The transplantation and adaptation of terms from Japan to China at the beginning of the 20^{th} century

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Abstract: The aim of the present paper is to study the history of the traffic of terms in Asia. The introduction of terms for European concepts supported the construction of a modern society in Japan in the late 19th century. Our last study found that the Japanese term dictionary *Tetsugaku Dai Jisho*, published in Tokyo in 1905, was consulted by two missionaries, Timothy Richard and Donald MacGillivray, when compiling the Chinese term dictionary *Dictionary of Philosophical Terms: Chiefly from the Japanese*, published in Shanghai in 1913. Approximately 65% of the headwords in the A–D section were adopted from the Japanese dictionary, and among the adopted headwords over 90% of the Japanese equivalents were taken. The missionaries also referred to two English-Chinese dictionaries of technical terms compiled by (1) Cousland in 1908 and (2) Mateer and Stuart in 1910, respectively. (The latter dictionary is referred to as "Mateer" henceforth.) This study reports the results of a comparison of these two dictionaries and Richard and MacGillivray's dictionary and describes the process of compiling the term dictionaries. It appears that they did not employ Mateer's 1904 edition, but they did employ his 1910 edition. We conclude that Mateer's dictionary had a higher priority than Cousland's for Richard and MacGillivray. We further conclude that they employed *Tetsugaku Dai Jisho* for the main material and Mateer as an alternative, while they obtained medical terms from Cousland.

Keywords: Loan words; Term dictionary; Missionary Linguistics; Pre-modern Japanese; Pre-modern Chinese;

1. Background and problems of the present study

The coinage of words for European concepts supported the construction of a modern society in Japan the late 19th and early 20th century. Many such terms have survived and permeated into the core of present-day Japanese. The aim of the present paper is to study the history of these terms with an overview of the process of compiling a dictionary that indirectly followed *Tetsugaku Jii* or *Dictionary of Philosophy* (hereafter sometimes written "*TJ*").

TJ (Inoue et al. 1881), followed by two editions and well known in Japan, played the role of introducing new scholarly terms that diffused into Japanese. Recent studies have yielded some findings related to TJ: another edition of TJ, supposedly published in 1891 (Hida 2005, Sanada 2009); a manuscript of the section A to D prepared from 1893 to 1898 for the 1912 edition (Sanada 2012), which was published as an appendix to the journal Tetsugaku Zasshi, as well as many marginal notes for the preparation of a later edition of the dictionary, which its authors originally possessed (Chin 2001, Sanada 2012). It has also been found that Inoue wrote some entries of the Tetsugaku Dai Jisho or Great Dictionary of Philosophy (Dainihon Hyakkajisho Henshujo 1905–1926/1978) (hereafter sometimes written "TDJ") in his diary while he compiled the 1912 edition of TJ.

It has been found that *Dictionary of Philosophical Terms: Chiefly from the Japanese* (Richard & MacGillivray 1913) (hereafter sometimes written "Richard & MacGillivray" or "R & M"), published in Shanghai, partly followed the contents of *TDJ*. According to their preface, R & M referred to *TDJ* and extracted the English headwords with their Japanese equivalents that could also be employed as Chinese equivalents. We confirmed that some of the headwords in R & M definitely referred to *TDJ* (Sanada 2013).³

According to their preface, R & M also appeared to refer to two other English-Chinese term dictionaries. In the present study the following problems are investigated:

- 1. Which editions of these two term dictionaries were employed by R & M?
- 2. How many headwords of these term dictionaries were employed?
- 3. How many headwords and their equivalents are completely or partly the same as the headwords employed from *TDJ* and other words employed from these term dictionaries?
- 4. Did *R* & *M* only employ words from *TDJ* and these two term dictionaries, or is there a possibility that they also employed words from another source?

¹ Kokawa et al. (1997) evaluates the *Tetsugaku Jii* or *Dictionary of Philosophy* as one of the leading publications in the flowering of philosophical studies in the late 19th century (1997: 80–81).

From Inoue's diary it has been found that a manuscript for the section A to D was sent to the publisher at one time for the 1912 edition, which was based on the manuscript in the journal. A manuscript for the section containing E and later letters seems not to have been published as an appendix to the journal before it appeared in the 1912 edition.

³ The diffusion of the original copy of the *R* & *M* (1913) seems to have been very limited in Japan, and in this study a facsimile edition is used. Finally, two original copies in the Toyo Bunko (Oriental Library) in Tokyo and another in private possession have been found.

In the following sections, we introduce four dictionaries, *R* & *M*, *TDJ*, and the two English-Chinese term dictionaries. Then we discuss how many and which words in *R* & *M* overlap with those of *TDJ* and are common to the two English-Chinese term dictionaries.

2. Introduction to the dictionaries and how the study was conducted

2. 1. Richard & MacGillivray's dictionary and two term dictionaries

Dictionary of Philosophical Terms: Chiefly from the Japanese (Richard & MacGillivray 1913), published in Shanghai, lists English terms with their Chinese equivalents. The two authors were missionaries and they compiled this dictionary for their missionary work. According to its title, most of the Chinese equivalents were adopted from Japanese. In the preface MacGillivray mentioned, "I went to the great Japanese work 哲學大辭書" and copied out the terms that are therein described at length." According to the preface it has 2,482 entries. The preface also mentioned the background of this publication. The Chinese government had not established some terms in Chinese, although they said they had, and Japanese terms were very extensively adopted.

The Christian Literature Society for China started its activities in 1887, and Timothy Richard (1845–1919), a Welsh Baptist missionary and co-author of *R & M*, worked as the secretary. The other author, Donald MacGillivray (1862–1931), a Canadian Presbyterian missionary, went to China in 1899 and joined the CLSC (Christian Literature Society for China) (MacGillivray 1907). He is also known as an author of the revised edition of Stent's dictionary *A Chinese and English Vocabulary in the Pekinese Dialect* (Stent & MacGillivray 1898).

Missionaries in Shanghai had already published books of terms. In the preface to Richard & MacGillivray, Dr. G. A. Stuart and Dr. Cousland are named as authors of these books as follows: "Dr. G. A. Stuart's work published by the Educational Association of China in 1910, as well as Dr. Cousland's Dictionary of Medical Terms are excellent but wholly different" (Richard & MacGillivray 1913: Preface). These books of terms seem to be indicated:

Mateer, Calvin Wilson; Educational Association of China. (1910). *Technical terms, English and Chinese, revised by Geo. A. Stuart.* Shanghai, Methodist Pub. House,

and

Cousland, Philip B. (1908). An English-Chinese lexicon of medical terms: Compiled for the

⁴ Tetsugaku Dai Jisho. The reading is marked by the present author.

Terminology Committee. Shanghai: Publication Committee Medical Missionary Association of China.

The first author of the dictionary from 1910, which was mentioned as "Dr. G. A. Stuart's work," is not Stuart but Mateer, and it has an earlier edition (Mateer 1904):

Mateer, Calvin Wilson and the Educational Association of China. (1904). *Technical Terms, English and Chinese*. Shanghai: Printed at the Presbyterian Mission Press.

In the preface to the 1904 edition, the name "Geo. A. Stuart" is listed as a co-author.

Calvin Wilson Mateer (1836–1908) was known as an educator, a translator, and the chairman of a committee for the revision of the translation of the Bible into Chinese (Fisher 1911: 10–11). He is said to have been a pioneer Presbyterian missionary in Shandong (Shantung) Province and the founder of the first Christian college in China (Anderson 1999: 440). Mateer's dictionary (1910) has 492 pages consisting of a list of terms, with 11 pages of proper names. In their preface they mentioned that some terms had been gathered from other term lists that had already been published, some were translated by the editors, and some were brought to them by collaborators who were experts in each subject. The dictionary covered over 50 subjects. Cousland's dictionary (1908) is known in Japan under another title, *Igaku Jii* (Matsumoto 2009). Its 32nd revised edition was published in 1974, and the dictionary had been in use for a long time in Japan. An obituary of Philip B. Cousland (1861–1930) (Anonymous 1930: 164) reported that he had worked for a long time as a member of the terminology committee of the China Medical Missionary Association, and that he was called "one of the 'fathers' of modern medicine in China." According to the Historical Note in Cousland's dictionary (1908: viii–ix), the authors had held conferences and made a list of terms by 1907. Therefore, this dictionary seems to have no earlier edition.

⁵ "The subjects covered are: Arithmetic, Algebra, Geometry, Trigonometry, Analytical Geometry, Calculus, Surveying, Navigation, Engineering, Mechanics, Hydrics, Pneumatics, Acoustics, Heat, Steam, Optics, Electricity, Magnetism, Chemistry, Metallurgy, Mineralogy, Crystallography, Geology, Geography (Political and Physical), Astronomy, Grammar, Botany, Zoology, Anatomy, Physiology, Therapeutics, Pharmacy, Materia Medica, Theology, Ecclesiastical Terms, Rules of Order for Deliberative Bodies, Psychology, Moral Philosophy, Political Economy, International Law, Official Titles, Civil, Military and Naval Affairs, Customs, Taxes, House-building, Machinery, Tools, Printing, Watchmaking, Photography, and Philosophical and Chemical Apparatus, besides many terms of a miscellaneous character" (Mateer 1910: 4).

Cousland (1908) also mentioned Stuart as a co-worker.⁶ George A. Stuart (1858–1911),⁷ a medical doctor and missionary, is known as the President of the University of Nanking (? –1908) and for revising F. Porter Smith's *Chinese Materia Medica* (Smith & Stuart 1911).

MacGillivray did not mention that R & M surely supplied terms from these two term dictionaries. However, we assume that these two dictionaries might have had a certain influence on R & M. This is one of the problems of this paper, as mentioned above.

2. 2. Tetsugaku Dai Jisho and Richard and MacGillivray's dictionary (Sanada 2013)

In our study (Sanada 2013), words employed from *TDJ* by *R & M* were described. Considering the series of the study of terms from *Tetsugaku Jii* (*Dictionary of Philosophy*), including the manuscript of the section A–D to *Tetsugaku Dai Jisho*, headwords from the section A to D in *R & M* were examined. *R & M* transferred about 65% of their headwords from *TDJ* with Japanese equivalents to their dictionary. Approximately 99% of the Japanese equivalents were taken if their headwords were employed. It appears that Richard and MacGillivray decided not to include words in Japanese script (*hiragana* or *katakana*) or "explanatory equivalents" in their Chinese dictionary. The order of Japanese equivalents in *R & M* is not the same as the order of the original articles in the main part of *TDJ*, but it is very similar to the order of the equivalents in the English index of *TDJ*. Therefore, we conclude at least that Richard and MacGillivray did not refer to Japanese articles in the main part and that they probably employed and revised the index of English equivalents.

3. Comparing Richard and MacGillivray's dictionary with two term dictionaries

3. 1. Three editions of two term dictionaries: Mateer et al. 1904, 1910 and Cousland 1908

Sources of the headwords of R & M (1913) that were not transferred from TDJ are one of the problems of the present study. Two term dictionaries, Mateer (1910) and Cousland (1908), are strong candidates

⁶ "He [Cousland] with Dr. J. B. Neal and Dr. G. A. Stuart have a large share in the responsibility for the terms chosen." (Cousland 1908: ix)

Many libraries write that his birth year is unknown, except for Stanford University Library, which houses the Hummel Collection of R. Stuart Hummel, a grandson of George A. Stuart (Geller 2011). According to personal correspondence of January 5th, 2016, between the author of the present paper and staff of the special collections of Stanford University Library, they assume that Mr. Geller, i.e., the author of "Guide to the R. Stuart Hummel Family Papers M1607," obtained Stuart's birth year from the records as he was processing the collection.

because both were mentioned in the preface of R & M. Mateer (1910) is the latest edition before R & M, following its first edition in 1904. Therefore, the terms in R & M are compared with those of these three editions of the (two) term dictionaries. We follow the preceding study in investigating headwords from the section A to D in the term dictionaries. Table 1 shows the number of words R & M employed from each of the three term dictionaries. First we select (a) headwords of the term dictionaries which correspond to those of R & M, and then we investigate how many of their equivalents correspond to equivalents of R & M. The number of headwords of the term dictionaries having common equivalents with R & M are categorized as (b), and those with partly common equivalents with R & M are categorized as (c) in Table 1.

Table 1. Number of headwords and their equivalents that Richard & MacGillivray's dictionary employed from four editions of three term dictionaries (Sections A to D)

	Tetsugaku	Mateer's	Cousland's	Mateer's
	Dai Jisho	Technical	Lexicon of	Technical
	(1905–1926/	Terms	Medical Terms	Terms
	1978)	(1910)	(1908)	(1904)
(a) Number of headwords which	469	219	84	199
correspond to those of $R \& M$				
(b) Number of headwords which have	431	97	24	76
common equivalents with R & M				
(c) Number of headwords which have	35	27	8	24
partly common equivalents with R & M				
Total	466	124	32	100
Ratio of number of headwords whose	99%	57%	38%	50%
equivalents $R & M$ (partly) employed	(=431+35)/46			
from each dictionary (=(b+c) /a)	9)		_	

As shown in Table 1, 97 headwords of Mateer (1910) and 76 of Mateer (1904) have common equivalents with R & M, while 27 headwords of Mateer (1910) and 24 of Mateer (1904) have similar equivalents⁸ with R & M. Equivalents of Mateer (1910) and Mateer (1904) that correspond to R & M overlap

⁸ For example, the use of a different suffix or a different *kanji* with the same meaning can be regarded as a "similar" equivalent. For the definition of "similar" equivalent, see Sanada (2013).

considerably, and the equivalents of only two headwords, "Catechism" (p. 9) and "Culture" (p. 16), correspond to Mateer (1904) but not Mateer (1910). The equivalents of these two headwords are shown in Table 2. However, these equivalents also completely correspond to TDJ. Therefore, there is a high probability that these two equivalents were not taken from Mateer (1904) but from TDJ. We conclude that R & M was not directly influenced by Mateer (1904), and henceforth refer to "Mateer (1910)" as "Mateer" when confusion is unlikely.

Table 2. Two headwords of Richard and MacGillivray's which correspond to Mateer 1904 and their equivalents

Dictionary	Equivalents of	Mateer's Technical	Mateer's	Tetsugaku Dai Jisho
	Richard &	Terms (1904)	Technical	(1905–1926/1978)
	MacGillivray		Terms (1910)	
Headword	(1913)			
Catechism	教会問答 (p. 9)	教会問答 (p. 71)	聖教問答 (p. 44)	教会問答 (p. 3224)
Culture	教化,修養 (p.	教化 (p. 115)	有文化 (p. 72)	教化,修養 (p. 3221)
	16)			

3. 2. Overview of overlapping words among four dictionaries

As mentioned above, MacGillivray's preface indicates they certainly employed words from TDJ but only mentioned Mateer's and Cousland's dictionaries. The numbers of words shown in Table 1 are for the words R & M employed from the three term dictionaries. There is some overlap among these dictionaries. Considering the process by which R & M compiled supplementary words, in this section we describe how many words were commonly employed from the three dictionaries by R & M. It can be assumed that TDJ had a higher priority for R & M than Mateer and Cousland. Therefore, we discuss here which term dictionary, Mateer or Cousland, had second priority.

⁹ Hereafter the readings of equivalents are not given because it is not clear whether Richard and MacGillivray read them in the Japanese or Chinese way. For these authors it is the written form of the words that seems to have been important.

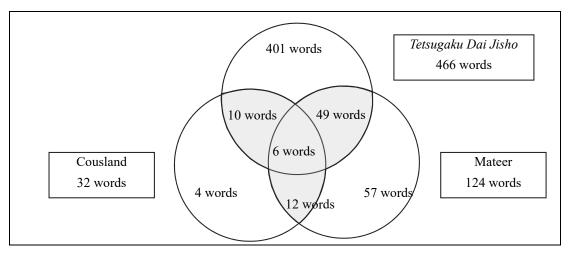


Figure 1. Number of overlapping headwords of three dictionaries in Richard & MacGillivray (Sections A to D, N = 719)¹⁰

Figure 1 shows the combinations and numbers of headwords of the three term dictionaries whose equivalents are employed by R & M. The total number of headwords in the section A to D of R & M that correspond to at least one of the three dictionaries is 539 of 719 words, i.e., 75% of headwords in R & M. The numbers of overlapping headwords colored in gray include headwords which have completely or partly corresponding equivalents to those of R & M. For example, in [A] five of six words, in [B] 33 of 49 words, and in [C] five of ten words have equivalents completely corresponding to each other. The rest of the overlapping words have equivalents partly corresponding to each other. The words in [A], [B], and [C] are listed in the appendix. From Table 1 and Figure 1 we observe that the first is the number of headwords only employed from TDJ, with those only employed from Mateer coming second. We examine some cases in the following sections.

3. 3. From which dictionary did Richard and MacGillivray employ an equivalent if there are several equivalents among the three dictionaries?

The source of a headword or equivalent in R & M would be clear if a headword or an equivalent in R & M corresponded to those in one of the other three term dictionaries. How did they compile their dictionary if they found the same headword in two or more term dictionaries? As mentioned above, it can be said from a quantitative point of view (the number of words taken from each) that R & M employed words from TDJ, Mateer, and Cousland in that order. It is also known that 99% of the equivalents were taken from TDJ if their headwords were taken (Sanada 2013). Here we carry out a qualitative analysis to

¹⁰ 466 words, 124 words, and 32 words in the figure are also shown in Table 1.

determine from which dictionary they employed equivalents when the same headwords existed in two or more term dictionaries. Table 3 provides a list of the examples mentioned in the following sections.

Table 3. Examples of equivalents of four term dictionaries

Dictionary	Richard &	Tetsugaku Dai Jisho	Mateer's Technical	Cousland's	
	MacGillivray	(1905–1926/1978)	Terms 1910	Medical Terms	
Headword	(1913)	(Japanese)	(Chinese)	1908 (Chinese)	
Anatomy	解 剖 学 (See	解剖学 (p. 3227)	解剖学 (p. 8)	解剖学 (p. 16)	
	Stuart) (p. 4)				
Cerebellum	小脳 (p. 10)	小脳 (p. 3224)	小脳 (p. 47)	小脳 (p. 73)	
Cerebrum	大脳 (p. 10)	大脳 (p. 3224)	(No headword)	大脳 (p. 73)	
Ceremony	儀式 (p. 10)	儀式 (p. 3224)	礼式, 儀文 (p. 47)	(No headword)	
Diphthong	二重母音 (p.	二重母音 (p. 3219)	双喉音 (p. 83)	(No headword)	
	19)				
Alcoholism	中酒性精神病.	中酒性精神病.アル	中酒, 酒毒成患 (p.	中醕, 中酒 (p.	
	阿爾箇保児情狂	コール中毒狂 (p.	6)	9)	
	(中酒) (p. 3)	3227)			
Cell	細胞(脒 See	細胞 (p. 3224)	株,珠 (p. 45)	胜 (~ 70)	
	Stuart) (p. 10)		/////////////////////////////////////	縣 (p. 70)	
Cochlea	蝸牛殼(耳螺) (p.	蝸牛殼 (p. 3223)	耳螺 (p. 57)	耳螺 (p. 81)	
	12)				
Delusion	妄想(幻想.非非	妄想 (p. 3220)	幻想 (p. 79)	(No equivalent)	
	想) (p. 18)				
Centre of	重心点 (p. 10)	(No headword)	重心点 (p. 47)	(No headword)	
gravity					
Diagnosis	診断 (p. 19)	(No headword)	(No headword)	診断論,診断	
				(p. 102)	
Alcohol	酒精 (p. 3)	(No headword)	酒精, 醕 (p. 5)	醕, 酒精 (p. 9)	

3. 3. 1. Equivalents corresponding to Tetsugaku Dai Jisho

It may be hard to determine the source of equivalents in R & M if their equivalents correspond to those of two or more dictionaries. For example, an equivalent of "Cerebellum" (p. 10) in R & M, i.e., 小脑, is consistent with all three term dictionaries, and an equivalent of "Cerebrum," i.e., 大脑, is consistent with two dictionaries. However, equivalents of such types are not frequent in R & M.

In the case of medical terms, e.g., "Anatomy" (p. 4), Richard and MacGillivray wrote the note "See

Stuart" even though three dictionaries have the same equivalent, 解剖学. It can be inferred from this note that R & M employed equivalents from Cousland for medical terms.

Richard and MacGillivray preferred the *TDJ* to the other dictionaries for equivalents. In the case of "Ceremony" (p. 10) and "Diphthong" (p. 19), both *TDJ* and Mateer have different equivalents, i.e., 儀式 and 二重母音 for *TDJ* and 礼式, 儀文, and 双喉音 for Mateer, and only those from *TDJ* were taken. Basically, *TDJ* had higher priority than the other two dictionaries.

There are some examples where R & M took equivalents from TDJ and listed them first, but also listed equivalents from the other dictionaries in parentheses, e.g., "Alcoholism" (p. 3), "Cell" (p. 10), "Cochlea" (p. 12), and "Delusion" (p. 18).

The headword "Alcoholism" in *R & M* has three equivalents: 中酒性精神病, 阿爾箇保児情狂, and (中酒) (p. 3). The equivalents 中酒性精神病 (p. 3227) of *TDJ* and 中酒 (p. 6 for Mateer, p. 9 for Cousland) of the two Chinese term dictionaries correspond to equivalents from *R & M*. However, the word 中酒 is not pure Japanese. It was employed in a series of editions of *TJ* and *TDJ*, although the word did not survive into present-day Japanese. The equivalent 中酒 shows that the Japanese and Chinese terms have intertwined and influenced each other. 阿爾箇保児 (p. 3) from *R & M* is a transliteration of 'alcohol' in *kanji*. The authors might have imitated the transplanting of words using transliteration, referring in this case to the Japanese equivalent アルコール (p. 3227), which is a transliteration of 'alcohol' in Japanese script (*katakana*).

For the headword "Cell" there are two equivalents in R & M: 細胞 and (株) (p. 10). The first equivalent corresponds to TDJ, the second to equivalents in Mateer and Cousland. For the headword "Cochlea" there are two equivalents: 蝸牛殼 (耳螺) (p. 12) in R & M. The first corresponds to TDJ, the second (in parentheses) to equivalents in Mateer and Cousland. For the headword "Delusion" there are three equivalents: 妄想 (幻想. 非非想), and the equivalent 妄想 (p. 18) without parentheses corresponds to the equivalent of TDJ. The equivalent 幻想 (p. 18), one of the other equivalents with parentheses, corresponds to Mateer.

Such use of parentheses for equivalents and the choice of equivalents seem to show that R & M regarded TDJ as the source with higher priority than Mateer's or Cousland's dictionaries.

3. 3. 2. Equivalents whose headwords do not correspond to those from Tetsugaku Dai Jisho

R & M also supplied their headwords and equivalents from Mateer or Cousland when TDJ had no headwords, e.g., "Centre of gravity" (p. 10) and "Diagnosis" (p. 19). These headwords with their equivalents 重心点 and 診断 correspond to the two dictionaries.

R & M often preferred to take equivalents from Mateer if TDJ did not have the headwords and the other two did. For the headword "Alcohol" (p. 3), R & M has the equivalent 酒精. Mateer has two

equivalents, 酒精 and 醕, which Cousland also has in the reverse order, i.e., 醕 and 酒精. It can be assumed that R & M took the first equivalent of Mateer.

Stuart contributed to Mateer (1904), Cousland, and Mateer (1910). This might be the reason that some equivalents from Mateer (1910) correspond to those from Cousland. Mateer's term dictionary covers a wider field than Cousland's medical term dictionary, and we assume that this is the reason why R & M preferred Mateer over Cousland. It is also assumed however that Richard and MacGillivray trusted Cousland's dictionary even though they employed fewer words from it than from Mateer, because they put a note "See Stuart" on a few headwords for medical terms.

4. Conclusions and future tasks

The present paper has discussed questions concerning Richard and MacGillivray's term dictionary (1913), i.e., the *Dictionary of Philosophical Terms: Chiefly from the Japanese*, considering the results of a comparison between *R & M* and *TDJ* (Sanada 2013). We have concluded as follows:

- 1. It can be assumed that they did not employ Mateer's 1904 edition, but did employ his 1910 edition.
- 2. Among the three term dictionaries, *TDJ* has the most headwords, i.e., 466 words, employed by *R & M*, followed by 124 words of Mateer's dictionary (1910) and 32 words of Cousland's dictionary (1908) (Table 1).
- 3. There are many types of overlapping words among the three dictionaries employed by *R & M*. Only six words are common to the three dictionaries (Figure 1), while 462 out of 719 words are employed from only one of the three dictionaries (401 words, 57 words, and four words in Figure 1). By means of quantitative and qualitative observation of overlapping words, we conclude that Mateer had a higher priority than Cousland for Richard and MacGillivray. We assume that they employed *TDJ* as their main source while referring to Mateer as an alternative, and they also drew medical terms from Cousland.
- 4. Approximately 75% of the 719 headwords and their equivalents in *R & M* seem to be supplied from the three dictionaries, i.e., *TDJ*, Mateer, and Cousland. However, the source of the rest (25% of the 719 headwords) is still unknown.

In the preface of *R & M* it is stated that "The present work is issued by the C. L. S., primarily to meet its own needs." What were their "needs"? They also described the situation of terms in China after the Sino-Japanese War (1894–1895) as "(Japanese terms) are coming in like a flood. They are in the field and we should know them. All who deal with students as well as translators will find knowledge of at least the principal terms indispensable." From these sentences it is assumed that their "needs" meant the principal indispensable terms for students or translators that had come to China. Richard and MacGillivray must have aimed to compile a small term dictionary because their dictionary has only about 2,500 entries in roughly 70 pages. Their terms would have had to have been well balanced and well

selected. *TDJ* covers not only philosophical terms in a narrow sense but also academic terms meeting the needs of students or translators. Mateer covers fields widely but at 352 pages was perhaps too large for Richard and MacGillivray. Cousland covers only medical terms and has 417 pages. Therefore, it was very efficient to compile a dictionary in the following way: First Richard and MacGillivray copied an English index of a Japanese term dictionary and then sourced medical terms from Cousland and other terms from Mateer.

Regarding future work, the following problems remain:

- 1. It is expected that many of the headwords and Japanese equivalents of *TDJ* were taken from *TJ*. A history of the transition of terms from Japan to China in the late 19th century or the beginning of the 20th century should be considered if a comparison between *TDJ* and *TJ* is performed.
- 2. It is hard to be sure that all equivalents given in R & M are acceptable as Chinese. These equivalents must be carefully referred to dictionaries of modern Chinese to see how many have survived.
- 3. There is a possibility that Mateer's and Cousland's dictionaries resemble each other because Stuart helped compile both.
- 4. The influence of *TDJ* on modern Japanese in lexicalizing Western concepts and the currency of these lexicalized items in contemporary Japan should be investigated and discussed. Regarding studies with *TJ*, we have already published some results (Sanada 2013).

This study contributes to finding one of the routes of the adaptation of terms from Japanese to Chinese and examining the process of compilation of missionaries' term dictionaries.

The survival of the terms that R & M employed should be investigated. However, R & M was not followed by a second edition and it is likely that the influence of this dictionary was not strong at that time.

R & M employed mainly the Japanese dictionary and secondly two Chinese dictionaries. Some equivalents like 中酒 "Alcoholism" had been transferred to Japan at the end of the 19^{th} century, and then the equivalents were employed in R & M, i.e., "returned words" via the Japanese dictionary. It should be kept in mind that more Japanese words, including words of both Japanese and Chinese origin, were transferred to China after the Sino-Japanese War (1894–1895).

Missionaries in Asia seemed to have their own network at that time. There is the possibility that they transferred words between Japan and China. Missionaries in Asia in the late 19th century or the beginning of the 20th century seemed to work widely beyond the borders of their countries and maintain frequent contact with each other. It is very probable that there was a network of information among missionaries in Asia, and it can be concluded that Japanese terms were transferred to China through such a network.

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Appendix.

List of examples of common headwords and equivalents among three or four dictionaries¹¹

Richard and MacGillivray		Tetsugaku Dai Jisho		Technical Terms 1910		Lexicon of Medical Terms 1908		
Page	Headword	Equivalent	Page	Equivalen t	Page	Equivalen t	Pag e	Equivale nt
Group [A] Corresponding to Tetsugaku Dai Jisho, Technica.						910, and <i>Medi</i>		
words.								
3	Alcoholism	中酒性精神 病.阿爾箇 保児情狂 (中酒)	3227	中酒性精 神病.ア ルコール 中毒狂	6	中酒,酒 毒成患	9	中醕, 中酒
4	Anatomy (dissection)	解剖学 (See Stuart)	3227	解剖学	8	解剖学	16	解剖学
10	Cerebellum	小脳	3224	小脳	47	小脳	73	小脳
12	Cochlea	蝸牛殼(耳 螺)	3223	蝸牛殼	57	耳螺	81	耳螺
18	Delusion	妄想 (幻想. 非非想)	3220	妄想	79	幻想	100	幻想
Group [B] Correspondir	ng to Tetsugaku	Dai Jisho	and Technic	al Terms	1910: 33 word	ds	
3	Ambition	功名心.大 望(好勝)	3227	功名心	7	好勝		
4	Amulet	護符	3227	護符	8	護符		
4	Analogy	類推.相似. 比論	3227	[論]類推. 比論	8	類同,類 推,比論, 形勢相似		
4	Anger	憤怒	3227	憤怒	9	憤怒, 怒 気		
4	Angel	天使	3227	天使	9	天使, 天 神, 使者		
5	Anthropolog y	人類学. 人間論	3226	[人]人類 学. [基] 人間論	11	人類学		
5	Appetite	体欲(情欲)	3226	体欲	12	情,情欲, 情欲之才	21	想食, 胃口開
6	Astrology	占星学	3226	占星学	16	占星学		
7	Attribute	性格.属性 (固有質)	3225	属性	17	属性,情 形		
7	Axiom	公理 (自然之理)	3225	公理	18	自理,公 理,公論		
7	Baptism	浸礼. 洗礼	3225	浸礼. 洗 礼	21	聖洗,洗 礼,浸礼		
8	Benevolence	仁愛	3225	仁愛	25	仁, 仁愛		
8	Bible	聖書	3225	聖書	25	聖書, 聖 経		

¹¹ The examples are included in the overlapping words in gray in Figure 1.

8	Biology	生物学	3225	生物学	26	活物学, 生物学		
8	Buddha	仏陀 (如来.釈迦)	3224	仏陀	36	仏, 釈迦		
9	Category	範疇(類)	3224	範疇	44	類		
10	Character	文字.品性 (徳性)	3224	[論]品性. [言]文字	49	品格,品 性,品行		
10	Characteristi c	特徴 (特性)	3224	特徴	49	特性,性		
11	Church	教会	3223	教会	52	教会		
11	Circumcisio n	割礼	3223	割礼	54	割礼	79	茎包頭 割術
11	Civilization	文明(教化)	3223	文明	54	教化		
13	Communism	共産主義	3223	共産主義	60	共産主 義, 有無相通		
13	Concept	概念(意影)	3222	概念	61	意影		
13	Conclusion	断案(結論)	3222	断案	62	総結,結 論,帰結, 断語,末 歩		
14	Confirmatio n	堅信礼	3222	堅信礼	63	堅信, 堅 信礼, 堅 振礼		
14	Conscience	良心 (是非之心)	3222	良心	63	是非心, 良心		
14	Content	内容(積)	3222	内容	64	積		
15	Co-operation	協力	3221	協力	65	協力,合 力,互相 輔助		
16	Criterion	準拠(標準)	3221	準拠	71	標準		
17	Curve	曲線	3221	曲線	74	曲線		
17	Deism	自然神教	3220	自然神教	78	自然神教		
18	Deluge	洪水	3220	洪水	79	洪水		
20	Dualism	二元論 (陰陽論)	3219	二元論	87	二元論, 陰陽論		
	C] Correspondin				Terms 19	908: 5 words	16	37 ND 40
8	Binocular vision	双眼視	3225	双眼視	22	# ! "	46	双眼視
8	Botany	植物学	3225	植物学	33	草木学	53	植物学, 苼学
10	Cerebrum	大脳	3224	大脳			73	大脳
19	Dipsomania	嗜酒症	3219	嗜酒症			107	嗜酒症
20	Dizziness	眩暈	3219	眩暈			110	発暈