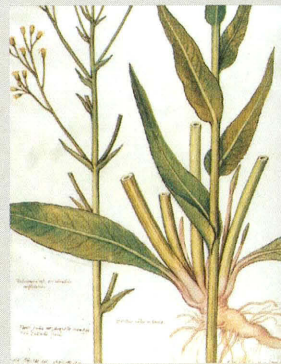
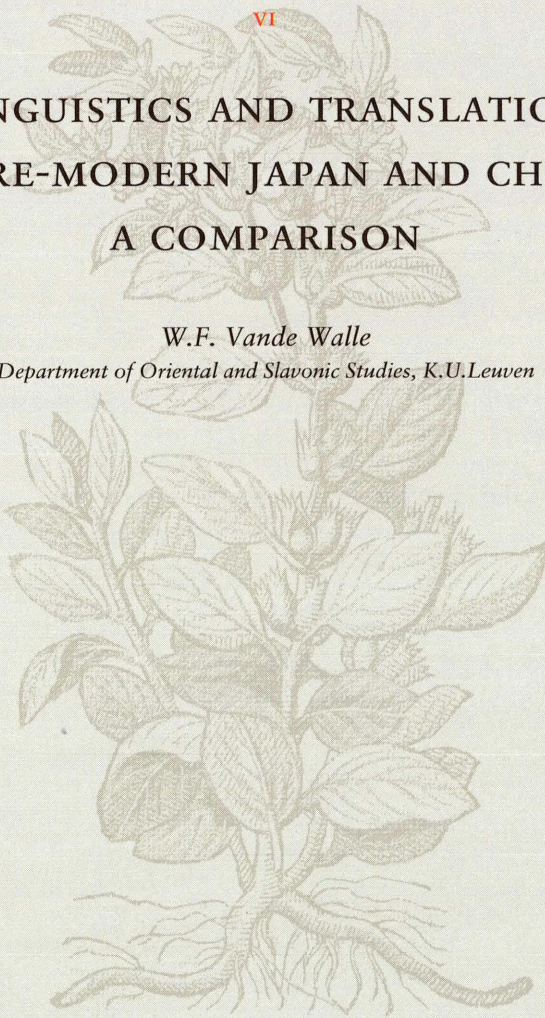


LINGUISTICS AND TRANSLATION
IN PRE-MODERN JAPAN AND CHINA:
A COMPARISON

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I THE CULTURE OF TRANSLATION

翻譯文化

Translation is often conceived of as a peripheral phenomenon, but its influence is incisive and long lasting. Admittedly, in some cultures translations have a higher status than in others, but this does not detract from their real importance even in cultures that claim a high level of self-sufficiency. The Japanese have coined the term *honyaku bunka*, meaning “culture of translation”, which suggests that there is a whole set of values, rules, patterns and attitudes involved in it. I will try to prove this point by comparing the role of translation in traditional Chinese and Japanese culture, pointing out the differences and the similarities between the two.

胡適

Chinese culture was deeply influenced by Indian culture, even to the point that the famous scholar Hu Shi has deplored its Indianization. The translation of the Buddhist scriptures, and the concomitant transmission of Indian culture, which started in the first century A.D. and went on for a millennium, constituted a major cultural enterprise with wide ramifications. In a similar wave, a conflation of Indian and Chinese culture was transmitted to Japan in a process that was even more incisive and long-lasting. The second major encounter with another civilisation, again involving both China and Japan, was the encounter with the West, a process that started in the sixteenth century and has been going on ever since. If religion played an essential role in both encounters, the exchange was by no means limited to that category, but it equally involved a broad range of lore, proto-scientific and scientific knowledge. Needless to say, at the core of this movement of transmission was translation. Tremendous intellectual capacities were marshalled to devise equivalents for all the new concepts that were introduced. What interests us most here in view of the subject of this col-

lection of essays is the way in which scientific notions were translated in the course of the second encounter. Both Chinese and Japanese evidently turned to the medium of Classical Chinese. Nakayama Shigeru has proposed a periodization for the translation of Western scientific terms into Chinese, which is useful for our argument. The phases he distinguishes are:

- 1 The period of the Jesuit translation: seventeenth to eighteenth century.
- 2 The period of Dutch Learning in Japan: late eighteenth and early nineteenth century.
- 3 Protestant and Western-business schools: latter half of the nineteenth century.
- 4 Efforts at standardising by the Meiji scientists: 1880 and 1890.
- 5 Translation by Chinese students residing in Japan from Japanese textbooks: 1895-1918.
- 6 Period from the First World War onwards.¹

Both Chinese and Japanese were involved in the same process. It has to be noted here that, just as had been the case with the Buddhist scriptures, the impact that the translations made during the seventeenth and eighteenth centuries was initially very limited, because of their restrained circulation, but there was an effect of retardation at play, and eventually the full impact made itself felt and it was pervasive and long-lasting.

On the whole, it is fair to say that the translation effort in China was mostly done by Westerners, who were assisted by Chinese. In Japan it was mostly the Japanese who bore the brunt, although in ideal circumstances they received the assistance of Westerners. This is probably related to the phenomenon of diglossia, which played an important role in Japan, while none in China, although admittedly, in Japan too it remained the privilege of the happy few, as was the case with the coexistence of Latin and the vernaculars in Europe. Diglossia, however modest in depth or scale, had at least the merit of fostering a modicum of awareness of the linguistic phenomenon. If the Japanese in spite of this paid less attention to the grammatical issue, it may have had to do with the educational tradition that set great stock by rote learning, as well as with the alleged absence of grammar in classical Chinese, which normally would have had to serve as model. In the European tradition the "rational" grammatical structure of Greek and Latin served

as the model for the study of any other vernacular language. In China the only period that came anywhere near the state of diglossia in the limited definition as suggested above, was during the time the Buddhist scriptures were translated. Even then there were only a handful of monks who studied Sanskrit or another Central Asian or Indian language. But even so, this was never paralleled in later times before the nineteenth century. It is here that we hit upon the basic difference between the first and the second wave of translation in China. After prolonged contacts, the transmission of Buddhism had become "Chinese-driven", which does not mean that there was no place for foreign Buddhist missionaries, who often continued playing a vital role. The transmission of Christianity and Western science never reached this level of acceptance, with the exception perhaps of astronomy. In order to achieve this level of acceptance, this particular mathematical discipline had to be dissociated from the ideological basket it was presented in by the missionaries, because they tried to present all they were transmitting as one package.

It would also have been natural for them to try and promote the study of Latin among the Chinese, since this was both the language of Christianity and of Western science. Yet, apart from a few half-hearted attempts, no serious efforts were made to promote the study of Latin, at least not among the Jesuits who were the most successful missionary order. This appears to have been a deliberate choice. The Flemish Jesuit François de Rougemont (1624-1676), who was active in China during the sixties and seventies of the seventeenth century, was very much in favour of using Chinese instead of Latin for a number of reasons. The Chinese authorities were suspicious of foreigners using a language that they could not understand. If the Chinese clergy were to use Latin, it might make them suspect in the eyes of the Chinese authorities who could think them to be spies. Also, the mastery of Latin might lead the Chinese to reading heretical books.² Moreover, with regard to Latin, de Rougemont considered it next to impossible to teach the literati of mature age Latin. The Chinese language lacking certain sounds that are used in Latin, it is hard for the Chinese to pronounce the words correctly, and this might also affect the validity of the sacraments.³ Moreover, there were good social reasons for choosing Chinese rather than Latin, because of the low esteem of anything foreign in the eyes of the literate classes.

Instead of using Latin, with a view to spreading the Gospel, they

might have opted for a movement to romanise Chinese, but they did not make a sustained effort to do so. Far greater efforts appear to have been made in trying to romanise Japanese. The publication of romanised versions of many varied texts, translated ones as well as original Japanese ones, testifies to a conscious effort to rely on *rômajî*. The Jesuits never attempted anything similar in China. One reason must have been the difficulty of romanising Chinese because of its great number of homonyms, but the main reason must be looked for in the bewildering effect romanised Chinese would have had on the Chinese literati, as well as the unassailable prestige of the Chinese characters. Yet another reason may have been the lack of a printing press using movable type, although the absence of such a device is probably more the result than the cause. When the situation deteriorated markedly for the Christians in Japan, the press the Jesuits had set up in Nagasaki was sent to Macao in 1611⁴, yet some time after 1620 it was sold and shipped to Manila. Apparently it occurred to no one that it could be put to use for printing romanised texts.

At any rate, notably in the field of language study, the Jesuit mission in China failed to print books on linguistics, apart from a few exceptions, such as Nicolas Trigault's (Chinese name Jin Nige, 1577-1622) romanised character dictionary *Xiru er-mu ci* ('An Audio-visual Aid for Western Scholars', Hangzhou, 1626).⁵ In Japan prospects of mass consumption of the printed books were certainly bigger. There were well-established colleges and seminaries, whereas in China, the Jesuits never had such strong institutional foothold. Another difference seems to be that in Japan the Jesuits made a marked effort to use performing arts as a means to instruct as well as to study the language. This is clearly shown in the choice of texts they translated. In China they were much more concerned with doctrinal issues.

金尼閣
西儒耳目資

The Jesuits in China have left a considerable number of writings in Chinese, notably Matteo Ricci, Adam Schall and Ferdinand Verbiest were involved in the composition of numerous books and treatises. It is clear that most if not all these Chinese works went through a process of editing by native speakers. In China during the seventeenth century translation was still done in much the same way as it had been done during the era of Buddhist translation: by the method of *koushou bishou*. While the Westerner was telling what the content of the text was, a Chinese held the brush and committed it to the paper in a proper phraseology.⁶ In this relationship the Westerner and the Chi-

口授筆受

nese are very dependent upon one another. As soon as Western presence decreased or ceased, translations were no longer made. In Japan the situation was different in the sense that virtually all translations were done during the period of seclusion. There was no room for a similar reliance upon one another. This made for a higher degree of autonomy on the side of the Japanese translators and interpreters and for a higher level of deficiency as well.

During the seventeenth century a few hundred books must have been translated into Chinese. It is however hard to make a clear-cut distinction between what is really a translation and what is a free adaptation or compilation of extracts from several source books. According to a preliminary inventory, about 600 writings in Chinese were produced by missionaries and Chinese converts during the seventeenth century. About 120 of these deal with the West and Western sciences, while no less than 470 texts are related to religious and moral issues. Out of these 470 some 330 titles are attributable to Western missionaries.⁷ Which of these are to be labelled "translation" and which "free adaptation" is a moot point. At any rate they did not have a pre-existing framework to refer to in the process of translation or adaptation. Yet by trial and error they managed to build up a specific translator's vocabulary of considerable amplitude. Incidentally, at the end of the Edo period the library of the Bakufu contained around 3500 volumes,⁸ which gives an idea of the largest collection of foreign titles that was available in pre-Meiji Japan.

II A POOR LEVEL OF GRAMMATICAL KNOWLEDGE

Buddhist scriptures were not normally translated in Japan, but read in the original language. Yet as time passed, there was a growing indigenisation, manifesting itself in paraphrased versions, compilations and original essays. Especially during the Edo period, the output of Buddhist writings composed by Japanese was impressive. At the same time scholars devoted much attention to the translation of Western texts with practical content. The misreadings and mistranslations that interfered in negotiating the language gap, are part of the translation process. Westerners describing the Japanese language tended to emphasise the grammar, while Japanese studying Portuguese or Dutch were more concentrated on vocabulary. Indigenization of the signified was a primordial concern for them, while the Westerners were more interested in the sign, because they were not interested in indigenizing Oriental

contents. Such a trend only started manifesting itself during the nineteenth century.

During the period of *Sakoku*, the Dutch were the only Western people who were theoretically in a position to learn Japanese. However, only a small percentage actually did. For one thing, the Bakufu made every effort to discourage them from doing so. Carl Peter Thunberg (1743-1828), who stayed in Japan during the years 1775-1776, deplored the lack of interest of the Dutch in the study of Japanese and compared them unfavorably with the Portuguese.⁹ However, there were notable exceptions, such as, for instance, Hendrik Doeff, who could read and write Japanese,¹⁰ but, if he could, it was largely due to coincidence. The Napoleonic Wars in Europe kept him a virtual prisoner for several years on the tiny island of Deshima. Since in principle the Dutch were not supposed to learn Japanese, it was incumbent upon the Japanese to make the efforts. The memoirs and reports of the Dutch residents in Deshima give us an idea about the proficiency of the professional interpreters (*tsûji*). During the seventeenth century at least, they concentrated mainly on the spoken language, and had a very limited range of vocabulary. It was not until the eighteenth century that members of the intellectual and social elite started the study of Dutch as an academic pursuit. Aoki Kon'yô and Noro Genjô began studying the language at the behest of Shogun Yoshimune. It is not clear how well Kon'yô knew Dutch: allegedly somewhere between 400 and 700 words. Yoshimune's interest in Dutch started when he browsed through a few books (or one book) that were in the Bakufu library. He was surprised by the accurateness of the illustrations. Shogunal interest at once put the study of Dutch on another social footing. However, Aoki and Noro had no books and no teacher. The only possibility for them to learn the language was to seek contact with the Dutch, when they were in Edo for their yearly audience with the Shogun. On these occasions they had to rely on the *tsûji* who accompanied the Dutch. Because the intellectual *Rangakusha* wrote their own history, they have tended to downplay the scholastic merits of the professional interpreters, and overrated their own learning and knowledge. Ôtsuki Gentaku in his *Rangaku kaitei* (1788) divides the students of Dutch into two categories: the interpreters who simply speak Dutch and the *Rangakusha* of Edo, who not only learn the language but also translate and study Western learning. While, in many instances, this general assessment may have been correct, there are notable exceptions. A few of the interpreters have indeed distinguished themselves,

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通詞

青木昆陽, 野呂元丈
吉宗

蘭学者

蘭学階梯

今村源右衛門 such as Imamura Gen'emon, the assistant of Engelbert Kaempfer, and it cannot be denied that *Rangaku* was initiated by the Nagasaki interpreters and that they continued to exert their influence on the *Rangaku* of Edo until the end of the Edo period.¹¹

Yet, in general the standard of most interpreters was low. Kaempfer himself complains bitterly about them. Although these interpreters receive yearly allowances, they do a poor job. In his assessment, they simply seemed to make strings of foreign words, which they connected according to Japanese syntax, the result of which was so poor that one would actually need another interpreter to translate their warped translations.¹² This complaint is not an isolated case. We find it regularly in the *Dagh-registers* (*Deshima diaries*). The poor standard is due to two factors: first, although during the seventeenth century there were quite a number of interpreters, they had been trained in Portuguese, rather than in Dutch; secondly, since they had to assist in the commercial transactions with the Dutch, vocabulary was more important than syntax.

In a generalising way it is often said that Dutch-Japanese relations lasted about 250 years, and for convenience's sake, the starting date is usually taken as 1639. However, the use of Portuguese as the vehicle of communication persisted for a considerable time after that date. A cogent proof of this is the case of Inoue Masashige (1585-1661), the notorious Bakufu official known for his ruthless persecution of Christians. Besides his anti-Christian attitude, he also had a very keen interest in Western knowledge, especially medicine. The diaries of the Dutch *Oppehoofden* ('overseers', Jap.: *kapitan*) relate many instances testifying to the frequent contacts he had with them. He placed orders with the Dutch for books on anatomy, on medical drugs and scientific instruments, and often addressed queries of a scientific nature to them. He seems to have had (a) private interpreter(s), not of the Dutch language, however, but of Portuguese. In a diary entry of 17th December 1652, the Dutch *Oppehoofd* relates that Inoue inquired with the Dutch whether anyone among them could translate the *Cruideboeck* of Dodoens into Portuguese.¹³ They replied that there was no one who could. In the same year Andô Ukyô ordered a book on anatomy "illustrated and in Portuguese", as well as one on botany equally "illustrated and in Portuguese".¹⁴ Inoue Masashige owned a copy of the *Vocabulario da Lingoa de Iapam*, and after he lost his copy in a fire, his successor Hôjô Ujinaga asked the Dutch captain for another copy, in vain.¹⁵

When in 1673 the English vessel *Return* sailed to Nagasaki, its captain Simon Delboe negotiated with the Nagasaki magistrates (*Nagasaki bugyô*) in Dutch and Portuguese. In his diary he recorded that all questions were put to him in Portuguese, were answered in Portuguese or Spanish, and then put into Dutch.¹⁶ Evidently both languages were used on a more or less equal footing, but the text does seem to suggest that the interpreters were more confident in Portuguese. In 1695 Imamura Gen'emon took an examination in both Dutch and Portuguese,¹⁷ while even in the second half of the eighteenth century, one of the senior interpreters that Thunberg met, still cherished a copy of the *Dictionarium Latino Lusitanicum ac Iaponicum*, also known by the eponym *Calepino* after its original compiler Ambrogio Calepino¹⁸. It was probably knowledge of Portuguese that served him best when he had to assist Arai Hakuseki with the questioning of the Italian missionary Sidotti. We also have to take into account that the Dutch East-India Company (Vereenigde Oostindische Compagnie, V.O.C), one of the first truly multinational companies, did not actively promote the use of its own language in its transactions, or if it did, not nearly as aggressively as its colonial competitors, the Portuguese and the Spaniards. In 1674, at the time when the company was flourishing as never before and had ousted the Spaniards and the Portuguese from the Indonesian archipelago, Joan Maetsuyker (1606-1678), the governor-general in Batavia, lamented that, although he had promoted the use of Dutch throughout, to his dismay Portuguese had continued to prevail, not in the least due to the "stupidity of the Dutch themselves, who take so much pride in being able to speak a foreign language".

長崎奉行

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新井白石

The study of Dutch among the *tsûji* was far less methodical than had been the study of Portuguese, Latin, and Japanese among the Iberian missionaries. The knowledge that they had accumulated was not passed on to the Dutch, a fact easily explained by the rupture caused by the expulsion and persecution of the Christians. As a result, the general standard of Dutch among the *tsûji* was low. Emphasis was much more on lists of words, and less on proper sentences. Kaempfer wrote that he taught grammar to Imamura Gen'emon, a rather puzzling statement, unless we take into account that most *tsûji* contented themselves with memorising vocabulary.

In his *Rangaku jishi* (or: *Rangaku kotohajime*) Sugita Genpaku writes that it took hundred years before Dutch writing and reading were practised by the Nagasaki *tsûji*. From the closure of the country to

蘭学事始
杉田玄白

the middle of the eighteenth century the Nagasaki *tsûji* used *katakana* to transcribe the Dutch words they had picked up aurally and managed to remember. This contention is generally contested by scholars now. Although, in a general sense, Sugita's statement cannot have been very far from the truth, there are testimonies about the training of *tsûji*, which included reading and writing, taught by Dutch at Deshima. However, that the Dutch that was taught cannot have been of a very high level, hardly needs to be argued. The great majority of the Dutch staff consisted of men of modest educational background themselves. At any rate, the study seemed to be concentrated more on vocabulary than on grammar and syntax. As government officials in charge of controlling the goods that were being unloaded and put up for sale, the *tsûji* before anything else had to be familiar with nomenclature. There are quite a number of vocabulary lists, preserved mostly as manuscripts in libraries. As a rule, the words are transcribed in *katakana*. However, in recent years, collections of conversation sentences in Dutch and Japanese have been found, so that Genpaku's statement has at least to be qualified.¹⁹ Apart from the technical problem of reading and writing *rômaji*, it is easy to assume that there was a kind of prejudice against it, since for the Japanese it was impossible to distinguish between Portuguese and Dutch, and since Portuguese was indelibly associated with things Christian.

III THE NANBAN OR IBERIAN CONNECTION

The conditions for transmission of Western science appear to have been much better during the Iberian age than during the Dutch period. This can be demonstrated by the extent to which a systematic presentation of the tree of scientific disciplines penetrated Japan and circulated among Japanese scholars. If we assume that the *artes liberales* were indeed taught by the Jesuits in the *seminarios*, we may ask what kind of teaching material was used? Yoshida Tadashi surmises that they could have used Duarte De Sande's *Nihon ken'ô shisetsu taiwa roku*. In this book there is a survey of the categories of science. Naturally, it mentions the seven *artes liberales*, which comprise the three artes related to language and the four mathematical sciences (geometry, calculus, music and astronomy). He assumes that arithmetic, astronomy, medicine, ethics etc. will have been fairly understandable, since there were similar disciplines in traditional learning, although their methodology was different. As to the language-related *artes* however, he sees no existing equivalent. They could only be acquired through education.

吉田忠志
日本遣欧使節
對話録

Very few persons if any, will have had knowledge of them.²⁰ This lack of grammatical background will prove to be a handicap for *Rangaku* throughout its history. The difference between the approach displayed in Nanban writings and in *Rangaku* writings no doubt has also to do with the fact that in the first case it were missionaries aided by Japanese assistants who tried their hands at translating and transliterating Western languages into Japanese, whereas in the latter case it were Japanese, sporadically assisted by Dutchmen.

Giulio Aleni's (1582-1649) *Xixue fan* (Jap.: *Seigaku han*) was a forbidden book. Notwithstanding the prohibition, quite a few scholars had copies of the book in their library. The *Xixue fan* was incorporated in the compilation *Tianxue chuhan*, published by Li Zhizao in 1629.²¹ The series was brought to Japan in 1771 and in view of its being black-listed it was investigated by the censor (*shomotsu aratame yaku*) Mukai Kanemi. The latter wrote a report about the collection, summarising the content of eight books contained in the series. This unpublished report is entitled *Tengaku shokan daiisho* ('A Digest of the *Tianxue chuhan*') and has recently been published by Ôba Osamu. The book that gets the longest summary was the *Xixue fan*. For the greater part the summary is an extensive *yomikudashi* version of the original, which suggests that the censor went out of his way to transmit the contents as faithfully as possible.²² This shows how the prohibition on books was bypassed. Nevertheless, it is clear that the work had only a limited circulation. Far more widespread was another writing by Aleni, namely the *Zhifang waiji* (1623), which is much more concise than the *Xixue fan*, but does use similar terminology.

西学凡

天学初函

書物改役

天学初函大意書
大庭修

訓み下し

職方外紀

During the Edo period scientific knowledge came into Japan through three channels. There was the Iberian heritage and the Dutch, and in between the Chinese, which itself may be divided into two tributaries, the traditional Chinese *Honzôgaku* and the Chinese translations and adaptations of Western works, which again mostly derived from the Iberian or the Renaissance tradition. It is interesting to note that the *Rangakusha* tried to link Dutch learning to the Chinese versions of Iberian learning. Yoshida has demonstrated that the notions the Japanese scholars of the Edo period had about the classification of science in the West were erratic and dim. What ideas they had, they had received through Iberian learning, in its Chinese guise. Through *Rangaku* they hardly received a systematic classification of Western science. The most systematic classification appears to be the one explained by Aleni in

本草学

幾何原本 *Xixue fan*. This in its turn appears to be largely borrowed from Ricci's preface to his translation of Euclid into Chinese (*Jihe yuanben*, Beijing, 1607).²³

IV MOTOKI RYÔEI

長崎通詞由緒書
星術本原太陽
窮理了解新制
天地二球用法記

That some of the Nagasaki interpreters were scholars of considerable standing is demonstrated by the case of Motoki Ryôei (1735-1794). He was born in a family of hereditary interpreters. His was the third generation. According to the manuscript *Nagasaki tsûji yuishosho*, in the eleventh month of the year *Kansei* 3 (1791)²⁴, Motoki Ryôei received the order to translate a Dutch book. He started work on the translation in the autumn of 1791 and completed the manuscript in the spring of 1792²⁵. He titled it *Seijutsu hongen taiyô kyûri ryôkai shinsei tenchi nikyû yôhô no ki*. This was the first more or less systematic presentation of the Copernican system (the heliocentric system) in Japan. It did not only mark the beginning of modern astronomy in Japan, but it is also considered an important contribution to the study of Dutch and therefore to the development of *Rangaku*²⁶. It is a rather unusual conflation of a treatise on astronomy and one on comparative linguistics, in which he deals with the major phonological and grammatical differences between Japanese and Dutch.

天地二球用法
正訳
義訳、仮借、略文
語路同じからず
松村君紀
漢訳の名義
字句

The first time that Ryôei touched upon the Copernican system was in *Tenchi nikyû yôhô*. This was his translation of a Dutch book, which according to him bore the title *Onderwijs van de hemel en aardse globen*. He says that it had been written by Willem Johan Blaeu and published by Johan Blaeu in Amsterdam in 1666. In his translation, compiled in the year *An'ei* 3 (1774), Ryôei writes that in translating this book "he did not rely on the stylistic rules that govern Chinese or Japanese, but stuck to the meaning of the Dutch original, in a mixture of literal translation (*seiyaku*), translation of the intended meaning (*giyaku*), transliteration (*kasha*) and abbreviation (*ryakubun*). Any other method would fail to grasp the meaning of that language, for Dutch and Japanese have different syntaxes (*goro onajikarazu*)". He adds that he has consulted his friend Matsumura Kiminori about the Chinese translations (*kanyaku no myôgi*) of the Dutch terms, and also asked him to do the revision of the expressions (*jiku*).²⁷ This passage, dating from 1774, the year in which *Kaitai shinsho* was published, already shows a sophisticated approach to the problem of translation.

In the preface (*hanrei*) to *Kaitai shinsho* we find similar categories. Here the author distinguishes between *honyaku*, *giyaku*, and *chokuyaku*. *Honyaku* is substituting a Japanese equivalent for a Dutch word, e.g. *hone* for *beenderen*. *Giyaku* are neologisms, such as *nankotsu* as a translation for *kraakbeen*. It is actually a literal translation from the Dutch. *Chokuyaku* then is a transliteration of the original word, since no equivalent can be found in the existing lexicography.²⁸ *Honyaku* refers to the case where there is a Chinese equivalent (*kango*) available. *Giyaku* refers to neologisms, in other words Japanese-made *kango*, such e.g. *kôsei* and *nankotsu*. *Chokuyaku* is what is usually called *onyaku*, in other words transcription or rather transliteration and what Motoki calls *kasha*.

翻訳
義訳、軟骨

直訳

恒星
音訳

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Seijutsu hongen taiyô kyûri ryôkai shinsei tenchi nikyû yôhō no ki contains a reference to a *filosofische onderwijzer* (philosophical teacher), which Motoki translates as *jukyô* or *chigaku*. According to Mie Hirone, this is the first instance where the Western term ‘philosophy’, later translated by Nishi Amane as ‘*tetsugaku*’, is being problematized. Other translation words (*yakugo*) that are featured in this text include *kôsei*, *wakusei*, *kasei*, *kinsei*, *mokusei*, *dosei*, the seven days of the week etc.²⁹ According to Mie Hirone, who edited and published the text in *Nihon tetsugaku zensho dai 8 kan-Dai 2 bu: Shizen tetsugaku: Tenmon-butsurigakka no shizenkan*, the manuscript existed in two versions, one preserved at the time of editing in the Town Hall of Nagasaki and one in *Naikaku bunko*. The text he edited is a collation of the two versions. The *Naikaku bunko* manuscript lacks the second and final *maki* (*gekan*). It is the second *maki* that contains the *Wage reigen* and the drawings. Moreover, the *Naikaku bunko* manuscript has omitted most of the discussion about astronomical terms and translations of Dutch terms.³⁰

儒教、智学

恒星、惑星、火星
金星、木星、土星

内閣文庫

下巻、和解例言

I consulted the manuscript in *Naikaku bunko* a few years ago. I found it in a box (*chitsu*) that contained a copy of Ferdinand Verbiest’s astronomical treatise in Chinese titled *Xinzhi lingtai yixiang-zhi*.³¹ Someone had supplemented Motoki’s text to Verbiest’s treatise in the assumption that it could serve as a Japanese explanation of the theory expounded and applied in Verbiest’s work, and had therefore given it the title *Wage ikkan*. This *wage* starts by stating that the Hollanders call this book “Gronden der Starrenkunde gelegd in het Zonne stelsel bevatlijk gemaakt in een Beschrijving van ‘t Maaxsel en gebruik der Nieuwe Hemel en Aardgloben.” This Dutch clause at once makes the

新製靈台儀象志

和解一卷

meaning of the Japanese title clear, for the word order of the Japanese title closely follows that of the Dutch title. The manuscript then goes on to explain the Dutch alphabet and the pronunciation of the letters in Dutch. At the end it bears the date *Kansei* 12 (1800), and is signed by Rotonsai.

石崎次郎左衛門
唐音

唐話

Now, this passage appears to be identical with what we read in the beginning of the *Wage reigen* in the second maki of the emendated version published in the *Nihon tetsugaku zensho dai 8 kan-Dai 2 bu: Shizen tetsugaku: Tenmon-butsurigakka no shizenkan*. The body of the text is a detailed treatise on the phonological characteristics of Dutch. Ryôei is almost overwhelmed by the phonological differences between Dutch and Japanese. He says that for all the devices that one can use to represent Dutch sounds, such as katakana, supplemented with *dakuon*, bullets, combining two kana signs, inserting a *tsu* to represent the *sokuon*, or adding others symbols next to the katakana, they still are inadequate for representing the sounds faithfully. Therefore he has consulted an interpreter of Chinese by the name of Ishizaki Jirôzemon, from whom he has learned the Chinese sounds (*Tôon*). He has therefore adopted the practice of transliterating the Dutch letters and sounds into Chinese characters. To us this may seem remarkable. We would be inclined to think that transliteration into the Japanese syllabary would be much more convenient, yet he allegedly prefers awkward Chinese characters – or rather their awkward sounds – to assure greater accuracy. Whether the prestige of Chinese is enough to explain this choice is hard to tell. It may also be inspired by a desire to distance himself from a practice which might have reminded the authorities of Christianity, for during the period of *Nanban* culture, it was common practice to transcribe foreign words into hiragana. Another reason why *Rangakusha* may have preferred to transliterate Dutch into *Tôon*, was perhaps that some phonological features of Dutch were easy to assimilate to *sokuon*, *batsuon* and *yôon*, which were and are characteristic of Japanese words derived from Chinese (*kango*).³² In addition we may also point out that among some segments of the Edo period intelligentsia there was a strong interest in contemporary spoken Chinese (*Tôwa*).

Motoki ventures into some sweeping remarks about Dutch phonology and thereby seems to subvert the relationship between the source language and the target language. One would think that his book is intended as a treatise about the Dutch language for a Japanese readership, yet he strikes a tone as if the Dutch were the ones trying to

study Japanese. Thus, he writes that because the Dutch pronounce *u* as *yu* ([y] and [y.]), there are many corruptions (*namari*) in two letter combinations (*niji rengô hansetsu kinô*). However, this is not the issue here, for he is writing about Dutch for Japanese trying to learn that language. He notably says that the Dutch pronounce the Japanese vowel series “*a i u e o*” as “*a e i o yu*”. The question here is: does he mean to assist Dutch-speakers trying to read the Japanese syllabary or rather Dutch-speakers reading transcribed Japanese words? If the latter is the case, we need to know what system of transliteration was in use among the Dutch. Yet in my view neither case is intended here. It is hard to believe that Motoki actually means to say that the Dutch corrupt many sounds. He simply seems to view the different order the Western vowels are listed in (i.e. *a e i o u*) as ‘wrong’, in the sense that it deviates from the Japanese order *a i u e o*. The observation that the Dutch pronounce the *u* as *yu* (i.e. [y] or [y.]) is of course correct. As *a e i o u* is incidentally the customary order of the vowels in the Western alphabet, he most probably simply means to say that whereas the Japanese order is *a i u e o* it is *a e i o u* in the Western alphabet.

ウ
ユ、訛り
二字連合反切帰納

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Motoki presents a table of all Dutch sounds; or rather syllables, although not in the technical sense the word ‘syllable’ has in modern Dutch phonology. He draws up an extensive table with all possible letter combinations, arranged in the order of the Dutch alphabet. Starting with *a e i o u*, continuing with *aa ee ii oo uu aab eeb iib oob uub*, running down the gamut of all the other possible consonants, then going on with all possible clusters that start with a *b* such as *ba be bi bo bu* and *baa bee bie boo buu*, etc. For each letter or letter combination he lists the pronunciation, the *kanagaeshi*³³ (actually only for the clusters starting with the five vowels, for the remainder he has probably forgotten to do or never got that far), the pronunciation (in katakana) and the corresponding Chinese character (*Tôon kasha moji*).

仮名返し

唐音仮借文字

The organisation of the table is analogous to the phonological table found in the treatise on Chinese phonology compiled by Nicolas Trigault, which we mentioned earlier. Trigault, while adopting the traditional Chinese rime-table format,³⁴ made the first systematic analysis of Chinese phonology in the Western alphabet. He arranged all Chinese morphemes according to their initial sound. Under each initial sound he arranged all morphemes that consist of the initial sound plus one letter, then of the initial sound plus two letters and finally of the initial sound plus three letters. He repeated the same procedure for all vowels

and then for all initial consonants that exist in Chinese (in Trigault's transcription: c, ch, k, p, t, j, v, f, g, l, m, n, s, x, h, the remaining letters not being found). The maximum number of letters a combination can consist of is four. Each possible combination can theoretically appear in one of the five different tones of the Southern Mandarin (Guanhua).

官話

Motoki's table for Dutch syllables is analogous and here too the maximum number of letters combined is four. The order of the initial vowels is also similar, but not that of the initial consonants, since Trigault uses a system that is apparently based on an Iberian alphabetical arrangement. In spite of the similarities, it is doubtful that Motoki had direct recourse to Trigault's book. The characters selected by Motoki to represent single consonants all differ from those used by Trigault. Moreover, while the Jesuit married the sophisticated rime-table system with the Western alphabet, Motoki constructed the Dutch sounds as combinations of initials and finals in a fashion that echoes the way traditional Chinese phonology glossed morphemes—a system known as *fanqie*, a system that preceded but was subsumed in the rime-table system. Significantly, he calls his procedure *rengô hansetsu kinô* (induction by conflating and cutting in half). That also explains why the majority of all Dutch 'syllables' is represented by combinations of two Chinese characters, although there are exceptions, notably in the sounds that contain a *u*, which are often represented by three-character combinations. It also explains why the end consonants are just as consistently represented by the same character as the initials are. For instance, the consonants in end positions are represented thus: *k* as 郭, *l* as 郭, *r* as 耳, *s* as 数, *t* as 鐸 and *d* as 啜.

反切
連合反切歸納

Furthermore, Motoki describes for each letter of the Dutch alphabet its pronunciation and the peculiarities of the combinations with the five vowels and the consonants. Motoki obviously had a grounding in Chinese phonology. That is clear from the terminology he uses, such as *hansetsu* 反切, *on* 音, *in* 韻 etc. What interests us here in particular is the choice of the Chinese characters that have to serve to transliterate the Dutch words and the way their pronunciation is represented in katakana to their right hand side. Since he consulted a Nagasaki interpreter of Chinese and the pronunciation of the characters is claimed to be *Tôon*, the sound system must be akin to the pronunciation of the Jiangnan area in China, because this is the area whence most monks and merchants that came to Nagasaki, hailed from.

What did this pronunciation sound like? In all likelihood it was rather close to the kind of pronunciation that was used by the Jesuit missionaries who were active in Southern China at the end of the Ming and the beginning of the Qing periods, such as Nicolas Trigault. Since recently some research has been done on the phonology of this so-called southern *Guanhua*, it may be instructive for our purpose to see how the characters used by Motoki Ryôei were actually pronounced in that vernacular. Let us go back to his phonological table. The end *k* in sounds like *aak* is transliterated as 郭 and the end *t* in sounds like *aat* as 鐸. According to Trigault's *Xiru er-mu ci*, 郭 was an aspirated sound in Chinese (in Trigault's system represented as *kuo* in the fifth tone). Since the end *g* is represented by an unaspirated sound, i.e. *ku* in the third tone in Trigault's system, one surmises that an attempt has been made to distinguish between voiceless and voiced plosives, but this is by no means a systematic procedure. 鐸 representing *t* is pronounced *to* in the fifth tone in Trigault's transcription and is not aspirated. The end *d* is represented by the character 啜, which in Trigault's transcription equally sounds as *to* and has the fifth tone. So, although the aspiration is sometimes used *to* approximate plosive sounds, just as often it is not. The plosive *p* for instance is transliterated as *fu*, which is in the third tone, whereas *b* is written as *pu*, which has the fourth tone in Trigault's system.

古

甫
捕

From what precedes it may be inferred that, although there is a considerable resemblance, it is far from perfect. Consequently, Motoki may have been using a system that was not inherently consistent, or else one that was based on the phonology of a Chinese vernacular, that was closely related to, yet different from the one featured in Trigault's book. There are noteworthy differences. For *a* and *aa* Motoki uses the characters 曷 and 阿, which in Trigault's table are pronounced *o* in the fifth tone and *o* in the first tone respectively. The character 耳 is used by Motoki to represent the sound *r*, although rather surprisingly Trigault gives the pronunciation *iu* in the third tone. *Ne* is represented by 捏, transliterated by Trigault as *hûm* (the circumflex indicates the second tone), which is probably a mistake.

By way of conclusion, we may say that Motoki's system was not directly based on Trigault's, but that the sound values were close to the language described by the Jesuit, and therefore closely related to the Southern *Guanhua* of the seventeenth-century. Further research will have to establish the exact degree of congruence between the two kinds

of pronunciation. In addition, the choice of characters must have been suggested by the interpreter of Chinese Ishizaki Jirôzaemon. He must have based himself on some Chinese writing, which remains to be identified. We have at any rate other evidence about the use of the Southern *Guanhua* pronunciation. In the preface to Ôtsuki Gentaku's *Chôtei kaitai shinsho*, we read: "in transliterating we always use the pronunciation of Hangzhou, but in an approximative way. For place names we adopt already existing Chinese translations. Even if there is no appropriate translation yet, we adopt it as it stands, without altering it. If there is no Chinese translation yet, we refer to examples and adopt a character with (the appropriate sound)".³⁵

What did *Rangakusha* transcribing Dutch names refer to? Since Motoki Ryôei's book is in manuscript form, the question remains how widespread it was. Copying manuscripts was common practice enough, but still had its limits. Yamamura Saisuke is the author of *Gaiki seigo-kô*, a kind of glossary of place names and other proper nouns. Here we find a list of Chinese characters, juxtaposed to their Latin and Dutch equivalents. Thus we find *Luo ri jia* – Ladica (sic) – Redenkonst, referring to logic; *Fei xi jia* – Phisica (sic) – Natuurkonst; *Me da fei xi jia* – Metaphisica – Overnatuurkonst; *Fei lu suo fei ya* – Philosophia – Wijsbegeerte der Waerde; *Ma de ma di jia* – Mathematica – Wiskonst. It is not hard to surmise that Yamamura Saisuke must have tried to identify the terminology he found in Aleni's *Zhifang waiji* (Jap.: *Shokuhô gaiki*) with Dutch terminology.³⁶

During the Edo period the term *natuurkunde* was usually translated into the compound *kyûri*, a term derived from the *Yijing* (Jap.: Eki-kyô, 'Book of Changes'). In Kawamoto Kômin's *Kikai kanran kôgi* (completed 1850), a commentary on Aochi Rinsô's *Kikai kanran* (1827), we find the definition: *Fei xi jia to wa butsuri o kiwamuru no gaku nari* 費西加者 窮物理之学也. Hirose Genkyô's *Rigaku teiyô* (1856) transcribes the Dutch word 'natuurkunde' in Chinese characters as 納都烏爾裙垓 (present-day pronunciation transcribed in *pinyin* as: *na du wu er jun zhi*) and defines the term as *Kyûbutsurigaku*.³⁷ This transliteration only makes sense when read in contemporaneous Chinese. Likewise 獨度涅烏斯 can only represent 'Dodonæus' when pronounced in Chinese.

This shows how until the middle of the nineteenth century traditional Neo-Confucian terminology was still maintained, while it also demonstrates how the Dutch term was transcribed in Chinese characters on

山村才助
外紀西語考

落日加
費西加
默達費西加
費錄所斐垂
瑪得瑪第加

窮理、易經
川本幸民
氣海觀瀾広義
青地林宗
広瀬元恭、理学提要

the basis of their Chinese pronunciation and not their Sino-Japanese reading. Again this points to the latent persistence of Iberian learning in its Chinese guise. Udagawa Genshin says this explicitly in his preface (*hanrei*) to *Zôho chôtei naika senyô* (1822): “Whenever a term is first encountered in a Dutch book that has already been translated by a Chinese, we follow (that translation). [...] When there is a transliteration made by a Chinese [...], we always adopt that one.”³⁸ It must be noted however that there are also some remnants of Buddhist transcriptions, but we cannot go into that matter here.

宇田川玄真
増補重訂内科撰要

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In Udagawa Yôan’s *Shokugaku dokugo* (*Itô bunko* in the Diet Library) we find the term ‘zoology’ transcribed as *Suo luo yi ya*, which is clearly closer to the original in the Chinese pronunciation; ‘botanica’ is transcribed as *Pu duo e he*, which arguably is closer to the Sino-Japanese reading *botayakuka*, although the third character is anomalous; ‘mineralogy’ is transcribed as *Mi nie la luo yi ya*, which again is closer in Chinese pronunciation than in Sino-Japanese. In *Shokubutsu keigen* (1833) he discerns three categories of science which he calls *benbutsu*, transcribed as *Fei si duo li*, which in Sino-Japanese would read *hisutari*, for Dutch ‘historie’; *kyûri*, transcribed as *Fei xi jia*, meaning ‘physica’; and the third category is *She mi*, i.e. the Dutch ‘chemie’.³⁹

宇田川裕庵、植学独語
索羅義亞
菩多厄訶
密涅刺羅義亞
植物啓原
弃物
斐斯多里
究理、費西加
舍密

The Chinese versions of Iberian learning offered a basic framework for the *Rangakusha* and continued to exert a considerable influence on Western learning throughout the Edo period. Whether this is to be attributed to a deeply engrained strain of atavism in Japanese culture or simply to the fact that Iberian learning had been much more systematically introduced in the East than Dutch learning was, or both, is hard to tell. At any rate, most translators referred to the background of diglossia that prevailed in learned society. When translating Western books, they translated them first into *kanbun*. Only subsequently did they translate them into Japanese (*wage*). The *wage* versions were in a way the Japanese equivalents of the Dutch versions of Latin books that the Dutch East India Company imported into Japan. It must be pointed out that despite a departure from the Chinese model, Chinese learning still commanded unsurpassed prestige during most of the Edo period.

漢文
和解

IV TRANSLATION OF CULTURE

Both China and Japan were informed by a xenophobia whose rationale was ideologically founded on Confucianism. Yet the way the foreign element was controlled was different. The Japanese did it by identifying the Christian element as dangerous. Therefore they ritualised the expulsion of anything Christian, but the elements of practical learning were acceptable and were studied. The Chinese did it by confining it to the field of entertainment. Science did not have any practical function, except in astronomy. But this was so limited an area that it was containable. Incidentally, even in the West much of the new science was initially gentlemen's entertainment.

The completely different perspective as well as the poor linguistic level explains why a work like *Kaitai shinsho* is anything but a literal or close translation of Johannes Adam Kulmus' original. Kulmus wanted to reconcile the revelation of the Bible with the new knowledge of anatomy. He amply drew on Bible texts, to demonstrate for instance that King Solomon was already aware of the facts of the circulation of the blood and the chyle system.⁴⁰ This runs parallel to the attempts of Athanasius Kircher to reduce all civilisation to the one described in the Bible, and the Chinese efforts to characterise the advent of Christianity as the return of a teaching that had actually originated in China. In translating the *Ontleedkundige tafelen* the Japanese translators did not translate the hard to negotiate (culturally difficult) elements, such as the casuistic footnotes, historical passages and the discussions of Bible texts, but they limited themselves to the texts that accompanied the plates.⁴¹ The title page featuring Adam and Eve must have had a different connotation for the Japanese than it was meant to have in the West. In the seventeenth century nude male and female figures on the title page of atlases connoted the Fall of man, but this message was evidently lost on the Japanese reader.

Yet, *Rangaku* made tremendous strides in terms of linguistic proficiency and insight in the beginning of the nineteenth century. The scholarly interpreters Yoshio Kôgyû, Motoki Ryôei and Nakano Ryûho had all been active in Nagasaki. When Baba Sajûrô was summoned by the Bakufu to Edo in 1808 (*Bunka* 5), it meant that *Rangaku* transformed itself from a private avocation to an official position. Baba was ordered to make a world map, but in 1811 he was appointed "official translator" (*Oranda shoseki wage goyô*, commonly called *honyaku kyoku*).

吉雄耕牛
中野柳圃

和蘭書籍和解御用

In this capacity he was commissioned with the translation of Noël Chomel's encyclopaedia, with the collaboration of Ôtsuki Gentaku, Udagawa Genshin, Udagawa Yôan, and others. Baba came to Edo at the age of 22 and spent most of his time in that city until he died at the young age of 36. In that period he managed to write a few Dutch grammars including *Oranda bunpan tekiyô* (1813), and *Ran-gaku teikô* (1814), as well as translating a few books of Russian grammar. Edo became the undisputed centre of the systematic linguistic study of Dutch and Western learning, but the foundations had been laid by scholarly interpreters from Nagasaki. No lineage was to make a bigger contribution than the Udagawa family. The first great scholar in that lineage was Udagawa Genzui (1755-1797). About him the *Ran-gaku kotohajime* (*ge*) says the following:

翻譯局

和蘭文範摘要
蘭学梯航

宇田川玄隨

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“The lord of Tsuyama had as his physician in ordinary a certain man named Udagawa Genzui. He was an expert in Chinese studies, was widely read and had a formidable memory. He also learned several languages. Since he was so gifted and strong-willed, he made tremendous progress in his study so that he was able to translate a book, which consisted of 18 *maki* and was entitled *Naika senyô*. Although this is a compact book, it constitutes the first new translation of internal medicine in Japan. It is a pity that he died when he was just over forty years of age.”⁴²

The book that is meant here is the *Seisetsu naika senyô* (1793). He was also the author of *Seiyô igen*, a glossary of medical terms listing the Dutch and the Japanese equivalents in kanji either in transliteration or translation. His *Ranyaku benbô* is a kind of grammar. Udagawa Genshin was the posthumously adopted son of Udagawa Genzui. He studied Chinese studies and Chinese medicine with Genzui and Dutch with Gentaku and Katsuragawa Hoshû. In 1813 (*Bunka* 10) he was appointed “official translator”. He was the author of three important works: *Seisetsu ihan teikô shakugi* (3 *maki*, 1805), *Ensei ihô meibutsu-kô* (36 *maki*, before 1822) and *Oranda yakukyô* (18 *maki*, preface dated 1828). *Seisetsu ihan teikô shakugi* is actually the concise version of *Seisetsu ihan* (30 *maki*, only 4 *maki* preserved), a kind of vade-mecum to read *Seisetsu ihan*. It is the record of lectures given by Genshin and noted down by a few of his disciples. It is a compilation of high scientific achievement, and represents for internal medicine what *Kaitai shinsho* represents for surgery. It has a supplement of anatomical charts, printed from copperplates, the first of their kind in Japan.

西說內科撰要
西洋医言

蘭訳弁髦

桂川甫周

西說医範堤綱積義
遠西医方名物考
和蘭藥鏡
西說医範

解体新書

国字体 The text is written in so-called *kokujitai*, by which is meant *kanji-kan-amajiri*, and the author goes to great length to explain technical terminology in common terms and to add the reading to difficult Chinese characters. Here we find a felicitous combination of a sophisticated linguistic grasp and a high-level of medical expertise.

It is interesting to note that Western medicine constituted the most important discipline of Western science that was introduced into Japan, while in China it was astronomy. The emphasis on medicine also constitutes a major departure from Iberian learning. It must be noted in this context that for the Jesuits the spread of Western medical science did not enjoy a high priority. The *Constitutions* of the Society did not consider medicine a central concern, as a result of which there were indeed very few trained physicians among the Jesuits. In China they did not even found any hospitals, only in Macao, and the Franciscans too had just an infirmary at Canton. The same holds true for Japan, with the notable exception of Luis de Almeida (1525?-1583), who established a foundling-asylum at Funai in 1556. The following year he expanded his institution with a hospital for the treatment of leprosy and venereal diseases. The hospital also included a pharmacy that was supplied with herbs from Macao. Almeida also taught medicine. Almeida's superiors had but little appreciation for medical practice by their confreres. In his second *Summario* (1583) Valignano stipulated that the Jesuit hospitals would "receive only samurai and nobles as patients. Lepers and sufferers from venereal diseases were on no account to be admitted [...]. If they admitted low-class patients, it would give the hospital and the missionaries a bad name."⁴³ In the *Obediencias* the standpoint voiced earlier by Valignano is confirmed: "Nobody of the Companhia will be allowed to learn medicine or surgery, nor to practice anything of these two arts which he may already know, nor to have books which treat of these subjects, and the same prohibitions apply to the *dôjuku*."⁴⁴ If in the end medicine figured so prominently in Western Studies in Japan, it was as a result of both the official ban on writings with a (Christian) ideological slant and the deliberate practical orientation of the *Rangakusha*.

The practice of literal translation appears to be a development of the nineteenth and twentieth centuries. Before, most often translations were adaptations involving omissions as well as additions. When these translations were for practical use, they tended even more to be free adaptations. It is only when the interest is purely academic that translations need to be literal. There is no need for us to adapt and rework

e.g. *Genji monogatari*, although even in this case, the first translation by Arthur Waley was more of a free reworking than a literal translation. In the translation process there is a filter at work, a reference to a well-established framework. This makes for a very gradual and smooth transition and I wonder whether the dramatic paradigm shift does work here. Possibly the concepts *episteme* or *metabletics* are more appropriate here. In his article "The Leiden Anatomical Theatre and its Moral Lesson"⁴⁵ Harmen Beukers reminds us of how shocking a happening the first public dissections must have been. As a historical phenomenon their public acceptance presupposes general changes in cultural patterns on a broad level. Do we attribute these changes to an *episteme*, like Foucault would,⁴⁶ or to changes in man's subjective experience of reality, as J.H. van den Berg claims?⁴⁷ Both agree on the idea that science develops in a discontinuous manner. The history of science during the Edo period as seen through the activity of translation seems to bear this out in dramatic fashion.

In the already cited article Beukers explains how in the early fourteenth century, when Mundinus performed the first dissections, the professor read and explained the anatomy text, while a *prosector* did the actual dissection.⁴⁸ It was not what we would call a hands-on approach. The dissections were meant as demonstrations or references for Galen's texts which were considered logical, conclusive. That the theories of Galen went largely unchallenged is to be attributed to the fact that the fourteenth-century anatomist, despite the appearances, did not really look into the body, whereas Andreas Vesalius did so two centuries later. With a delay of yet another two centuries the same thing happened in Japan, when Sugita Genpaku and his colleagues really looked into the body of a dissected person. Whether this is to be attributed to a metabletic process, by which the contemporaries of Sugita went through a shift of vision, shedding their traditional closed body vision and adopting the opened body vision of modern Western anatomy, I cannot prove. What is striking at any rate is the power of the image, the visual medium. There clearly is a link, I do not know whether it is causal or not, between the progress of representational techniques and the change in vision.

Although a lengthy treatment of this subject falls outside the purview of this essay, we only have to refer to the popularity Western pictures, images and icons had during the Nanban period (*Nanban jidai*). Flemish prints were widely copied and reproduced. The same holds for Chi-

南蛮時代

nese representations of Western art, as well as for the impact Verbiest's astronomical instruments for the Chinese emperor Kangxi had: they were not meant for use, but simply to impress. It were also the drawings of the *Ontleedkundige tafelen*, of Jan Palfijn and of Dodoens that made a major impact. Giacomo Niva (1579-1638), who had been born in Japan from a Chinese father and a Japanese mother, studied Western painting under the Jesuit painter Giovanni (Niccolo) Cola (1560-1626). He arrived in Beijing in 1602 as a brother coadjutor and was accepted into the Society in 1606. "As a painter he fulfilled a very important role in the Mission. The Jesuits were very much aware of the importance and power of visual material as an aid in converting and a complement to the written word."⁴⁹ The same power would be instrumental in introducing Western scientific thought into Japan in the eighteenth century.

NOTES

- 1 Shigeru Nakayama, "Translation of Modern Scientific Terms into Chinese Characters-the Chinese and Japanese Behavior in Comparison", in *Science and Technology in Modern China*, ed. Tsui-hua Yang & Yilong Huang (Taipei: Institute of Modern History, Academia Sinica & Institute of History, National Tsing-hua University, 1990) [Yang Cuihua & Huang Yilong zhubian, *Jindai zhongguo keji-shi lunji* (Taipei: Zhongyang yanjiuyuan jindaishi yanjiusuo & Guoli qinghua daxue lishi yanjiusuo, 1990)], 295-305.
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- 3 *Ibid.*, 65.
- 4 Henri Bernard S.J., "Traductions chinoises d'ouvrages européens au Japon durant la période de fermeture (1614-1853)", *Monumenta Nipponica* (1940), vol. 3, 42, quoting an article by Schilling, "Vorgesichte des Typendrucks auf den Philippinen", in *Gutenberg Jahrbuch* 1937, 211-212.
- 5 Paul Fu-mien Yang S.J., "The Portuguese-Chinese Dictionary of Matteo Ricci: A Historical and Linguistic Introduction", in *The Proceedings of the Second International Conference on Sinology. Section on Linguistics and Paleography* (Taipei: Academia Sinica, 1989), 202.
- 6 Peter Engelfriet, "Euclid in China", (Ph.D. Dissertation, Leiden, 1996), 107.
- 7 Information supplied by Ad. Dudink and N. Standaert.
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- 10 *Ibid.*, 360-1.
- 11 Sugimoto Tsutomu 杉本つとむ, *Kindai Nihongo no seiritsu to hatten* 「近代日本語の成立と発展」 (Sugimoto Tsutomu chosaku senshū II 「杉本つとむ著作選集 2」), (Tokyo: Yasaka shobō 八坂書房, 1998), 266.
- 12 Engelbert Kaempfer, *History of Japan, together with a Description of the Kingdom of Siam*, 1690-1692, 3 vols (Glasgow, 1906), vol. 2, 101.
- 13 Sugimoto Tsutomu 杉本つとむ, *Kaitai shinsbo no jidai: Edo no honyaku bunka o saguru* 「解体新書の時代—江戸の翻訳文化を探る」 (Tokyo: Waseda daigaku shuppanbu, 1987), 31.
- 14 *Ibid.*, 29.
- 15 Nagazumi Yōko, "Foreign Intelligence and Its Interpreters", in *Engelbert Kaempfer – Werk und Wirkung – Vorträge der Symposien in Lemgo und in Tokyo*, herausgegeben von Detlef Haberland (Stuttgart: Franz Steiner Verlag, 1993), 34.
- 16 *Ibid.*, 33 ff.

- 17 Paul van der Velde, "Die Achse, um die sich alles dreht. Imamura Gen'emon Eisie (1671-1736) Dolmetscher unter ebenbürtiger "Diener" Kaempfers", in *Engelbert Kaempfer – Werk und Wirkung* –, 177.
- 18 See Blomberg's essay in this volume.
- 19 Sugimoto, *Kaitai shinsho no jidai*, 78 ff.
- 20 Yoshida Tadashi, "Edo jidai ni okeru sei'yō gakumon bunrui no ninshiki", 「江戸時代における西洋学問分類の認識」, in *Reports of the Research Institute for Japanese Culture Nihon bunka kenkyūsho kenkyū hōkoku* 28 (1992): 52.
- 21 Engelfriet, op.cit., 68; Yoshida, op.cit., has the date 1623.
- 22 Yoshida, op.cit., 56.
- 23 Ibid., 55.
- 24 Mie Hirone, "Seijutsu hongen tai'yō kyūri ryōkai shinsei tenchi nikyū yōhō ki kaisetsu" in Inoue Tetsujirō, Koyanagi Shikita, Takakusu Junjirō, Fujikawa Yū (kanshū), Mie Hirone (hensan) 「井上哲次郎・小柳司気太・高楠順次郎・富士川游監修・三枝博音編纂 *Nihon tetsugaku zensho dai 8 kan-Dai 2 bu: Shizen tetsugaku: Temmon-butsurigakka no shizenkan* 「日本哲学全書第八卷第二部自然哲学天文・物理学家の自然観」、Daiichi shobō 第一書房, 昭和 11, 207.
- 25 Sugimoto dates it to *Kansei* 5, which corresponds with 1793; see Sugimoto Tsutomu 杉本つとむ, *Kindai Nihongo no seiritsu to hatten* 「近代日本語の成立と発展」(Sugimoto Tsutomu chosaku senshū II 「杉本つとむ著作選集 2」), (Tokyo: Yasaka shobō 八坂書房, 1998), 267.
- 26 Mie Hirone, "Seijutsu hongen tai'yō kyūri ryōkai shinsei tenchi nikyū yōhō ki kaisetsu", 209.
- 27 Ibid., 210.
- 28 Sugimoto Tsutomu 杉本つとむ, *Kokugogaku to Rangogaku* 「国語学と蘭語学」(Tokyo: Musashino shoin 武蔵野書院, 1991), 378; Sugimoto Tsutomu, *Nihongo no rekishi* 「日本語の歴史」(Sugimoto Tsutomu chosaku senshū I 「杉本つとむ著作選集 1」), (Yasaka shobō, 1998), 255.
- 29 Sugimoto Tsutomu, *Kindai Nihongo no seiritsu to hatten*, 269.
- 30 Mie Hirone, "Seijutsu hongen tai'yō kyūri ryōkai shinsei tenchi nikyū yōhō ki kaisetsu", 211.
- 31 漢 7953冊数 17函号 305213.
- 32 Sugimoto Tsutomu, *Nihongo no rekishi*, 73.
- 33 This is a system to represent the pronunciation of Japanese syllables inspired on the *Chinese hansetsu* (cutting in half) system. In Chinese the pronunciation of a character is represented by two other characters: the initial of the first of these two is identical to the initial of the character whose pronunciation is being represented, the final of the second character is identical to the final of the character whose pronunciation is being represented. Applied to Japanese the first kana indicates the initial consonant or vowel, the second kana indicates the end vowel.
- 34 See David Prager Branner, "The rime-table system of formal Chinese phonology", in Sylvain Auroux e.a. (ed), *Geschichte der Sprachwissenschaftlichen. History of the Language Sciences. Histoire des sciences du langage. Ein internationales Handbuch zur Entwicklung der Sprachforschung von den Anfängen bis zur Gegenwart. An International Handbook on the Evolution of the Study of Languages from the Beginnings to the Present. Manuel international d'histoire des études linguistiques des origines a nos jours* (Berlin-New York: Walter de Gruyter, 2000), 46 ff.
- 35 Sugimoto Tsutomu, *Kindai Nihongo no seiritsu to hatten*, 351.
- 36 Ibid., 56-57.
- 37 Ibid., 57.
- 38 Sugimoto Tsutomu, *Nihongo no rekishi*, 256.
- 39 Ibid., 58.
- 40 A.M. Luyendijk-Elshout, "'Ontleedinge' (Anatomy) as Underlying Principle of Western Medicine in Japan", in H. Beukers, A.M. Luyendijk-Elshout, M.E. van Opstall and F. Vos, eds., *Red-Hair Medicine: Dutch-Japanese Medical Relations* (Amsterdam: Atlanta, G.A., 1991) (Publications of the Netherlands Association for Japanese Studies no. 5), 30 quoting Kulmus, *Ontleedkundige tafelen*, 197.
- 41 Ibid., 31.
- 42 Sugimoto Tsutomu, *Kindai Nihongo no seiritsu to hatten*, 272.
- 43 C.R. Boxer, *The Christian Century in Japan 1549-1650* (Berkeley, Los Angeles and London, 1951), 203-204.
- 44 Ibid
- 45 *Reports of the Research Institute for Japanese Culture Nihon bunka kenkyūsho kenkyū hōkoku* 31 (1995), (1)-(2).
- 46 Michel Foucault, *Les mots et les choses* (Paris, 1966).
- 47 J.H. van den Berg, *Het menselijk lichaam* (Nijkerk, 1956-1961), vols. I and II.
- 48 "The Leiden Anatomical Theatre and its Moral Lesson", in *Reports of the Research Institute for Japanese Culture Nihon bunka kenkyūsho kenkyū hōkoku* 31 (1995):(4).
- 49 Engelfriet, op.cit., 89.