On the Use of Historical Social Network Analysis in the Study of Chinese Buddhism: The Case of Dao’an, Huiyuan, and Kumārajīva

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Abstract
This paper is part of a larger research project that attempts to apply historical social network analysis to the study of Chinese Buddhist history. The underlying research questions are whether social network analysis (SNA) metrics can be gainfully applied to Buddhist history, and whether network visualizations can enable us to better understand historical constellations and discover new patterns. Fundamental to this effort is a dataset of Buddhist biographies and lineage data that has been growing steadily over the past thirteen years: the Historical Social Network of Chinese Buddhism. The current dataset records interactions between more than 17,500 actors in Chinese Buddhist history. It is openly available and, in principle, all visualizations and metrics below are reproducible.

This paper focuses on a characteristic formation at the beginning of the main network component, a “triangle” formed by the communities of Dao’an 道安 (314–385 CE), Huiyuan 慧遠 (334–416), and Kumārajīva (ca. 344–413). The first section interprets this joint formation as a factor in the establishment of Mahāyāna Buddhism in China. The second section explores how social network analysis can be used to identify hitherto neglected, but still important, actors in Buddhist history.
1. The Dao’an-Huiyuan-Kumārajīva Triangle and the Establishment of Mahāyāna Buddhism in China

Figure 1-1. The beginning part of the main component\(^1\) of the network showing the period between ca. 300 and 450 CE: Fotucheng (1), Dao’an (2), Huiyuan (3), Kumārajīva (4), Zhu Daoqian (5), Zhi Dun (6), and Emperor Xiaowu of Jin (7). Nodes sized by degree.\(^2\)

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1. A component is a connected part of a network, i.e., a subgraph where all nodes are connected with other nodes via paths. The main component is usually by far the largest such component. Besides the main component, the Historical Social Network of Chinese Buddhism (version 2020-07) has more than a thousand small components, mostly dyads and triads, which are not connected to the main component but are part of the dataset. The main component graph, historically speaking, “begins” with actors born around 250 CE and “ends” with actors born around 1950 CE.

2. The “degree” of a node is its number of direct links with other nodes. “Sized by degree” means that a node with, e.g., fifty links will appear larger than a node with only one link.
1.1 Dataset and Method

This paper is part of a larger research project that attempts to apply historical social network analysis to the study of Chinese Buddhist history. Historical social network analysis is a peculiar way of looking at history with the help of a formal model: the network of communicative interaction between people. This form of analysis ignores many things that are dear to historians of religion: art, text, ritual, ideas, sacred places, sentiment; it is unaware of almost anything but human encounters and communication. Obviously, historical social network analysis is not the only, or even the most important, lens, but it is universal in the sense that it can be applied to all periods and cultures, and that it can supplement all other approaches, provided data for a formal representation of the network is available and reliable. Whatever else the history of Chinese Buddhism might be, it is certainly also a history of communicative interaction that can be modeled, however imperfectly, in a historical social network.

The Historical Social Network of Chinese Buddhism is a dataset that consists of some 17,500 persons and their connections, covering nearly two thousand years of Chinese

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3 The dataset on which this study is based was created at the Dharma Drum Institute of Liberal Arts, Taiwan. I am grateful to Shi Huimin, Shi Guojing, Po-yung Chang, Jen-jou Hung, the team at the Digital Archives Section at Dharma Drum, and the Chung-hwa Institute of Buddhist Studies for their support of this effort over the years. Much of the research for this article was done in 2019 during a visiting fellowship at the Asia Research Institute (ARI) at the National University of Singapore. The ARI research cluster Religion & Globalisation under the leadership of Kenneth Dean provided a perfect environment to try out new ideas. I gratefully acknowledge valuable feedback from the participants at the conference “Buddhism and Technology” in September 2019, organized by Jinhua Chen; from two anonymous reviewers for JJADH; and from Laurent Van Cutsem and Kimberly Williams. Michael Radich kindly gave generous feedback on short notice, saved me from some embarrassing mistakes, and made me rethink the main issues raised in this article.
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Buddhist history.\(^4\) The network encodes facts extracted from a large variety of sources, especially biographical literature for the first millennium, and teacher-student lineage information for the second millennium. Data about the connections for the time period discussed in this article (ca. 300–420 CE) are mostly derived from the *zhuan* 傳-style biographies in the *Chu sanzang jiji* 出三藏記集 (T.2145, fases. 13–15, ca. 515 CE), the *Mingseng zhuan chao* 名僧傳抄 (CBETA/X.1523, ca. 514 CE), the *(Liang) Gaoseng zhuan* (梁)高僧傳 (T.2059, ca. 530 CE), and the *Biqiuni zhuan* 比丘尼傳 (T.2063, ca. 511 CE).\(^5\) To a lesser degree, data from later collections such as the *Tang gaoseng zhuan* 唐高僧傳 also contribute to the network of this early period, but these tend to repeat facts from earlier sources and only rarely add new information. Although the information contained in the network is only a fraction of what could be known if all available information on each person were collected, it does represent a significant amount of information about Chinese Buddhist history.

The connections in the network indicate that actors have known about or communicated with each other, but connections are neither categorized nor effectively weighted. Not using categories means that the data do not include categories about what kind of connection existed between actors. Not using effective edge weights means that the numeric weight of a link is not significant, because the data do not distinguish between multiple mentions of the same connection and instances recording separate, different connections. That is, if a link between X and Y has a sum value (edge weight) of 5, we cannot know whether these are five

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\(^4\) Earlier publications making use of these data include Bingenheimer, Hung, and Wiles (2011) and Bingenheimer (2018). The (evolving) dataset is made available here: https://github.com/mbingenheimer/ChineseBuddhism_SNA.

\(^5\) See Bingenheimer, Hung, and Wiles (2011) for how such information is recorded and maintained via markup constructs (so-called nexus points). For the period discussed here, about two-thirds of the data comes from the *(Liang) Gaoseng zhuan* (958 SNA nexus points); the other third is contained in the *Biqiuni zhuan* (194 SNA nexus points), the *Mingseng zhuan chao* fragment (65 SNA nexus points), and the biographies contained in the *Chu sanzang jiji* (facs. 13–15, 222 recorded SNA nexus points). Obviously, there are overlaps in that the same event is mentioned in several different collections, but the structural argument attempted here does not rely on link weights or attributes. The full dataset published on GitHub is a combination of information of *zhuan*-type literature and master-student genealogies. The latter stem from a variety of sources, most prominently the detailed research by Hasebe (2008).
distinct encounters between X and Y or simply the same encounter repeated across different sources.

In general, once the overall connectivity of a graph goes beyond a certain threshold, a single main or “giant” component emerges in both random and real-world networks. The main component in the Historical Social Network of Chinese Buddhism contains approximately 88% of all nodes and 95% of all connections. It is the actual “network” under discussion. In this paper, the focus is on the “beginning” of the giant component, covering roughly the period between 300 and 450 CE.

1.2 The Dao’an, Huiyuan, Kumārajīva Triangle

There are a variety of possible layouts that visualize the network (see fig. 2-2). In every layout, a characteristic formation appears near the beginning of the main component: a “triangle” of Dao’an 道安 (fig. 1-1, node 2), Huiyuan 慧遠 (fig. 1-1, node 3), and Kumārajīva 鳩摩羅什 (fig. 1-1, node 4) and their cliques of students and collaborators. For the historical network of Chinese Buddhism, this cluster is the engine that set this network in motion.

The spark provided to the engine, however, was a smaller cluster to the lower left in figure 1-1 representing Fotucheng 佛圖澄 (fig. 1-1, node 1) and his patrons. Dao’an was Fotucheng’s student for more than ten years (ca. 335–48 CE). After his teacher’s death, Dao’an attracted students of his own and maintained contact with some of his fellow students under Fotucheng, like Zhu Fatai 竺法汰 or Fahe 法和. This pattern repeated itself in the transition from Dao’an to Huiyuan, his most prominent heir. Huiyuan stayed with Dao’an for more than twenty years before founding his own community on Mount Lu in 381 CE, where in time other students of Dao’an gathered. The residence of Kumārajīva in the northwest, first in Liangzhou then in Chang’an, through his translations greatly increased the flow of knowledge about Buddhism from Central Asia into China. After Kumārajīva and Huiyuan, the social network of Chinese Buddhism evolved around the generation of monks and laymen who had worked with both or either of them (fig. 1-2). Monastics like Huiyan 慧嚴, Huiguan 慧觀, and Zhu Daosheng 竺道生, as well as laypeople like Zong Bing 宗炳, built and maintained connections with the rulers of the Liu Song Dynasty (420–79). This enabled the sangha to weather the politically unstable and violent fifth century before enjoying the protection and patronage of different branches of the Xiao Clan, who ruled the Southern Qi
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(479–502) and Southern Liang (502–57). With the patronage and long reign of Liang Wudi (r. 502–49), Buddhist institutions became firmly established in the territory of the Liang.

Figure 1-2. Members of the ruling clans in the Buddhist Network ca. 300–550 CE. (Green nodes: persons surnamed Liu 劉; magenta nodes: persons surnamed Xiao 蕭. Note the Dao’an-Huiyuan-Kumārajīva triangle to the left.) Nodes sized by degree.

The combined geographic reach of Dao’an, Huiyuan, and Kumārajīva, and their complementing strengths in institution building, proselytizing, and the preservation and production of texts, was foundational for the further development of Chinese Buddhism. Quite possibly, without these three founding figures Buddhism might not have managed to grow deep roots in China and the “Buddhist Conquest” might have petered out a few centuries after it began. Without the varied and influential activities of these three and their students (fig. 1-2), Buddhism might have remained a religion of foreigners (like Manichaeism and Nestorianism a few centuries later), or stayed a fad among aristocrats (like the xuanxue 玄學 movement of their time).
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The early history of Chinese Buddhism is not generally presented this way. Our histories, based on textual evidence, naturally start with the early translators of the second and third centuries, such as An Shigao 安世高, Lokakṣema 支婁迦讖, Zhi Qian 支謙, or Kang Senghui 康僧會. From a network perspective, however, the early translators are not even part of the main component; they appear in the dataset as small, unconnected clusters. The extant biographical literature, which was mined to create the dataset, does not provide an unbroken line of social connections that connect the Later Han with the generation of Fotucheng. Even the prolific translator Dharmarakṣa 竺法護, who was active in the late third–early fourth centuries, cannot (yet) be connected to the main component.

One could argue that the network view by its nature privileges organizers like Fotucheng, Dao’an, and Huiyuan, who owe their prominence to their social activities, over translators, whose influence rests solely on the introduction of new texts to China. The main reason, however, for the missing links between the early Buddhists in China and the main component is that the network view reflects a weakness in the historical record, especially for the third century. An Shigao, Lokakṣema, Kang Senghui, Dharmarakṣa, and others, although part of the dataset, are not connected to the main component, because we lack the information that would connect their generation with the Buddhists of Fotucheng’s and Dao’an’s generations.

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6 As usual, the argument from silence does not mean that there were no such connections, but simply that our sources do not record them. It is possible that other sources, outside of biographical literature, will one day connect the gap.

7 The case of Dharmarakṣa (239–316) provides an example for how much information beyond the dataset can be added by focused research on a single figure. Boucher (2006) has published a list of seventeen known collaborators of Dharmarakṣa; the dataset includes only five of these. This is because the zhuan biographies only contain information about connections with these five; the information about the others (mainly cotranslators and collaborators) comes from catalogs and prefaces, not biographies. Most of the other twelve collaborators are mentioned only here and do not appear again in the canon. We tried to use Boucher’s list to connect Dharmarakṣa’s small, unconnected cluster with the main component via any of the remaining twelve collaborators, but to no avail. None of the seventeen people who knew Dharmarakṣa could be connected to anybody in the central component. Future research and a growing SNA dataset might close the gap and eventually allow us to integrate Dharmarakṣa into the main component. (In August 2020, shortly before this article went to press, Michael Radich shared another list of Dharmarakṣa’s collaborators containing more than thirty names.)
Moreover, their absence from the main component does not deny the influence of the translations they produced. After all, these were the texts that inspired the early Chinese Buddhists, monks and laypeople alike, including Dao’an and Huiyuan. However, regarding the known social transmission of Buddhism (as compared to a textual transmission of ideas), the early translators were not relevant for later history in the same way as Dao’an, Huiyuan, and Kumārajīva, who in a network perspective appear as the true fountainhead of Chinese Buddhism.

In his seminal account of early Buddhism in China, Zürcher gives as much space to the group of southern aristocrats around Zhu Daoqian 竺道潛 and Zhi Dun 支遁 (2007, chap. 3) as he does to Dao’an and Huiyuan (chap. 4). In Tsukamoto’s (1985) detailed telling of the history of early Buddhism in China, Dao’an and Huiyuan feature more prominently, but still about half of the text is leading up towards these two. Kumārajīva’s role is not discussed in detail by either Zürcher or Tsukamoto.

The network view assigns quite different weights to the players of the third and fourth centuries. Here, Zhu Daoqian (fig. 1-1, node 5), Zhi Dun (fig. 1-1, node 6), and their circles (upper left of fig. 1-1) are not nearly as relevant for the later development of the network, although it might be argued that by introducing Buddhist doctrines to their literati friends in

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8 For an example of the continuity, see Link (1976), who argues that the Da anban shouyi jing 大安般守意经 (T.602) (ascribed to An Shigao) was transmitted and commented on from the time of its translation in the latter half of the second century to the time of Dao’an. The textual history of T.602 is exceedingly complex, and the text is neither a translation nor probably by An Shigao (see Zacchetti 2008), but this does not invalidate the point that the early translations were studied until at least the early fifth century. Another example is one of the first two texts given to Dao’an by Fotucheng: the Chengju guangming dingyi jing 成具光明定意经 (T.630) was created in the Later Han (see the Chinese Buddhist Canonical Attributions database (CBC@), accessed November 27, 2020, https://dazangthings.nz/cbc/text/2104/). Dao’an himself relentlessly strove to gain an overview of the textual landscape of Buddhism and relied heavily on the early translations.
the Jiangnan region they laid the groundwork for what became one of the strongest regional religious systems in Chinese Buddhism.9

Figure 1-1 shows a connection that runs from the Zhu Daoqian/Zhi Dun clusters to the Jin Emperor Xiaowu 晋孝武帝 (fig. 1-1, node 7). Figure 1-3 shows how links from Xiaowu seem to bypass the Dao’an-Huiyuan-Kumārajīva triangle, via the nun Miaoyin 妙音 to Meng Yi 孟顗, an official during the Liu Song dynasty and an active patron of Buddhism.10 This is one of the few exceptions where there is a path that connects the network before the triangle with the network after the triangle, but without passing through one of the three main actors or their students. Miaoyin’s presence in Nanjing spanned the reign of Emperor Xiaowu (r. 372–96), the regency of his younger brother Sima Daozi 司馬道子 (396–402), the short interregnum of Huan Xuan 桓玄 (402–4), and the de facto regency and later reign of Liu Yu 劉裕 (regency 404–20, r. 420–22), the founder of the Liu Song. According to her biography, Miaoyin indeed met all of these brutal men.11 She had many followers, was given her own

9 Buddhism in the Jiangnan region proved resilient in face of persecution and widespread destruction throughout Chinese Buddhist history. Buddhist revival movements often started there in the tenth century, as well as in the sixteenth and nineteenth centuries. For the term “regional religious system” see Wu (forthcoming 2021).

10 T.50.2063.0936c20–937a06. The link between Miaoyin and Meng Yi can be based only on the (Jurchen) Jin–Tripitaka Koreana–Taishō stemma of the canon (晉孝武帝太傅會稽王道 並相敬信); the Song-Yuan-Ming Chinese part of the stemma does not mention Meng Yi. The Beijing Library 思溪藏 edition (online) has 晉孝武帝太傅會稽王孟顗等並相敬奉, with a line break after 王道. This discrepancy might be the result of one or more scribal errors; perhaps the lower part of 孟 and the characters 顗等 were lost, resulting in 王道子 (aka Sima Daozi 司馬道子 [364–403]). This is a possible reading because the younger brother of Emperor Xiaowu was indeed sometimes called 王道子 (Prince Daozi). However, the direction of the change is difficult to decide for sure. The dataset follows the Taishō edition. A meeting between Miaoyin and Meng Yi is quite likely considering that their dates and known residence overlap.

11 Even within the violent course of history the fourth and fifth centuries stand out, as much of China was subjected to incessant warfare. Those who competed for power did so in a brutal and unforgiving environment. Lives at the various courts were often short, and assassination and betrayal among family members the rule rather than the exception.
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temple by Sima Daozi, and her influence even extended to giving policy advice to Emperor Xiaowu. Her success in obtaining court patronage in dangerous times is rarely mentioned.\textsuperscript{12} Its traces, however, remain visible in a network view. Her links are among the few connecting the fourth to fifth centuries that bypass the actors of the main triangle (fig. 1-3).\textsuperscript{13}

Figure 1-3. Connections through Miaoyun bypass the triangle of Dao’an (1), Huiyuan (2), and Kumārajīva (3). Nodes sized by degree.

The example of Miaoyin is the exception. The vast majority of actors after 400 CE connect with earlier generations through the Dao’an-Huiyuan-Kumārajīva triangle (see also fig. 1-2). The story the network tells does not begin with the early translators nor with the literati Buddhists around Zhi Qian and Zhi Dun, but with the varied activities of Dao’an, Huiyuan, and Kumārajīva and their students. Although in general the importance of these

\textsuperscript{12} The exception is Zürcher (2007, 153–54), who noticed her influence.

\textsuperscript{13} Such links that bypass important clusters can be easily identified in SNA. Finding them by reading primary sources is comparatively difficult.
three figures individually is well known, the overwhelming centrality of their joint influence has not yet received due recognition. My aim below is twofold: First, to show how recognizing the joint importance of the three founding figures at the beginning of the network’s main component can inform how the story of Chinese Buddhism is told. Second, to show how network analysis can identify less well-known figures, whose influence has so far been overlooked.

1.3 A Network View on How Chinese Buddhism Became Mahāyāna Buddhism

The joint importance of Dao’an, Huiyuan, and Kumārajīva at the start of the main network component has the potential to inform our perspective on the history of early Chinese Buddhism. Among other things, the dominant position of the triangle helps to explain why Chinese Buddhists have always identified as Mahāyāna Buddhists, and why prajñāpāramitā literature has persisted in its emblematic prominence throughout the history of Chinese Buddhism.

To some this might seem like a solution in search of a problem, but I believe the question deserves to be asked: Why is it that Mahāyāna was never seriously doubted as the correct way of being Buddhist in China? As far as we know, Mahāyāna in India was a minority movement in the early centuries of the first millennium—at times frowned upon, although generally tolerated and in communion with the larger mainstream Buddhist “schools” (nikāya). Based on the Indian epigraphic record, Schopen concluded that “what we now call the Mahāyāna did not begin to emerge as a separate and independent group until the 4th century” (1979, 15), and that “the earliest known occurrences of the term mahāyāna in Indian

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14 Volumes have been written about each of the three, and it is beyond the scope of this article to summarize what is known about them in greater detail. There is actually a need for a specialized bibliography for this period. Large, authoritative studies are: on Dao’an, Ui (1956); on Huiyuan, Kimura (1960–62); on Kumārajīva, Suwa and Ōchō (1982).

15 On the history of attempts by Buddhist studies to categorize and conceptualize “Mahāyāna,” see Silk (2002).
inscriptions all date to the 5th/6th century” (1987, 99). In a later review of evidence Walser (2005, 16) draws a picture of early Mahāyāna as “a relatively small, in some places embattled, movement within Buddhism with no independent institutional status.”

In recent years, the picture has become more nuanced through the discovery of manuscripts from the Gandhāra region in today’s northern Pakistan. Although the first discoveries (British Library and Senior Collections) seemed to indicate a strong preponderance of mainstream sūtra texts, more recent collections (Bamiyan, Bajaur, and the “Split” Collection, among others) show that at least in the Indian northwest other genres too were present in the early centuries CE. In particular, more witnesses of early Mahāyāna texts have come to light, and although they still are in the minority compared to mainstream Buddhist texts, it is clear that in the second to third centuries written Mahāyāna texts circulated in northwest India, at the confluence of trade routes between India and Central Asia. This of course accords well with the fact that the first Chinese translations of Mahāyāna texts were produced at that time.

The network view helps to explain how the relatively minor Indian Mahāyāna movement, relying on writing rather than oral transmission, came to dominate Buddhist identity in China. Dao’an, Huiyuan, and Kumārajīva appeared at an important juncture in the global history of Buddhism: while Mahāyāna was still somewhat marginal in Indian monasteries, and at least contested in Central Asia, the three most influential Buddhists in China embraced its ideas over and above earlier Buddhist doctrines. Figure 1-2 is a visualization of how strongly succeeding generations of Buddhists were connected to the triangle. It also shows how Kumārajīva’s and Huiyuan’s students and collaborators managed to associate themselves closely with the ruling houses of Liu and Xiao, which controlled China in the fifth and early sixth centuries. In the literature represented in the data, there are no major monastic actors in the fifth century who are not somehow connected back to the Dao’an-Huiyuan-Kumārajīva triangle.

16 Earlier in the second and third century Nāgārjuna asked anxiously in the Ratnāvali: “Why then is the conception of the Buddha as inconceivable not accepted?” Indeed the rhetoric of the Ratnāvali shows how far from generally accepted Mahāyāna was at that point (Schopen 2000, 8).

17 See the recent overview by Salomon (2020).
While the generational and geographic reach of the triangle is evident from the sources, social network analysis does not tell us why and how Mahāyāna doctrine became paramount. Below I want to sharpen the argument by focusing on the role of *prajñāpāramitā* texts as a shared influence in the lives of the three protagonists. The focus on *prajñāpāramitā* does not imply that other strands of Mahāyāna thought were of no importance for the formation of East Asian Buddhism, but highlighting the role of *prajñāpāramitā* in the triangle might help to explain its lasting role in Chinese Buddhism. Although Chinese Buddhism in the following centuries was deeply shaped by a wide spectrum of Mahāyāna traditions—including Madhyamaka, Yogācāra, and *tathāgatagarbha* thought—these were not equally available to Dao’an, Huiyuan, and Kumārajīva. And, while it might not have been at the center of their doctrinal interests all through their lives, *prajñāpāramitā* was the common denominator for their Mahāyāna.

Dao’an is credited with many things: he devised the surname *Shi* 釋 for Chinese monastics,18 he organized and edited translations, wrote prefaces to many of them, and produced important early catalogs of Buddhist scriptures that inform us about which Indian texts had been translated up till about 385.19 Without his catalog and prefaces, we would know far less about the first two hundred years of sūtra translation in China. Dao’an also played a crucial role in the establishment of the Vinaya in China. In his day, no full redaction of the Vinaya had been translated yet, and he had to rely on oral tradition and excerpts to organize a growing sangha. More problematically, he is also credited with changing

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18 *Shi* 釋 is the first syllable in the transcription of śākya, the Buddha’s clan name. Dao’an’s choice might, however, have also been inspired by the term śākya-bhikṣu, which has appeared exclusively in Mahāyāna inscriptions since at least the fourth century (Schopen 1979, 9–11). Its Chinese equivalent 釋僧 is not attested before Dao’an’s death, but it is remarkable how many of Huiyuan and Kumārajīva’s students were (originally?) named 釋僧 X, but which later tradition generally abbreviated to 僧 X.

19 What is today often considered a single catalog called *Zongli zhongjing mulu* 綜理眾經目錄 has survived as part of Sengyou’s *Chu sanzang jiji* 出三藏記集 (T.2145). It lists about 640 different Buddhist texts, an impressive collection for the time. Tan Shibao has argued that Dao’an actually authored up to five catalogs at different times and in different places (Tan 1991, 67–82). Further research can be found in the Chinese Buddhist Canonical Attributions database (CBC@) entry for *Zongli zhongjing mulu* 綜理眾經目錄, accessed November 26, 2020, https://dazangthings.nz/cbc/text/4533/.
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...translation idioms by doing away with what in secondary literature is often called *geyi* 格義, the presumed practice of representing Indian Buddhist concepts with the help of classical Chinese terms. The idea that Dao’an somehow introduced a paradigm shift in translation practice in this respect is now deprecated. However, his impact on the history of Buddhist translation is undisputed. By organizing collaborative translations, he edited and shaped many translations. His principles for translation (the famous *wu shiben san buyi* 五失本三不譯) for the first time articulated something like a translation theory for Buddhist texts.

It seems to me decisive for the development of Chinese Buddhist identity that Dao’an first encountered Buddhism as *prajñāpāramitā* literature, and only later turned his attention to, or rather gradually discovered, possible alternatives, such as texts on meditative and devotional practice, Abhidharma, and (only late in life) the early Āgama sūtras. Although Dao’an paid close attention to all of these, it was his early training in *prajñāpāramitā* that informed his Mahāyāna outlook. Dao’an was hardly alone in his interest in *prajñāpāramitā*. We know of at least ten Indian and Chinese monks before him who lectured or otherwise engaged with *prajñāpāramitā*. In the third and fourth centuries, the small community of Buddhist intellectuals in China clearly valued *prajñāpāramitā* texts, and in their debates came up with different interpretations, which left indistinct traces in apologetic literature and the *Shishuo xinyu* 世說新語 collection of anecdotes. Various translations of texts from the

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20 The belief that before Dao’an translators somehow consistently and systematically used “Daoist” terms to translate Indian Buddhist texts is one of the most vexing errors in Buddhist studies, which keeps being repeated in introductory overviews. Zürcher (2007, 184) and Sharf (2002, 97–98) had already noticed problems with this idea, the latter aptly calling it a red herring. The notion of *geyi* as translation strategy was exposed as an artifact of modern scholarship by Mair (2010) in great detail.

21 Kamata (1982–99, 1:384ff) lists the works ascribed to Dao’an in the *Chu sanzang jiji* (now mostly lost). The first six on the list are commentaries on two *prajñāpāramitā* texts: The Larger *Prajñāpāramitā* 放光般若經 T.221, and Lokakṣema’s *Aṣṭasāhasrikā prajñāpāramitā* 道行般若經 T.224. Of the 15 extant prefaces by Dao’an, three are on *prajñāpāramitā* texts (translated and discussed in Hurvitz and Link 1974).

22 See the list in Tsukamoto (1985, 376–77).

23 A comprehensive overview of these different interpretations of *prajñāpāramitā* is by Tang (1938, 229–77); most later descriptions draw on his characterizations. On monks in the *Shishuo xinyu*, see Kawasaki (1991).
two main types of *prajñāpāramitā* (three of the *Aṣṭasāhasrikā*, and two of the Larger *Prajñāpāramitā* [*Pañcavimśatisāhasrikā*]) circulated long before full translations of Āgama collections and Abhidharma treatises were available, and before Kumārajīva produced his own authoritative translations of the *Aṣṭasāhasrikā* (T.227), the *Pañcavimśatisāhasrikā* (T.223), and the *Vajracchedikā* (T.235).

From what we know about Dao’an’s intellectual formation, it seems a mirror image of Buddhist history. He first came into contact with Mahāyāna texts, especially *prajñāpāramitā*, and only later in life got hold of complete versions of the earlier texts. In a preface to one of his *prajñāpāramitā* commentaries, he begins:

> How vast is the Perfection of Wisdom (*prajñāpāramitā*)! All sages have relied on and penetrated it, and found fulfillment by taking it as the main object of veneration. Whatever is on earth, whatever the sun shines on, there is no thing it does not encompass.24

His interest in *prajñāpāramitā* seems to have been a constant throughout his life, and only two years before his death Dao’an reflects on how he had taught the Larger *Prajñāpāramitā* (T.221) over many years:

> In the past at Hanyin [near Xiangyang], for 15 years, I lectured regularly on the *Fangguang jing* 放光經 twice a year. Now it is already four years that I have come to the capital [Chang’an], and still I do this twice a year as usual, not daring to slacken.25

Huiyuan became Dao’an’s student in 354 and stayed with him for some twenty-five years before founding his own community at Mount Lu. He inherited his teacher’s desire for

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24 大哉智度。萬聖資通咸宗以成也。地含日照無法不周。(CBETA 2020.Q1, T.55, no. 2145, p. 47a13–14).

25 昔在漢陰十有五載。講放光經歲常再遍。及至京師漸四年矣。亦恒歲二。未敢墮息。(CBETA /T.55, no. 2145, p. 52b10–11). On Dao’an’s prefaces to *prajñāpāramitā* texts see Hurvitz and Link (1974).
learning, orthodoxy, and legal legitimacy of the monastic community. Huiyuan realized that only a well-defined, self-legislating monasticism had a chance to withstand state control. Like Dao’an, he was hindered by the lack of a fully translated Vinaya, a predicament that was only resolved when—in part due to Huiyuan’s request—Kumārajīva produced the first complete translation of a Vinaya in 409. Huiyuan instituted a model monastic community on Mount Lu in northern Jiangxi, which served as a laboratory for Chinese Buddhism in that it adopted stricter monastic standards, while at the same time exploring devotional practices such as Pure Land beliefs and Amitābha worship. By taking Buddhist institutions into the “mountains,” Huiyuan’s assimilation of Buddhism made use of a notion from the Chinese repertoire. However, whereas in traditional Chinese culture the image invoked by “dwelling in the mountains” had been of the individual recluse who eschewed a life as court official, Huiyuan adapted this motif to the monastic community. The forest-dwelling (āranyaka) monks of India were recast as mountain people (shanren 山人) in China, and, in later usage, larger temples styled themselves “mountains” even when they were in or near a city in the plains. This organized, community-based seclusion was in part contrived to put distance between the monastic community and the secular administration, which rarely tolerated independent organizations.

Of the three actors in the triangle, Huiyuan’s connection to prajñāpāramitā is the least developed, but at least in his formative period it seems to have made a deep impression on him. According to his biography both he and his brother Huichi 慧持 ordained and became

26 The authoritative edition of Huiyuan’s works and a collection of fundamental research essays are gathered in Kimura (1960–62). The chapter in Lai (2010, 1:581–96) is a good overview.

27 Huiyuan is known for his reluctance to engage with rulers and strongmen. His essay “Monks Do Not Pay Their Respects to Rulers” (Shamen bu jing wang zhe 沙門不敬王者) was widely discussed in the following centuries (Hurvitz 1957).

28 The translation of the Sarvāstivādin Vinaya 十説律 (T.1435) had been interrupted after 404, when the pandit Punyatara had died after reciting some two-thirds of the texts to the translators. Only with Dharmaruci’s arrival in Chang’an was the work completed.

29 Huiyuan’s interest in doctrine as evinced by his correspondence with Kumārajīva was rather scholastic. Indeed, Abhidharma studies seem to have flourished on Mount Lu under Huiyuan’s guidance (Dessein 2010).
Dao’an’s disciples after hearing him lecture on *prajñāpāramitā*. The three must have spent a lot of time together reading the Larger Prajñāpāramitā (T.221), as Dao’an continued to lecture on the text twice a year (see above). In his later life on Mount Lu, Huiyuan promoted the translation and study of Abhidharma texts, which after a training in mostly Mahāyāna-inflected teachings under Dao’an might have seemed new and interesting to him.

Compared to the varied institution-building activities of Dao’an and Huiyuan, Kumarājīva’s contribution consisted almost entirely in the translations attributed to him (74 texts in 384 *juan*). Xuanzang 玄奘 in the seventh century (76 texts/1347 *juan*) or Amoghavajra in the eighth (77 texts/120 *juan*) might have translated more, but neither can match Kumārajīva’s influence. It was Kumarājīva who produced the authoritative renditions of many seminal texts that are still used today, and his translation idiom became a de facto standard for Buddhist Chinese.

Tsukamoto has argued for Kumārajīva’s importance in what he understood as a transition from “Hīnayānistic” Buddhism to Mahāyāna in China, a transition that had started with Dao’an. The idea of such a transition is highly problematic, even apart from the fact that a “Hīnayāna” (*shōjō* 小乘) as such never existed beyond Mahāyāna polemic. From the

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30 CBETA 2019.Q1, T.50, no. 2059, p. 358a2.
31 Kamata (1982–99, 2:314) summarizes Huiyuan’s career as consisting of three stages. The second consisted in the “study of *prajñāpāramitā*, meditation, and ritual under Dao’an,” while during the third stage on Mount Lu, Huiyuan “absorbed, with the help of Kumārajīva, the newly arrived Abhidharma and meditation lore.”
32 These are the numbers of traditional attributions cited in the *Princeton Dictionary of Buddhism* (2013). Needless to say both the text and fascicle numbers vary as attributions turn out to be doubtful or wrong.
33 Tsukamoto (1975, 407–12).
34 Affiliation is often anything but clear-cut. The early translations by An Shigao regarding meditation, for instance, were traditionally considered “Hīnayāna,” might be better understood as situated on a spectrum toward Mahāyāna meditation manuals (Wang 1997, Yamabe 1997). Fundamentally, the Hīnayāna/Mahāyāna dichotomy is, at least in the case of China, in the main a construct of Mahāyāna rhetoric. There was never an identifiable non-Mahāyāna faction in China. As such the Hīnayānanists in
On the Use of Historical Social Network Analysis in the Study of Chinese Buddhism: The Case of Dao’an, Huiyuan, and Kumārajīva

perspective of textual history both before and after Kumārajīva, mainstream Buddhist as well as Mahāyāna texts were translated but it was Kumārajīva who, by the choice of what to translate, did more than anyone else to define Chinese Buddhism as Mahāyāna.

Although Kumārajīva did not found a monastic community and in fact had broken his monastic vows, quite a few institutional formations in the history of East Asian Buddhism were founded on his translations. It was through Kumārajīva that Nāgārjuna became known in China and his translations of Nāgārjuna’s and Aryadeva’s philosophical treatises became the basis of what was retrospectively called the Three Treatise School (sanlun zong 三論宗). The Lotus Sūtra in Kumarājīva’s translation influenced the formation of the Tiantai School in the late sixth century and the Japanese Nichiren Sect in the thirteenth century. His translation of the Sukhāvatīvyūhasūtra became one of the foundational texts of the Pure Land School in East Asia, and his translation of the Vimalakīrtinirdeśa inspired countless laypeople through the ages in their nonmonastic practice.

He retranslated the two major prajñāpāramitā sūtras, the Aṣṭasāhasrikā prajñāpāramitā (T.227) and the Pañcaviṃsāhasrikā prajñāpāramitā (T.223), and translated for the first time the “Diamond Sūtra,” the Vajracchedikā prajñāpāramitā (T.235), which became one of the most widely read and commented-on of all Chinese Buddhist texts.

Kumārajīva also produced an influential commentary on the first portion of the Pañcaviṃsāhasrikā, the Dazhidulun 大智度論, that added philosophical depth to the evocative religious language of prajñāpāramitā literature by recasting traditional abhidharmic categories in an encyclopedic Mahāyāna framework. Abhidharma literature

35 Kumārajīva’s Buddhist and secular biographies mention three occasions on which Kumārajīva compromised his chastity (Lu 2004, 23–31). For Kumārajīva’s year of death (413 CE), see Pelliot (2002).

36 Recently translated into English (Shi Huifeng 2017).

37 A monograph on Kumārajīva’s role in the development of prajñāpāramitā (Tu 2006) did not reach me in time to be used for this article.

38 Of the Dazhidulun (Sanskrit *Mahāprajñāpāramitā-upadeśa or *Mahāprajñāpāramitā-śāstra) no trace has so far been found in Sanskrit Buddhist literature. Its authorship, traditionally attributed to Nāgārjuna, has been widely debated in the twentieth century. A number of scholars have argued that the Dazhidulun was not or at least not completely authored by the famous Nāgārjuna, and may have been, at least in part,

Journal of the Japanese Association for Digital Humanities, vol. 5, No. 2, p. 101
occupies an interesting position in his translation corpus. Instead of translating the Sarvāstivādin Abhidharma works he studied in his youth, he chose to translate the *Tattvasiddhi/Satyasiddhi* (T.1646), a unique “Mahāyāna Abhidharma,” and did so only late in his career (411–12 CE).

By highlighting promoters of *prajñāpāramitā* such as Dao’an and Kumārajīva, the network illustrates for China what (most recently) Walser (2018, chapters 6–9) has demonstrated for India, namely the central importance of early *prajñāpāramitā* for the formation and identity of Mahāyāna Buddhism. Because the histories of Chinese Buddhism that we have are centered on schools, single texts, periods, regions, or people, it is not always obvious how remarkably constant and ubiquitous *prajñāpāramitā* texts have been throughout the last 1,800 years. The philosophical sophistication of Tiantai and Huayan Buddhism, the ascent and assimilation of *tathāgatagarbha* thought, the omnipresence of the Lotus Sūtra, and the stable tension between the soteriological approaches of Chan and Pure Land—all these have attracted more attention than the red thread of *prajñāpāramitā* literature that was running through these formations, never quite in focus, never quite absent.³⁹

For almost nine hundred years, starting with the first print edition of the Chinese Buddhist canon (dated 983), the *Mahāprajñāpāramitāsūtra* enjoyed pride of place as the first text in the Chinese Buddhist canon.⁴⁰ Only a few Buddhists in any period would have been

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³⁹ One of the few overview histories that portray Kumārajīva in the context of *prajñāpāramitā* transmission is Lai (2010, 2:252–89). In addition to Walser (2018), Shi Huifeng (2016) has recently revisited and advanced work on the formation and structure of the *Āṣṭasāhasrikā prajñāpāramitā*. For a state-of-the-field overview, see Zachetti (2015).

⁴⁰ This preeminent placement was not uncontested: Sui Dynasty and early Tang catalogs by Fajing (法經) (T.2146, dated 594), Fei Changfang (T.2034, dated 597), Yancong 彦悰 (T.2147, dated 602), Jingtai 靜泰 (T.2148, dated 660s), and Mingquan 明佺 (T.2150, dated 695) had listed the *Buddhāvatamsaka* first. (Another strategy, started by Dao’an, was to arrange the texts chronologically, starting with translations from the Han Dynasty, e.g. T.2149, dated 664, or T.2151, dated 680s.) It was only with Zhisheng’s 智昇 seminal *Kaiyuan shijiao lu* 開元釋教錄 (T.2154) in 730 that the *Mahāprajñāpāramitāsūtra* moved to the beginning of the scriptural catalog. The *Kaiyuan lu* became the authoritative catalog used to compile the...
able to access and peruse a complete canonical edition, but most Buddhist monks would have encountered the short Heart Sūtra, which had been included in the morning recitation. Another prajñāpāramitā text, the Diamond(-cutter) Sūtra (金剛経, Vajracchedikā), was among the most widely copied Buddhist texts of the first millennium: in total some 2,500 fragments and complete versions of Kumārajīva’s translation alone were found at Dunhuang. It also occasioned a large number of commentaries and subcommentaries in India, China, and Tibet. The earliest Indian commentary, attributed to Asaṅga and Vasubandhu, was translated into Chinese several times and inspired its own subcommentaries. Indigenous Chinese commentaries on the Diamond Sūtra were written from the sixth to the twenty-first century. The CBETA corpus (as of 2019) alone contains more than eighty commentaries and subcommentaries, among them contributions by the greatest minds of Chinese Buddhism—Zhiyi 智顗, Jizang 吉藏, Kuiji 闚基, and Zongmi 宗密.

While we lack older witnesses for recitation manuals, the current structure of the morning and evening recitation is discernible (with variations) starting in the sixteenth century (Günzel 1994, 10–28).

Even more copies and fragments (ca. 3,700) are from the Mahāprajñāpāramitāsūtra 大般若波羅蜜多經 (T.220/600 juan), which, however, is 200 times longer than the Diamond Sūtra (which makes fragments more likely). Other texts that appear in comparable numbers in the Dunhuang corpus are: about 5,500 copies and fragments of the Lotus Sūtra (T.262/8 juan); about 1,750 of the (Mahāyāna) Mahāparinirvāṇasūtra (T.374 / 40 juan); about 1,450 of the Suvarṇaprabhāsasūtra (T.665 / 10 juan); about 1,330 of the Aparimitāyurjñānasūtra (T.936 / 1 juan); and about 1,200 of the Vimalakīrtisūtra (T.475 / 3 juan). (Rough numbers calculated from Fujii [2015]. These do not take into account the degree of fragmentation, but give a general idea about the level of prominence of these texts.)

For an overview of the Sanskrit witnesses and their editions of of Diamond Sūtra, see Harrison and Watanabe (2006). For an overview of Chinese commentaries, see Shi Yongyou (2010). There are a
The Chinese embrace of *prajñāpāramitā* literature in those centuries contrasts with the relative lack of success these texts had in India at the time. Schopen maintains that for the third to fourth centuries there is little evidence that the *Aṣṭasāhasrikā* had much influence even within Indian Buddhism, and only much later, in the late Pāla Period (eleventh–twelfth centuries), “do we have any evidence that this literature was even known outside a tiny circle of Buddhist scholastics” (2000, 4). He concludes that “the apparent periods of popularity of the Perfection of Wisdom in India and China are radically unaligned” (6). The network view of Chinese Buddhist history helps to explain why *prajñāpāramitā* was so successful in China. There, the three central actors at the de facto beginning of the known social transmission of Buddhism had been heavily exposed to *prajñāpāramitā* literature.

In retrospect, it seems natural that Chinese Buddhism had always been mahāyānistic in outlook. Voices critical of Mahāyāna are unheard of after the fifth century, and even before that only a few traces of dissent remain. Mahāyāna in India and Central Asia had not been without opponents. In Kucha, Kumārajīva himself had had to debate his former teacher Bandhudatta, who was not too happy about his student’s adherence to the newfangled doctrines.44

Another trace of mainstream resistance is a comment made about Saṅghadeva, who worked closely with Huiyuan and his brother Huichi, and seemed to have championed Abhidharma as the apex of Buddhist teachings. In an early fifth-century letter the patron and high-ranking politician Fan Tai remembers:

> When Saṅghadeva first arrived, the followers of [Hui]yi and [Hui]guan, all cleansed and bathed themselves, before presenting themselves to greet him. [What he taught] was merely Hīnayana Dharma, but he considered it the ultimate principle, and said all the Mahāyāna texts about non-arising were all written by Māra.45

number of contemporary commentaries to the Diamond Sūtra, still mainly based on Kumārajīva’s Chinese. Examples include Thich Nhat Hanh (1992) or Mu (2000).

44 According to Kumārajīva’s biography (T.50, no. 2059, p. 331a21–b10, trans. Shih 1968, 67).

45 提婆始來。義觀之徒莫不沐浴鑽仰。此蓋小乘法耳。便謂理之所極。謂無生方等之經皆是魔書。(CBETA, T.52, no. 2102, p. 78b19–21). I follow Tsukamoto (1985, 820) rather than Ziegler (2015–17,
Saṅghadeva’s biography in the *Gaoseng zhuan* is characteristically silent about his antipathies towards Mahāyāna.⁴⁶

The mention of “Hīnayāna” in the above quote was a relatively new move in the Chinese discourse about Buddhism. It seems that neither Dao’an nor Huiyuan was overly concerned with the differences, nor did they see major contradictions between mainstream and Mahāyāna texts.⁴⁷ It was Kumārajīva who sharpened the awareness of the distinction for Buddhists in China, probably because, unlike them, he had firsthand experience in Mahāyāna versus non-Māhayāna debates in India and Central Asia. In Central Asia, Mahāyāna literature was especially successful in the Kingdom of Khotan, where all the extant early textual evidence in Khotanese is of “Mahāyāna character.”⁴⁸ On the northern Silk Road, on the other hand, we know from the Turfan manuscript finds that Sarvāstivādin teachings were predominant, although not exclusively so.⁴⁹ Thus, the Central Asian evidence shows that both—predominantly mainstream and predominantly Mahāyāna—lines of transmission were available to Chinese Buddhism.⁵⁰ If not for the propagation of Mahāyāna by Dao’an, Huiyuan, and Kumārajīva, mainstream Buddhists like Saṅghadeva, Saṅghabhadra, or Dharmayaśas might well have persuaded the Chinese sangha of the preeminence of mainstream, say, Sarvāstivādin, orthodoxy. In that parallel universe the Āgama, not the *prajñāpāramitā* sūtras, would have been foundational, Sarvāstivādin compendia like the

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⁴⁶ Shih 1968, 53.
⁴⁷ Tsukamoto 1985, 816ff.
⁴⁸ Martini (2013, 13). There are very few traces of early non-Mahāyāna presence in Khotan, but one of them relates to the first acquisition and Chinese translation of a *prajñāpāramitā* sūtra. The Chinese Buddhist Zhu Shixing 朱士行 (fl. 260–91) seems to have encountered resistance in his attempt to bring back a manuscript of the Larger *Prajñāpāramitā* (source at CBETA 2019.Q2, T.50, no. 2059, p. 346b12–c14, discussed in Zürcher [2007, 61–63], Deeg [2006, 110], and Martini [2013, 20–21]). Dao’an was aware of Zhu’s mission (T.55, no. 2145, p. 47b20–21).
⁴⁹ Hartmann (2004, 125).
⁵⁰ Tsukamoto even emphasizes the predominance of non-Mahāyāna kingdoms west of China (1985, 442–43).
Abhidharma-mahāvibhāṣa and not the Dazhidulun would have become the orthodox summa for scholastics, and the Lotus Sūtra and the Vimalakīrtinirdeśa would not have become ubiquitous. The doctrinal landscape of East Asian Buddhism would have looked very different indeed.

From a philosophical perspective, the success of Mahāyāna doctrine in China is often explained with an assumed compatibility of Mahāyāna concepts with traditional Chinese thought, including references to Laozi and Zhuangzi, and the intellectual fashions grouped under the labels xuanxue and qingtan.\(^{51}\)

These claims have a venerable tradition starting with Dao’an himself, who wrote: The twelve types of scriptures were collected in the three piṭakas (“collection” zang 藏), i.e. the four Āgamas, the Abhidharma, and the Vinaya. Among the scholars in India there are none who do not respect and praise them, reciting them incessantly. The most learned of the śramaṇas master all three piṭakas, those of middle and lower rank master only one or two. The way the scriptures reached China was always by chance; whatever the Indian śramaṇas carried with them happened to be translated. Of the twelve types of scriptures the texts of the Vaipulya class were the most numerous. The teachings of Zhuangzi and

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\(^{51}\) Zürcher (2007, 101) speaks of “the obvious resemblance between the doctrine of Emptiness and certain basic notions of Dark Learning [xuanxue].” Tsukamoto (1985, 132): “At any rate, the vogue of ‘Lao-Chuang studies,’ proceeding from a quest for le Néant dating back to Wang Pi and Ho Yen ... were gradually pushed to a fever pitch among the Chinese intellectuals ... to develop the ideological base which in turn was to produce the prajñāpāramitā scholars who sprang up in Tsin times, as well as Tao-an and Hui-yuan...” and (133) “This mood of veneration for ‘dark learning’ and ‘dark discussion’ is the very thing that laid the necessary groundwork for Chinese Buddhist learning, for what passed in the early period as prajñāpāramitā scholarship, in addition to making it ultimately possible for specifically Indian Buddhism, i.e., for the ideas of Nagarjuna's school, to be accepted by Chinese intellectuals and to take root among them.” A popular textbook, widely used in introductory courses in North America, contains, even in its fifth and most recent edition, a section on “Buddho-Taoism” (Robinson, Johnson, and Bhikku 2005, 180–83). Buddhism was indeed first identified as 佛道, “The Way of Fo” (Tang 1938, 87–88); however, the implication of a stable category, a particular mode of fusing Buddhism and Daoism before or after Dao’an, seems mistaken.
Laozi, which are current among the people in this land, are similar to the Vaipulya sūtras with regard to “complete oblivion” (jianwang 兼忘), and therefore easily gained traction. [I.] Dao’an have always regretted that the three pītakas were not fully available, and felt the lack of them.\(^{52}\) In the year renwu (382) Kumārabuddhi has brought the “Excerpts of the Abhidharma” and [Vasubadra’s] “Excerpts of the Āgama,” which now have made their way to Chang’an.

One does not want to contradict a contemporary witness like Dao’an outright, but in hindsight, I am not convinced by the argument from the history of ideas. As he himself pointed out, the textual transmission was determined very much by chance. From today’s perspective, the complete central texts of mainstream Buddhism Āgama, Vinaya, and Abhidharma works simply arrived too late for Dao’an to form a clear opinion about their relationship with what he calls Vaipulya texts.\(^{53}\) Note that Dao’an does not yet call the Vaipulya texts “Mahāyāna” or hint at the genre being indicative of a distinct movement within Buddhism. Kumārajīva, on the other hand, was fully aware that Mahāyāna was not considered mainstream Buddhism by many of his fellow Buddhists in India. Convinced that Mahāyāna was the best teaching Buddhism had to offer, he promoted it through his translations, and strengthened Huiyuan in a proper Mahāyānistic outlook—one that makes a distinction between itself and an inferior “Hīnayāna.”

It might be true that prajñāpāramitā doctrine resonated especially well with the intellectual climate in China in the early centuries of the first millennium, but I suspect that

\(^{52}\) 又抄十二部為四阿含，阿毘曇，鼻奈耶，三藏備也。天竺學士罔弗遵焉，諷之詠之未墜於地也。其大高座沙門則兼該三藏，中下高座則通一通二而已耳。經流秦地，有自來矣，隨天竺沙門所持來經，遇而便出。於十二部，毘日羅部最多。以斯邦人莊老教行，與方等經兼忘相似，故因風易行也。道安常恨三藏不具，以為闕然。歲在壬午，鳩摩羅佛提齎《阿毘曇抄》、《四阿含抄》來至長安。 CBETA 2019.Q1, T.24, no. 1464, p. 851a10–15. Also cited in Tsukamoto (trans. Hurvitz) (1985, 373). The passage was also translated and discussed by Zacchetti (2016, 95).

\(^{53}\) Even the short “Excerpts of the Āgama” mentioned in the quote (the Si ahanmu chaojie 四阿鋡暮抄解 T.1505) arrived only three or four years before his death, and hardly allowed a better insight into early sūtra literature than Dao’an already had (Hurvitz calls it a “[Quasi-] Abhidharma text” [Hurvitz 1967, 434]). See Zacchetti (2016, 93–96) for Dao’an’s use of the Vaipulya category. For the development in terminology from vaipulya to mahāyānasūtra, see Karashima (2015).
similar explanations and other contact points with Chinese tradition would have been found retrospectively if the mainstream Buddhist schools had come to dominate Chinese Buddhism. For all the hints in secondary scholarship about a Daoist connection, Dao’an’s remark cited above remains vague. “Complete oblivion” (jianwang 兼忘), used once in the Zhuangzi, is not a term widely found in the literature of the time. One would have expected, and can easily imagine, a much more involved comparative discussion of Buddhist and Daoist ideas.\(^5\)

Below and beyond the level of ideas, it was the social dynamic of the three paramount figures agreeing on early Mahāyāna as the best Buddhism had to offer that set the course for the future of Chinese Buddhism. Although preceded by two centuries of Buddhist activity in China, the start of the main component of the network is dominated by the centrality of the Dao’an-Huiyuan-Kumārajīva triangle. This, not some assumed compatibility of Buddhism and Daoism, was the crucial factor in the adoption of Mahāyāna, an identity which was never subsequently challenged nor revised the way it was, for instance, in Sri Lanka or Southeast Asia. By privileging prajñāpāramitā and their early Mahāyāna interpretations over the earlier Āgama and Abhidharma layers, the Dao’an-Huiyuan-Kumārajīva triangle set Chinese Buddhism on its course.

\(^5\) In some of Dao’an’s prefaces, the use of what we today might consider Daoist terms is more obvious. See Hurvitz and Link (1974, esp. 420–22).
2. Connection and Perception: One Triangle, Two Communities, Three Bridges

2.1 Formal vs. Informal Community Detection

Above I tried to show how the visual metaphor of a triangle can serve as a heuristic tool that helps to explain how Mahāyāna became so clearly dominant within Chinese Buddhism at an early stage. Below we will take a closer look at the network again and use formal methods to discover communities and minor players that can be shown to have been important for the communication flow in their time. First, however, we need to address the question of the robustness of the Dao’an-Huiyuan-Kumārajīva triangle in the network. One might argue that the triangle is a mere artifact of the layout algorithm of the network and the cluster does not deserve the emphasis I afford it here. Added data or a different algorithm could make the triangle disappear. After all, Kumārajīva never actually met either Dao’an or Huiyuan face to face. The single connection between Dao’an and Kumārajīva consists in a remark first recorded in the *Chu sanzang jiji*: “When Dao’an first heard that Kumārajīva was in the western regions, he desired to discuss the finer points [of Buddhist teachings] with him, and advised [his patron and ruler] Fu Jian to bring him [into his realm]. Kumārajīva too had heard of Dao’an’s activities. He called him ‘Saint of the East’ and respected him from afar.”55 Since our data model records instances of direct or indirect communication between contemporaries, this counts as a link, although Dao’an and Kumārajīva never met in person.

In the same vein, our data record the correspondence between Huiyuan and Kumārajīva. Although still but a thin line in the network, in contrast to the Dao’an-Kumārajīva link, this correspondence was a truly important event for the reception of Mahāyāna ideas in China. The exchange shows the aging Huiyuan eager to learn from Kumārajīva, who answers his questions in great detail.56 The correspondence illustrates too how Huiyuan (and Dao’an) were still undecided or rather not yet fully invested in a particular form of Buddhism.

55 初安聞羅什在西域。思共講析微言。安勸堅取之。什亦遠聞其風。謂是東方聖人。恒遙而禮之。
(CBETA, T.55, no. 2145, p. 109a20–22).
56 Edition and Japanese translation in Kimura (1960–62). Partial English translation: Robinson (1967). German translation: Wagner (1974).
Huiyuan inquired about distinctively Mahāyāna topics, such as dharmakāya or tathatā 如, but also about earlier, non-Mahāyāna notions from the sūtra and Abhidharma layers, such as causation or the nature of paramāṇus. The excerpted and edited text of what were probably two letters is now titled “Sections on the Great Meaning of the Mahāyāna” Dasheng dayi zhang 大乘大義章 (T.1856).\(^{57}\)

Letters were a crucial element of the communication networks even back then. Not only was Huiyuan corresponding with Kumārajīva, he received a copy of the Dazhidulun soon after its completion (ca. 405), courtesy of Yao Xing 姚興, the warlord patron of Kumārajīva.\(^{58}\) All this exchanging of letters and newly translated texts could only have only taken place after early 405 when Liu Yu, the de facto regent of the Jin, asked Yao Xing to open diplomatic relations and the “hiring of messengers and couriers never ceased.”\(^{59}\)

The fact that two sides (Dao’an/Kumārajīva and Huiyuan/Kumārajīva) of the triangle are rather thin does not diminish its heuristic value for understanding Chinese Buddhist history. In fact, the appearance of the network does not significantly change even if these two edges are (experimentally) deleted. The triangle is still clearly visible in a force-directed layout,\(^ {60}\) because the structure of the surrounding network maintains it. We will see below how other actors contributed to the cohesion of the triangle, resulting in structural robustness beyond direct links between the three main actors.

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\(^{57}\) Wagner (1971, 31). Wagner calls the Huiyuan-Kumārajīva correspondence “the only exchange of philosophical arguments in a correspondence between a Chinese and a foreigner, at least down to the end of the Ming.” One should qualify that statement as “foreigner from the West,” as there are examples of doctrinal exchanges in Chinese-Korean (e.g. Fazang’s letter to Ŭisang, Han’guk pulgyo chŏnsŏ 4:635c–636a) and Japanese-Chinese correspondence (Groner 2017).

\(^{58}\) CBETA, T.55, no. 2145, p. 110b. Huiyuan was an avid letter writer and also maintained a correspondence with Wang Mi 王謐, one of his patrons in Jiankang (CBETA, T.55, no. 2145, p. 110a). The correspondence network of this and later periods deserves further attention.

\(^{59}\) Tang (1938, 356 [citing the Jinshu]).

\(^{60}\) Force-directed layouts are modeled on attraction and repulsion forces known from physics to achieve a final layout. Thus the position of a node is influenced in large degree by its surrounding nodes in an organic manner. Other layout algorithms include circular layouts (Bingenheimer 2018) and layered graph drawings.
Continuing the dialogue with network analysis, we introduce a measure that can demonstrate that Dao’an’s and Huiyuan’s circles were more closely connected with each other than either was to Kumārajīva’s. One could argue that this does not need demonstration; it is clear that Dao’an and Huiyuan had been in close contact for many years. However, we are still investigating which social network metrics work for our historical network. If we can find algorithms that correctly identify known groups, these might also be trusted to discover hitherto unknown or neglected groups.

Community detection algorithms are procedures that attempt to identify network regions where nodes are more closely connected with each other than to nodes outside the cluster, thus forming communities. Such algorithms are usually heavily dependent on parameter settings, and finding the “right” number of groups can quickly become a circular effort, where one tries to find parameters that detect the kind of communities one would expect. Nevertheless, some groupings are easier to find than others, and some are impossible, so identifying different clusters via algorithms is a valid (and widely used) heuristic for exploring a network. In our case, such algorithms can accurately perceive the difference between Kumārajīva and his circle on the one hand, and the circle of Dao’an and Huiyuan on the other. Both the Louvain (Blondel et al. 2008) and the Leiden algorithm (Traag, Waltman, and van Eck 2018) can identify Kumārajīva and his students as a community distinct from that of Dao’an and Huiyuan (fig. 2-1). Even Fotucheng’s circle is easily identified as a distinct cluster, further highlighting the close overlap between the students and patrons of Dao’an and Huiyuan.

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61 I am using these as implemented in Gephi 0.9.2.
Figure 2-1. The Leiden algorithm distinguishes between the communities of Fotucheng (blue) to the left, Dao’an and Huiyuan (orange), and Kumarajīva (green). (Gephi 0.9.2, filter degree range >= 2). Nodes sized by degree.

My argument is that in spite of the algorithmic clustering into two groups (Dao’an/Huiyuan vs. Kumarajīva) it is better to see Dao’an, Huiyuan, and Kumarajīva as one single formation. Or, in other words: network visualization in this case seems a better heuristic than community detection algorithms.

Overview histories usually follow either the historian’s instinct to treat the biographies of the three masters separately, or the pattern suggested by the community detection algorithm: Where Dao’an, Huiyuan, and Kumarajīva are not discussed in separate chapters, Dao’an and Huiyuan are lumped together. The currently most comprehensive attempt at a general history of Chinese Buddhism (Lai 2010 [15 vols.]) discusses Dao’an and Huiyuan in separate chapters in volume 1, while Kumarajīva is dealt with in volume 2. Another recent overview history (Okimoto 2010a–c [3 vols.]) combines Dao’an and Huiyuan in one chapter, discussing Kumarajīva in the next. Kamata (1982–99 [6 vols.]) has a chapter on Dao’an in the first volume, and treats Kumarajīva before Huiyuan in the second.62 In English, neither

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62 The more concise Ch’en (1964) follows this pattern by discussing Kumarajīva (81–84) before Dao’an and Huiyuan (94–112). In a recent textbook Yū (2020, 21–27) highlights only Kumarajīva, Dao’an, and
Zürcher (2007) nor Tsukamoto (1985) elucidates just how important the connection of Huiyuan with Kumārajīva was, because both mention Kumārajīva only where absolutely necessary. As Stephen Teiser has pointed out in his preface to the 2007 re-edition of Zürcher, “By leaving Kumārajīva out of the picture, he [Zürcher] makes a strong statement about what mattered most in the first four centuries of Buddhist presence in China.”

From a network perspective this tendency to see Kumārajīva apart from Dao’an and Huiyuan does not seem a good choice. What social network analysis can contribute here is a better understanding of the joint impact of these three actors, something that easily gets lost in an attempt to write (or read) a general history that must take texts, institutions, biographies, and political events into account. The triangle that appears in social network analysis suggests that Kumārajīva and his circle were in fact very much engaged and in communication with the Dao’an-Huiyuan community, and that what mattered for the future development of Buddhism in China was this joint formation above all.

2.2 Bridge Actors: Huichi, Tanyong, Fahe

As shown in the previous section, the close connection between Dao’an and Huiyuan and their circles is fairly obvious, even to machines. Nevertheless, the two do form a “triangle” with Kumārajīva, which appears as a distinct formation in different force-directed layout algorithms (fig. 2-2). 

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Huiyuan in a discussion of the early history of Buddhism. Yū’s focus on these three as the crucial actors in a way corroborates the findings from network analysis that these three were pivotal. From a network perspective we can now prove that, according to available evidence, the three indeed form the dominant cluster that divides the early history of Chinese Buddhism into a before and after.

63 Zürcher (2007, xix).

64 It is discernible in all four force-directed layouts available in Gephi 0.9.2: Fruchtermann-Reingold, Yifan Hu, Yifan Hu Proportional, Force Atlas, and Force Atlas 2.
Figure 2-2. The same network for the period from ca. 300 CE to ca. 550 CE in four different layouts (rotated to approximate a timeline). Clockwise, from top left, the algorithms responsible for the layout were Yifan Hu, Force Atlas2, OpenOrd, and Fruchterman-Reingold. In all views the three largest nodes on the left are Dao’an, Huiyuan, and Kumārajīva. Nodes sized by degree.

Where does the cohesive power of this formation come from? After all, neither Dao’an nor Huiyuan ever met Kumārajīva face to face. Their connections rest, weakly, on the fact that Dao’an and Kumārajīva commented on each other, and, more substantially, on the

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65 The larger nodes on the right in each layout include two famous patrons of Buddhism—the Liang Emperor Wudi 梁武帝 (aka Xiao Yan 蕭衍 464–549) and his uncle Xiao Ziliang 蕭子良 (460–494)—as well as the monk Sengmin 僧旻 (467–527) and others.
correspondence of Huiyuan and Kumārajīva. However, even if the edges between Dao’an/Kumārajīva and Huiyuan/Kumārajīva are (experimentally) deleted, the triangle formation does not change significantly. What other connections were there between the two communities that pull the triangle together beyond the lines connecting the three central actors?

One staple task of social network analysis is to identify “bridge actors,” who connect individuals or communities. In our case, one way to identify bridge actors could be to ask which individuals in the dataset knew all three main actors Dao’an, Huiyuan, and Kumārajīva (fig. 2-3). Such individuals could have played an important role in the information flow between their communities. Their position in the network structure provides additional cohesion to the triangle. In the current dataset, only three actors are directly connected to all three main protagonists (Dao’an, Huiyuan, and Kumārajīva). These are Huichi 慧持, Tanyong 曇邕, and Fahe 法和. They deserve to be highlighted in a history of Chinese Buddhism, but are usually mentioned only in passing, if at all.

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66 Network science uses a variety of terms for what I call “bridge actors” here. An overview article by Long, Cunningham, and Braithwaite (2013), which did not include literature on historical social networks, lists fifteen different terms.

67 Strictly speaking, for the cohesion of the network, all actors who connect the community of Dao’an/Huiyuan with that of Kumārajīva contribute to the cohesiveness of the triangle. Here I will limit myself to those actors that according to the current dataset are “ideally connected” to all three main actors. Others that connect either Dao’an or Huiyuan to Kumārajīva are important as well and can easily be identified via social network analysis.

68 Only in Lai (2010, vol. 1), the most extensive history of Chinese Buddhism so far, do they receive somewhat more attention.
Huichi was Huiyuan’s younger brother by three years and his companion almost throughout his life. They studied together as children and both joined the monkhood under Dao’an in 355. They both left Dao’an and went to Mount Lu, where Huiyong, another student of Dao’an, had already started to establish a monastery. His biography describes Huichi as “Eight chi tall (180+ cm), handsome, and strong. He often would don his sandals and wrap his inner garment around his shins [to travel].” When in 397/398 he escorted his aunt, the nun Daoyi, into the capital he was asked to participate in the translation of the Madhyama-āgama. Like his elder brother, Huichi was well educated and, although not proficient in an Indian language, he was able to proofread the Chinese draft, checking it in great detail (校閲文言搜括詳定). After finishing the work, he went straight back to Mount

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69 Lai (2010, 1:600–5).
70 持形長八尺風神俊爽常躡革[better 草]服納衣半脛 CBETA, T.50, no. 2059, p. 361b21.
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Lu. Whereas his brother Huiyuan was famously reluctant to leave Mount Lu,\(^{71}\) Huichi seems to have enjoyed travel and in 398 left Mount Lu for good and set out for Sichuan, where he became a prominent and influential monk in the growing Buddhist community there. Huiyuan’s biography records the brothers’ moving goodbye:

Huiyuan regretted that he was not able to make him stay, and said with a sigh: “Everyone cherishes community, why is it that you alone delight in departure?” Huichi, he too moved by sadness, replied: “If we harbor feelings of belonging and communion, we shouldn’t have gone forth into homelessness to begin with. Now let us curb our desires and strive for the Way, so we can look forward to reunite [after death] in the [Pure] Land of the West.” With that the brothers restrained their tears and parted ways in silent sorrow.\(^{72}\)

There is no record of them ever meeting again. Whereas Huichi’s links to Dao’an and Huiyuan are obvious, he never met Kumārajīva face to face. However, a single line in his biography suggests that, like his brother, Huichi corresponded with Kumārajīva: “When Kumārajīva dwelled in Chang’an, he admired [Huichi] from afar and wrote a letter conveying his regards and friendship.”\(^{73}\) Thus, although in formal terms the network shows Huichi as connected to all three major figures of the triangle, the evidence for his connection with Kumārajīva is thin. In contrast to Huiyuan’s exchange with Kumārajīva, Huichi’s correspondence is lost. Nevertheless, it is interesting to note that Kumārajīva’s correspondence reached not only Huiyuan on Mount Lu, but also Huichi in Sichuan. It is also not impossible that Huichi traveled from Sichuan to Chang’an, between Kumārajīva’s arrival

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\(^{71}\) Huiyuan had refused several times to leave Mount Lu when invited by local rulers. He was remembered in part for his advocacy of an independent sangha, epitomized in the ritual exemption of monks from having to bow to the Emperor (Hurvitz 1957), starting a debate that lasted until the Sui Dynasty (Jülch 2012). His reluctance is also the basis for the popular, if legendary, story “Three Laughs at Tiger Brook” (huxi sanxiao 虎溪三笑). The story was often depicted in East Asian art and has been part of the popular image of Huiyuan since the Tang (Nelson 2002).

\(^{72}\) 遠苦留不止。遠歎曰。人生愛聚汝乃[read 獨]樂離如何。持亦悲曰。若滯情愛聚者本不應出家。今既割欲求道。正以西方為期耳。於是兄弟收淚憫默而別。(CBETA, T.50, no. 2059, p. 361c7–10).

\(^{73}\) 羅什在關遙相欽敬。致書通好。結為善友。(CBETA, T.50, no. 2059, p. 361c3–4).
there in early 402 and Huichi’s death in 412, but no record of an encounter has survived. In any case, the network highlights him as an important, well-connected actor in his own right, who in traditional accounts is overshadowed by his elder brother.

The second actor linked to all three corner nodes of the triangle is Tanyong, who as a young man had served as General of the Guards under the famous Fu Jian 苻堅. After Fu Jian’s unexpected defeat at the Fei River in 383, Tanyong, who had participated in the campaign, returned to Chang’an and became a monk under Dao’an. When Dao’an died in 385, Tanyong went south and joined Huiyuan’s growing community on Mount Lu. According to his biography in the Gaoseng zhuan, Tanyong was eight chi tall (180+ cm) and “surpassed others in martial bravery.” Like Dao’an, Huiyuan, and Huichi, Tanyong seems to have been educated widely in both Buddhist and non-Buddhist texts. His connection to Kumārajīva is that he served as the messenger who carried the correspondence between Huiyuan and Kumārajīva back and forth between Mount Lu and Chang’an. As a former general, Tanyong would have been able to ride and hold his own in a fight, just the man to convey a letter in unruly times. He fulfilled this task for more than ten years, approximately between 402 and 413. Through Tanyong, Huiyuan would not only have received replies to his letters, he must also have provided Mount Lu with firsthand tales about Kumārajīva’s circle and the wider Buddhist environment at Chang’an. After Kumārajīva’s death, Tanyong, freed of his duties as go-between, was invited to teach in Nanjing. He is said to have refused because he felt the need to stay with the aging Huiyuan. His position at Mount Lu, however, was not fully secured. A passage in Tanyong’s biography seems to say that Huiyuan did foresee a leadership struggle among his disciples after his passing, and decided to banish Tanyong for “a minor matter” from the community. We will probably never know the details behind this cryptic remark. It is said that Tanyong accepted the banishment without showing resentment and built a small hermitage to the southwest of Mount Lu to practice meditation there. After

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74 Lai (2010, 1:612–13).
75 形長八尺雄武過人 (CBETA, T.50, no. 2059, p. 362c16).
76 That is, between Kumārajīva’s arrival in Chang’an and his death.
77 然遠神足高抗者, 其類不少。恐後不相推謝。因以小緣託捨邑出。邑奉命出山容無怨忤。乃於山之西南營立茅宇與弟子叢果。澄思禪門 (CBETA, T.50, no. 2059, p. 362c23–26). See also also the reading of Lai (2010, 1:613).
Huiyuan’s death he left (or had to leave) Mount Lu and died at the Zhulin Temple in Jingzhou (southern Hubei). Not mentioned in his biography is that his choice of retreat was not incidental, but also part of the Buddhist network: the abbot of the Zhulin Temple was Tanyong’s fellow student, Tanshun. Tanshun had been part of Kumārajīva’s circle in Chang’an, before he moved south to live in Huiyuan’s community for a while. Like Tanyong, Tanshun must have been well acquainted with both Kumārajīva and Huiyuan.

Both Tanyong and Tanshun would also have known the third bridge actor, who in the current dataset is connected to all three main players. Much older than the two of them, Fahe had already been a fellow student of Dao’an under Fotucheng. Many events in his own short biography in the Gaoseng zhuan can only be dated and fully understood when read together with the passages that mention him in Dao’an’s biography.

After Fotucheng’s death in 349, his students first stayed in the north, in Hebei, Henan, Shaanxi, and Shanxi, for more than a decade. In the early 360s, the group decided to move south, and in 365 there was a parting of ways as the members of Fotucheng’s circle settled in different regions. Dao’an stayed in the center at Xiangyang on the Han River. Zhu Fatai and others went to settle in the southern capital Jiankang (near today’s Nanjing). Fahe went to Sichuan. Probably Zhu Fatai and Fahe traveled together down the Han River to where it joins the Yangtze at Wuhan, and then split up—Zhu Fatai downriver to Jiankang, Fahe upriver into Sichuan. Fahe propagated Buddhism in Sichuan for more than ten years, successfully, if the sources can be believed. Around 379 CE, Dao’an had to leave Xiangyang—again, as so often in his life, fleeing advancing armies. He settled in Chang’an, where Fahe soon joined him from Sichuan. Dao’an and Fahe, with their long history of fellowship in joint study and travel, seem to have enjoyed their reunion. Until Dao’an’s death in 385 they collaborated on many translation projects that Dao’an organized, making good use of a period of relative calm that allowed an influx of Indian and Central Asian monks into Chang’an. These monks carried texts, in their heads or in their hands, and translated them into the vernacular, usually with the help of bilingual translators. Dao’an, Fahe, and others then drafted, edited, and

78 Lai (2010, 1:553).
79 Palumbo (2013, 31), in his detailed history of their activities in Chang’an in 382–85, calls Fahe “Dao’an’s right-hand man” during that period.
polished the written Chinese text. Fahe’s otherwise sparse biography preserves an interesting vignette:

Later they conducted a ritual in Jinyu Valley, [after which Fahe] and Dao’an together ascended the [Mount Tai] mountain range, which stretched as far and wide as the eye could see. Fahe sighed sadly: “High soar the mountains and many seek to view them. But whither shall we go once we pass from here?” Dao’an replied: “As long as you are able to maintain your mind[fulness?], why worry about future births? Only if the mind lacks wisdom have we reason to be sad.”

The Jinyu Valley is part of Mount Tai in Shandong, one of China’s five sacred mountains of classical antiquity. Dao’an and Fahe must have visited between 380 and 385 CE, but their biographies do not offer any further information about why they went or what ritual assembly took place there. Again, network analysis can help us to make an educated guess. It is likely that Dao’an and Fahe had been invited by Zhu Senglang, another student of Fotucheng, who had made his home at Mount Tai in 351 CE and established a community there. As with Tanyong’s move to the Zhulin Temple mentioned above, a plausible motivation for Dao’an’s and Fahe’s sojourn to Mount Tai comes into view once the social network is accounted for.

Around 386 CE, soon after Dao’an’s death, the situation in Chang’an became unstable again, and Fahe went to Luoyang together with the Kashmiri translator Saṅghadeva. There they collaborated on translations until, in 391 CE, Saṅghadeva received an invitation to join Huiyuan at Mount Lu. That Huiyuan knew about Saṅghadeva, and thus was able to invite him to continue his work in the quieter south, shows how well information traveled along the networks, between the capitals and Mount Lu. One wonders why Fahe stayed behind in Luoyang, from which he soon returned to Chang’an in 393. He and Huiyuan certainly knew

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80 Quite a few translations from that period have survived, e.g. the *Abhidharmahrdayaśāstra* (T.1550) or the *Vibhāṣāśāstra* (T.1547). Others, like the first translations of the *Madhyama* and the *Ekottarika-āgamas*, were lost.

81 後於金輿谷設會。與安公共登山嶺極目周睇。既而悲曰。此山高聳遊望者多。一從此化竟測何之。安曰。法師持心有在何懼後生。若慧心不萌斯可悲矣。（CBETA, T.50, no. 2059, p. 354a21–25）

82 朗常蔬食布衣。志耽人外。以偽秦符健皇始元年。移卜泰山。（CBETA, T.50, no. 2059, p. 354b5–6）
each other well, having both traveled with Dao’an in the years of wandering, 350–65. In the early 390s Fahe must have been (at least) in his late sixties or early seventies and might have felt too old to move south. Alternatively, perhaps Huiyuan hesitated to invite this fellow student of Dao’an, who would have been his senior and might have compromised Huiyuan’s authority in the community on Mount Lu, which he ran by strict rules. In any case, Fahe’s decision to stay in Chang’an allowed him to become friends with Kumārajīva, who arrived in early 402. Kumārajīva seems to have appreciated the learned old scholar, who could remember the days of Fotucheng in China. He dedicated a ten-verse eulogy to Fahe, of which only the first verse has survived:

The mountain of [your] mind nurtures the fragrant grasses of virtue;  
over thousands of yojana travels their scent.  
The luan bird sings lonely in the paulownia tree,  
his clear voice reaching far into the highest heavens.83

There must have been many more, now forgotten, actors who knew Dao’an, Huiyuan, and Kumārajīva. As always, it is important to remember that the historical record contains only a small sample of events and encounters, and that the network data only collects a fraction of that. Nevertheless, the three actors discussed above are the only known actors who interacted with all three members of the triangle. Bringing them into focus seems helpful for the construction of a more richly textured narrative.

83 心山育德薰。流芳萬由旬。哀鸞鳴孤桐。清響徹九天。CBETA 2019.Q1, T.55, no. 2145, p. 101c13–15. The verse appears quoted in slight variations in different places in the canon (e.g. CBETA 2019.Q1 T.50.2059.332c1, T.53.2122.474c9, T.55.2154.515a11). I consider the one in the Chu sanzang jiji most likely to be the original version. Considering the verse was composed directly in Chinese, Kumārajīva would have made use of Chinese imagery and with 哀鸞 probably had in mind not kalaviṃka, but simply the Chinese bird of paradise (which only alights on paulownia trees). I am not sure why both Shih (1968, 78n76) and Lai (2010, 1:555) see the luan bird as referring to Kumārajīva himself. To my mind both halves of the verse praise Fahe. Also, Shih’s use of the Gaoseng zhuan version of the first line (心山育徳) makes him suggest that Kumārajīva was referring to the famous 明德 as used in the Daxue (Shih 1968, 78n75). I consider the Chu sanzang jiji version (心山育德薰) more likely, as the 薰 then becomes the logical subject for the next line starting with 流芳.
Further research could focus on actors who simply bridge the two communities in a more general sense. Sengrui, for instance, was Dao’an’s student at one time, but instead of moving to Mount Lu like many others, he stayed behind in Chang’an, like Fahe.\footnote{That he was Dao’an’s student is implied in Sengrui’s preface to the Mahāprajñāpāramitāsūtra, where he refers to Dao’an as his “late” teacher (CBETA, T.55, no. 2145, p. 53a17). For a partial translation of the preface, see Tsukamoto (1985, 707–9).} He later became one of Kumārajīva’s most prominent students, known for ten intelligent prefaces to sūtra translations and for a single short essay.\footnote{Recently translated and discussed in Felbur (2018).} He must at least have known of Huiyuan, and very probably knew him in person, but no explicit link was recorded in the data because they were never mentioned together. Like Huiyuan, Sengrui aspired to be reborn in the Western Pure Land, a belief associated with Huiyuan’s community on Mount Lu.

3. Conclusion

This article has tried to argue three points: two specific and one general.

First, we have focused on a formation at the start of the main network component around 300 CE. From a network perspective, the three central actors in this section of the network are Dao’an, Huiyuan, and Kumārajīva. Based on the currently available dataset, these three form a “triangle” which I suggest can be used as heuristic device to explain how Chinese Buddhism became so decidedly Mahāyāna. The network, which reflects much (but not all) of what is known about this period, visualizes how dominant this triangle formation was for the generations that followed. All three main actors were aware of alternatives, but settled on Mahāyāna as the most advanced doctrine, informed by prajñāpāramitā texts as a common denominator. Dao’an and Huiyuan were struggling to achieve an overview of the textual landscape and to understand the relationship between mainstream and Mahāyāna Buddhism that was evolving during their time. Kumārajīva, having received a model education in one of the centers of Buddhist learning in Kashmir, came to China with his opinions formed, and was in a position of authority, which he used to promote Mahāyāna. His correspondence with Huiyuan can be seen as the tipping point after which mainstream Buddhism was considered
a “lesser vehicle” in spite of the persisting allure of Abhidharma scholasticism. Judging from the faint traces of dissenting voices, those who argued for a more mainstream Buddhism based on Āgama and Abhidharma exerted only a weak influence in what is known of the social network of the time.

Second, next to identifying influential formations based on centrality such as the Dao’an, Huiyuan, and Kumārajīva triangle, social network analysis can identify bridge actors between communities. By identifying Huichi, Tanyong, and Fahe in the overlap of the communities of Dao’an, Huiyuan, and Kumārajīva, historians can add texture to a narrative that is all too often limited to the “main” actors. Identifying such connecting figures helps to write history as a history of encounters and information flow as opposed to a series of a few “great men.” Often dynamics and motivations become clearer when seen in the context of the network.

Third, on a methodological level I have tried to show that historical social network analysis can contribute a new perspective. The peculiar advantage of this perspective is that one can “zoom” from the macro level of larger structural formations, spanning longer periods, to the micro level of the ego-networks of individual actors. Ideally, this can be done without sacrificing historical intuition, source criticism, or textual analysis.

The limits of the method are twofold. First, there are questions regarding the coverage and accuracy of the dataset. These are often technical concerns, but affect the historian as a user of data. Beyond a certain scale, we must rely on data collected by others, but how reliable is it? How comprehensive? What were the selection criteria? Second, there are the dangers of application. Problems with software tools apart, it is possible to misinterpret visualizations and metrics, or to tweak them unwittingly to fit one’s favorite narrative.

For the future development of the Historical Social Network of Chinese Buddhism it would be desirable to expand the data sources. While biographical literature is in many ways the basis of our understanding of the early history of Buddhism in China, more information could be added for this period. Many more links and a few more actors are to be found in prefaces and colophons collected in the catalog section of the Chu sanzang jiji 出三藏記集, in the famous Essay on Buddhism and Daoism in the official History of the Wei Dynasty 魏書釋老志, in the encounters recorded in the Shishuo xinyu 世說新語, and in the apologetic

86 See Bingenheimer (forthcoming 2021) for a more detailed description of the dataset and its limitations.
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literature, for instance as collected in the *Hongming ji* 弘明集. Thus, there is still plenty of room to expand the network data for studying early Buddhist history in China.
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Abbreviation

CBETA  Chinese Buddhist Electronic Text Association corpus (available on GitHub, https://github.com/cbeta-org/xml-p5)

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