The History, Present and Future of the Study of Chinese Logic

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Abstract
The study of Chinese logic started as the second wave of Western traditional logic spread through China. Following Sun Yirang’s initial work and Liu Shipei’s development of it, this field was preliminarily established by Hu Shi, Zhang Shizhao and Guo Zhanbo. Since the 1980s, it became commonplace to systematize Chinese logic based on the Western system of logic. Since the 1990s, though, the Chinese academic community has begun to reflect on this research method, which has led to the trend of reverting to Chinese culture and its own logic.

Keywords: Chinese logic, Western logic, Chinese culture

Preteklost, sedanjost in prihodnost raziskav kitajske logike

Izvleček
Preučevanje kitajske logike se je začelo z drugim valom širjenja zahodne tradicionalne logike na Kitajskem. Žanr logike za področje je sprožil Sun Yirang, nadaljnji razvoj je doživel iz Liu Shipeijevim delom, vzpostavili pa so ga Hu Shi, Zhang Shizhao in Guo Zhanbo. Od 80. let 20. stoletja dalje se je na Kitajskem uveljavil pristop sistematizacije kitajske logike na podlagi zahodnih logičnih sistemov. Po drugi strani pa je v 90. letih 20. stoletja kitajska akademska skupnost začela premišljati tovrstno metodo raziskovanja, kar je vodilo k vzniku trenda povratka h kitajski kulturi in njeni lastni logiki.

Ključne besede: kitajska logika, zahodna logika, kitajska kultura

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“Chinese logic” in this paper mainly refers to the logical thought that originated and developed within the Chinese ideological and cultural tradition. By contrast, “the study of Chinese logic” roughly refers to the study of the Chinese logical thought developed from Western systems of logic introduced into China. It should be pointed out that “the study of Chinese logic” here refers to both Chinese and English research on Chinese logic.

This paper lays out the history of the study of Chinese logic from its origins to its full development, and then summarizes related achievements and deficits. Based on this, the author puts forward that the study of Chinese logic should take knowledge systems as the focus of study, and should search for Chinese logic within Chinese knowledge systems by referencing the relationship between Western traditional logic and Western knowledge systems, or the relationship between Indian logic and Indian knowledge systems.

The Origin of Chinese Logic Studies

The study of Chinese logic is a field that was established and developed in response to the introduction of Western logic to China. That transference can be separated into two stages. The first stage occurred during the end of the Ming dynasty and the beginning of the Qing dynasty, when the basic framework of traditional Western logic and part of medieval Western logic began to be introduced into China. The second stage took place during the late Qing dynasty and the early Republic of China, when Western traditional logic was thoroughly introduced and gradually became the mainstream method of studying Chinese logic.

Sun Yirang 孙诒让 (1848–1908) was the torchbearer of Chinese logic studies. After finishing the Mozi jiangu (Critical Edition of the Mozi 墨子间诂) in 1893, he read a lot of “recently translated Western books”, and then anticipated that there could be many logical ideas in the Mozi equivalent to “Aristotle’s deduction, Bacon’s induction, and Indian hetuvidyā” (Sun 2010, 382). Chinese logic studies were thus initiated by Sun Yirang. It is worth noting that Kurtz noted in The Discovery of Chinese Logic that the Japanese translations of the two terms “deduction” and “induction” could not have appeared in Chinese literature before 1901, thus questioning the possibility of Sun Yirang’s use of “deduction” and “induction” (Kurtz 2011, 280). However, Sun Yirang did indeed have the possibility to come across these terms in Japanese translations. On the one hand, the word “induction” appeared in the Riben shumu zhi 日本书目志 (Japanese Bibliography) edited by Kang Youwei 康有为 (1858–1927) as early as 1897. For example, there are the Guinafa lunli 归纳法论理 (The Theory of Induction) and Guina lunli 归纳论理
On the other hand, Sun asked his disciple Huang Qingcheng 黄庆澄 (1863–1904) to bring back a large number of books from Japan that introduced the relevant situation of “philosophy” and “philosophical society” in that country. Therefore, Sun had the opportunity to contact bibliographic materials and research on logic from Japan.

Liu Shipei 刘师培 (1884–1920) was a pioneer in Chinese logic studies. At the end of 1903, he completed Rangshu 撰书 (Book of Expulsion), including a chapter called “Zhengmingpian 正名篇 (Rectification of Names)”. In this chapter, he first discussed some related problems of Chinese logic with reference to Mule Mingxue 穆勒名学 (Mill’s A System of Logic). As he claimed, “Only Zhengmingpian 正名篇 (Rectification of Names) in Xunzi 荀子 […] is similar to Mill’s A System of Logic” (Li Miaogen 1996, 110). In his opinion, Xunzi contains rich and profound logical thought.

In the Lun Zhongguo xueshu sixiang bianqian zhi dashi 论中国学术思想变迁之大势 (On General Tendencies in the Development of Chinese Academic Thought) published in 1902, Liang Qichao 梁启超 (1873–1929) maintained that, compared with Greece and India, one deficit of Chinese pre-Qin scholarship is its lack of logical thought. As he wrote, “Please list the deficits of Chinese academia. One of the deficits is a lack of logic” (Liang 1999, 580). But in 1904 he radically changed his view and argued for the opposite in the chapter “Mozi zhi lunlixue 墨子之论理学 (Mozi’s Study of the Rational Discourse)” in his Mozi xueshuo 子墨子学说 (Doctrines of Mozi). There he completely reinterprets Mozi according to Western traditional logic. As he saw it, “of all the masters, Mozi is the one who is the most steadfast in studying logic and that uses it most strictly.” Liang highly praised Mozi, saying that “there is almost no place in his work where he does not apply the logical rules.” “The whole book of Mozi applies logic” (ibid., 3186, 3191). Logic is the foundation of all Mohist doctrines, which constitute a rigorous logical system.

By interpreting Mozi through and comparing him with Western traditional logic, Liang Qichao showed that Mozi constructed Aristotelian logic. For example, Mozi’s bian 辩 refers to “logic”, ming 名 refers to “term”, ci 辞 refers to “proposition”, and shi yi gu 实意故 (one uses names to raise objects, uses sentences to transmit intentions, uses explanations to bring out reasons) refers to “conclusion” (Liang 1999, 3186f.). Liang believed that Mozi also used Baconian induction. As he claimed,

Bacon’s reputation as the founder of modern civilization is attributed to this [induction]. During the past hundreds of years, academic
developments also have relied on it. However, as far as two thousand years ago in China, Mozi was already advocating this method and formed his own school. (ibid., 3193)

He regarded Mozi as “a great founding father of logic around the world”. Liang’s explanation of the *Mozi* by using Western traditional logic not only briefly introduced Aristotelian logic, but also fully affirmed the existence of logical thought in the *Mozi*. This was very significant for promoting the study of Chinese logic.

**The Development of the Chinese Logic Studies**

The preliminary studies of Chinese logic in the early 20th century laid a solid foundation for the development of Chinese logic as an independent academic field. By around the 1920s, a number of publications of relatively systematic studies on Chinese logical thought were being produced, including the first volume of Hu Shi’s 胡适 (1891–1962) *Zhongguo zhexueshi dagang* (An Outline History of Chinese Philosophy) and *Xian–Qin mingxueshi* 先秦名学史 (The Development of the Logical Method in Ancient China). When Hu Shi was studying in America, he finished his PhD dissertation in 1917, titled *The Development of the Logical Method in Ancient China*, which was published in 1922 by Shanghai Yadong Tushuguan.

Zhang Shizhao 章士钊 (1881–1973) learned logic during his studies in the United Kingdom, and taught logic at universities, including Peking University, after returning to China. His main work *Luoji zhiyao* 逻辑指要 (Outline of Logic), which was originally written in 1917 as lecture notes for his courses on logic at Peking University, was ultimately published in 1943. In this book, Zhang proposed that the laws of logic are the same everywhere: “Logic’s name came from Europe, but logical principles apply everywhere” (Zhang 2000, 293). He further wrote that: “Pre-Qin mingxue and European logic are just like the two wheels of a barrow, running parallel with each other” (ibid.).

Chen Qitian 陈启天 (1893–1984), in *Zhongguo gudai mingxue lunlue* 中国古代名学论略 (A Brief Introduction To Ancient Chinese Logic), clearly stated that ancient Chinese logic, Western logic and India’s *yinming* 因明 were the three traditions of logic in the world. Chen changed the traditional classification of academic factions and advocated that logic is the basis for the formation and development of any academic system (Chen 1922). According to the different attitudes of scholars towards *ming* 名 (name), he divided Chinese logical thought into five major schools: Wuming Xuepai 无名学派 (nameless), Zhengming Xuepai 正名
学派（the school of correct names），Shiyong Xuepai 实用学派（the pragmatist school），Qilun Xuepai 齐论学派（the school of the doctrine of equality），和 Guibian Xuepai 诡辩学派（the sophist school）。The five schools have different attitudes towards ming and use different methods.

In 1932, Xian-Qin bianxueshi 先秦辩学史 (A History of Chinese Logic in the Pre-Qin Period) written by Guo Zhanbo 郭湛波 (1905–1990) was published. By then, the study of Chinese logical thought had attained some prominence and achieved notable results. Guo Zhanbo believed that “Gongsun Long is the master of bianxue”. He pointed out that since Gongsun Long, every school has been influenced by “bianxue”. Among them, the most successful and famous were Mo Bian and Xunzi. The studies by scholars like Hu Shi, Zhang Shizhao, and Guo Zhanbo represent the first systematic analyses of Chinese logical thought. They significantly impacted research during the 1940s, and even remain relevant today.

The Deepening of Chinese Logic Studies (1950s–1980s)

From the 1950s to the 1980s, the study of Chinese logic became more insightful. Scholars extensively and deeply discussed the research methods, objects and scope of Chinese logic that had developed in modern times. This led to the general construction and development of the history of Chinese logic as a discipline (Ju 2013, 396).

As for the issue of research methodology, the study of Chinese logic at this stage still followed the approach of using Western logic, which had been widely employed by the earlier pioneers. Thus, scholars compared theories of Western logic with ancient Chinese books to excavate similar ideas and theories. In Mojia de xingshi luoji 墨家的形式逻辑 (The Formal Logic of Mohism), for example, Zhan Jianfeng 詹剑锋 arranged the logical theories contained in the Mohist works completely in accordance with traditional Western logic (Zhan 1956, 7). In addition, some scholars believed that while doing research we should follow the principle of “Let[ting] the Mojing annotate itself” (Shen 1992, 300f.). Wang Dianji 汪奠基 also suggested we should understand the characteristics of the occurrence and development of ancient Chinese logical theories based on a general understanding of the history of logic, which will clarify the research scope of the history of Chinese logic (Wang Dianji 1957).

As for the object of study, most scholars agree that the history of Chinese logic is mainly the history of formal logic. For example, Zhan Jianfeng’s Mojia de xingshi luoji clearly indicates that the object is the formal logic of Mohism. Wen Gongyi
温公颐 pointed out in the *Xian-Qin luojishi* 先秦逻辑史 (*The History of Pre-Qin Logic*) that “the history of Chinese logic should be dominated by the scope of common logic, that is, formal logic” (Wen 1996, 261). Zhou Wenying 周文英 made a similar comment:

That ‘logic’ refers to the formal logic (or common logic) is commonplace. Therefore, it should be understandable that when speaking of the history of logic in general, we mean the occurrence and development of formal logic. (Zhou 1982, 9)

The preface of *The History of Chinese Logic* (five volumes), mainly edited by Li Kuangwu 李匡武, clearly expresses that

This book is limited to the history of formal logic. Though it also involves some problems of the philosophy, language, and scientific methodology, which are directly related to the development of formal logic. We discuss them neither specially nor comprehensively. (Li et al. 1989, 1)

As for the scope of Chinese logic research, Ouyang Zhongshi 欧阳中石 stated that in this context “Chinese” has two distinctive meanings: one refers to the history of the creation and development of logic by the ancient Chinese people, with its distinct national characteristics; the other refers to the history of all forms of logic in China. He advocated the latter understanding, and pointed out:

That is, all the logic that has occurred, developed, spread and had an influence on this land should be included. Even if it is imported from other countries, there must be a matter of importation, acceptance, transmission, and even integration and development, all of which should be incorporated in the research scope of the history of logic in our country. (Ouyang 1982, 118)

In addition, he criticized the idea of limiting “logic” to common logic. He advocated that logic should be understood by “the union of rules and forms that are general, primary, and universally valid to all human beings”, which is necessary for understanding Aristotelian logic. He further suggested that this is “the real and main research object of the history of Chinese logic” (ibid., 119). Moreover, because of the lack of specialized logical treatises in ancient China, the study of the history of Chinese logic needs to draw logical ideas from the applications of logic, such as, the history of philosophy and the history of science (ibid., 120). In this regard, Ouyang Zhongshi’s broadminded view expanded the scope of research on Chinese logic.
The focussed discussion on the research methods, objects and scope of Chinese logical thought at this stage profoundly influenced the subsequent research on Chinese logical thought, serving as an important foundation.

Reflection and Development (1990s—)

During the period of the study of Chinese logic since the 1990s, research surpassed the previous stages in both breadth and depth, giving rise to diverse topics of debate. The following paragraphs highlight three important cases.

First, there was further discussion on whether there is indeed such a thing as Chinese logic. Since the study of Chinese logic began in the early 20th century, there has been an unending debate about whether Chinese logic even exists. However, the criteria used in this debate is based on the system of Western traditional logic. In the *Luojixue de chuanru yu yanjiu* 逻辑学的传入与研究 (Introduction and Study of Logic (2005)), Song Wenjian 宋文坚 outlined the different viewpoints on the study of Chinese logic, especially those concerning the debate between the “affirmative theory” and the “negative theory”. As he pointed out,

Those who hold the affirmative theory would say that pre-Qin mingbian 名辩 is logic, if not formal logic. Surely the proponents of the negative logic would ask, would it not be better to start a new branch of study and promote it as a better bianxue 辩学? (Song 2005, 408)

Song Wenjian believes that this debate does not lead to anything. Zhai Jincheng 翟锦程 holds that in the study of Chinese logic we should start from the general characteristics of logic, examine the idea of proof in ancient Chinese literature with the concept of logic as a way to explore ancient Chinese logic theories and doctrines (Zhai 2007).

Second, there have been studies in general intellectual history that pay attention to Chinese logic. Research in this vein has explored the interactive relationship between Chinese thought and logic. It embodies the deepened study of the history of Chinese thought and also reflects on the trend of studying Chinese logic from a much broader perspective. The *Zhongguo xueshu shi* 中国学术史 (Chinese Academic History (2002)) by Zhang Guogang 张国刚 and Qiao Zhizhong 乔治忠, for instance, specifically discussed “the thought of mingbian and mobian.” The first volume of *Xifang zhexue dongjian shi* 西方哲学东渐史 (Western Philosophy Spreading to China (2006)) by Huang Jiande 黄见德 explained how Western logic was introduced into China. *Zhongguo gudai sixiang shi* 中国古代思想史
(The History of Ancient Chinese Thought (2006), six volumes), edited by Zhu Dawei朱大渭, also discussed problems related to Chinese logic. Finally, Ma Tianxiang麻天祥, in the Zhongguo jindai xueshu shi 中国近代学术史 (Academic History of Modern China (2007)), discussed a series of important logical problems in modern China. Monographs on the history of thought published in recent years have attached immense importance to Chinese logical thought, which indicates that both the depth and breadth of the study of the history of thought have greatly expanded, and that the focal research issues have increasingly deepened. It also implies that the influence of Chinese logical thought on Chinese thought in general has been more and more thoroughly explored.

Third, in this period two tendencies of related to research perspective can be distinguished: one explains Chinese logical thought by means of Western theories, the other emphasizes the mutual relationship and interaction between logic and culture. The Western theories here refer to modern logic, semiotics, informal logic, etc. Wang Lu王路, for instance, maintains that,

Learning modern logic will not only enable us to master the methods of modern logic, but also broaden our vision of logic, so that we can better understand and grasp the object of logic as a discipline, and understand its nature more deeply. Only on this basis can the study of Chinese logic history achieve a higher level. (Wang Lu 2016, 232)

As for semiotics and Chinese logic, Li Xiankun李先焜 argued that ancient Chinese logic, which features lots of pragmatics and semantics, falls in the scope of semiotics. He thus suggests that studying logic with semiotics benefits both topics (Li Xiankun 2017, 297–99).

The cultural characteristics of Chinese logic would inevitably be ignored if studied with traditional logic, modern logic or even semiotics. For this reason, some Chinese scholars recognize that ancient Chinese logic should be studied within the context of ancient Chinese history. For example, Cui Qingtian崔清田 believes that,

In studying mingxue (名学) and bianxue (辩学), we should note that they are part of ancient Chinese culture, and so analyze them historically and interpret them culturally. Only then can we correctly reveal the characteristics and intellectual history of naming and dialectics, and faithfully analyze the status, with explanations, of the existence and development of logic in ancient China. (Cui 1997)
The Study of Chinese Logic in English

Before 1950, some Western scholars began to produce studies related to Chinese logic. For example, Alfred Forke published, from 1901 to 1902, a series of articles that together were titled “The Chinese Sophists: Complete Translations of Teng Hsi-Tzu, Hui-tzu and Kungsun Lung-Tzu”. This is the first time that a Western scholar translated the theories of the School of Names (Mingjia 名家) and made a preliminary analysis of their views. Although this series of articles were only oversimplified translations, they were a fine beginning to Western scholars’ efforts to understand Chinese logic.

The period from 1950 to 1980 was the initial stage of the study of Chinese logic in the Western academic world, with Baima Lun 白马论 and Zhwu Lun 指物论 as the main research objects. The research methods in these years showed a trend toward a diversification of ideas about Chinese logic.

The main works of this period include Graham’s “Being in Western Philosophy Compared with Shih/Fei and Yu/Wu in Chinese Philosophy” (Graham 1951), Mei Yi-pao’s “The Work of Kung-sun Lung Tzu 公孙龙子, with a Translation into English” (Mei 1953), and Cheng Chung-Ying’s “Inquiries into Chinese Traditional Logic” (Cheng 1965). These efforts raised the questions of the methodology and the direction of the research on Chinese logic, formally establishing a framework for its study in the Western academic world and laying a solid foundation for the vigorous development of further research.

Other relevant publications include Cheng Chung-Ying and Richard H. Swain’s “Logic and Ontology in the Chih Wu Lun of Kung-Sun Lung Tzu.” (Cheng and Swain 1970), Cheng Chung-Ying’s “Aspects of Classical Chinese Logic” (Cheng 1971), Chad Hansen’s doctoral dissertation “Philosophy of Language and Logic in Ancient China” (Hansen 1973), Kao Kung-yi and Obenchain Diane’s “Kung-Sun Lung’s Chih Wu Lun and Semantics of Reference and Predication” (Kao and Obenchain 1975), Chad Hansen’s “Mass Nouns and ‘a White Horse is not a Horse’” (Hansen 1976), Anton Dumitriu’s History of Logic (Dumitriu 1977), and Graham’s Later Mohist Logic, Ethics and Science (Graham 1978).

The period from 1980 to 1995 was the developmental stage of the study of Chinese logic in the West. The main works of this period include Fred Rieman’s “Kung-sun Lung, Designated Things, and Logic” (Rieman 1980), Chad Hansen’s Language and Logic in Ancient China (Hansen 1983), Benjamin Isadore Schwartz’s The World of Thought in Ancient China (Schwartz 1985), Graham’s Disputers of the Dao: Philosophical Argument in Ancient China (Graham 1989), Christoph Harbsmeier’s “The Mass Noun Hypothesis and the Part-Whole Analysis of the White
Horse Dialogue” (Harbsmeier 1991), and Lucas Thierry’s “Hui Shih and Kung Sun Lung: An Approach from Contemporary Logic” (Thierry 1993).

The content of Hansen’s Language and Logic in Ancient China covers almost all the main objects of research in Chinese logic, such as Gongsun Long, later Mohists, Confucianism, and so on. The major feature of the book is analysing ancient Chinese language and logic through a comparison of Chinese and Western methods of thought (Hansen 1983). Based on the arguments of ancient Chinese scholars, Graham’s Disputers of the Dao: Philosophical Argument in Ancient China comprehensively explained the philosophical thought of various schools in the pre-Qin period from the standpoint of Western scholars (Graham 1989).

Since 1995 we have seen a deepening in the study of Chinese logic in the Western academic world. The main works of this period include Harbsmeier’s “Language and Logic in Traditional China” (Harbsmeier 1998); the first part of the seventh volume of Science and Civilisation in China edited by Joseph Needham; David L. Hall and Roger T. Ames’s Thinking from the Han: Self, Truth, and Transcendence in Chinese and Western Culture (Hall and Ames 1998); the collection of essays New Terms for New Ideas: Western knowledge and lexical change in late imperial China compiled by Michael Lackner, Iwo Amelung and Joachim Kurtz (2001); and Joachim Kurtz’s The Discovery of Chinese logic (Kurtz 2011). All these studies represent a deepening of the research on Chinese logic that expands out from the old singular approach to explore the topic in light of multiple perspectives like history, philosophy, linguistics, and terminology.

It is worth mentioning that after the publication of the eleven-volume Handbook of the History of Logic co-edited by Dov Gabbay and John Woods (2004), Klaus Glashoff commented that the handbook is “the first book in a series of several large volumes on the history of logic” (Glashoff 2004, 579), but it “does not contain any information on the only logic which is based on a non-Indo-European language: Chinese logic” (ibid.). As Glashoff noted, “the absence of a chapter on Chinese logic in the Handbook of the History of Logic must be considered as a lost opportunity” (ibid., 583), and this opportunity, as with Indian logic, is an opportunity to reflect on Western logical concepts and traditions (Zhai 2007, 37).

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