New Terms for Telling the Truth: Notes on the Formation of Modern Chinese Logical Terminology, 1886-1911

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Whoever knows a discipline, such as logic or any other, well and tries to translate it into his mother tongue will discover that mother tongue lacking in both substance and words.

Roger Bacon, De linguarum cognitio, 1269

Translation has been a central activity throughout the history of science. Scientific knowledge, be it preserved in texts, institutions or individual minds, is a highly mobile commodity, and the winding route of its travels and successive refinements indicates that scientific ideas and theories may gain or lose as much from migration as any human being crossing the boundaries of languages and cultures. This is particularly obvious in the case of the “European” science of logic: conceived in the multicultural environment of the Greek polis, the logical knowledge gathered in the Aristotelian canon was saved from extinction by partial renderings into Latin, Persian and, via Syriac, into Arabic. Between the time of the Stoics and the revival of logic in twelfth-century Europe, the most important logical work was arguably done in Arabic.\(^2\) When the discipline was rediscovered in Christian universities, its conceptual repertoire had been reshaped to

\(^1\) Cited in Lefevere 1992, 49-50.
\(^2\) Rescher 1964.
such an extent that Roger Bacon was led to his remark quoted above. Within one or two centuries, however, the *ars nova* logic became so thoroughly latinized that Arabian influences tended to be forgotten. In the sixteenth century, works on logic began to be published in modern languages, such as English, German or French, often in opposition to the worn out scholasticism of Latin textbooks. Finally, from the eighteenth century onwards, logicians have proposed various ways to translate their findings from the national languages into formal and symbolic languages, thus hoping to eliminate the need of further rendering once and for all.

Despite these efforts, translation continued to play an important role in the global history of the discipline. The forced or invited transplantation of logic (and other, less esoteric sciences) in the wake of the European expansion spurred a new wave of translation activity, most notably in East Asia where the discipline was recognized as a worthwhile subject of intellectual inquiry during the second half of the nineteenth century, first in Japan and, eventually, in China as well.

In this paper, I will address some aspects of this last turn—the translation of that hybrid science we have come to call “Western logic” into Chinese texts and contexts. More specifically, as a first step to reconstruct this multilayered process, I will trace the Chinese terms and terminologies that were invented to render important logical notions in the decades surrounding the turn of the twentieth century, either by direct phonetic or semantic borrowing from European languages or, more often, by graphic loans from Japanese. Not being a linguist myself, my primary interest is not to supplement the still incomplete lists of lexical creations from that period or to redefine the typologies of loan-words and neologisms in modern Chinese. Rather, I will examine what the history of the invention, adoption or rejection of certain terminological choices may tell us about the formation of modern Chinese logical language and discourse. Scientific terms, as Scott Montgomery has recently reminded us,

> are nearly always the result of some conscious choice, and this choice must often, of necessity, bear the marks of larger influence, above all the era-bound proclivities of the men and women who discovered the need for such choice. A nomenclature is built from thousands of such selections; it leaks history at every pore.

The following notes may be taken, then, as a preliminary attempt to explore how much history there is to squeeze from the pores of successful and obsolete lexical innovations in the realm of one particular scientific discipline.

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3 Bochenski 1956. See also Britzelmayr 1947.
4 Montgomery 2000, 1.
I Indifference

Before turning to the terms that were introduced in the final decades of the Qing dynasty, it may be useful to briefly recall the history of the reception of European logic prior to the late nineteenth century and in particular the striking indifference with which it was initially met in China. As far as we know, European logic was first mentioned in Chinese by Giulio Aleni in 1623. In his Xixue fan 西學凡 (General Outline of Western Learning) and the more widely read Zhifang waiji 職方外記 (Records of the Places Outside the Jurisdiction of the Office of Geography), Aleni introduced “logic” (luorijia 落日伽 or 縁日伽) as one of the courses taught in the preparatory year at European universities. What this course entailed was first substantiated in the Mingli tan 名理探 (Logica, literally: “The Exploration of Names and Principles”), a partial rendering, published in 1631, of Aristotle’s Categories and Porphyry’s Eisagoge. The Mingli tan was the outcome of more than five years of painstaking labors by Francisco Furtado who claimed to have “translated the meaning” (yi 譯意) and the convert Li Zhizao 李之藻 who had done his best to put this meaning into “comprehensible words” (daci 達辭). Despite the translators’ remarkable versatility in rendering the highly technical text into acceptable Chinese, the work must probably be regarded as the most spectacular failure in the Jesuit enterprise to win over the educated elite by means of scholarship. The book never exerted any influence outside the Christian community and soon fell into almost perfect oblivion.

The indifference that characterized the first erratic appearance of occidental logic in a Chinese context continued when the subject was once again intermittently introduced in the second half of the nineteenth century. In comparison to other sciences, references to logic remained scattered throughout the century—probably not least because the Protestant missionaries who were now most active

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5 Giulio Aleni, Xixue fan, Hangzhou, 1623, repr. in Li Zhizao 1965 [1628], vol. 1, 1-60; see pp. 31-32. Giulio Aleni, Zhifang waiji, Hangzhou, 1623, repr. in Li Zhizao 1965 [1628], vol. 3, 1269-1496; see pp. 1360-61.

6 Li Zhizao and Francisco Furtado 1935 [1631/1636]. The Latin text on which the Mingli tan was based had been compiled at the University of Coimbra and was printed in Cologne in 1611 under the title Commentarii Collegii Comimbricenses e Societas Jesu. In Universam Dialecticam Aristotelis Stagirite. Cf. Verhaeren 1935, 425-27. See also Wardy 2000.

7 Even for an influence within the Christian community I have found but one reference claiming that the Mingli tan was used as a logical textbook in a Christian school in Hangzhou during the 1640s; cf. Cao Jiesheng 1982, 294. An expanded version of the Mingli tan was included in the Qiongliuxue 理學 (Philosophia) (1683), a summa of European philosophy prepared by Ferdinand Verbiest for the Kangxi emperor, but the work was never printed. Cf. Dudink and Standaert 1999.
in offering and selling knowledge to China did not nearly attribute so much importance to the discipline as their Jesuit precursors. Neither the subject matter nor the discursive value of logic were discovered until the late 1890s when the waning authority of the traditional canons and institutions drove Chinese scholars to seek new ways to ascertain their beliefs and infer new recipes for action. Against this grim background, several disillusioned officials and educators turned to the study of logic as a possible source of renewed certainty, wealth and power. The most prominent supporter of the hitherto ignored “science of sciences” (kexue zhi kexue 科學之科學), as it soon came to be labelled, was Yan Fu 嚴復. Mainly due to his activities that were facilitated by the general opening to “new knowledge” in the aftermath of the Sino-Japanese War, interest in logic increased considerably in the early years of the twentieth century. Several widely-circulated journals carried articles on various aspects of the subject, and private publishers struggled to come up with handy introductions in order to meet the growing demand from curious readers. In 1903, the Translation Office at the Imperial University specifically mentioned the task of rendering logic textbooks into Chinese in its statutes, and in the same year the Qing government followed the Japanese example and included compulsory courses in logic in the revised curricula of universities and teachers’ colleges.

II Interest

The belated institutional embrace sparked intense translation activity. Until the founding of the Republic twenty-one monographs on logic were published in Chinese, all but three in the decade between 1902 and 1911. Of these twenty-one books, five (nos. 1, 2, 3, 5, and 16 in the list below) were translated from English; one (no. 13) was adapted from an unspecified textbook in Latin. The remaining fifteen were exclusively or primarily based on Japanese sources, either as direct translations of individual works or as digests of several texts written by up to five different authors (no. 17). Bibliographical details of these largely forgotten works are as follows:

1. Joseph Edkins (Ai Yuese 艾約瑟), trl., Bianxue qimeng 辨學啓蒙 (Primer of logic), in Joseph Edkins, ed., Gezhi qimeng 格致啓蒙 (Sci-

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8 Sakade 1965. See also Takada 1967; Li Kuangwu 1989, 4: 126-80.
10 Wang Yunwu 1973, 16.
11 Cf. “Jingshi daxuetang yishuju zhangcheng” 京師大學堂譯書局章程 [Statutes for the Translation Office at the Imperial University] (1903), repr. in Li Nanqiu 1996, 494.

2. William Muirhead (Mu Weilian 慕維廉), trl., Gezhi xinji 格致新機 (New tools for science), Shanghai: Gezhi shushi, 1888; alternative ed. Beijing: Tongwen shuhui, 1888. [Orig.: Francis Bacon, The New Organon, engl. trl. of id. Novum Organum, London, 1620.] Excerpts first serialized as “Gezhi xinli” 格致新理 (New principles of science) in Yizhi xinlu 益智新錄 (The Monthly Educator), 1876.7-1876.10, and as “Gezhi xinfa” 格致新法 (New methods of science) in Gezhi huibian 格致匯編 (The Chinese Scientific Magazine), 1877.3; 1877.4; 1877.9; and 1877.10, as well as in Wangguo gongbao 萬國公報 (The Globe Magazine), 1.506-1.513 (1878.9-1878.11).

3. John Fryer (Fu Lanya 傅蘭雅), Lixue xuzhi 理學須知 (Essentials of logic), Shanghai: Gezhi shushi, 1898.


8. Tian Wuzhao 田吳炤, trl., Lunlixue gangyao 論理學綱要 (Outline of logic), Shanghai 1903; fourth ed., 1914. [Orig.: Totoki Hisashi 十時彌, Ronrigaku kōyō 論理學綱要 (Outline of logic), Tokyo, 1900.]

9. Fan Diji 范迪吉, trl., Lunlixue wenda 論理學問答 (Questions and answers on logic), in Xinbian Putong jiaoyu baikuan quanshu 新編普通教育百科全書 [New general encyclopaedia for educational purposes], 102 vols., Shanghai: Huwai xueshe, 1903. [Orig.: Hattori Unokichi 服部宇之吉, Ronrigaku kyōkasho 論理學教科書 (A

11. Kaneta Nisaku 金太実, trl., Lunxue jiaokeshu 論理學教科書 (A textbook of logic), Shanghai: Dongya gongsi, 1907. [Orig.: Takayama Rinjiro 高山林次郎, Ronrigaku 論理學 (Logic), Tokyo, 1898.]

12. Jiangsu shifan sheng 江蘇師範生, trl., Lunxue 論理學 (Logic), Jiangsu ningshu xuewuchu, 1907. [Orig.: Takayama Rinjiro 高山林次郎, Ronrigaku 論理學 (Logic), Tokyo, 1898.]


15. Han Shuzu 韓述祖, comp., Lunxue 論理學 (Logic), 1908 (based on a transcript of lectures on logic by Hattori Unokichi 服部宇之吉).


17. Lin Kepei 林可培, comp., Lunxue tongyi 論理學通義 (Comprehensive introduction to logic), Shanghai: Zhongguo tushu gongsi, 1909. [“Primarily based” on Imafuku Shinobu 今福忍, *Saishin ronrigaku yōgi 最新論理學要義* (Latest essentials of logic), Tokyo, 1908; Watanabe Matajirō 渡辺又次郎, Ronrigaku 論理學 (Logic), Tokyo, 1894; and Kitazawa Sadakichi 北沢定吉, Ronrigaku kōgi 論理學講義 (Lectures on Logic), Tokyo, 1908. “Supplemented” by Onishi Hajime 大西祝, Ronrigaku 論理學 (Logic), Tokyo, 1903; and Totoki Hisashi 十時彌, Ronrigaku kōyō 論理學綱要 (Outline of logic), Tokyo, 1900.]

20. Wang Yanzhi 王延直, Putong yingyong lunlixue 普通應用論理學 (General and applied logic), Guiyang: Guiyang lunlixueshe, 1911.

With the exception of Mill’s monumental System of Logic (no. 5), a mere third of which Yan Fu managed to render between 1900 and 1905, none of the works of departure were written with serious theoretical ambition. The tumultuous development from traditional to mathematical or symbolic logic that dominated academic discussions in the West since the 1860s was almost completely ignored. Conceived as general introductions to the discipline for a non-specialist audience, the books that were eventually chosen for translation into Chinese taught basic forms of late traditional textbook syllogistics.

The translators who set out to render these texts were nonetheless well aware that they were facing a daunting challenge. None of their “Prefaces” or “Directions to the Reader” fail to mention in one way or another that “coming terms is extremely difficult” because, as some stated, logic was a science that China “had never known” or, as others lamented, because it was a branch of learning that had been “cut off” in antiquity. All agreed, however, that an entirely new terminology had to be established since there were no adequate Chinese words to express logical notions.¹² Not even the bilingual dictionaries that had been compiled in the course of the nineteenth century contained entries for more than a few basic terms of the field; and even these were of no great value since most of the “equivalents” listed were not recorded from actual usage, but purposefully created to provide Chinese readers with rough explanations of unfamiliar notions or, in the case of more ambitious authors such as Wilhelm Lobscheid, in order to offer possible, but invariably infertile terminological prescriptions. The most pressing task for the pioneer translators was thus to come to terms with logic in a very literal sense, i.e., to choose or invent adequate lexical replicas of the models they found in their various texts of departure.

### III Translators

In order to reconstruct how this task was approached, I will take a closer look at the labors of five translators: three working from European languages (Joseph Edkins (no. 1), Yan Fu (nos. 5 and 16) and Li Di (no. 13)), and two working from Japanese (Lin Zutong (no. 4) and Wang Guowei (no. 14)). Each of the

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¹² The Mingli tan was hardly ever considered in this context.
“European” translators created his own, unique system of terms. Joseph Edkins, the lonely precursor of all later Chinese efforts, simply had no choice but to tailor-make his own solutions. Yan Fu could have built on Edkins’ creations or, alternatively, on the earliest graphic loans arriving from Japan; however, as in his other works, he chose to propose his own terms in accordance with his well-known views on the principles of “reliable” (xin 信), “comprehensible” (da 達) and “elegant” (ya 雅) translation and his penchant for the antiquarian Tongcheng-style. Li Di, finally, seems to have shared Yan’s convictions regarding conciseness and style—in fact, one may say he employed them more rigorously than Yan himself—as well as the latter’s aversion towards Japanese-derived loan-words, but he apparently felt that the scholastic art he was assigned to teach at the Catholic Université l’Aurore called for yet another set of novel Chinese replicas, based on the etymologies of their Latin models.

The job of translators from Japanese would of course seem much easier. Certainly, the lexical gap between Japanese and Chinese was much narrower, even if uncritical adoption of kanbun, as many translators were or became aware, often led to unwarranted trust for faux amis. Moreover, Japanese scholars had started to choose and discuss adequate renderings of logical terms already in the 1870s. In the course of these discussions, early suggestions by Nishi Amane 西周 and others were selectively adopted or replaced by seemingly more adequate choices. Nonetheless, in contrast to other sciences, such as astronomy or physics, however, Japanese logical terminology was still very much in flux at the turn of the twentieth century. A cursory comparison of the logical terms listed in the three editions of the (presumably) authoritative Tetsugaku ji'i 哲學字彙 (Dictionary of philosophy), published in 1881, 1884 and 1912 respectively, and the volumes on philosophy of the Encyclopedia Nipponica (1909) reveals that even the renditions of such basic notions as “premise” or “conclusion” continued to be contested well into the twentieth century.

The terminological variety of the Japanese texts of departure was more or less faithfully mirrored in their Chinese adaptations. Even though some translators, e.g., Lin Kepei (no. 17), strove to “bring together [the different terminologies] (hui er tong zhi 會而通之)” into one consistent whole, most were so wary of involuntarily producing misunderstandings that they strictly clung to the kanbun representations of the technical terms they found in Japanese works, thus further adding to the terminological confusion in China. The texts by Lin Zutong and Wang Guowei, which I have chosen for my analysis, are no exceptions to this rule. From our point of view, Lin Zutong’s obviously not very informed rendering is of particular interest because it was the only text adapted from Japanese

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14 Funayama 1968, ch. 1.
15 Inoue Tetsujirō 1912; Nippon hyakka jisho henshuō 1909.
that appeared before Yan Fu’s translations were circulated. Wang Guowei, on the other hand, deserves attention not only as perhaps the most professional translator of his day, but more particularly because his text was completed on behalf of the new Office for Translation and Terminology (Bianyi mingci guan 編譯名詞館) at the Metropolitan Library in Beijing, the first official institution to be founded in China with the explicit purpose of promoting the standardization of scientific terms and neologisms.\textsuperscript{16}

In order to get a more precise idea of the proclivities of all five translators, as embodied in their choices of certain terms, as well as of the similarities and differences of the terminologies they suggested, I have scanned their texts for intended equivalents of a set of about one hundred notions that seemed indispensable to the type of late traditional logic they advocated. Replicas for eighty-three of these notions were present in at least three texts. I have listed these replicas in four systematically arranged tables, dedicated respectively to “general scientific terms frequently employed in logic” (table 1)\textsuperscript{17}; “terms related to terms” (table 2); “terms related to propositions” (table 3); and “terms related to inferences” (table 4). References to specific entries in these tables will be indicated in the following pages by the numbers of table and item, e.g., 2.1 indicates “table 2, item 1.”

IV Terms

At the present stage of research in the history of modern logic in China, any attempt at a comprehensive account of the formation of Chinese logical terminology would be premature, even for this early phase. In the following, I will therefore only sketch a number of possible considerations, always keeping in mind the question of what historians of logic or philosophy may hope to extract from such a collection of semiotic shells as I have collected.

From Paraphrase to Literalism

On a very general level, a vertical, column-by-column assessment of the individual choices listed in the four tables below corroborates that graphic loans from Japanese allowed Chinese translators of modern scientific texts to skip the first stage in the process “from paraphrase to literalism and beyond” which has been a recurring feature in interlingual migrations of knowledge.\textsuperscript{18} While neither Lin Zutong nor Wang Guowei saw the need to paraphrase any of the technical no-

\textsuperscript{16} Wang Shuhuai 1969.

\textsuperscript{17} The tables of this article are attached to the back cover of this issue.

\textsuperscript{18} Montgomery 2000, ch. 4.
tions they had to render (for the simple reason that their Japanese sources provided solutions for all of them), Edkins in particular resorted to this inelegant, pre-terminological strategy rather often. Among the more striking examples in his *Bianxue qimeng* we may cite 2.15: *you tizhi shiwu zhi jieyu* “a term for a corporeal entity” for “concrete term”; 2.16: *tiefu shiwu jiyi xingrong zhi jieyu* 貼附實物加以形容之界語 “a term attached to an entity for the sake of further description” for “abstract term”; 3.12: *shouguan ru, ruo deng zhi zhi yuju* 首冠如若等字之語句 “a proposition starting with words such as if or when” for “hypothetical proposition”; and 4.20: *san yuju cidi lancheng zhi lunduanyu* 三語句次第連成之論斷語 “a judgment arrived at by sequentially linking three sentences” for “syllogism.” From Li Di’s work, we could quote 2.19: *zicheng yiyi ci 自成一義詞 “a term meaningful by itself”* for “categorematic term”; and 2.20: *he yu ta ci er cheng yiyi ci 合於他詞而成一義詞 “a term meaningful only when united with another term”* for “syncategorematic term.” Only Yan Fu was able to avoid employing paraphrases in lieu of terms, sometimes, however, by concealing his inability to find adequate semantic renditions—as his rudimentary translation theory required—behind transcriptions or hybrid creations, such as 1.1: *luoji 邏輯 or luojixue 邏輯學* for “logic”; 1.7: *xibuxi 希卜梯西* for “hypothesis”; 3.4: *bulidijie for 布理狄劫* “predicate”; 3.7: *ebujie 鄂卜捷* for “attribute”; or 2.19: *jiategelima zhi ming 加特歌勒馬之名* and 2.20: *xinjiategelima zhi ming 沁加特歌勒馬之名* for “categorematic” and “syncategorematic term.” Edkins also introduced a number of phonetic renderings such as 1.1: *lujige 羅吉格* for “logic”; 2.1: *de’erma 得耳馬* for “term”; or 3.5: *gebula 哥布拉* for “copula,” but never without offering a “more Chinese,” i.e., less obviously foreign-derived semantic translation alongside, in the case of the above examples 1.1: *bianxue 辯學 “the science of disputation”; 2.1: *jieyu 界語 “limiting word” or jie 界 “limit”; and 3.5: *tianluozi 聯絡字 “connective” or different versions of the paraphrases cited above.*

If it is legitimate to interpret the felt need for paraphrase and transcription on the part of the translators as symptomatic of a particular difficulty, i.e., a larger distance between the term of departure and the linguistic context to which it was to be adapted, then a catalogue of these instances could serve as a rough guide to the locations where equivalences were especially hard to find. The above examples clearly all point towards such areas, foremost in the realm of grammar, but also in regard to technical notions of concreteness and abstraction, or an explicit conception of hypothetical utterances.

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19 For further examples, see items 2.3; 2.4; 3.5; 3.12; 3.15; 3.16; 3.17; 3.18; 4.2; 4.3; 4.4; 4.13; 4.14; 4.15; 4.16; and 4.25.
Consistency

A vertical reading of the tables can also serve to check the consistency of the individual translators’ choices. A look at the designations for the different types of terms (2.9 to 2.20) and propositions (3.11 to 3.22) is particularly helpful in this respect. In the section on terms, we find that Edkins and Li Di used the same word for “term” in all compounds (yu 語 and ci 詞, respectively). Lin Zutong and Yan Fu employed two different renderings (yu 語 and ci 詞 or duan 端 and ming 名 respectively) and Wang Guowei chose three (the homophones mingci 名辭 and 名詞 as well as yu 語). While it seems likely that Lin’s and Yan’s inconsistencies are the result of carelessness, Wang Guowei’s use of -yu in 2.19: zi-yongyu 自用語 “categorematic term” and 2.20: daiyongyu 帶用語 “syn-categorematic term” was a conscious choice indicating that he (mis-)understood both terms as belonging to the realm of grammar rather than that of logic. In the section on propositions, only Yan Fu wavers between different ways to render the terms “particular” (pianwei 偏謂, pianji 偏及 or pianju 偏舉) and “universal” (quanwei 全謂, puji 普及 or tongju 統舉); the other authors are perfectly consistent in the application of their terminological choices. In fact, with the exception of Yan Fu, the selections of our translators reveal a surprising degree of consistency. Cases in which more than one term is used to render a specific Western notion are fairly rare. Hence, at least in the narrow realm of logic, the view that the terminological confusion in early twentieth-century China was above all the result of the notorious inconsistency of negligent translators cannot be substantiated. Only Yan Fu appears as a valid target of such criticism, and it is therefore somewhat ironic that he was chosen to direct the national offices for terminological standardization during the late Qing and early Republican periods.

Conceptual Interrelations

Finally, a column-by-column assessment may be employed to consider to which degree the translators were aware of the conceptual hierarchies (Begriffsleitern) and sequences (Begriffsreihen) defining the discipline and to what extent they were able to preserve them in their renderings. Did they realize, for instance, that “subject” and “predicate” have different meanings in the contexts of occidental logic and grammar, and did they reflect this in their translations, maybe even to the extent of “correcting” or improving upon their Japanese and/or European models? Or did they confound logical notions by using the same rendition for more than one term of departure? In this respect, results are mixed: the ambiguity of “subject” (3.3) and “predicate” (3.4) that is distinguished in contemporary Chinese, ideally at least, by using zhuxiang 主項 (“main term”) and weixiang 謂

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項 ("predicated term") or zhuci 主 詞 ("primary word") and weici 謂 詞 ("secondary word") respectively, and which was also marked early on in Japanese terminology, is not yet apparent, even though Li Di and Wang Guowei were aware of it, as we may infer from their translations of other texts. On the other hand, all translators, no matter whether working from Japanese or Western sources, consciously employ pseudo-suffixes (or formants) such as -yu 語 (formant for "syntactical functions") and -ci 詞 (for "parts of speech") as a means to indicate systematic relations that are concealed in European languages.²¹ Li Di even manages to preserve the systematic and semantic connection between "term" (2.1) and "definition" (2.5) by using jiexian 界 限 and jieshuo 界 說, respectively—two of the few terms, we should note, that he adopted from earlier Jesuit sources. Obvious confusion is very rare: the only unambiguous example in the works of our pioneer translators is Lin Zutong’s use of shujian 屬 件 for the Aristotelian notions of "predicables" (3.6) and "attributes" (3.7), but this inconsistency is also present in his text of departure.

V Histories

Competition

Turning the tables and looking at the data horizontally, i.e., row-by-row, we may state first of all that among the eighty-three examples only one term is rendered by the same Chinese replica in all texts in which it was employed (namely fenxi 分析 for 4.5: "analysis"). In all other instances, we find a certain degree of competition. From the perspective of historians, such competition is not at all unfortunate. Quite on the contrary, it can help to arouse or focus our curiosity. In many cases, the diversity of the proposed replicas can be taken as an index of the contestedness or alterity of specific notions.

The prime example in this respect is the term "logic" itself (1.1). As I have shown elsewhere, more than fifty different Chinese renderings of "logic" were coined between the seventeenth and the early twentieth centuries. Even our five translators managed to introduce almost a dozen different terms, employing along the way almost all the strategies the Chinese lexicon has to offer for the integration of new words: phonetic loans, such as Edkins’ luojige 羅 吉 格, Yan Fu’s luoji 邏 輯, Li Di’s laojike 牢 輯 科, or Wang Guowei’s luojike 羅 奇 克; hybrid terms like Yan’s luojixue 邏 輯 學 ("the science of luoji"); loan translations such as Edkins’ bianxue 辨 學 ("the science of disputation") and Lin Zutong’s Japane-derived lunlixue 論 理 學 (both intended as semantic replicas of "the science of reasoning"); loan creations such as Yan Fu’s mingxue 名 學 ("the sci-
ence of names"); and, finally, loan shifts like Li Di's mingli 名理 ("the patterns of names"), coined by the redefinition of a term with a rich history in traditional Chinese thought. In this instance, competition was so fierce that it incited a passionate public debate. The contributions to this debate, that raged across the pages of the academic and even the daily press in the first two decades of the century, revealed that much more could be at stake in the choice of a Chinese "equivalent" than a more or less correct or aesthetically pleasing signifier. The debaters insisted that the term was decisive for the understanding of the discipline as a whole. Yan Fu's choice of mingxue, "the science of names", implicitly suggested a family resemblance between European logic and the teachings of the ancient Chinese "School of Names" (mingjia 名家)—and this was precisely what his opponents criticized. To them, only a semantically neutral, phonetic loan like luoji could preserve the fundamental alterity of this foreign science and thus prevent unwarranted assimilations to China's intellectual traditions.

Another example of terminological competition indicating conceptual dissonance is 4.20: "syllogism", a term which none of our translators found easy to adapt. I have already cited Edkins' uneasy paraphrase san yuju cidi liancheng zhi lunduanyu 三語句次第連成之論斷語 "a judgment arrived at by sequentially linking three sentences" as well as his transcription xiluojisi. Li Di, who found convincing renderings in almost all other cases, equivocated in this instance between the paraphrase yinzhengfa tuixiang 引徵法推想出 "an inference based on the methods of citing evidence" and the laconic sansei 三辭 "three propositions." While all these choices may have lacked elegance, they were hardly prone to provoke much discussion. As in the case of "logic", it was again Yan Fu who set off the spark for debate. Reluctant to accept the term sanduan lunfa 三段論法 "method of argumentation in three steps", which had come to be used in textbooks translated from Japanese (including Lin Zutong's Lunlixue dazhi), Yan proposed the metaphorical rendering lianzhu 連珠, literally "linked pearls", the name of a minor genre of Chinese prose that had flourished in the fifth and sixth centuries. When pressed to justify his suggestion, he claimed that lianzhu generally consisted of two brief couplets linked by the conjunction gu 故 "therefore"—and thus by the same word that connected the premises and the conclusion of the Aristotelian syllogism. By basing his choice on such feeble grounds, Yan naturally invited another round of well-deserved criticism. Yet, in the 1930s and 40s, lianzhu experienced an unlikely resurrection. Modern neo-Confucian philosophers such as He Lin 賀麟 (1902-1992) praised it as an early example of a rendition successfully "Sinicizing" (Zhongguohua 中國化) a notion of which Europeans had wrongly claimed exclusive possession.

A horizontal look at our table reveals a number of further, potentially rewarding instances of competition, including the translations of such basic terms as 2.1: "term"; 3.1: "proposition"; 3.3: "subject"; 3.4: "predicate"; 3.5: "copula"; 4.2 "deduction"; 4.3 "induction"; 4.6: "premise"; and 4.7: "conclusion." The stories to be told about the naturalization of each of these notions in Chinese contexts
must certainly reach beyond enumerating their various replicas. Yet, even a cursory glimpse into these tales confirms that the diversity and contestedness of a notion’s translation can be taken as a fairly reliable indication of conceptual, philosophical or ideological ambiguities that deserve further investigation. In addition, a closer look into these stories may help explain some of the rather unexpected usages of scientific terms in late-Qing texts. It seems to me, for instance, that Liu Shipei’s 刘師培 deliberations on the pros and cons of “inductive” and “deductive” (i.e., “centralist” and “regionalist”) political parties or Kang Youwei’s 康有為 exhortations that political action must be based on indisputable “axioms” (i.e., “convictions”) can only be understood in light of the conceptual fluidity of the terms by means of which these notions were circulated at the time. If nothing else, I think that this awareness should prevent us from passing premature judgments on the supposed “misunderstanding” or “conscious distortion” of foreign-derived meanings in late-Qing discourses.

The Problem of Continuity

Another respect in which a row-by-row reading may further our understanding of intellectual history is the problem of the relation between “traditional” and “modern,” or rather “native” and “imported” conceptions of logic in China. Contemporary historians of “Chinese logic”—a term, we may note in passing, that was invented by the Japanese philosopher Kuwaki Genyoku 桑木巖翼 in the year 190022—usually insist that a more or less definite set of technical terms was available in Chinese since the third century B.C., and that this set entailed equivalents to most of the fundamental notions from which “Western” logic was built.23 If this was the case, we should have reason to expect that at least some of these terms were employed in the translations of logical notions adapted from the West. However, the data compiled here reveals that none of the “logical” terms of art from the Mohist Canon (Mojing 墨經), the Gong sun Longzi 公孫龍子, or Xunzi’s 荀子 treatise on the “Rectification of Names” (“Zhengming pian” 正名篇) was used for this purpose. Traditional terms with an attested history of usage in meanings close to relevant Western notions, such as tui 推 “to push forward” or “deduce,” bian 辯 or 辨 “to debate,” “dispute” or “differentiate,” lun 論 “to argue,” zhengming 證明 or zhengju 證據 “to put forward evidence,” are only applied in a number of compounds for the more general terms of scientific import (cf. 1.2 to 1.6). Likewise, lei 類 “class” and zhong 種 “kind” were used as obvious choices to render 2.7: “genus” and 2.8: “species,” but even here there is some lingering uncertainty as to which of the two notions each word could serve to translate. Finally, there is also no trace of terms from yinming 因明 or

22 Funayama 1968, 242-49.
23 Cf., e.g., Li Kuangwu 1989, and many similar works.
hetuvidya-reasoning, the second “Chinese tradition” of logical thought that could have been used by the translators as a potential source of inspiration. Not even in the realm of “fallacies” (4.24 to 4.30), for which Chinese Buddhist thinkers had indeed developed a highly differentiated lexicon of “transgressions” (guo 過), do we find any sign of terminological continuity. Hence, there is apparently no lexical evidence for the claim that early Chinese interpreters of occidental logic situated the discipline in one of the contexts which are today customarily presented as its “natural” indigenous counterparts.

Concluding Remarks

The considerations in the preceding sections must certainly be expanded and refined. Nevertheless, I hope that my preliminary notes have shown that studies in the history of terminology may be a worthwhile pursuit, not only for linguists, but also for historians of science and thought. Diachronic explorations into the formation of modern Chinese scientific terminologies can help to reconstruct not only the strategies of individual translators and the consistency of their respective choices, but also their understanding of specific notions or even entire branches of knowledge. Moreover, such investigations supply valuable leads regarding the many conceptual dissonances inevitably involved in the nativization of foreign ideas in a new cultural and linguistic environment.

Japanese models provided a welcome short-cut for early Chinese translators of logical texts. Working from European originals was a lonely enterprise that required much greater terminological inventiveness. However, while certainly facilitating and speeding up the process of terminological normalization, borrowing terms from Japanese did not exempt the recipient Chinese audiences from the conceptual effort necessary to integrate the new terms and notions into their academic and discursive practices.

Let me conclude with a pre-emptive retort to a very possible criticism from linguists concentrating on synchronic studies of terms and terminologies. I certainly agree with their view that in contemporary scientific discourse technical terms are to be understood as proper nouns which are given their meanings through the definitions negotiated by experts in specialized discussion. However, this does not necessarily invalidate historical studies on the formation of the lexical items from which these terminologies were built. In the period under consideration here, such a specialist discourse was just about to emerge in China and in this brief transitional moment terminological choices were far more than a matter of personal taste—they were, to paraphrase an aphorism by Bertolt Brecht, “the handles by which things [in our context: the new notions from the

West] are set in motion.” 25 Tracing the terms in which these notions were given currency—from their Chinese, Japanese or European sources to their applications in the most remote areas of debate—can supplement our understanding of the specific dynamics of conceptual change in late Qing and early Republican China and thus represent one further step towards a historical semantics of modern Chinese discourses. 26

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25 Begriffe sind die Griffe, mit denen wir die Dinge bewegen.

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