classification, Yang insists that "the two schools can be seen in the preface to Xiang Si's poems in Zhang Ji's collection, and are not my own supposition" 二派見張洎集序項斯詩，非余之臆說也.[58] However, the source he mentions offers no such distinctions, only a list of Xiang Si's 項斯 (802?–847?) students.[59] Yang is stretching his evidence: the division of the Late Tang into schools is an analytic tool developed after the fact and does not represent the way the people of that period thought about their

own literature.[60] In the Late Tang, much more common are genealogies of trends that make no claims to being exhaustive and do not reduce an individual poet to a single school. The poet-monk Guanxiu, for example, is said to have continued to develop the work of both Li Bai and Bai Juyi 白居易 (772–846), two poets who are normally seen as spawning radically different writing styles.[61]

The limitations of the analytic usefulness of schools become especially clear when we examine the network map of exchange poetry. Figure 7 presents the network map of contemporaries and represents the schools proposed by later critics with an array of colors—I color each node based on the categories of the eighteenth-century critic Li Huaimin 李懷民, and contemporary critics Li Gui and Luo Wanwei. A quick glance at the map reveals a kaleidoscope of colors, with very little clustering of a single school. By contrast, figure 8, in which I have colored the map according to algorithmically clustered communities,[62] has clear clusters: they correspond to groups of closely associated poets within a given time period. On the upper right, for example, Guanxiu, Luo Yin, and Zheng Gu are all part of the same cluster because they exchanged many poems with one another and with mutual acquaintances. In figure 6, the one meaningful pattern we can observe is that the Jia Dao school, colored red and purple, dominates the center of the graph. As noted above, Jia Dao's influence in this period is enormous, and thus his style represents the mainstream. But he is not alone at the heart of this visualization: the green of Wen Tingyun's follower Luo Yin, the yellow of two Zhang Ji followers, and the blue of many Bai Juyi followers are just as well connected. Moreover, two of the most important members of the Jia Dao school, Guanxiu and Zheng Gu, are purple (a mix of red and blue), meaning they are regarded as members of Bai Juyi's school as well as Jia Dao's by later critics. If "schools" was a meaningful category for this period, we could expect to find strong clusters of followers connected to a single founder, but we do not. Instead, we find that later aesthetic categories do not map neatly onto Tang poetic practice. Poetic exchange testifies to the fact that late medieval poets cannot be divided neatly into four or five groups. As an analytic category, "schools" does a poor job of representing the imagined literary connections of the period.

Mobility after the Collapse of the Capitals
Seeing Tang poets as members of schools implies a static understanding of literary relations. In such a view, a poet is defined principally by a single essence or aesthetic from which he never deviates. Similarly, assigning poets to regional literary cultures implies stasis.[63] A poet's regional identity, based on his hometown, is then seen as primary. This approach is more historically sound than school-based categorization, since physical sites often provided the occasions for writing poems, thus determining topics, themes, and sometimes even styles.
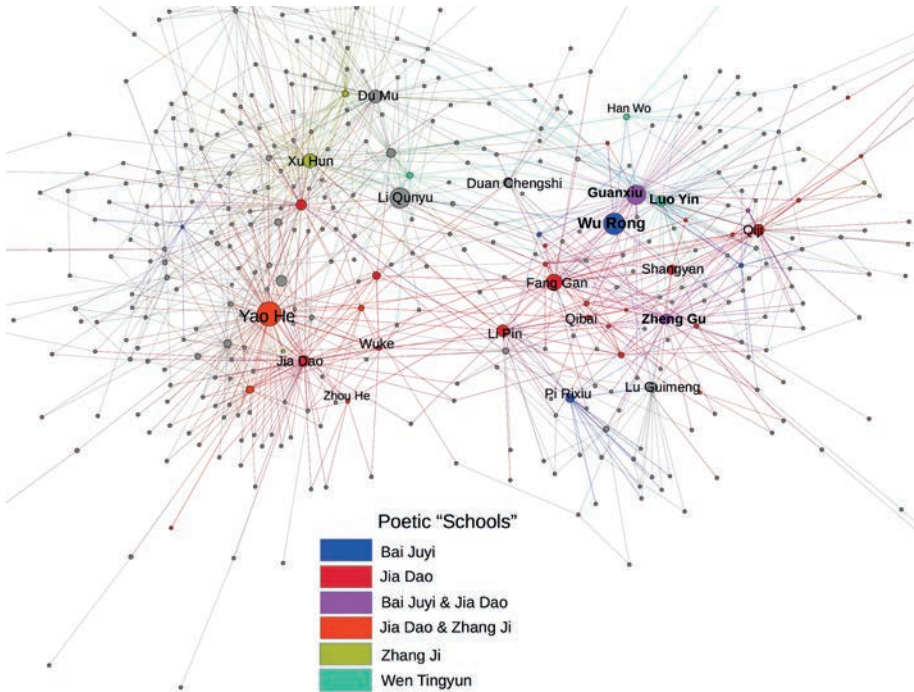
Figure 7. Network map of poems exchanged with contemporaries, colored according to the poetic schools to which they were assigned by later critics Li Huaimin, Li Gui, and Luo Wanwei. The schools do not form coherent groups, reflecting the fact that Tang poets did not think of themselves in these terms. Colors are described in text.

Moreover, literati who share a physical space are more likely to communicate with one another and therefore influence one another's verse. But this approach ignores the fact that many people, especially in the late ninth and early tenth centuries, did not stay put.

In fact, this is one of the most significant changes to the literary networks of the late medieval period. In the late ninth century and throughout the tenth, poets frequently traveled very far from their hometowns. The network data confirm this. The most important poets are those positioned *between* more stable places. In terms of both aesthetics and position in the network, the ones who traveled beyond their own birthplaces and family homes were the most central. Very few of the later poets with high betweenness centrality rankings in figure 6 lived in a single place for extended periods of time. Some communities do exist around important sites: in the capital during the mid-ninth century, and in eastern Jiangnan (Pi Rixiu and Lu Guimeng, Fang Gan in his well-visited mountain retreat) and at Mt. Lu (Xiumu's community of poet-monks when he served as Saṃgha Rectifier 僧正 there from 899 to 929) during the turn of the
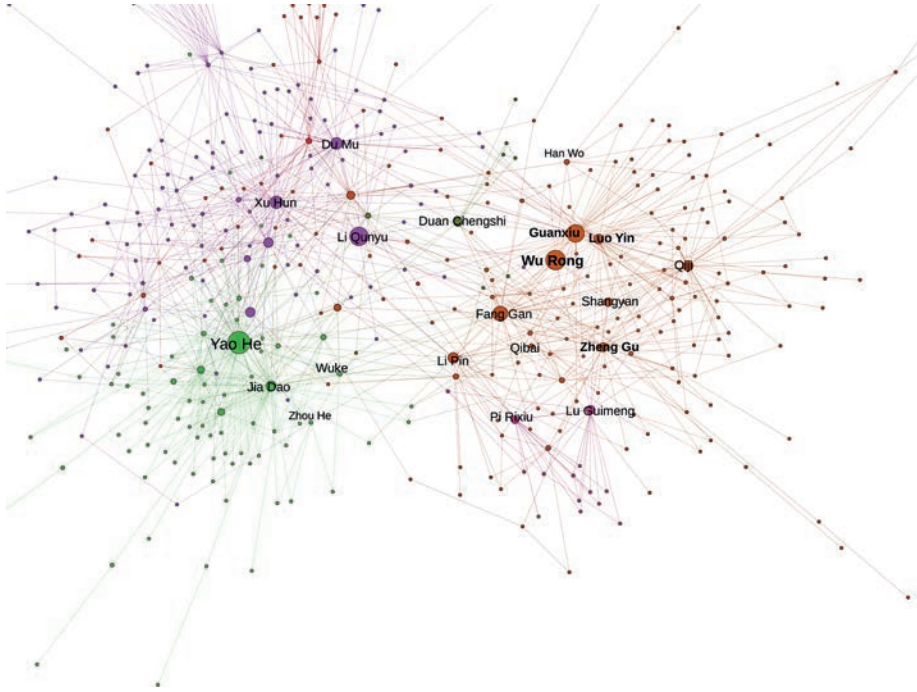
Figure 8. Network map of poems exchanged with contemporaries, colored according to algorithmically assigned communities (uses the built-in modularity algorithm of Gephi 0.9.2, with a resolution of 1.2). The clusters are more coherent, corresponding to groups of closely associated poets within a given time period. Colors are described in text.

tenth century.[64] But what makes these disparate communities part of a larger literary network is the efforts of those who traveled between those communities. On one level this insight is obvious, even banal. If we measure importance as betweenness, the travelers who moved between multiple places will naturally rise to the top. But in fact, this undermines the normal way of understanding Tang literary history, which is to imagine a series of discrete regions, the center of which is the capital region (Chang'an and Luoyang) through which everyone else passes.

There is an obvious historical explanation for the capital not being a lit-erary center in the late ninth through mid-tenth centuries: the general chaos caused by a series of rebellions led by Wang Xianzhi 王仙芝 (d. 878), Huang Chao 黃巢 (d. 884), and others from the 870s through the 880s. These upheavals crippled the Tang dynasty past the point of salvation, leading eventually to its fall in 907. In the process, Chang'an, the cultural and political capital of the Tang, was laid to waste, tens of thousands of elites fled or died, and many poets retired from service to the unstable central government.[65] Cultural power would be

reconstituted at the capitals of the new kingdoms that grew up in the ashes of the Tang, but none would gain dominance over the others until the full ascendancy of the Song dynasty in 976.

This sudden dissolution of the capital as a political center is confirmed by looking at the structure of the network generated by exchange poetry data. Looking only at poems exchanged between contemporaries, we can slice our data into three discrete periods based on political changes: (a) from the beginning of the data set (c. 830) until 874, when Wang Xianzhi's forces first took up arms in Changyuan 長垣 and sparked the decade of rebellions that would destroy the capital; (b) from 874 to 907, when the Tang dynasty collapsed; and (c) from 907 through the end of the data set (c. 960), when Zhao Kuangyin 趙匡胤 (Emperor Taizu 太祖, r. 960–76) proclaimed the establishment of the Song dynasty. We can then create a separate network from each of these slices of data and compare their densities. The density of a network is calculated by comparing the number of its actual edges (connections) to the number of its possible edges. In a maximally dense graph, every node is connected to every other node, and its density would be equal to 1. In a minimally dense graph, no nodes are connected, and its density would be equal to 0.[66] One might assume that the networks would become less dense as the Tang falls apart, but in fact the opposite happens: the network is most dense during the period of dissolution, 874–907 (table 2). One reason for this is because, without the thriving capitals of Chang'an and Luoyang, there is no single center where poets from distant regions can gather. With an intact center, more connections to more kinds of people are possible, diluting the graph. But when the capitals fall, the center drops out and the network inverts itself. Many poets cluster more tightly in a series of regional centers, and the mobile poets act as bridges connecting them.

The main way this shows up in our source material is as poems in which one poet is "thinking of" (*huai* 懷) or "remembering" (*yi* 憶) a contemporary whose fate is uncertain. In a map of imagined literary relations, these count as connections. During the period of rebellion, many poets worried that their friends had perished in all the violence and wrote poems expressing these concerns, thus increasing the number of connections and making the graph denser. This is not a bug but a feature of the data: the catalog of exchange poems represents *imagined* literary relations, not social reality. It is a representation of a collective dream of connections conjured up in thousands of poems.

The capitals' displacement as cultural center, however, is the most important point for literary history and can be confirmed by mapping the lives of poets from different eras. In the first three-quarters of the ninth century, the pull of the capitals was strong. Even poets born in other provinces sought reasons to move

Table 2. Densities of exchange poetry networks in three periods. The network is least dense during the Late Tang because the capital region, still intact, pulled together actors from disparate regions

Period	Density
Late Tang (830–74)	0.006
End of Tang (874–907)	0.010
Five Dynasties (907–60)	0.009

to Chang'an and Luoyang. The life of Yao He 姚合 (775?–855?) is a case in point (figure 9).[67] Yao He was born into a family of low-level officials who claimed the great minister Yao Chong 姚崇 (651–721) as an ancestor. He grew up in the southeastern city of Wuxing 吳興, where his family was based, and moved to Xiangzhou 相州 in his early thirties when his father took up an official post there in 806. Yao He became famous as a poet only after he moved to the capital in 815 to take the examinations. He passed on his second try and soon began his own official career. Aside from his first post in Weibo 魏博 and a later brief stint in Hangzhou, he spent nearly all the rest of his life within 150 miles of the capital corridor, the well-trod path between the two capitals of Chang'an and Luoyang.[68] Even when posted elsewhere, Yao He maintained a residence in Chang'an, where such poets as Jia Dao, Zhang Ji, Zhu Qingyu 朱慶餘 (jinshi 826), Wuke, and Liu Deren 劉德仁 (early ninth century) could gather and exchange their latest works.

By the end of the ninth century, the story of Zheng Gu is more typical. Born in Yichun 宜春 (in modern Hunan), he traveled repeatedly to the capital to sit for the exams in his early years and in that capacity established ties with important poets of the mid-ninth century. Arriving once again in 880, he found himself in the midst of Huang Chao's violence and fled to western Shu (modern Sichuan). When he finally attained his jinshi degree in 887, he did not stay but continued to travel back and forth between Shu and the capital over the next decade—perhaps hoping for Chang'an's restoration—before finally returning to his hometown of Yichun late in life. It was back in Yichun, now under the control of the warlord Gao Jixing 高季興 (858–929), that he met Qiji and other poets of the early Five Dynasties period, becoming a bridge between different times and places.

This brings us to another important observation: it is not the various official postings held by literati that produce the travel that results in literary connections during the later period. Many of the best-connected poets held no office. This contrasts sharply with the lives of earlier Tang poets (e.g., Zhang Yue 張說 [666–730], Zhang Jiuling 張九齡 [678–740], and Bai Juyi), whose promotions and demotions were among of the main forces driving them all across the empire. Rather, for the late medieval period it was a combination of

Figure 9. The travels of Yao He. His long-term residence in or near the capital of Chang'an made him central to mid-ninth-century literary networks. Based on events as chronicled in Fu, *Tang Wudai wenxue*, vols. 2 and 3.

sightseeing, pursuit of teachers and patrons, and flight from violence that led to poets' travels. The life of poet-monk Guanxiu is a case in point (figure 10).

Born in 832 in Lanxi 蘭溪, Guanxiu first left his hometown around the age of sixteen to train at Wuxie temple 五洩寺 in Zhuji county 諸暨縣, moved again at twenty-four to Suzhou 蘇州 to study under another master, and yet again to Mt. Lu 廬山 to study with another teacher at age thirty. He also traveled to several sacred mountains to make pilgrimages: in addition to Mt. Lu, where he lived for several years at a time on different occasions (age 30–31, 39–40, and 50–53), he visited Mt. Tiantai 天台山 (age 35–36), Mt. Jiuhua 九華山 (age 38), the Zhongnan mountains 終南山 (age 58), and Mt. Heng 衡山 (age 68). This kind of peregrination was common for monks of the Late Tang and may be one of the reasons that so many poet-monks rank so highly in betweenness centrality rankings.[69] If it is a common part of one's monastic training to travel for study
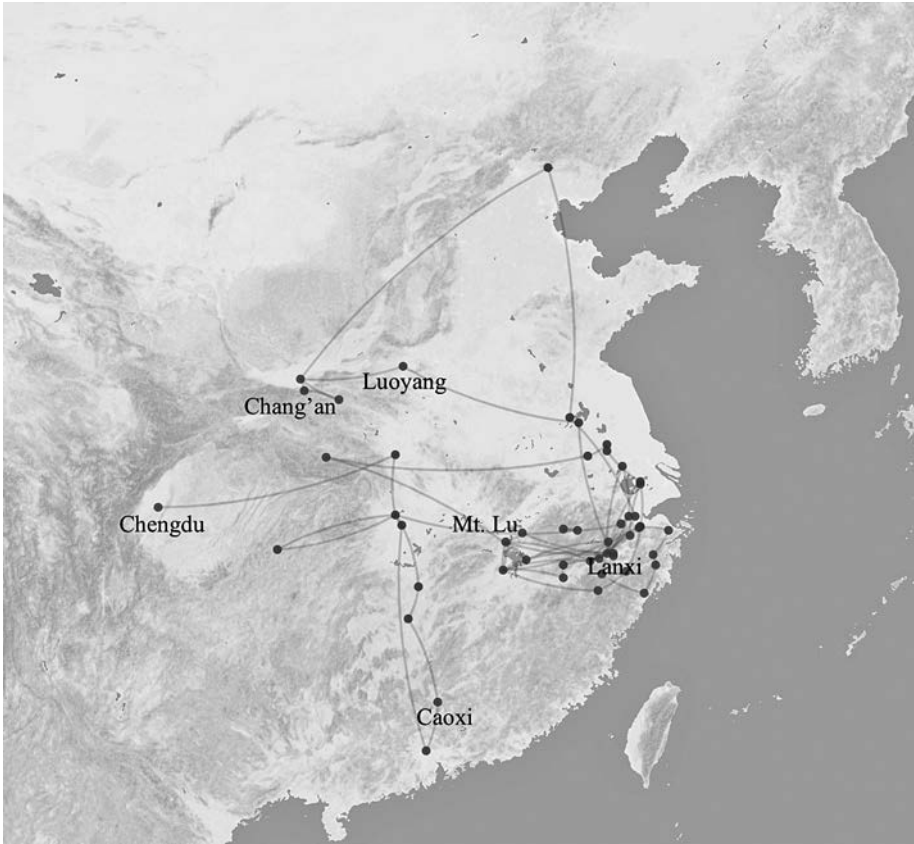
Figure 10. The travels of poet-monk Guanxiu 貫休 (832–913). His far-reaching mobility, common in the late ninth century, ensured his status as one of the most central poets in late medieval literary networks. Based on the chronology of his life provided in *Guanxiu geshi*, 3:1115–1248.

and pilgrimage, then highly literate monks are much more likely to meet and exchange poems with local literati and fellow travelers.

Beyond the usual travels of a monk, Guanxiu's political circumstances forced him to spend even more time on the road. In 893, he moved to Hangzhou to seek patronage from Qian Liu 錢鏐 (852–932), the reigning military governor of the area and future founder of the splinter kingdom Wuyue 吳越, only to be banished soon after for failing to flatter the ruler.[70] Ten years later, in 903, he finally settled down in Chengdu, where the newly established king of Shu, Wang Jian 王建 (847–918), built a temple specifically for him. As Guanxiu traveled from one end of the collapsing empire to the other in search of patronage, he came into contact with many prominent poets, exchanging works with nearly everyone of importance.[71] He could be influenced by them and in turn influence them. The changing nature of centrality in Tang literary

networks—from the geographical centrality of being located in the capital to the betweenness centrality of mobility—pushed Guanxiu into prominence. Both political and religious travels enabled Guanxiu to distribute his poems, parts of his personhood, all across the empire.

Conclusion

Network analysis of exchange poetry invites a dynamic view of the history of Tang poetry. It avoids the stasis implied by the analytic concepts of schools and regional groupings, instead highlighting the importance of betweenness, of mobility, and thus of mutability. As the Tang dynasty and its powerful cultural center at the capital fell apart, those poets who moved between more stable entities became the most crucial to the literary network. Buddhist monks are disproportionately well-represented among these crucial poets because of their itinerant lifestyles. The exiled ex-monk Jia Dao is also prominent in the late medieval literary network because of his status as the paragon of the increasingly popular *kuyin* aesthetic.

This approach to literary history is not complete in itself. It does not tell us about stylistic development in this period. It does not tell us about changing conceptions of *wen* 文 (literary/cultural pattern). It does not tell us about these poets' importance to literary movements in the eleventh century and beyond. It does not tell us about the actual, social relations of these poets to one another.

However, it does extrapolate from a native idea of literary relations that sees poems as vessels of one's person, and it uses this extrapolation to rethink the story of Tang literary development. My catalog is not the final word on Late Tang literary history, but it is a prompt for further consideration. It is an attempt to think through our extant sources systematically and move beyond the tired clichés of this period as being decadent, derivative, and static. It takes seriously the idea that in medieval China, poetry is a means of sociality.

THOMAS J. MAZANEC   余泰明
University of California, Santa Barbara
mazanec@ucsb.edu

Notes

1. For an excellent model of this kind of scholarship, see Fu, *Tang Wudai wenxue.*
2. I discovered Wu, *Tang Wudai ren jiaowangshi suoyin,* only after doing all of this cataloging by hand. I have since used it to spot-check my own data. As for the division of labor, I did about 7,500 of the catalog entries myself and double-checked the remaining 3,000 or so. Any resulting errors are entirely my responsibility.
3. See Guillén, *Literature as System*, 478–79, on the problems of writing literary history through "a diachronic montage of critical readings" (498).
4. *System* is meant here in Claudio Guillén's sense of a conjuncture of textual forms, genres, expectations, and relations: Guillén, *Literature as System*, 468–69.
5. Long and So, "Turbulent Flow," applies a similar method to modern American and Japanese literary history.
6. See *Analects* 16:13: "If you do not study the *Odes*, you will have no means of speaking" 莫 學詩，無以言. Examples of such quotations abound in fourth-century BCE narratives; see Kern, "Early Chinese Literature," 26–29. The epigraph to this article, that "poetry . . . can be a means of sociality" (*Analects* 17:9), originally referred to the *Odes* specifically, not poetry in general, and it implied the sustaining of a proper hierarchy (Jia, "Interpretation of 'Shi Keyi Qun'"). By the Tang, however, it came to be understood in the broader sense. For an introduction to the *Lanting Collection*, see Swartz, "Revisiting the Scene."
7. *Zengdashi* may be the earliest term used to designate exchange poetry, being a subcategory in the *shi*-poetry 詩 section of the *Wenxuan* 文選, which includes sixty poems. See fascicles 23–26 of the Shanghai guji edition of *Wenxuan.*
8. See Zhao, *Changheshi*, 390–416; and Tang, "Zhong Tang changheshi." Zhao Yiwu notes that prior to the Dali era (766–80) the term *changheshi* referred to matches in meaning rather than rhyme.
9. For example, there are five collections of Liu Yuxi's 劉禹錫 (772–842) exchange poetry in the Song dynasty's imperial catalog (see *Songshi* 209.5399). On the increasing popularity of exchange poetry collections in the ninth century, see Shields, *One Who Knows Me*, 133–42.
10. Gell, *Art and Agency*, 21.
11. Jiang Fang 蔣防 (d. 836), in his "Discussion of the Ministry of Personnel" ("Libu yi" 吏部 議, in *Quan Tang wen* [hereafter cited as *QTW*] 719.7402) of the early ninth century, describes how the ruler's will is carried out through ministers and emissaries who act not as themselves but as parts of the ruler's body.
12. This poem continues for another four lines citing practices and precedents associated with reclusion.
13. From Cao Pi, "Essay on Literature" ("Dianlun lunwen" 典論論文), in *Wenxuan* 52.2271.

14. Examples of this trope are far too numerous to list here. For a few examples, see Nugent, *Manifest in Words*, 198–99.

15. In 837, Jia Dao, after returning to laity and becoming an official, was slandered and sent to a variety of posts in the Shu area until his death in 843.

16. This refers to a legend about Jia Yi 賈誼 (200–168 BCE). It is said that one day an inauspicious owl perched in his room, bringing a great sadness upon him, which led him to write his "*Fu* on the Owl" ("Funiao fu" 鵩鳥賦).

17. Writing in 2017, I am separated from Jia's death in 843 by 1,174 years.

18. For both texts, I downloaded digital editions from *Guoxue baodian* 國學寶典 (Treasured Books of National Studies; www.gxbd.com), which I have altered, corrected, and marked up using BBEdit, version 12 (www.barebones.com/products/bbedit).

19. More specifically, this means that I have incorporated information from poems in *QTS* after Bai Juyi and Yuan Zhen, i.e., fascicles 463–763, 823–51, 854–55, as well as sections of *Quan Tang shi bubian* involving the poets mentioned in these portions of *QTS*. There are gaps in the *QTS* numbers because the *QTS* is not arranged in perfect chronological order and because Daoists and Buddhists are placed in a separate section at the end of the compendium.

20. In the case of a poet who has two or more modern, annotated editions of his works, I go with what I judge to be the more thorough and accurate one. In the case of a poem with variant titles, I follow the modern editors; for poems with variant titles that do not have modern editions, I go with the first title provided in *QTS*.

21. In the years since I compiled my database, the China Biographical Database project has also compiled its own data on exchange poems based on Wu, *Tang Wudai ren jiaowangshi suoyin*. Its database, however, relies on older scholarship and has the goal of uncovering historical facts about social relations, and our two databases reflect these differences.

22. On the problem of variant titles in Tang poetry, see Owen, "Manuscript Legacy," 321–22. For one example of how contemporaneous Tang poetry anthologies give us a markedly different picture of their poets from later critics, see Kroll, "*Heyue yingling ji*."

23. On the process of gathering poems to create an individual's poetry collection, see Nugent, *Manifest in Words*, 239–47. On the shifting tastes of literary culture, see Owen, *Late Tang*, 12, 36–40; and Owen, "Manuscript Legacy," 304–12.

24. The catalog in the *Songshi*, for example, records that the poet-monk Tanyu left behind a poetry collection in ten fascicles. However, because only three of his poems are extant today, he does not feature prominently in the network map. See *Songshi* 208.5387.

25. A few recent works have questioned the usefulness of the concept of "schools" in medieval Chinese literature, but they remain a minority, especially when weighted against traditional scholarship in Chinese. On the Six Dynasties, see Tian, "From the Eastern Jin," 260; on the Tang, see Jia, *Tangdai jihui zongji*.

26. See, e.g., Brose, *Patrons and Patriarchs*, which discusses in detail the patronage system during the tenth century.

27. The monk Shangyan 尚顏 (830s?–920s?), for example, could still bring glory to the Xue 薛 clan by being a poet-monk (*QTW* 829.8730–31). Jiaoran 皎然, too, in multiple places speaks with pride of being a descendant of the poet Xie Lingyun 謝靈運 (e.g., *QTS* 815.9173).

28. Byrne, "Poetics of Silence," 155, lists 140 of Hongzhi's 175 exchange poems as being addressed to monks.

29. Owen, *Great Age of Chinese Poetry*, 282. For more on traces of Buddhism that persisted in monks' elite verse, see Mazanec, "Invention of Chinese Buddhist Poetry."

30. The only Tang poets who have no exchanges with monks are those who have too few surviving poems to be statistically significant, or those with a skewed surviving corpus (e.g., Zhou Tan 周曇, whose only surviving works are poems on famous rulers and ministers from history).

31. For an introduction to betweenness, see Easley and Kleinberg, *Networks, Crowds, and Markets*, 66–74; and Newman, *Networks*, sec. 7.7. On some of the advantages and shortcomings of betweenness as a measure of power, see Easley and Kleinberg, *Networks, Crowds, and Markets*, 303–8. Eigenvector centrality, being closely based on degree, is less useful for our data, since it would remain biased toward poets with large extant literary collections (Newman, *Networks*, sec. 7.2).

32. The algorithm used for these calculations is described in Brandes, "Faster Algorithm."

33. In our data set of 487 named, contemporaneous poets, of whom 51 are monks, we would expect to see 1.8 monks in the top 17 and 3.7 in the top 35.

34. Liu et al., "*Quan Tangshi* de fenxi," 46.

35. On his four hundred poems in pentameter and heptameter, see the remarks in Yan Rao 顏蕘, "Preface to the Venerable Shangyan's Literary Collection" 顏上人集序, in *QTW* 829.8730–31; for his exchange poetry collection titled *Shangyan gongfeng ji* 尚顏供奉集 (Collection of Shangyan's Presented Poems), see Chen, *Zhizhai shulu jieti*, 19.29; for his five-fascicle *Jingmen ji* 荊門集 (Jingmen Collection), see *Songshi* 208.5387.

36. On Shangyan's recognition at court around the year 900, see Qiji's poem "Replying to the Venerable Shangyan" 酬尚顏上人 (*Qiji shiji jiaozhu* 7.406–07; *QTS* 844.9550–51). Shangyan's possible connection to the Mt. Lu community can be inferred from his own poem about living there, "Living on Mt. Kuang" 匡山居 (*QTS* 848.9598), as well as the numerous poems addressed to him written by other poets associated with this community. On the Mt. Lu community more generally, see Jia, *Tangdai jihui zongji*, 237–56; and Wang, *Wan-Tang Wudai shiseng*, 136–44.

37. Xie Fu (313–62): scion of the powerful Xie clan, known for shunning office in favor of retreating to Mt. Taiping 太平山.

38. The Master: Confucius.

39. Charts of seas and mountains: alludes to Tao Qian 陶潛 (365?–427), who famously wrote a series of thirteen poems on reading the *Classic of Mountain and Seas* (Shanhai jing 山海經) in his retirement.

40. Within the Pass: the area within the Hangu Pass 函谷關, i.e., the capital region.

41. Sweetflag (*Acorus calamus*): in Tang poetry, a symbol of a rare and valuable thing. This usage can be traced back to the *Songs of Chu* (Chuci 楚辭), in which the plant is called by its Chu names, *quan* 荃 and *sun* 蓀. See, e.g., "Encountering Sorrow" ("Lisao" 離騷) in *Chuci buzhu* 1.9, and "The Goddess of the Xiang" ("Xiang jun" 湘君) in *Chuci buzhu* 2.61.

42. See the poem "Beckoning the Recluse" 招隱士 in *Chuci buzhu* 12.232–34.

43. The concepts of brokerage and closure were developed by Ronald Burt to describe networks in the sciences and social sciences. For an application of these concepts to networks of American modernist poetry publication, see So and Long, "Network Analysis," 162–69.

44. See the catalog of the Song imperial library in *Songshi* 208.5364.

45. These thirty poems, moreover, are not written by just a few overenthusiastic followers but are spread out among eleven later poets: Guanxiu, Guiren 歸仁 (early tenth century), Kezhi 可止 (860–934), Li Dong 李洞 (d. 897?), Li Kegong 李克恭 (late ninth century),

Li Pin 李頻 (d. 876), Qiji, Xu Yin 徐夤 (*jinshi* 894), Zhang Pin 張蠙 (*jinshi* 895), Zhang Qiao 張喬 (late ninth century), and Zheng Gu.

46. The difference in Guanxiu's is due to his fondness for writing about important poets from earlier in the Tang. Fang Gan, the only character whose betweenness centrality drops significantly, was well connected in his own day but rarely commemorated in verse by later poets.

47. By geographical association, I mean these poets' birth places and up to two other areas where they spent long periods of their lives.

48. The association with Jiangnan likely has to do with the fondness for Jia Dao's *kuyin* 苦吟 (bitter intoning) aesthetic among the burgeoning poet-monk community that was associated with Mt. Lu 盧山. On Late Tang poet-monks' fondness for Jia Dao and *kuyin*, see Zhou, "Jia Dao ge shige."

49. Du Xunhe died in 904, so technically he did not live under the later Liang. However, he did serve briefly under Zhu Wen 朱溫 (852–912), soon to be its first emperor.

50. Wen, *Tangshi zalun*, 40.

51. On Meng Jiao's use of this term *kuyin*, see Li, *Zhong-Wan Tang kuyin*, 41–92; Wu, "Lüelun," 29–34; and Li, *Tangmo Wudai luanshi*, 92–94.

52. See Li, *Tangmo Wudai luanshi*, 78–87, 100–101; and Tao, "Tangmo shige gainian," 215–16. For a few examples of later poets' verses identifying Jia Dao with *kuyin*, see Zhang Pin, "Grieving Jia Dao" 傷賈島 (*QTS* 702.8084); and Kezhi, "Weeping over Jia Dao" 哭賈島 (*QTS* 825.9292).

53. Later generations' supposed neglect of Jia Dao is undermined by the fact that over a dozen important poets of this period also complained of Jia Dao's obscurity.

54. See, e.g., "Morning Hunger" 朝饑 (*Jia Dao ji jiaozhu*, 1.6–8; *QTS* 571.6618) and "Singing My Feelings" 詠懷 (*Jia Dao ji jiaozhu*, 10.487–88; *QTS* 574.6684).

55. My understanding of traditional scholarship relies on summaries found in Li, *Zhong Tang zhi Bei Song*, 46–48; Luo, *Xiaoyao yijuanqing*, 157–67; and Zhang, "Lun Wudai shi," 23–27. On schools generally, see Wu, *Wenxue fengge liupai lun*.

56. See Guillén, *Literature as System*, 466, which notes that "a school implies traditions to be respected, skills to be learned, a master to teach them, and a pupil who regards his future experience as insufficient."

57. Li Gui, for example, divides late medieval poets into followers of Bai Juyi 白居易 (772–846) and Jia Dao, saying that the former were "located at court and near to Daoism," while the latter were "located in remote areas and near to Buddhism." Li, *Zhong Tang zhi Bei Song*, 56, 67–68.

58. Ding, *Lidai shihua xubian*, 851.

59. Zhang Ji 張洎, "Xiang Si shiji xu" 項斯詩集序, *Tangwen shiyi* 唐文拾遺 47, in *QTW* 10906–7.

60. Li Gui suggests that Yang Shen's classification is more closely related to the analysis of Fang Hui 方回 (1227–1307), whose goal was to find the earliest origins of the literary schools that flourished in the Song dynasty. Another progenitor of such classifications, he suggests, is Cai Qi 蔡啟 (d. 1125). See Li, *Zhong Tang zhi Bei Song*, 46–47. Still, there is at least a two-hundred-year gap between the poets and their classification into schools.

61. See Wu Rong's preface to Guanxiu's poetry collection in *QTW* 820.8643.

62. I have used Gephi's built-in algorithm for modularity, which is based on Blondel et al., "Fast Unfolding."

63.   Regional approaches to medieval literary history have flourished recently, especially in Chinese-language scholarship. Those that treat the Late Tang include Duan, *Tangmo Wudai Jiangnan*; Zhang, *Qian-Hou Shu*; and Wang, *Tangdai Chang'an*. The most successful of these books on local poetic groups, because of its specificity, is Jia, *Tangdai jihui zongji*.

64.   Fang Gan's mountain retreat was located at Mirror Lake (Jianhu 鑒湖), just south of Hangzhou 杭州.

75.   On the Huang Chao rebellion and the collapse of the capital, see Tackett, *Destruction*, 187–234; and Schafer, "Last Years of Ch'ang-an," esp. 154–70.

66.   For the equations used to calculate this, see Newman, *Networks*, sec. 6.9.

67.   Yao He's precise birth and death dates are disputed. The editor of the Shanghai guji edition of his collected works, Wu Heqing 吳河清, gives 780–859. Cao Fanglin concurs with 780 for his birth date (*Yao He kaolun*). Gong Honglin 龔紅林, synthesizing various sources for Wang Zhaopeng's geographical project, gives 777–842 ("Tang-Song wenxue biannian ditu"). I follow the chronology offered in Fu, *Tang Wudai wenxue*.

68.   On the capital corridor, see Tackett, *Destruction*, 82–88.

69.   This stage of a monk's career was referred to as *xingjiao* 行腳 ("itinerant practice") or *youfang* 遊方 ("wandering the realm"). See Protass, "Returning Empty-Handed," 397–400.

70.   For various versions of this story, see the *Song gaoseng zhuan* 宋高僧傳 (Song Biographies of Eminent Monks; *Taishō shinshū daizōkyō* no. 2061, 50:897a); Wenying 文瑩 (mid-11th century), *Xu Xiangshan yelu* 續湘山野錄 (Continued Unofficial Records of Mt. Xiang), in *Shuoku*; *Tang caizi zhuan jiaojian*, 4:10.433–35; and *Tangshi jishi jiaojian*, 2:75.1955.

71.   Indeed, research in sociology has shown that, at least in the modern world, "weak ties" are more crucial for obtaining jobs, getting exposure to new ideas, and many other activities. That is, one's acquaintances are the channels through which one is exposed to different social circles. See Granovetter, "Strength of Weak Ties"; Granovetter, "Network Theory Revisited"; and Easley and Kleinberg, *Networks, Crowds, and Markets*, 43–62.

References

Blondel, Vincent D., Jean-Loup Guillaume, Renaud Lambiotte, and Etienne Lefebvre. "Fast Unfolding of Communities in Large Networks." *Journal of Statistical Mechanics: Theory and Experiment* 10 (2008): P10008.

Brandes, Ulrik. "A Faster Algorithm for Betweenness Centrality." *Journal of Mathematical Sociology* 25, no. 2 (2001): 163–77.

Brose, Benjamin. *Patrons and Patriarchs: Regional Rulers and Chan Monks during the Five Dynasties and Ten Kingdoms*. Honolulu: University of Hawaii Press, 2015.

Byrne, Christopher H. "Poetics of Silence: Hongzhi Zhengjue (1091–1157) and the Practice of Poetry in Song Dynasty Chan *Yulu*." PhD diss., McGill University, 2015.

Cao Fanglin 曹方林. *Yao He kaolun* 姚合考論 (Investigations into Yao He). Chengdu: Ba-Shu shushe, 2001.

Chen Zhensun 陳振孫. *Zhizhai shulu jieti* 直齋書錄解題 (Explanation of Titles in Zhizhai's Catalog of Writings). *Siku quanshu* 四庫全書 (Complete Books of the Four Treasuries) edition.

Chuci buzhu 楚辭補注 (The *Songs of Chu*, with Supplementary Commentary). Collated by Hong Xingzu 洪興祖. Beijing: Zhonghua shuju, 1983.

Ding Fubao 丁福保, ed. *Lidai shihua xubian* 歷代詩話續編 (Poetry Talks throughout the Ages, Continued). Beijing: Zhonghua shuju, 1983.

Duan Shuangxi 段雙喜. *Tangmo Wudai Jiangnan xidao shige yanjiu* 唐末五代江南西道詩歌研究 (Studies on the Poetry of the West Jiangnan Circuit during the End of the Tang and the Five Dynasties). Shanghai: Shanghai guji chubanshe, 2010.

Easley, David, and Jon Kleinberg. *Networks, Crowds, and Markets: Reasoning about a Highly Connected World.* Cambridge: Cambridge University Press, 2010.

Fu Xuancong 傅璇琮, ed. *Tang Wudai wenxue biannian shi* 唐五代文學編年史 (A Chronological History of Tang and Five Dynasties Literature). 4 vols. Shenyang: Liaohai chubanshe, 1998.

Gell, Alfred. *Art and Agency: An Anthropological Theory.* Oxford: Clarendon Press, 1998.

Granovetter, Mark. "The Strength of Weak Ties." *American Journal of Sociology* 78, no. 6 (1973): 1360–80.

———. "The Strength of Weak Ties: A Network Theory Revisited." *Sociological Theory* 1 (1983): 201–33.

Guanxiu 貫休. *Guanxiu geshi xinian jianzhu* 貫休歌詩繫年箋注 (The Songs and Poems of Guanxiu, Chronologically Arranged, with Annotation and Commentary). Edited and annotated by Hu Dajun 胡大浚. 3 vols. Beijing: Zhonghua shuju, 2011.

Guillén, Claudio. *Literature as System: Essays toward the Theory of Literary History.* Princeton, NJ: Princeton University Press, 1971.

Jia Dao 賈島. *Jia Dao ji jiaozhu* 賈島集校注 (The Collected Works of Jia Dao, Collated and Annotated). Edited and annotated by Qi Wenbang 齊文榜. Beijing: Renmin wenxue chubanshe, 2001.

Jia, Jinhua (賈晉華). "An Interpretation of 'Shi Keyi Qun' 詩可以群." *T'oung Pao* 87, no. 1/3 (2001): 1–13.

———. *Tangdai jihui zongji yu shirenqun yanjiu* 唐代集會總集與詩人群研究 (Studies on Collections of Literary Anthologies and Groups of Poets in the Tang Dynasty). 2nd ed. Beijing: Beijing daxue chubanshe, 2015.

Kern, Martin. "Early Chinese Literature: Beginnings through Western Han." In *The Cambridge History of Chinese Literature*, edited by Kang-i Sun Chang and Stephen Owen, 1:1–115. Cambridge: Cambridge University Press, 2011.

Kroll, Paul W. "*Heyue yingling ji* and the Attributes of High Tang Poetry." In *Reading Medieval Chinese Poetry: Text, Context, and Culture*, edited by Paul W. Kroll, 169–201. Leiden: Brill, 2015.

Li Dingguang 李定廣. *Tangmo Wudai luanshi wenxue yanjiu* 唐末五代亂世文學研究 (Studies on the Literature of a Broken World at the End of the Tang and the Five Dynasties). Beijing: Zhongguo shehui kexue chubanshe, 2006.

Li Gui 李貴. *Zhong Tang zhi Bei Song de dianfan xuanze yu shige yinge* 中唐至北宋的典範選擇與詩歌因革 (Exemplars and the Evolution of Poetry from the Mid Tang to the Northern Song). Shanghai: Fudan daxue chubanshe, 2012.

Li Jiankun 李建崑. *Zhong-Wan Tang kuyin shiren yanjiu* 中晚唐苦吟詩人研究 (Studies on Bitter-Chanting Poets of the Mid and Late Tang). Taipei: Xiuwei zixun keji gufen youxian gongsi, 2005.

Liu, Chao-lin 劉昭麟, Chun-Ning Chang 張淳甯, Chu-Ting Hsu 許筑婷, Wen-Huei Cheng 鄭文惠, Hongsu Wang 王宏甦, and Wei-Yuan Chiu 邱偉雲. "*Quan Tangshi* de fenxi, tankan yu yingyong—fengge, duizhang, shehui wanglu yu duilian" 《全唐詩》的分析、探勘與應用——風格、對仗、社會網路與對聯 (Textual Analysis of the *Complete Tang Poems* for Discoveries and Applications—Style, Antitheses, Social Networks, and Couplets). In

The 2015 Conference on Computational Linguistics and Speech Processing, 43–57, 2015. http://www.aclweb.org/anthology/O15-1005.

Long, Hoyt, and Richard Jean So. "Turbulent Flow: A Computational Model of World Literature." *Modern Language Quarterly* 77, no. 3 (2016): 345–67.

Luo Wanwei 羅婉薇. *Xiaoyao yijuanqing: Wudai shiren yu shifeng* 逍遙一卷輕：五代詩人與詩風 (Free and Easy, Lighter than a Single Scroll: Poets and Poetic Style of the Five Dynasties). Guangzhou: Jinan daxue chubanshe, 2009.

Mazanec, Thomas. "The Invention of Chinese Buddhist Poetry: Poet-Monks of Late Medieval China (c. 760–960 CE)." PhD diss., Princeton University, 2017.

———. "The Medieval Chinese *Gāthā* and Its Relationship to Poetry." *T'oung Pao* 103, no. 1/3 (2017): 94–154.

Newman, M. E. J. *Networks: An Introduction.* Oxford: Oxford University Press, 2010.

Nugent, Christopher M. B. *Manifest in Words, Written on Paper: Producing and Circulating Poetry in Tang Dynasty China.* Cambridge, MA: Harvard University Asia Center, 2010.

Owen, Stephen. *The Great Age of Chinese Poetry: The High T'ang.* New Haven: Yale University Press, 1981.

———. *The Late Tang: Chinese Poetry of the Mid-Ninth Century (827–860).* Cambridge, MA: Harvard University Asia Center, 2006.

———. "The Manuscript Legacy of the Tang: The Case of Literature." *Harvard Journal of Asiatic Studies* 67, no. 2 (2007): 295–362.

Protass, Jason. "Returning Empty-Handed: Reading the *Yifanfeng Corpus* as Buddhist Parting Poetry." *Journal of Chinese Literature and Culture* 4, no. 2 (2017): 383–419.

Qiji 齊己. *Qiji shiji jiaozhu* 齊己詩集校注 (The Poetry of Qiji, Collated and Annotated). Edited and annotated by Wang Xiulin 王秀林. Beijing: Zhongguo shehui kexue chubanshe, 2011.

Quan Tang shi 全唐詩 (Complete Poems of the Tang). Compiled by Peng Dingqiu 彭定求 et al. Beijing: Zhonghua shuju, 1960.

Quan Tang shi bubian 全唐詩補編 (Supplement to the Complete Poems of the Tang). Compiled by Chen Shangjun 陳尚君. Beijing: Zhonghua shuju, 1992.

Quan Tang wen 全唐文 (Complete Prose of the Tang). Compiled by Dong Hao 董浩 et al. Beijing: Zhonghua shuju, 1983.

Schafer, Edward H. "The Last Years of Ch'ang-an." *Oriens Extremus* 10, no. 2 (1963): 133–79.

Shields, Anna. *One Who Knows Me: Friendship and Literary Culture in Mid-Tang China.* Cambridge, MA: Harvard University Asia Center, 2015.

Shuoku 說庫 (Treasury of Discussions). Compiled by Wang Wenru 王文濡. Taipei: Xinxing shuju, 1963.

So, Richard Jean, and Hoyt Long. "Network Analysis and the Sociology of Modernism." *boundary 2* 40, no. 2 (2013): 147–82.

Songshi 宋史 (History of the Song). Compiled by Toqto'a 脫脫 et al. Beijing: Zhonghua shuju, 1977.

Swartz, Wendy. "Revisiting the Scene of the Party: A Study of the Lanting Collection." *Journal of the American Oriental Society* 132, no. 2 (2012): 275–300.

Tackett, Nicolas. *The Destruction of the Medieval Chinese Aristocracy.* Cambridge, MA: Harvard University Asia Center, 2014.

Tang caizi zhuan jiaojian 唐才子傳校箋 (Biographies of Tang Talents, Collated and Commented). Edited and annotated by Fu Xuancong 傅璇琮. 5 vols. Beijing: Zhonghua shuju, 1987–95.

Tangshi jishi jiaojian 唐詩紀事校箋 (Stories of Tang Poetry, Collated, with Commentary). Edited and annotated by Wang Zhongyong 王仲鏞. 2 vols. Chengdu: Ba-Shu shushe, 1989.

Tang Yinfei 湯吟菲. "Zhong Tang changheshi shulun" 中唐唱和詩述論 (An Account of Poems Sung and Harmonized in the Mid Tang). *Wenxue yichan* 文學遺產 (Literary Heritage) 3 (2001): 49–58.

Tao Qingmei 陶慶梅. "Tangmo shige gainian de xinbian" 唐末詩歌概念的新變 (Changes in the Concept of Poetry at the End of the Tang). *Tang yanjiu* 唐研究 (Studies of the Tang) 11 (2005): 205–32.

Tian, Xiaofei. "From the Eastern Jin through the Early Tang (317–649)." In *The Cambridge History of Chinese Literature*, edited by Stephen Owen, 1:199–285. Cambridge: Cambridge University Press, 2010.

Wang Xiulin 王秀林. *Wan-Tang Wudai shiseng qunti yanjiu* (A Prosopographic Study of Poet-Monks of the Late Tang and Five Dynasties). Beijing: Zhonghua shuju, 2008.

Wang Zaojuan 王早娟. *Tangdai Chang'an fojiao wenxue* 唐代長安佛教文學 (Buddhist Literature of Tang-Dynasty Chang'an). Beijing: Shangwu yinshuguan, 2013.

Wang Zhaopeng 王兆鵬. "Tang-Song wenxue biannian ditu" 唐宋文學編年地圖 (Chronological Map of Tang-Song Literature). https://sou-yun.com/poetlifemap.html.

Wenxuan 文選 (Selections of Refined Literature). Compiled by Xiao Tong 蕭統. Shanghai: Shanghai guji chubanshe, 1986.

Wen Yiduo 聞一多. *Tangshi zalun* 唐詩雜論 (Miscellaneous Essays on Tang Poetry). Beijing: Zhonghua shuju, 2009 (1956).

Wu Benxing 吳奔星. *Wenxue fengge liupai lun* 文學風格流派論 (On Literary Style and Schools). Taiyuan: Beiyue wenyi chubanshe, 1987.

Wu Ruyu 吳汝煜. *Tang Wudai ren jiaowangshi suoyin* 唐五代人交往詩索引 (Index of Exchange Poems by People of the Tang and Five Dynasties). Shanghai: Shanghai guji chubanshe, 1993.

Wu Zaiqing 吳在慶. "Lüelun Tangdai de kuyin shifeng" 略論唐代的苦吟詩風 (An Overview of the Bitter-Chanting Style of Poetry in the Tang Dynasty). *Wenxue yichan* 文學遺產 (Literary Heritage) 4 (2002): 29–40.

Zhang Hai 張海. *Qian-Hou Shu wenxue yanjiu* 前後蜀文學研究 (Studies on the Literature of Former and Later Shu). Shanghai: Shanghai guji chubanshe, 2013.

Zhang Xingwu 張興武. "Lun Wudai shi zai Zhongguo shige fazhan shi shang de weizhi" 論五代詩在中國詩歌發展史上的位置 (On the Place of Five Dynasties Poetry in the History of the Development of Chinese Poetry). *Xibei shida xuebao (shehui kexue ban)* 西北師大學報（社會科學版）(Journal of Northwestern Normal University [Social Science Edition]) 32, no. 3 (1995): 23–27.

Zhao Yiwu 趙以武. *Changheshi yanjiu* 唱和詩研究 (A Study of Poems Sung and Harmonized). Lanzhou: Gansu wenhua chubanshe, 1997.

Zhou Yukai 周裕鍇. "Jia Dao ge shige yu Chanzong guanxi zhi yanjiu" 賈島格詩歌與禪宗關係之研究 (A Study of the Relationship between Jia Dao–Style Poetry and Chan). In *Shibian yu chuanghua: Han-Tang, Tang-Song zhuanhuanqi zhi wenyi xianxiang* 世變與創化：漢唐、唐宋轉換期之文藝現象 (World Transformation and Creation: Artistic Phenomena in the Han-Tang and Tang-Song Transition Periods), edited by Lo-fen I 衣若芬 and Liu Yuanru 劉苑如, 425–58. Taipei: Zhongyang yanjiuyuan Zhongguo wenzhe yanjiusuo choubeichu, 2000.