



# Republic of Characters:

-- a social network centred on the Hong Kong Type



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## **Acknowledgement**

A journey of a thousand miles begins with a single step. Before all the well-thought-out ideas reach the written page in a structured way, a research topic often sprouts from an initial emotional and impulsive choice rather than being based on rational considerations and a weighing of interests. Such a spark of sensuality, if lacking guidance, could quickly turn on a dime before finding a burning trajectory. I thank Prof. Thijs Weststeijn, my master thesis supervisor, without whose mentorship and encouragement, I would have no idea how far I could go on this topic. Besides, I would like to thank my second readers: Prof. Lisa Kuitert and Prof. Thomas Mullaney. I am very honoured to have these two senior scholars review my thesis, whose work features prominently in my literature list.

The last thing junior academics and students want at the beginning of their research is indifference and rejection from others, which can quickly dissipate their enthusiasm for research. The inaccessibility of museums, archives and libraries during the Covid-19 pandemic forced me to seek help from other sources. For this, I am grateful to Albert Hoffstädt, the sinologist and editor of Brill Publishing, the first scholar responding to my inquiry email. I would like to thank Pim Rietbroek for his informative reply as well. Besides, I am deeply grateful to Sinologist Dr. Koos Kuiper for their kindness and patience in answering the immature questions I asked in the early stages of my research.

In particular, I wish to thank the generosity of Ronald Steur, the key figure of rediscovery of Hong Kong Type, who lent me his copies of the Tetterode archives and his books collection, invited me to his printing studio to see Hong Kong Type's recasting process and allow me to examine a part of the matrices stored there, all of which were crucial to my research. I am also deeply thankful to Liesbeth Kanis, the former Brill's Business Development Manager in Asia, Yung Sau-mui, the Programme Director of the Hong Kong Open Printshop, and See Why Ng, the

volunteer of the Hong Kong Type recasting project, who are the witnesses to the discovery and recasting process of the Hong Kong characters. The conversations with them - although not structured - inspired me to constantly rethink the content of my thesis: what needs to be modified, what is still in doubt and what should be dealt with more carefully.

In the course of writing, I developed on the idea of exhibiting Hong Kong Type, the unique dual cultural heritage of Hong Kong and the Netherlands. Although the idea was a little too ambitious for a not yet graduated RMA student, I am grateful that the curators I spoke to were tolerant and encouraging. I thank Willemijn van Noord, the junior curator at the Dutch Museum of Ethnology, who not only listened to my pitch but also generously provided me with a significant number of photographs she had taken herself for my use. I am also grateful to Marc Gilbert, curator of the Leiden University Library, and Dr. Jeroen Wiedenhof, sinolinguist at Leiden University, and Dr. Cordula Gumbrecht, sinologist at the German National Library, who provided me with pertinent advice after listening to my pitches and subjected my knowledge structure to examination and scrutiny.

The role of social media in the exchange of knowledge is underestimated, or at least I think so. Through Twitter, I have been able to discuss academic topics concerning Chinese grammar and the materiality of print with scholars worldwide. I would like to give special thanks to Dr. Sven Osterkamp, Professor of Japanese Studies at Ruhr-Universität Bochum. He kindly responded to my questions on Twitter multiple times, generously offered his insights and gave links to relevant digital materials.

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corrections. There are many other people - please forgive me for failing to list their names one by one who has inspired me during a casual conversation or occasionally expressed genuine curiosity and appreciation for my research, which are the supporting power for me in completing this thesis.

Finally, with a heavy heart, I would like to thank the participants of the 2019-2020 Anti-Extradition Law Amendment Bill Movement in Hong Kong. Your persistence and perseverance filled me with respect for the land and the people of Hong Kong and inspired me to devote my thesis to a Hong Kong-related theme. Although the waves of this movement have been scattered by a relentless giant hand, I believe that it will ride on the wind again.

Some texts and images in this thesis have been covered with black censorship bars by myself, to protect some people involved and show my gesture against the forces that threaten academic freedom.

## Introduction

### Research question

In 2019, a set of nineteenth-century Chinese metal matrices - matrix is the mould to cast the metal types - was discovered in the Museum of Ethnology (Museum Volkenkunde) in Leiden, the Netherlands. The Chinese fonts embedded in these matrices were initially designed in Hong Kong - a city on the southern coast of mainland China and a former British colony, hence the name Hong Kong Type. Serving for many years in the printing press of the famous Leiden publishing house Brill, the typefaces cast by these matrices printed various books and journals, such as the *Dutch Chinese Dictionary* and *T'oung Pao*, with profound influence on the development of Sinology and Japanese studies in the Netherlands. However, forty years ago, due to the advent of computing and the new media era, these Chinese fonts gradually receded from history and went missing until two years ago, when they reentered the public eye. Despite its extensive use in Dutch Sinological publishing, the Hong Kong Type, as a unique dual cultural heritage of Hong Kong and the Netherlands, has received disproportionately little attention in its own right: its provenance has yet to be verified, and few past studies and reference books address it, let alone its significances, either in the past or present.

To better understand the value of these types, I agree with Bjørnar Olsen, Professor of Archaeology at the University of Tromsø in Norway, that researchers of material culture should recognise the significance of materiality and the inextricable entanglement between the human environment and non-human objects.<sup>1</sup> Long before the Hong Kong typefaces were preserved in the museum as a collection of historical value - roughly from 1858 to 1980 - they functioned as vehicles with high use-value

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<sup>1</sup> Bjørnar, Olsen, 'Symmetrical Archaeology'. In: Ian Hodder (ed.), *Archaeological theory today*, Cambridge: Polity Press, 2012, 208-228.

in the construction of reality. Advances in technology diminished their use-value, causing them to retreat from practice and circulation and enter the museum. However, the fact that they have gone untouched for 40 years in the museum's warehouse and the hesitation of the museum in deciding whether to display them largely reflect the ignorance of the once high use-value of these typefaces and their current cultural heritage value. Therefore, this thesis aims to fully demonstrate the past and present values of these Chinese typefaces, which are the very reasons these types should be granted the status of cultural heritage and deserve to be well preserved for future generations.

During my information-gathering phase for this thesis, a series of questions surfaced one after another: Who was the original maker of Hong Kong Type? Furthermore, who brought Hong Kong Type to the Netherlands, for what reason? Were there any other options available for typefaces? On top of these foundational questions regarding the provenance, I discovered that the original purchase of movable characters from Hong Kong was about 5,000, while the Museum of Ethnology holds about 9,000 matrices, in which there are 4,000 "new" characters, in addition to the 5,000 known Hong Kong characters. These additional 4,000 matrices were probably designed and cast in the Netherlands. If so, how did the Dutch understand and design the Chinese script? How did they decide which Chinese characters needed to be created? How do Dutch typesetters who did not know Chinese carry out their daily typographic work? Were the intellectual property rights of the original types respected?

Furthermore, other questions of a less practical nature are relevant. Europeans, in particular Jesuit missionaries, had made numerous descriptions of Chinese characters from the sixteenth centuries on. To what extent, then, did these descriptions influence the Dutch understanding of Chinese characters in the nineteenth century? Moreover, during the writing process of this thesis, an exhibition paying tribute to the Hong

Kong types has been held in Hong Kong, and seventy-three Hong Kong types recast in 2020 using the matrix of the Museum of Ethnology in the Netherlands are on display. What does the rebirth story of the Hong Kong Type tell us?

If the issues mentioned above - temporally spanning over four hundred years in time and spatially across Europe and Asia (and even occasionally the USA) - were all to be addressed in this thesis, then its structure would appear to run the risk of becoming too fragmented. However, once we figure out where this risk comes from, we can try to circumvent it. This risk usually results from a common framework of social art history such as the one of Pierre Bourdieu: the attempt to “reflect” the social context through the objects or identify the influence of social factors on them from the things.<sup>2</sup> In this model, the social context is a tacit and a priori presence behind or in front of the research object: The social context seems to be a mirror, reflecting the research object, providing it with explanations and reflections at a distance, lacking interaction between the social factors and the things. However, we must consider whether this static research paradigm which aims to 'reflect' or 'explain' social factors, is suitable for the subject of this thesis.

Let us return to the initial aim of this study - to uncover the value of Hong Kong Type in the past, which necessitates a renewed understanding of the role of Hong Kong Type in the social networks to which they belong, through exploring associations between things and things or between things and human actors. These associations are often subtle and fraught with variables. Typefaces passed through different hands through collaboration, trade or plagiarism, simultaneously shaping and being shaped by the participants, such as type designers, buyers and sellers, as co-constructors in the network that form around them. This complex network of constantly negotiated

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<sup>2</sup> Pierre Bourdieu, *Distinction: A Social Critique of the Judgment of Taste*, trans. Richard Nice. Cambridge, Mass.: Harvard University Press, 1984.

associations needs to be carefully reconstructed. And typefaces played a central role in this network.

To this end, I hereby present my research question: What is the co-construction role of actors such as sinologists, missionaries and non-European printers in the social network centred on the Hong Kong Type as they global interacted across spatial and temporal dimensions?

In addition, I attempt to address a subquestion in each chapter: 1) What insights can we draw from the examination of the physical characteristics of Hong Kong typefaes and matrices? 2) For what reason did the Dutch purchase the Hong Kong typefaces? 3) To what extent did the descriptions of Chinese characters By Jesuit Missionaries from the sixteenth century influence the Dutch understanding of Chinese characters in the nineteenth century? 4) To what extent does the Rebirth of Hong Kong Type project, which began in 2020, demonstrate the value of Hong Kong type?

## **Historiography**

The printing technique primarily discussed in this paper is movable type printing. Although the technology of movable type printing in China had been invented almost four centuries before Johannes Gutenberg (ca.1400 - 1468)<sup>3</sup>, the essential procedure of the Chinese and European movable type technologies was different. The clay types of Bi Sheng (990-1051) from the Song dynasty (960-1279) or the wooden characters of Wang Zhen (1290- 1333) from the Yuan dynasty (1271-1328) were shaped or carved one after the other by hand. The technical knowledge was either written up by the creator himself, such as in Wang Zhen's account of his invention and related

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<sup>3</sup> In the Netherlands, Laurens Janszoon Coster (1370-1440) had long been considered the inventors of movable metal types. This myth was not wholly discredited until the end of the nineteenth century. Lisa Kuitert, in her article "The Art of Printing in the Dutch East Indies Laurens Janszoon Coster as Colonial Hero" (see: *Quaerendo* 50 (2020), 141-164), links this myth to cultural nationalism in the Dutch East Indies, the then Dutch colony.

typesetting techniques in his book 农书 *Nong Shu* “Book of Agriculture” (1413),<sup>4</sup> or recorded by their contemporaries, such as in Shen Kuo's description of Bi Sheng's movable type technique in 梦溪笔谈 *Meng Xi Pen Tian* ‘The Dream Pool Essays’ (1090).<sup>5</sup>

By contrast, it was casting by which the Gutenberg’s movable types were produced. Gutenberg's type foundry process consisted of three basic steps: carving punches, making matrices and casting movable types. The punchcutting begins by transferring the outline of a letter or an image to one end of a steel bar. A matrix is a mold, from which individual type can be cast. A type is a piece of metal, cast with a letter or an image in relief on the upper surface. Amongst the above mentioned three steps, making punch is the most time-consuming. The advantage of the Gutenberg method was that it was based on the Latin alphabet system of around 26 letters and therefore only a limited number of punches need to be produced. In contrast, the total number of Chinese characters used in the Early Modern period - the number of common used characters fluctuates over time - exceeded 47,000.<sup>6</sup> However, we can only conjecture that these procedures were practised by Gutenberg and his contemporary printers, because all the steps were not written down until in 1683, by an English printer Joseph Moxon in his treatise *Mechanick Exercises*.<sup>7</sup> Almost every work on the printing technology published in the next two centuries, albeit in different times, places and languages, extensively appropriated texts from Moxon's work. Lawrence C. Wroth has compiled a genealogical chart of the appropriation of previous texts in

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<sup>4</sup> Wang Zhen, 造活字印书法 *Zao Huo Zi Yin Shu Fa* “Method of Type Making for Printing” in 农书 *Nong Shu* ‘Book of Agriculture’, 1313.

<sup>5</sup> Shen Kuo, ‘The Dream Pool Essays’, vol. 18 “技艺门 *Ji Yi Men* ‘The art of crafts’ ” in 梦溪笔谈 *Meng Xi Bi Tan*, “The Dream Pool Essays”, 1090s.; Ed. by Hu Daojing, 梦溪笔谈校证 *Meng Xi Bi Tan Jiao Zheng*, “New Dream Pool Essays”, Shanghai: Shanghai People Press, 1956

<sup>6</sup> The famous Kangxi Dictionary, a dictionary compiled by order of the Kangxi Emperor (1654-1722), included 47,035 Chinese characters.

<sup>7</sup> Joseph, Moxon. *Mechanick Exercises: or The Doctrine of Handy-Works. Applied to the Art of Printing*, at the sign of Atlas in Warwick Line, 1683.

printing works, which is published in his essay *Corpus Typographicum* (1935)<sup>8</sup>. The chart helps the readers to trace the order in which knowledge of printing was transmitted. The technological developments of the 19th century made it possible to mechanise printing, yet the order of information in contemporaneous printers' manuals still followed the pattern established by Moxon. Divided into two volumes, the *Nineteenth-Century Printing Practices and the Iron Handpress* (2004)<sup>9</sup> systematically summarises influential nineteenth-century printers' manuals and provides an essential reference for the study of the nineteenth-century printing process.

Before finding a solution to Chinese typography, the Europeans used woodcut or copperplate engraving to reproduce Chinese characters, with the guiding principle of treating them as illustrations. These early attempts might have been made for reasons of curiosity. Many Europeans collected Chinese books and writing samples (included in *Alba Amicorum*) without being able to read them.<sup>10</sup> In the context of the study of the history of Sinology in the West, the difficulties associated with the typographical realization of Chinese characters have hitherto been largely ignored, mentioned at best in passing, until Georg Lehner published *Der Druck chinesischer Zeichen in Europa* (2004).<sup>11</sup> Lehner's book provides a chronological overview of the development of Chinese typefaces in each of the major European countries, which can be seen as a systematic and fundamental research into the history of modern Chinese typefaces. However, its brief account still needs to be supplemented by extensive archival and historical documentary research to flesh out the whole narrative.

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<sup>8</sup> Lawrence C. Wroth, "Corpus Typographicum" in *The Dolphin*, No.2 (1935), 157-170.

<sup>9</sup> Richard-Gabriel Rummonds, ed. *Nineteenth-Century Printing Practices and the Iron Handpress*. New Castle: Oak Knoll Press & The British Library, 2004.

<sup>10</sup> Thijs Weststeijn, ed., *Foreign Devils and Philosophers: Cultural Encounters between the Chinese, the Dutch, and Other Europeans, 1590-1800*, Appendix 5.1 "Overview of Chinese Objects and Books Present in the Low Countries in the Seventeenth Century" (Leiden: Brill, 2020), 334 -342. Thank my supervisor Thijs Weststeijn for sharing this information.

<sup>11</sup> Georg Lehner, *Der Druck chinesischer Zeichen in Europa: Entwicklungen im 19. Jahrhundert*. Wiesbaden: Harrassowitz Verlag, 2004.

Given that nineteenth-century Chinese movable type printing activities were primarily operated by missionaries - mainly from the London Mission Society and the American Presbyterian Church - it is necessary to use the archives of the Church and the British East India Company as an entry point for a systematic compendium of the people involved and their activities. Fortunately, Su Jing has done in-depth and detailed archival research in this regard. His two publications, 马礼逊与中文印刷出版 *Ma Li Xun yu Zhongwen Yinshua Chuban* “Morrison and Chinese Printing and Publishing” (2000)<sup>12</sup> and 铸以代刻 *Zhu Yi Dai Ke* “Casting instead of Carving” (2018)<sup>13</sup>, detail the operation of missionary printing houses in China and Southeast Asia in the nineteenth century and the missionaries' contribution to Chinese publishing and typefaces creation. There is one chapter in Su's *Ma Li Xun yu Zhongwen Yinshua Chuban* which provides a chronological account of the biography of Samuel Dyer, the founder of the Hong Kong typefaces and the birth of the Hong Kong Type. However, little light has been shed on how Hong Kong Type came to the Netherlands due to the limitations of Su's archival sources.

As for specific missionary biographies and contributions, the writings and memoirs of these missionaries provide a wealth of detailed information. For example, although Samuel Dyer, did not create a divisible typeface - made of two or three components - he did conceive a divisible typeface in idea in his 1834 publication *A Selection of Three Thousand Characters being the Most Important in the Chinese Language*.<sup>14</sup> In addition, contemporary scholarly research on specific missionaries is a valuable source. For example, Ma Min's “Joshua Marshman and the First Chinese Book Printed with Movable Metal Type”<sup>15</sup> introduces Joshua Marshman's contribution to

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<sup>12</sup> Su Ching. 马礼逊与中文印刷出版 *Malixun yu Zhong Wen Yin Shua Chu Ban* “Morrison and Chinese Printing and Publishing”, Taipei: Studentbook publishing, 2000.

<sup>13</sup> Su Ching, 铸以代刻 *Zhu Yi Dai Ke* “Casting instead of Carving”, Beijing: Zhonghua Book Company, 2018.

<sup>14</sup> Samuel, Dyer. *A Selection of Three Thousand Characters*. Malacca: Anglo- Chinese College, 1834.

<sup>15</sup> Ma Min, “Joshua Marshman and the First Chinese Book Printed with Movable Metal Type”, *Journal of Cultural Interaction in East Asia*, 2015 (3), 3-18.

Chinese type in India; Zhang Binglun's article 范利安与西方印刷术的回传 *Fan Li'an yu Xifang Yinshuashu de Huichuan* "Alessandro Valignano and the dissemination of Western printing in China"<sup>16</sup> clarifies important historical facts about the time and place of the arrival of the first Western printing presses in Asia.

Koos Kuiper's book (based on his PhD dissertation) *The Early Dutch Sinologists: 1854-1900*<sup>17</sup> and Leonard Blussé essay *Of Hewers of Wood and Drawers of Water: Leiden University's Early Sinologists: 1854 - 1911*<sup>18</sup> provide background information on the arrival of Hong Kong type in the Netherlands. The introduction of the Chinese type is directly linked to the establishment of Dutch Sinology, which was inextricably linked to Dutch colonial activities in Southeast Asia. Furthermore, European understanding and practice of Chinese characters could be traced back to the sixteenth century, which David E. Mungello's *Curious land: Jesuit Accommodation and the Origins of Sinology*<sup>19</sup> gives an in-depth exploration. The European search for a *lingua universalis* "universal language" inspired early sinologists to study Chinese script. One of the most influential ideas on the concept of 19th-century typography was the understanding of radicals as constituent parts of Chinese characters, thus making it possible to deconstruct the structure of Chinese characters. Thijs Weststeijn's two articles, namely *From hieroglyphs to universal characters. Pictography in the early modern Netherlands*<sup>20</sup> and *The Middle Kingdom in the Low Countries: Sinology in*

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<sup>16</sup> Zhang Binglun, Sun Jian and Lü Lingfeng, 范利安与西方印刷术的回传 *Fan Li'An yu Xifang Yinshuashu de Huichuan* "Alessandro Valignano and the dissemination of Western printing in China", *Chinese Print*, 2001(11), 41-44.

<sup>17</sup> Koos Kuiper, *The Early Dutch Sinologists (1854-1900), Training in Holland and China, Functions in the Netherlands Indies*. Leiden: Brill, 2017.

<sup>18</sup> Leonard Blussé, "Of Hewers of Wood and Drawers of Water: Leiden University's Early Sinologists (1854-1911)" in: Wilt Idema, eds. *Chinese Studies in the Netherlands: Past, Present and Future*. Leiden: Brill, 2013, 27-68.

<sup>19</sup> David Emil Mungello. *Curious Land: Jesuit Accommodation and the Origins of Sinology*. Stuttgart: Franz SteinerVerlag Wiesbaden GmbH, 1985.

<sup>20</sup> Thijs Weststeijn. "From hieroglyphs to universal characters: Pictography in the early modern Netherlands," in *Netherlands Yearbook for History of Art / Nederlands Kunsthistorisch Jaarboek Online*, 61(1), 238-281.

*the Seventeenth-Century Netherlands*,<sup>21</sup> help us to understand the efforts made by early Sinologists to understand Chinese script.

From a linguistic point of view, Jeroen Wiedenhof's description of radicals in his monograph on Chinese grammar *A Grammar of Mandarin*<sup>22</sup> provides insight into the use of the radical-stroke system in traditional Chinese dictionary compilation and search systems. Besides, in an acclaimed book *The Chinese Typewriter: A History* (2017), the author Thomas S. Mullaney, Professor of Chinese History at Stanford University, demonstrates the impact of the semiotic properties of the different writing system - namely alphabet and non-alphabet system - on the hierarchy of scripts. The keyword in this book is "technolinguistics", which Mullaney uses repeatedly to describe the process of change in language involving sociotechnical forces. However, this term "technolinguistics" is only loosely defined by Mullaney as the dimensions of writing that are 'largely invisible, inaudible, and unconcerned with meaning'.<sup>23</sup> Matthew S. Lindia further fleshed out the concept in his book review of *The Chinese writetyper* that technolinguistics is "the process of change in language involving sociotechnical forces".<sup>24</sup> Mullaney's technolinguistic perspective incorporates elements of Orientalism, taking into account the historical context of Western hegemony. This theoretical combination produces a novel theoretical perspective: nineteenth-century Western hegemony in languages is not demonstrated through a simple dichotomy, i.e. not the domination of a particular Western language, but through the Chinese being drawn into in a global media and information order, the infrastructure of which relies on something that Chinese does not possess, namely the alphabet.<sup>25</sup> The hierarchy of

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<sup>21</sup> Thijs Weststeijn. "The Middle Kingdom in the Low Countries: Sinology in the Seventeenth-Century Netherlands." In *The Making of the Humanities: Volume II: From Early Modern to Modern Disciplines*, ed. Rens Bod, Jaap Maat and Thijs Weststeijn, 209-242. Amsterdam: Amsterdam University Press, 2012.

<sup>22</sup> Jeroen Wiedenhof, *A Grammar of Mandarin*, Amsterdam: John Benjamins Publishing Company, 2015.

<sup>23</sup> Thomas S Mullaney, *The Chinese Typewriter: A History*, Cambridge: The MIT Press, 2017, 17.

<sup>24</sup> Matthew S, Lindia, "Book review: *The Chinese Typewriter: A History*," *Global Media and Communication*, vol. 16 (1), 2020, 124.

<sup>25</sup> Mullaney, *The Chinese Typewriter: A History*, 10-11.

scripts which is rooted in a philological tradition could date back to the Jesuits mission in the sixteenth century.<sup>26</sup> Henning Klöter, Professor of Modern Chinese Languages and Literature at the Humboldt University of Berlin, in his articles “Philippines or Mainland China: Where did Europeans begin to learn and study Chinese languages? Is there a need for paradigm shift?” (2011)<sup>27</sup> and “Missionary Linguistics” (2016)<sup>28</sup> introduces that Missionaries rendered local languages into alphabetic writing as a means of facilitating evangelization. Grammars and compiled mainly consisted of alphabetical lists of words in one or more European languages with equivalents in the indigenous language or attempts at paraphrase semantic approximations.<sup>29</sup>

Given the need to examine the significance of the rebirth of "Hong Kong Type" in the post-colonial era, some publications on the geopolitical and cultural heritage studies of Hong Kong feature my bibliography as well. Gordon Mathew's *Hong Kong, China: Leaning to Belong to A Nation* (2008)<sup>30</sup> explores the social mentality of Hong Kong people after their city was returned to China by Britain. From a postcolonial perspective, Ching Kwan Lee in her article *Take Back Our Future: An Eventful Sociology of the Hong Kong Umbrella Movement* (2019)<sup>31</sup> discusses the relationship between a range of activities and struggles aimed at preserving cultural heritage and the formation of localism in Hong Kong, and the catalytic effect of changes in the

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<sup>26</sup> Henning Klöter, "Missionary Linguistics," in Rint Sybesma, et al. (eds.), *Encyclopedia of Chinese Language and Linguistics* (ECLL), vol. 3, Leiden, Boston: Brill, 2016, 41.

<sup>27</sup> Henning Klöter, "Philippines or Mainland China: Where did Europeans begin to learn and study Chinese languages? Is there a need for paradigm shift?", in Zbigniew Wesołowski, ed., *Monumenta Serica Sinological Research Center Publications* 10 (2011), 215-239.

<sup>28</sup> Klöter, "Philippines or Mainland China: Where did Europeans begin to learn and study Chinese languages? Is there a need for paradigm shift?", 41-47

<sup>29</sup> Otto Zwartjes, Klaus Zimmermann and Martina Schrader-Kniffki, ed., *Missionary Linguistics V/Linguistica Misionera V: Translation Theories and Practics, selected papers from the seventh international conference on missionary linguistics Bremen 28 February – 2 March 2012* (Amsterdam and Philadelphia: John Benjamins Publishing Company, 2012),

<sup>30</sup> Gordon Mathews. Eric Kit-wai Ma and Tai-lok Lui, ed. *Hong Kong, China: Leaning to Belong to A Nation*. London: Routledge, 2008.

<sup>31</sup> Ching Kwan Lee and Ming Sing, ed. *Take Back Our Future: An Eventful Sociology of the Hong Kong Umbrella Movement*. New York: Cornell University Press, 2019.

historical conditions and political environment before and after the 2014 Hong Kong Umbrella Movement on localist sentiments. Him Chung's 觉醒还是否定? 文化遗产保育与地方身份认同建构 *Juexing haishi Fouding? Wenhua Yichan Baoyu yu Difang Shenfen Rentong Jiangou* "Awakening or denial? Cultural Heritage Conservation and the Construction of Local Identity" (2017)<sup>32</sup> examines the establishment of Hong Kong people's local identity by exploring the conservation of Hong Kong's cultural heritage. Regarding the 2021 exhibition of the Hong Kong Type, an eponymous booklet provides an insight into the content of the exhibition and the curatorial process.<sup>33</sup>

### **Theoretical framework**

This thesis is concerned with the historical development of Hong Kong Type as a vehicle for technical and cultural knowledge. The past of Hong Kong Type is a polyhedron: episodes relate through networks of interlinking actors, crossing different temporal and spatial boundaries. Designers, operators, sponsors, consultants, buyers, sellers and users all constitute this social network. The typefaces played an essential role in it. Without the typefaces, this network would not have existed. Therefore, the right approach to the choice of frame ought to be pluralistic and interdisciplinary. This thesis explores the applicability of Actor-Network-Theory as an underlying structure, taking into account two perspectives on top of this: postcolonialism and technolinguistics.

#### *Post-colonialism*

When the subject of study concerns Hong Kong, it is necessary to be cautious in the use of the postcolonial approach to avoid falling into the standard clichés of the historical research. I shall explain two sets of terms related to postcolonial discourse

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<sup>32</sup> Him Chung, "觉醒还是否定? 文化遗产保育与地方身份认同建构 *Juexing haishi Fouding? Wenhua Yichan Baoyu yu Difang Shenfen Rentong Jiangou*," in *Hong Kong in Twenty years: The Changing Spirit*, Ed. Luo Jinyi. Hong Kong: City University of Hong Kong Press, 2017.

<sup>33</sup> Yung Sau-mui, *Between the Lines: The Legends of Hong Kong Printing*, Hong Kong: Hong Kong Heritage Museum and Hong Kong Open Printshop, 2020. Exhibition Booklet.

to help readers get around the theoretical misconceptions they may fall into and establish a fresh critical perspective when discussing Hong Kong's cultural heritage.

### 1. Decolonization

Since the transfer of sovereignty over Hong Kong from the former sovereign state of Britain to the Chinese government in Beijing in 1997, Hong Kong people have become increasingly anxious about their identity. For them, the “rediscovery” of Chinese identity was a process of negotiation - not painless, not “natural,” nor even necessarily “morally correct”. Gordon Mathews, a professor of anthropology at the Chinese University of Hong Kong, described it as a process of “decolonisation and resinicisation”.<sup>34</sup> Ching Kwan Lee, an established sociologist who has been criticised by pro-Beijing parties for being sympathetic to localism on the political spectrum, taking a step forward, call this process China’s “recolonization” or “internal colonization”.<sup>35</sup>

As can be seen, the term decolonisation, which is closely associated with the Postcolonialistic discourse, is interpreted in different senses between different factions in Hong Kong. The Chinese government and the pro-Beijing community in Hong Kong are more supportive of the dominant Western reading of decolonisation, i.e. the desire for Hong Kong to break away from British influence in terms of language, judicial system and press freedom so forth.<sup>36</sup> For the localists in Hong Kong, on the other hand, these influences have formed part of the local identity of Hong Kong, and such decolonisation is tantamount to depriving Hong Kong people of their identity.<sup>37</sup>

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<sup>34</sup> Gordon Mathews, Eric Kit-wai Ma and Tai-lok Lui, ed, *Hong Kong, China: Leaning to Belong to A Nation* (London: Routledge, 2008), 41.

<sup>35</sup> Ching Kwan Lee, “Take Back Our Future: An Eventful Sociology of the Hong Kong Umbrella Movement,” in *Take Back Our Future: An Eventful Sociology of the Hong Kong Umbrella Movement*, ed. Ching Kwan Lee and Ming Sing (New York: Cornell University Press, 2019), 3-4 and 11.

<sup>36</sup> Thomas Hon Wing Polin, “Twenty years late, decolonization is coming to Hong Kong”, *Globaltimes*, 2 July 2017, <https://www.globaltimes.cn/content/1049745.shtml>. Accessed 28 July 2021.

<sup>37</sup> Lee, “Take Back Our Future: An Eventful Sociology of the Hong Kong Umbrella Movement,” 9.

The conflict between these two opposing ideologies culminated in the 2019 Anti-Extradition Law Amendment Bill Movement in Hong Kong. As such, the discourse of decolonisation manifests itself in an unprecedented complexity in current Hong Kong. Therefore, the attempt to construct a narrative about the 'Hong Kong genre' is bound to be very challenging.

## 2. Cosmopolitanism

Cosmopolitanism derives from the Ancient Greek: κοσμοπολίτης, or kosmopolitês, formed from "κόσμος", kosmos, i.e. "world", "universe", or "cosmos", and πολιτής, "politês". Early proponents of cosmopolitanism such as the Stoic philosophers rejected the idea that one should be importantly defined by one's city of origin. Rather, they insisted that they were "citizens of the world."<sup>38</sup> Samuel Scheffler, Professor of Philosophy and Law at New York University, argues that cosmopolitans believe that culture is constantly fluid, ever-changing, frequently modified, renewed, supplemented, recast and reconstructed. Populations of cosmopolitan character will always contact other populations and their ideas, languages, artefacts and practices. In addition, cosmopolitanism emphasises the fluidity of individual identities and the extraordinary ability of people to shape new identities using materials from other cultural sources.<sup>39</sup>

I named the nineteenth-century communication network of Chinese type-makers - most of them were missionaries - the "Republic of Characters". This "Republic" is a concept I have constructed to describe an imaginary community that shares the knowledge of Chinese script and Chinese type casting, consisting mainly of missionaries and typefounders who communicate through correspondences or visits. This term "Republic of Characters" is derived from the famous intellectual

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<sup>38</sup> Gillian Brock and André Munro, "Cosmopolitanism". *Encyclopedia Britannica*, 08 July. 2015, <https://www.britannica.com/topic/cosmopolitanism-philosophy>. Accessed June 13, 2021.

<sup>39</sup> Samuel Scheffler, "Conception of Cosmopolitanism," in *Boundaries and Allegiances: Problems of Justice and Responsibility in Liberal Thought* (Oxford: Oxford University Press, 2001), 112-113.

community of European humanism, the 'Republic of Letters'. Paul Dibon defines the Republic of Letters as "an intellectual community transcending space and time, and thus rising above diversity of language, religion and nationality".<sup>40</sup> Correspondence and intellectual exchange between academics across geographical and national boundaries formed the cosmopolitan basis of the Republic of Letters.<sup>41</sup> I believe that the Republic of Characters shares somewhat the similarity of the characteristics of the Republic of Letters regarding interactive communication across countries borders. Dena Goodman argues that the nineteenth-century mission societies adopted European enlightenment thinking, particularly the western notion of universal humanism, adapted it to the evangelical concept, which enabled them to act as global citizens.<sup>42</sup> In addition to missionaries and sinologists who documented the exchange of ideas on Chinese type design with their correspondence and publications, buyers - mainly governments, publishers and even another typefounder - were also involved in the design and adaptation of type for purposes of use and dissemination, due to the commercial property of Hong Kong type. The intersection of their ideas and action constitutes the main structure of the social network of the Republic of Characters. I will expand on this network in more detail in the introduction to the ANT (Actor-Network-Theory) methods.

Cosmopolitanism can be local, as argued by Kristof van Assche, a professor in Planning, Governance & Development at University of Alberta, and Petruța Teampău, a lecture of Political Science. The narratives of the global and th local could a product

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<sup>40</sup> Paul Dibom, 'Communication in the Respublica Literaria of the 17th Century', *Res publica litterarum. Studies in the classical tradition*, 1, 1978, 44; Paul Dibon, "L'Universite de Leyde et la Republique des Lettres au i 7e siecle," *Quaerendo* 5 (1975): 26. Goodman, *The Republic of Letters*, 16.

<sup>41</sup> Dena Goodman, *The Republic of Letters: A Cultrual History of the French Enlightenment* (Ithaca and London: Cornell University Press, 1994), 20.

<sup>42</sup> Rhonda Semple, Missionary Cosmopolitanism in Nineteenth-century British Literature, *Nineteenth-Century Contexts*, 43 (1) 2021, 127; Winter Jade Werner, *Missionary cosmopolitanism in nineteenth-century British Literature*, Columbus: Ohio Sate University Press, 2020.

of a local response to large changes.<sup>43</sup> Hong Kong is a peculiar city regard to cosmopolitan and colonial history. The counter-discourses - localism, nationalism, and decolonization and otherwise – have existed since its origin. When the cosmopolitan dimension of Hong Kong is increasingly restricted, the more necessary it is to discuss it to maintain a balance in the competition between memory and forgetting. Ching Kwan Lee stated in an interview in January 2019 that Hong Kong being a cosmopolitan society enables Hong Kong Studies one of the most cosmopolitan fields of knowledge.<sup>44</sup> Lee further interpreted the cosmopolitan character of Hong Kong as "Hong Kong belongs to the world" during an online forum in May 2020.<sup>45</sup> Lee suggests a “Hong Kong matrix” research method which comprises three core elements: China, Hong Kong as a cosmopolitan city and Hong Kong as a local community. An integrated understanding of Hong Kong's cultural heritage in these three dimensions helps to balance the competition between memory and forgetting.

### *Technolinguistics*

Another entry point for the study of this set of movable types is technolinguistics. Derived from Thomas Mullaney's acclaimed *The Chinese Typewriter: A History*, this term technolinguistics, however, was not given a clear definition by Mullaney.<sup>46</sup> Matthew S. Lindia further fleshed out the term technolinguistics in his bookreview of *The Chinese typewriter* as “the process of change in language involving sociotechnical forces”.<sup>47</sup>

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<sup>43</sup> Kristof van Assche and Petruța Teampău, *Local Cosmopolitanism, Imagining and (Re-) making Privileged Places* (Cham: Springer, 2015), 4.

<sup>44</sup> “什麼人訪問什麼人：香港研究 不止研究香港 (6 Jan 2019),” accessed 28 July 2021, <https://news.mingpao.com/pns/副刊/article/20190106/s00005/1546711717466/什麼人訪問什麼人-香港研究-不止研究香港>

<sup>45</sup> Rachel Wong, “Scholar who said ‘Hong Kong belongs to the world’ refutes pro-Beijing press claim she may have violated security law,” accessed 28 July 2021, <https://hongkongfp.com/2020/11/19/scholar-who-said-hong-kong-belongs-to-the-world-refutes-pro-beijing-press-claim-she-may-have-violated-security-law/>.

<sup>46</sup> Thomas S Mullaney, *The Chinese Typewriter: A History*, Cambridge: The MIT Press, 2017, 17.

<sup>47</sup> Matthew S, Lindia, “Book review: The Chinese Typewriter: A History,” in *Global Media and Communication*, vol. 16 (1), 2020, 124.

Mullaney's technolinguistic perspective incorporates elements of Orientalism, taking into account the historical context of Western hegemony. This theoretical combination produces a novel theoretical perspective: nineteenth-century Western hegemony in languages is not demonstrated through a simple dichotomy, i.e. not the domination of a particular Western language, but by the alphabet, a language system that the infrastructure of the nineteenth-century global information order relied on but that Chinese script did not possess.<sup>48</sup> This hierarchy of script which is rooted in a philological tradition goes back to the Jesuits mission the sixteenth century.<sup>49</sup> Missionaries rendered local languages into alphabetic writing as a means of facilitating evangelization. Grammars and compiled by them mostly consisted of alphabetical lists of words in one or more European languages with equivalents in the indigenous language or attempts at paraphrasal semantic approximations.<sup>50</sup> As a global commodity with high use and commercial value, Hong Kong Type had to confront the problem of production efficiency. Due to the commercial nature of the Chinese movable typeface, a Type became marketable only when the number of individual characters reached a significant scale. As we described earlier, the production of Chinese type was a rather time-consuming process, which required the decision-making for which typefaces to be produced first. In principle, the decision on priority depends on the frequency of common-use characters: one that was used frequently was more likely to be produced earlier. Inevitably, there would have been a contest between the various stakeholders to determine which words could be included in the common-use vocabulary. The combination of technolinguistics and postcolonial theory will provide a new perspective on the complexity of the forces at play.

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<sup>48</sup> Mullaney, *The Chinese Typewriter: A History*, 10-11.

<sup>49</sup> Henning Klöter, "Missionary Linguistics," in Rint Sybesma, et al. (eds.), *Encyclopedia of Chinese Language and Linguistics* (ECLL), vol. 3. (Leiden, Boston: Brill, 2016), 41.

<sup>50</sup> Otto Zwartjes, Klaus Zimmermann and Martina Schrader-Kniffki, ed., *Missionary Linguistics V/Linguistica Missionera V: Translation Theories and Practices, selected papers from the seventh international conference on missionary linguistics Bremen 28 February – 2 March 2012* (Amsterdam and Philadelphia: John Benjamins Publishing Company, 2012),

### *Actor-Network-Theory*

Actor-Network-Theory is a recent paradigm of social theory, which, often abbreviated as ANT, uses the object as the essential medium to observe the multiple dimensions of spatial and temporal vectors surrounding it. Bruno Latour, who is one of the leading spokesmen of ANT, suggests what ANT is looking for is a shift in perspective: “not the social that accounts for associations but rather associations that explain the social”.<sup>51</sup> In terms of art, Latour critiques a commonly used sociological perspective on art among art historical research methods, namely Bourdieu's sociology of art, which sees art primarily as a tool for reflecting society.<sup>52</sup> We may be able to discern Latour's skeptical view of the sociology of art from his cynical description of it: “Apart from religion, no other domain has been more bulldozed to death by critical sociology than the sociology of art. Every sculpture, painting, haute cuisine dish, techno rave, and movel has been explained to nothingness by the social factors ‘hidden behind’ them.”<sup>53</sup> In terms of art, Latour argues that art is not a static reflection of society but constantly interacts with other elements in the social network.

The research conducted on Rembrandt and his sponsors using Actor-Network-Theory, by Michael Zell, Associate Professor in Art History at Boston University, was significantly enlightening to me.<sup>54</sup> Zell suggests that although ANT can not be used to explain how a social network operates, this theory offers a heuristic model to present the dynamics interactions between person and person, and person and object. Therefore, ANT is valuable for capturing the co-constructive role of each actor in a social network.<sup>55</sup> In this present thesis, I attempt to use ANT theory to observe and

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<sup>51</sup> Latour, *Reassembling the Social*, 238.

<sup>52</sup> Pierre Bourdieu, *Distinction: A Social Critique of the Judgment of Taste*, trans. Richard Nice (Cambridge, Mass.: Harvard University Press, 1984).

<sup>53</sup> Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford and New York: Oxford University Press, 2007), 236.

<sup>54</sup> Michael Zell, “Rembrandt’s Gifts: A Case Study of Actor-Network-Theory,” *Journal of Historians of Netherlandish Art* 3:2 (Summer 2011), DOI: 10.5092/jhna.2011.3.2.2.

<sup>55</sup> Zell, Rembrandt’s Gifts, 1.

address the interactions between Hong Kong typefaces and the human world around them in the processes of circulation, knowledge exchange and purchase. I propose to call the social network constructed through these interactions the 'Republic of Characters'. This "Republic", in a narrow sense, could be the network of type founders in the nineteenth century. However, a narrow definition is not entirely satisfactory. As Latour suggests, we "have to follow the actor's themselves",<sup>56</sup> follow their new way of thinking, new method of handling things, therefore keep the associations in the network updated and resampled. If the associations between actors extend far beyond the nineteenth century, we must "follow the flow", expanding the scope of this social network as well, because "everything interesting happens upstream and downstream".<sup>57</sup> In a broader definition, therefore, this social network should also include the European missionaries and sinologists who have contributed to the understanding of Chinese characters since the sixteenth century, as well as the museum curators and volunteers who have been attempting to bring the Hong Kong Type back to life in the twenty-first century.

The perspectives of decolonization cosmopolitanism and technolinguistics addressed above will, where relevant, play a role in the interpretations of the behaviour of the actors in this social network.

## **Methodology**

The coronavirus pandemic (2020-2021) has significantly impacted the writing of this thesis. The physical objects, publications, and archives necessary for this research have been barely accessible during most of the first half of this year due to the restrictive measures of the epidemic. Therefore, flexibility in the choice of methodology is necessary.

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<sup>56</sup> Latour, *Reassembling the Social*, 12 and 237.

<sup>57</sup> Latour, *Reassembling the Social*, 237.

### *Interview*

Ronald Steur is the key figure in the rediscovery of the Hong Kong Type and the president of the Stichting Lettergieten 1983. Liesbeth Kanis, then Brill's Business Development Manager in Asia, is the one who requested Ronald Steur to look for the provenance of the Hong Kong Type.

The unstructured interviews with them - I make no claim to genuine expertise in interview skills - enable me to obtain a first-hand account of the search process.

During my research, I visited the Westezaan type foundry, chaired by Ronald Steur, on numerous occasions, where Hong Kong characters were being refounded. Besides, a semi-structured interview with Yung Sau-mui, the director of the Hong Kong Open Printshop and curator of the Hong Kong exhibition 'Between the lines', provides a first-hand account of the exhibition of Hong Kong Type in 2021.

The interviews have another significance: these interviewees are considered actors in the Republic of Characters network, which, in a broad temporal context, extends beyond the 19th century. The interactions between each of them and the Hong Kong typefaces have profoundly impacted the value of the types: helping retrieve their use-value and add new symbolic value.

### *Primary material research*

The materiality of Hong Kong Type – during research, I have examined the matrices collection in Volkenkunde Museum and the types in the private collection of Ronald Steur- is the cornerstone of this thesis's argument. A closer examination of the objects helps to understand the thinking and production processes of the nineteenth-century type founders and hence contribute to the construction of the narrative.

### *Archive research*

Given that the set of Hong Kong types in the Netherlands has hardly been studied before, examining primary documents and archives will be essential for this research.

I have mainly referred to three sets of archives: the Tetterode archives and the Brill archives in the Special collection at the University of Amsterdam (the special collection of the Allard Pierson Museum), the Johann Hoffmann archives in the Special Collection at the Utrecht University Library, and the Johann Hoffmann archives in the Special Collections at the Leiden University library. As most of the original archives were not accessible during the pandemic, I am grateful to Ronald Steur for sharing his previously photocopied Tetterode archives with me.

In addition, I have referred to several sixteenth- and seventeenth-century European texts containing printed Chinese characters, the 19th-century typographical catalogues of various type founders from around the world, and Hoffmann's report to the Literary Section of the Academy of Sciences in the 1850s for the purchase of Chinese movable types. Thanks to advances in the digitisation of literature, much of the documents is available on the internet.

### *Digital Art History*

This main task of this thesis is to construct a social network centred on Hong Kong Type. As the Republic of Characters under discussion in this thesis contains many actors covering a wide range of temporal and spatial dimensions, we should heed Latour to create a "flattened landscape" to avoid being dragged into the mire of an interlocking, overlapping, multi-layered network. The digital humanities mapping and visualization tool Palladio (<http://hdlab.stanford.edu/palladio>) enables us to reconstruct the complex social network on a flattened map that present the associations between actors with clear-cut lines and therefore benefit us to imagine the structure of the cosmopolitan Republic of Characters (fig. 1 and fig. 2).

### **Outline of the thesis**

In this thesis, I will attempt to capture the interaction and spatial-temporal associations between Chinese typefaces and other human and non-human factors, including type designers, advisors, influencers, buyers, sellers and users, by

reconstructing the social networks in which these Chinese typefaces were produced, transported and used, with the typefaces themselves at the centre.

I will devote four chapters to the above research question. Chapter One begins with the rediscovery of Hong Kong typefaces, describes the physical state of typefaces and matrices, and introduces type casting techniques to help readers understand the printing terminology they will encounter in reading the following chapters. Chapter Two traces the provenance of the Hong Kong typefaces in the Netherlands Museum of Ethnology collection and explores their use-value and significance in the past. The third chapter places the Hong Kong Type back in the social network they once belonged to and unfolds the network horizontally and vertically to sort out the historical and spatial context of European understanding of Chinese script. Last but not least, after forty years out of circulation, the Hong Kong Type has once again been brought into usage through recasting. The fourth chapter attempts to demonstrate that the Hong Kong Type's use and social value are sublimated precisely by its interaction with the current social movement in Hong Kong. These points addressed in all the chapters echo the call for a paradigm shift in Actor-Network Theory: abandon the idea that objects reflect society and instead trace the patterns of interaction that associate things with humans.

## Chapter 1 Tracing the Hong Kong type

### 1.1 Tracing the Hong Kong Type

In 2016, Ronald Steur, the then 75-year-old printing expert and the president of the Stichting Lettergieten 1983, received a request from Liesbeth Kanis, then Brill's Business Development Manager in Asia, to trace a collection of movable Chinese typefaces that have been used by Brill in the second half of the 19th and early 20th centuries. Over the following two years, Steur has been tirelessly researching the provenance of these characters on his own by diving into the various historical archives and interviewing the people who might be involved in this matter. In 2019, Steur found a decisive clue from some old letters provided by a former manager of N.Tetterode, the Amsterdam-based historic type-casting factory where the Chinese characters were recast into matrices a century and a half ago. The letters indicate that in 1981 when N.Tetterode typefoundry was about to move to another building, the then director asked the then Dutch Ministry of Foreign Affairs how to dispose of the collection of the Chinese characters and matrices, as the ownership of them still belonged to the Dutch government. Tetterode received a reply from the government that the collection could be sent to the Volkenkunde Museum for preservation. With this information, Ronald contacted the Volkenkunde Museum and eventually discovered the matrices of the Chinese types in their depot. The types, however, are not there anymore.<sup>58</sup>

### 1.2 Description of the Hong Kong matrices and types

These matrices are stored in 45 drawers with metal handles in a metal cabinet (fig. 3). The top 38 drawers are filled with matrices, the rest of the drawers are empty except for the bottom drawer which contains examples of various sizes of cast letters (lead).

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<sup>58</sup> The above information has been summarised from multiple communications with Mr. Ronald Steur. From January 2021 to the present, I have had many phone calls and emails with Mr. Steur and have visited the typecasting workshop of the Stichting Lettergieten 1983 in Westzaan at a frequency of once almost every two weeks. The above information was confirmed by Willemijn van Noord (through a semi-structured online interview on 11<sup>th</sup> June, 2021) and Liesbeth Kanis (through an unstructured interview in person on 13<sup>th</sup> August 2021).

The matrices are arranged in 8 rows in each drawer, ranging from approximately 30 to 35 matrices per row (fig. 4). The matrix body is made of zinc, with a copper coating on the recessed sections used to cast the type, indicating that the matrix was produced by the galvanic method. The matrices various in size, perhaps due to irregularities in industrial practice (fig. 4 and 5 and appendix 1). But the irregular matrix appearance seems to have little impact on the production of the typeface. All of them can produce types in uniform size 16 point (fig 6).<sup>59</sup> From the surviving Tetterode cast type (not part of the Volkenkunde Museum), the appearance of the types has remained approximately the same, with some minor variations (table 2), throughout the continually repeated casting process.

On the front and back of the matrix are engraved some numbers: the index codes to facilitate the caster to find the required matrix. On one side of the type's body, there is also a series of numbers related in a certain way to the codes on the matrix. These numbers belong to a compositional system based on the radical classifications in the Kangxi dictionary.<sup>60</sup> In this dictionary, named in honour of the Kangxi emperor (1661–1722) who ordered its compilation, upward of 40,000 Chinese characters are classified into 214 categories based on the primary character component (or 部首 *bushou* “radical”) out of which each character is composed. The difference is that the matrix's codes are for the type casters, whereas the numbers on the types were intended for the compositors in the publishers or printing factories. Hence there is a slight difference in their use. The application of this code system will be elaborated upon in Chapter Two.

Regarding the placement of the numbers on the typefaces, there is an opinion from professional printing practitioners suggesting that the position might be a means of

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<sup>59</sup> 16 point is the font body size referring to the US point system which was introduced in the 1880s. When this typeface was designed, font sizes were not standardized around the world.

<sup>60</sup> Kangxi Dictionary is the standard Chinese dictionary during the 18th and 19th centuries. The Qing Kangxi Emperor (1654-1722) ordered its compilation in 1710. It used the earlier Zihui system of 214 radicals, today known as 214 Kangxi radicals, and was published in 1716. The dictionary is named after the Emperor's era name.

helping typesetters maintain the orientation of the types. However, based on my examination of the surface of a considerable number of typefaces, it is worth noting that the positions of the numbers are not always the same (table 2). For example, among the Chinese types in Mr. Steur's private collection - the numerals on these types indicate that they were cast from the matrices in the Volkenkunde Museum collection - I found two identical characters 山 shan "mountain", but with the numerals on different sides (fig 7). It suggests that if the typesetter used the side of these numbers as a reference for the orientation of typesetting, there might be characters upside-down. Therefore, it remains a question to be solved.

Currently, eight of these drawers are currently stored in the workshop of the Stichting Lettergieten 1983 for the recasting. By the end of 2020, 73 types were cast and sent to Hong Kong to be displayed in the '*Between the lines: The Legends of Hong Kong Printing*' exhibition at the Hong Kong Heritage Museum (about the recast of Hong Kong Type, see Chapter Four).

### **1.3 History, terminology and practices of type foundry**

It is often assumed that typography is synonymous with printing, as both of them are conventionally understood as a process of impression in which paper and ink are employed in conjunction. However, typography is merely one of the four forms of printing from a technical point of view: Copper-plate printing, Lithography, Typography and Xylography.<sup>61</sup> Theodore De Vinne (1828-1914), a nineteenth-century American printer and typographer, unfolded a systematic account of typography in the preface to the 1896 reprint of Moxon's *Mechanick Exercises*. De Vinne suggests that lithography and copper-plate printing are not suitable for printing

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<sup>61</sup> Theodore Low De Vinne. *The Invention of Printing. A Collection of Fact and Opinions. Descriptive of Early Prints and Playing Cards, the Block-books of the Fifteenth Century, the Legend of Lourens Janszoon Coster, of Haarlem and the work of John Gutenberg and his Associates* (New York: Franis Hart & Co. 12 & 14 College Place, 1876). 18.

books and newspapers because of their technical limitations - a new engraving must be made for each subject.<sup>62</sup>

Since its inception in the fifteenth century by Gutenberg, the craft of movable letterpress printing has been passed on through oral and practical instruction through the apprentice system.<sup>63</sup> The woodblock technique was very prevalent in China, with good quality, and low prices. It was not until 1683 that the first manual on the working practices of hand-press printing, *Mechanick Exercises*, was compiled and published by Joseph Moxon (1627-1691). The next manual was Martin-Dominique Fertel's *La science pratique de l'imprimerie*, published in France in 1723. In 1755, the third printing manual, *The Printer's Grammar*, published by Johan Smith in 1755.<sup>64</sup> During the two hundred years that followed, the manuals by the successive writers were frequently found borrowing text from prior manuals, often without acknowledgement. The practices of hand-press printing Moxon compiled did not change fundamentally during the period: "... *the master printer ... is the soul of printing*". Without the order of the master printer, "*the letter cutter would cut no letters, the foundry not sink the matrices, or cast and dress the letters, the smith and joyner not make the press and other utensils for printing, the compositor not compose the letters, the correcter not read proofs, the press-man not work the forms off at the press, or the ink-maker make ink.*"<sup>65</sup> In a word, all the workmen in the printing workshop listened to the master printer. To elaborate the labor division, Moxon categorized the positions as below:

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<sup>62</sup> De Vinne. *The Invention of Printing*. 22-23.

<sup>63</sup> Richard-Gabriel Rummonds, ed., *Nineteenth-Century Printing Practices and the Iron Handpress* (New Castle: Oak Knoll Press & The British Library, 2004), 3.

<sup>64</sup> Rummonds, *Nineteenth-Century Printing Practices and the Iron Handpress*, 3.

<sup>65</sup> Joseph, Moxon. *Mechanick Exercises: or The Doctrine of Handy-Works. Applied to the Art of Printing*, published in two volumes of the first edition in the year 1683, with the Preface and Notes by Theo, L. De Vinne. New-York: The Typothetæ of the City of New-York, 1896, 7.

The letter-cutter  
 The letter-caster  
 The letter dresser

} Letter founder

The compositor  
 The correcter  
 The press-men  
 The inck-maker

} Printers

However, the seventeenth-century printing labour force summarized by Moxon as abovementioned, has been gradually shrunk and specialized due to technological innovations that propelled the printing trades worldwide into a mechanized industry. The printers were no longer required to cast letters.<sup>66</sup> By the nineteenth century, type foundry had become a self-contained trade separate from the printing industry.

It is necessary to explain the method of casting types which was practised by every typefounder before the mid-nineteenth century. The first step is the making of punch. A punch is a tempered steel rod with a letter or image transferred and engraved on one end. Driving a steel punch into copper or zinc is the standard way to make matrix. The second step is to make a matrix. A matrix is a mold, from which individual type can be cast (see fig. 8). The third step is to cast type. A type is a piece of metal (usually an alloy of lead, tin and antimony), cast with a letter or an image in relief on the upper surface (see fig. 9). Just as the English typefounder Talbot Baines Reed commented on Moxon's book, which was quoted by De Vinne in the preface of the 1896 reprinted *Mechanick Exercies*, the type foundry practices underwent no more than "the slightness of the changes" during the last two centuries.<sup>67</sup> In the working process of a

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<sup>66</sup> Joseph Moxon, *Mechanick Exercises: or The Doctrine of Handy-Works. Applied to the Art of Printing* (London: Printed for Joseph Moxon on the West-side of Fleet-ditch, at the Sign of Atlas, 1683), 7.

<sup>67</sup> Theodore Low De Vinne. "Preface" in Joseph Moxon's *Mechanick Exercises: or The Doctrine of Handy-Works. Applied to the Art of Printing* (A literal reprint in two volumes of the first edition published in the year 1683, with the Preface and Notes by Theo, L. De Vinne. New-York: The Tyopthetæ of the City of New-York, 1896), xv.

punch-cutter, a letter is first cut in relief onto a hard steel punch, then to create a matrix (a reversed intaglio version of the letter) in a softer metal, copper or zinc.<sup>68</sup> The matrix formed the bottom of a casting mould into which a molten lead alloy was poured to cast shanks of metal of a standardized height (see fig.10). Once the type cooled, it had a uniform height with relief on one end, but was of variable breadth, depending on the width of the letter.<sup>69</sup>

The galvanic process, discovered in 1837 by the Russian physicist Boris Jacobi and the Englishman Thomas Spencer, made it possible to obtain metal shapes not by hammering or engraving, but by electrolytic deposition of metal on surfaces to be reproduced which are immersed in a solution of metal ions subjected to electrolysis.<sup>70</sup> Because it derived from Luigi Galvani's (1737-1798) work on the physiological action of electricity at the end of the eighteenth century, the process was at first known as Galvanism, before the more lasting term electrotyping was used.<sup>71</sup> In the Netherlands, an anonymous article in the 30 April 1841 issue of the scientific journal *Algemeene Konst- en Letter-bode* discussed the technical possibility of Jacobi's galvanic method on producing matrices.<sup>72</sup> In August 1845, Thomas W. Starr of Philadelphia obtained the first patent on the electrotyping method for matrix making, called "Improvement in Preparing Matrices for Type by the Electrotyping Process" (patent Nr. 4130, United States Patent Office). Starr's method was considered to be merely an improvement of electrotyping matrix instead of an invention because many other printers had been practising the various versions of electrotyping matrix

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<sup>68</sup> Michael Clapham, "Printing," in Charles Singer et al., eds., *A History of Technology* (New York: Oxford University Press, 1957), 3: 391-93.

<sup>69</sup> Christopher A. Reed, *Gutenberg in Shanghai: Chinese Print Capitalism, 1876-1937* (Vancouver: UBC Press, 2004), 33.

<sup>70</sup>Victor Thibout. *La fonderie typographique pour l'écriture chinoise: histoire et techniques* ( Unpublished PhD dissertation. 2016), 35.

<sup>71</sup> Mckitterick David, *Old Books, New Technologies: the representation, Conservation and Transformation of Books since 1700* (Cambridge: Cambridge University Press, 2013), 97. For Luigi Galvani's work, see: Edmund Taylor Whittaker, *A History of the Theories of Aether and Electricity. Vol 1* (London: Nelson, 1951), 67-71.

<sup>72</sup> Anonymous. "Kunst over de vermenigvuldiging van Photogenische teekeningen door den druk" in *Algemeene Konst- en Letter-bode*. Vol 19 (30 April 1841), 299-302.

manufacturing worldwide.<sup>73</sup> Generally, the process of electrotyping matrix consisted of placing pieces of lead type into a copper solution with an electric current (“Galvanic bath”) which made a layer of copper covering the typeface. The layer could then be backed up with metal and then inserted into or attached into metal such as copper or lead by dovetailing or by riveting to create matrices for use in the typecasting machine (fig 11). The typecasting machine in turn made it easy to produce a significant number of types in a short time.<sup>74</sup> George Bruce (1781-1866), an established printer and font designer, commented on this new method, namely “*the application of electrotyping to the formation of matrices*”, comparing with the old expensive and labour consuming fashion, is “*a very great saving of time and money is effected.*”<sup>75</sup>

For printers, the invention of the electrotyping matrix made a copy so easy, namely quickly remaking from a set of types they bought, which led to the worldwide piracy of type designs. In his 1858 article, David Bruce denounced the frantic copying of each other by his peers in the printing industry using the galvanic method.<sup>76</sup> Therefore, some people began to protect their copyright with the patent: The first font to benefit from a patent form of intellectual property was Clarendon in 1845. In 1840, Thomas Spencer and John Wilson were granted a patent for “engraving metals by voltaic electricity”.<sup>77</sup> However, patent could not stop most of the plagiarising. Plagiarism of typefaces was still so rampant that nineteenth-century type designers were used to it. Ironically, however, it was precisely the plagiarism of Hong Kong Type by electrotyping that preserved the types in the Netherlands.

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<sup>73</sup> Carl

<sup>74</sup> Stephen O. Saxe, “Loy’s Nineteenth-Century Type Designers” in: *Nineteenth-century American Designers & Engravers of Type William Edward Loy* Alastair M. Johnston and Stephen O. Saxe, ed (New Castle: Oak Knoll Press, 2009), 23.

<sup>75</sup> George Bruce, “Type founding” in *Patent of the Commissioner of Patents for the Year 1850* (Washington, DC: Office of Printers to the House of Representatives, 1851), 401.

<sup>76</sup> Johnston, *Nineteenth-century American Designers & Engravers of Type*, 23

<sup>77</sup> Thibout. *La fonderie typographique pour l’écriture chinoise: histoire et techniques*, 35.

## **1.4 Conclusion**

This chapter looks at the physical characteristics of the objects of study - the matrices of Hong Kong Type in the collection of the Netherlands Museum of Ethnology and the typefaces from private collections - and the typecasting techniques, which are prerequisites for the study of the social networks surrounding Hong Kong Type. Since Gutenberg invented movable metal types, typecasting had remained one of the many processes in the printing workshop until the nineteenth century. Thanks to the invention of galvanic technology, the process of typecasting, which had remained almost constant for centuries, was greatly simplified in the nineteenth century but at the same time made it extremely easy to plagiarise other people's designs. However, the dissemination of Hong Kong Type throughout the world owed a great deal to the electroplating method. Therefore, we can argue that the plagiarism of fonts is, in a way, a way to promote cultural exchange.

## Chapter 2 Hongkong type and Johann Joseph Hoffmann

### 2.1 Historical background

In the nineteenth century, the attention on Chinese movable type in Western sinology and printing industry almost synchronised with the colonial expansion of European countries in East Asia. For the Dutch publishers, their need for the Chinese type fundamentally derived from their government's political ambition in the East Indian colonies and Japan and China.

#### 2.1.1 Changing Colonial relationship between the Dutch authorities and the Chinese

First and foremost, in the Dutch East Indies, the need for Chinese types derived from the colonial government's desirability of European interpreters and translators of the Chinese language.

As Blussé relates, the earliest encounter between the Dutch and the Chinese took place upon the first Dutch expedition to the East on June 26th, 1596, in the Javanese port of Bantam, one of the most significant international trading points in Southeast Asia. The Dutch were impressed by the capabilities of overseas Chinese traders and the dominant role they played in the South Asian market. They soon recognised that infiltration into the regional economic sphere could only be accomplished with the Chinese's cooperation.<sup>78</sup>

During the 200 years rule of the Dutch East India Company (VOC) in Java after it had settled down, they usually hired Chinese go-betweens either in commercial dealings with the native population or collecting taxes. The Malay language was the lingua franca between Company officials and the Chinese bilingual middlemen who were mainly Peranakan (ethnic Chinese raised in Java). The Chinese dwelled in the “Chineesche Kamp”, which was specially assigned to them and managed by their own

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<sup>78</sup> Leonard Blussé, “Of Hewers of Wood and Drawers of Water: Leiden University's Early Sinologists (1854-1911)” in: Wilt Idema, eds. *Chinese Studies in the Netherlands: Past, Present and Future*. Leiden: Brill, 2013. 32.

leader. The local Chinese could generally keep their own identity in language, legislation and culture, despite the effects brought by the intermarriage with the local population.<sup>79</sup>

In 1816, upon the restoration of Dutch authority after five years of British rule in the East Indies, the Dutch colonial government began to undertake reforms, for turning the colonial possession from a deficit into a profit-making asset and increase Batavian government's administrative control of local affairs, which consequently affected the Chinese community in the East Indies.<sup>80</sup>

In the Netherlands, 1848 was the year of the new Constitution (Grondwet). In this constitution, the personal regime of the King came to an end, and the power of Parliament (Staten-Generaal) was set up. It was also Parliament that came to have the final word on the colonial affairs of the Netherlands. In 1854, in the Dutch East Indies, the new Government Regulation (Regeringsreglement), the 'constitution' of the Netherlands Indies, was promulgated. It was also a formal law approved by the Dutch Parliament and based on the new Dutch constitution of 1848. For the Chinese, the ordinance of Staatsblad 1855 no. 79 was of great importance because parts of the civil and commercial codes and other regulations on bankruptcy crimes, among other things, were made applicable to the Chinese.<sup>81</sup> For a long time, the local Chinese had always enjoyed a certain degree of self-governing, particularly in civil affairs. Civil cases and minor penal cases among the Chinese of Batavia and a few other cities on Java were dealt with by their own chiefs, the Chinese officers of the Chinese Council. The new law's implementation ended the "Inlandse Rechthepraak", which was

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<sup>79</sup> Blussé, "Of Hewers of Wood and Drawers of Water", in: *Chinese Studies in the Netherlands*. 33.

<sup>80</sup> Leonard Blussé and Floris-Jan van Luyn. *China en de Nederlanders: Geschiedenis van de Nederlands-Chinese betrekkingen 1600-2008* (Zutphen: Wallburg Pers, 2008), 145.

<sup>81</sup> Kuiper, *The Early Dutch Sinologists (1854-1900)*, 7-8.

responsible for processing Chinese affairs. In this legal context, the demand for the training of European interpreters for the Chinese language rapidly increased.<sup>82</sup>

Another important factor is related to economic policies. After the First Opium War (a war between the Britain and the Qing China) in 1840, China was forced to open its doors and lose its restriction of forbidding people to emigrate by the Treaty of Nanking, which led to an influx of Chinese coolies to the East Indies. From the 1850s on, Chinese coolies could only work in the tin mines of Banka and Billiton. For making a profit in the Indies, the colonial government introduced the notorious Cultivation System (*cultuurstelstel*), which soon produced large quantities of tropical cash crops for the world market and yielded a credit balance. However, around 1870, when the Cultivation System was gradually abolished, a plantation system run by European private entrepreneurs was introduced on Java. While on Java, there was a sufficient labour force available for the sugar plantations, on the sparsely populated East Coast of Sumatra, Chinese coolies were in great demand for developing the tobacco plantations in Deli and elsewhere. As Kuiper argues, this would be another reason for increasing the need for European interpreters of Chinese.<sup>83</sup>

In West Borneo, a different story was going on: The expansion of the Dutch colonial government met the resistance of the Chinese Kongsis. *Kongsi* is a Hokkien transcription term, meaning "company" in a modern business context. In the late 19th century Southeast Asia, the word *kongsi* was applied to reference both Chinese social communities, whose members came from a shared hometown or spoke the same dialect.<sup>84</sup> These Kongsis were primarily made of Chinese gold miners, who, as early as 1780, had settled in the Sambas region. From 1850 to 1855, a war took place in

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<sup>82</sup> Kuiper, *The Early Dutch Sinologists (1854-1900)*, 8.

<sup>83</sup> Kuiper, *The Early Dutch Sinologists (1854-1900)*, 9.

<sup>84</sup> About Chinese Kongsis, see Yuan Bingling's *Chinese Democracies - A Study of the Kongsis in West Borneo, (1776-1884)*, and Jan Jakob Maria Groot's *Het kongsiwezen van Borneo: Eene verhandeling over den grondslag en den aard der Chineesche politieke vereenigingen in de koloniën; met eene Chineesche geschiedenis van de kongsi Lanfong*.

West Borneo between the Dutch colonial government and several Chinese Kongsis who refused to accept the Dutch authorities and taxation (see fig 12), which ended with the subjugation of these people by a Dutch military expedition. Under these circumstances, the absence of advisers on Chinese matters and reliable Chinese translators increasingly became an issue of concern for the colonial government in the region.<sup>85</sup>

### 2.1.2 The demand for Chinese interpreters

The value of a European interpreter of the Chinese language for the colonial authorities was proved in the 1830s by a British Protestant missionary, Walter Henry Medhurst (1796–1857). Medhurst had studied Chinese in Malacca before arriving in Batavia. After his arrival in Batavia in 1822, he preached diligently and established a printing press, several schools, and an orphanage. In addition, he served as an advisor and translator on Chinese affairs for the Dutch colonial government.<sup>86</sup>

The colonial government also employed Chinese interpreters who could translate from Chinese into Malay and the other way around. In Batavia, these local Chinese translators functioned at three levels: translating in the police administration, at a slightly higher level as interpreters attached to the Batavia Residency, and finally as interpreters of the High Court. However, their translation for the Dutch legal terms used in official transactions was hardly reliable, making Medhurst's assistance vital. Therefore, Medhurst's departure to China in 1842 made the Dutch colonial authorities notice that they could no longer have a reliable interpreter when they needed one. For the first time, questions were raised about the urgency of training Chinese interpreters in the colonial service.<sup>87</sup>

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<sup>85</sup> Blussé, "Of Hewers of Wood and Drawers of Water", in: *Chinese Studies in the Netherlands*. 35-36.

<sup>86</sup> Blussé, "Of Hewers of Wood and Drawers of Water", 36.

<sup>87</sup> Ibid.

On 19 September 1853, Governor-General A.J. Duymaer van Twist sent a letter to the Minister of Colonies, Ch. F. Pahud, mentioning the above problems and stressing the urgency of training European interpreters of the Chinese language. Before replying to Duymaer van Twist, Pahud consulted Johann. Joseph. Hoffmann. Hoffmann was appointed as interpreter of Japanese of the government of the Netherlands Indies since 1846 but stayed in Leiden. On 9 December 1853, Hoffmann wrote a detailed report which according to Leonard Blussé, could be seen as the master plan for the Sinology in the Netherlands. In this report, Hoffmann elaborated the significance of setting up Chinese study in a Dutch University. Pahud agreed with Governor-General Duymaer van Twist's and Hoffmann's proposals. From 1854, the study of Chinese was officially launched in the Netherlands, at Leiden University.<sup>88</sup> Thus, the request for the purchase of movable type made by Hoffmann in a report of 1855 became logical: the printing of textbooks for Sinology education (see 2.3.1).

### 2.1.3 The need for Japanese language studies and Japanese dictionaries

In Japan, for more than 200 years, the local people had regular contacts with the West only through the Dutch settlement in Nagasaki. After the forcible opening of Japan by American Commodore Matthew Calbraith Perry in 1854, Dutch remained the lingua franca for all contacts with the West and the United States. In the following years, the Dutch government wished to maintain this precedence of the Dutch language, mainly for commercial purposes. Therefore, in 1854 and 1855, Minister of Colonies Pahud, in secret letters, asked J.H. Donker Curtius, the Dutch chief in Nagasaki, and Hoffmann, the newly appointed professor at Leiden University, for their advice. Both suggested promoting the Dutch language among the Japanese, particularly among interpreters, and promoting Japanese studies in the Netherlands. To this end, they advised, in the first place, to compile Japanese grammars, conversation guides, and

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<sup>88</sup> Koos Kruiper, *The Early Dutch Sinologists (1854-1900)*, 14-31.

dictionaries.<sup>89</sup> As Japanese kanji shared the same appearance as Chinese characters, purchasing a set of Chinese types would fulfil both Japanese and Chinese printing needs.

While progress was being made in Japan and South Asia, the Dutch did not abandon their attempts to extract benefits from China. On 10 April 1849, Professor P. J. Veth gave a lecture at the Royal Netherlands Institute in Amsterdam, the predecessor of the Royal Academy of Arts and Sciences, pleading for the establishment of a chair for Chinese and Japanese at a Dutch university. One of his reasons for such a chair: given the enormous size of the Chinese population, the Dutch should have made progress in the propagation of the Gospel and the promotion of world trade.<sup>90</sup>

Besides, Veth also suggested that the 500,000 Chinese settlers living in the Dutch possessions, despite their hard work, were "deceitful, cunning, self-seeking, greedy, without the depth of spirit" and "almost without divine service", even too close to secret societies. "Their language put an insurmountable barrier between them and us", Veth argued, resulting in the content of the newspapers they printed being unmonitored by the Dutch colonial authorities because "no one understood their hieroglyphics".<sup>91</sup> Veth noted a specialist in the Chinese and Japanese languages in Leiden who would be most suitable for this chair. This person is - although Veth did not mention his name directly - J.J. Hoffmann.<sup>92</sup>

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<sup>89</sup> Koos Kuiper, *The Early Dutch Sinologists (1854-1900)*, 588-589.

<sup>90</sup> P.J. Veth, "Over de noodzakelijkheid om de beoefening der Oostersche talen aan de Nederlandsche Hoogeschoolen uit te breiden," *Jaarboek van het Koninklijk Nederlandsche Instituut van Wetenschappen, Letterkunde en Schoone Kunsten* (1849), 77-78.

<sup>91</sup> Veth, "Over de noodzakelijkheid om de beoefening der Oostersche talen aan de Nederlandsche Hoogeschoolen uit te breiden," 77-80.

<sup>92</sup> Koos Kuiper, *The Early Dutch Sinologists (1854-1900)*, 9-10.

From the above it can be seen that all the Dutch government's plans relating to the Chinese and Japanese languages in the Dutch Indies, Japan and China involved the same person, Hoffmann.

## 2.2 Biography of Johann Joseph Hoffmann

The Senaatskamer in the Het Academiegebouw at Leiden University is filled with portraits of esteemed professors, among them that of Professor Johann Joseph Hoffmann (fig. 13, 1805-1878). In this oil painting, executed in 2017, Hoffmann's facial features and posture reference one of his photographs. Significantly, the background motif contains typographic characters which come from his *Japansche Spraakleer*, published in 1862. According to the artist Eva de Visser, it is the outcome of her consultations with Dr. Ivo Smits, a professor of Japanese Studies at Leiden University, when conceiving the painting's composition.<sup>93</sup> From the artist's point of view, the typefaces feature a harmonious aesthetic; from the linguist's perspective, the text is an excerpt from a work that exemplifies Hoffmann's scholarly achievements. The font of this text, functioning as a vehicle for presenting aesthetics and scholarship in harmony, is the Hong Kong type.

Johann Joseph Hoffmann was born on February 16, 1805, in Würzburg, Franconia.<sup>94</sup> He studied philology at the University of Würzburg in his hometown. Judging from the *Cicero* and *Homer* quotes in the diaries of his youth, his studies were limited to Western classical literature. Hoffmann had an exceptional talent for the art of music. Given his beautiful voice, it seemed unsurprising that an older friend suggested that he should become a singer. He followed this advice and lived a life as an opera singer during the years 1825-30. In 1830 Hoffmann met his fellow countryman, Dr. Philipp Franz von Siebold, who had lived in Japan for many years, in Antwerp. Hoffmann

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<sup>93</sup> Emails with Eva de Visser between 8<sup>th</sup> March to 10<sup>th</sup> March 2021.

<sup>94</sup> The following is mostly based on two sources: H. Kern, "Levensbericht van J.J. Hoffmann", in *Jaarboek van de Koninklijke Akademie van Wetenschappen*, Amsterdam, 1878, 3-5; Koos Kruiper, *The Early Dutch Sinologists (1854-1900), Training in Holland and China, Functions in the Netherlands Indies* (Leiden: Brill, 2017), 1020. See footnote 347.

then settled in Leiden, where he studied Chinese with Siebold's Chinese assistant, Guo Chengzhang 郭成章, a Hakka born in Dama township, Dabu county (Guangdong), in 1802.<sup>95</sup> Alongside his Chinese studies, he taught himself Japanese, with Chinese-Japanese dictionaries and simple grammar materials. He was then employed by Siebold as an assistant to write *Nippon: Archiv zur Beschreibung von Japan und dessen Neben-und Schutzläändern* and other books about Japan. It is worth noting that Guo Chengzhang worked as a printing assistant at W.H. Medhurst's printing house in Batavia before he came to the Netherlands with Von Siebold. Guo prepared lithographs for Chinese and Japanese texts for *Nippon* and other Von Siebold's publications.<sup>96</sup>

Hoffmann could write in fine Chinese calligraphy and produce lithographic printing by himself. During his decades of compiling and writing Chinese and Japanese books, Hoffmann tried, in addition to lithography, to hand-carve his own Chinese and Japanese lead characters (see fig.14) - for saving the cost of hiring an engraver- but with less than satisfactory results.<sup>97</sup>

## **2.3 Three reports by Hoffmann to the Literary Section of the Academy of Sciences**

### **2.3.1 Report on 14 May 1855**

Taking into account the limitations of the then means of printing the East Asian scripts, at the meeting of the then newly established Literary Section of the Academy of Sciences on 14 May 1855, Hoffmann, by then already being a professor of Leiden University, proposed to promote the study of Chinese. He also hoped that the

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<sup>95</sup> Kuiper, *The Early Dutch Sinologists (1854-1900)*, 1021. See footnote 349.

<sup>96</sup> Kuiper, *The Early Dutch Sinologists (1854-1900)*, 1021.

<sup>97</sup> Johann Hoffmann wrote in the "Voorbricht" in J.H. Donker Curtius' *Proeve eener Japansche spraakkunst* in 1857, xv-xvi): "Wat de technische uitvoering van dit boek betreft, heeft de Heer A. W. Sythoff niets gespaard, om het bij alle eenvoudigheid, zoo mogelijk een sieraad der Nederlandsche drukpers te doen worden. Indien ik desniettenstaande de toegevendheid, bepaaldelijk der Japanezen, moet in roepen, het zou voor de in dit werk gebezigde Chinesche typen zijn, die ik zelf heb moeten graveren, wilde ik niet de kosten van dit werk aan zienlijk verzwaren."

promotion of Sinology would lead to the development of the study of Japanese. To this end, he made three practical suggestions: (1) Acquiring more Chinese works; (2) Publishing contributions relating to Sinology; (3) Acquiring a set of Chinese types, which would make it possible to publish the aforementioned Sinological works. The second point, the publication of books in Chinese and Japanese, is inseparable from, or only possible through, the third point. The president there appointed a committee to examine the plan's feasibility and invited Hoffmann to provide the Commission with its requested information.<sup>98</sup>

### 2.3.2 Report on 8 June 1855

After thorough discussions with Hoffmann, on 8 June the committee submitted its report that presented four specific questions related to Chinese types and provided answers to them: (1) Is there really a need for a bunch of loose Chinese types? (2) What is the number of Chinese fonts required? (3) What means can be used to obtain the Chinese characters? (4) What else can be done to meet the need for good type?<sup>99</sup> A summary of the report will help to understand the rationale for Hoffmann's procurement of Chinese types and the factors that ultimately led to the purchase of Hong Kong movable type.

The first aspect elaborated on the need to purchase Chinese types. The committee endorsed Hoffmann's view that it was necessary to purchase Chinese types. Currently, due to the relatively small number of sinology students, handwritten materials were adequate and, in many respects, considered beneficial, as students could copy tools such as dictionaries and grammar books for learning purposes. However, once

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<sup>98</sup> Gewone Vergadering der Afdeeling Taal-, Letter-, Geschiedkundige en Wijsgeerige Wetenschappen, Gehouden den 14<sup>den</sup> Mei 1855, in *Verslagen en Mededeelingen der Koninklijke Academie van Wetenschappen, Afdeeling Letterkunde* Vol 1 (1856), 14-15.

<sup>99</sup> Verslag en Voorstel van de Heeren T. Roorda, A. Rutgers en C. Leemans, Omtrent het Voorstel van den Heer J. Hoffmann tot Bevordering van de Beoefening der Chinesche en Japansche Taal- en Letterkunde. Ingediend den 18<sup>den</sup> Junij 1855, in de Vergadering van de Letterkundige Afdeeling der Koninklijke Akademie van Wetenschappen. in *Verslagen en Mededeelingen der Koninklijke Academie van Wetenschappen, Afdeeling Letterkunde* Vol 1 (1856), 48-60.

language practice was extended to a larger circle of students, printed dictionaries and grammar books would be indispensable. Although French sinologists such as Stanislas Julien were also compiling Chinese language tools, tools in the medium of their mother tongue were more appropriate for Dutch students. The committee felt that the task of publishing Chinese language tools should rightly be supervised by Hoffmann. "Consequently, linguistic books could not be published without the Chinese types. Where a complete Chinese text needs to be published, lithography provides a suitable means of doing so. However, in cases where Chinese characters need to be typographically mixed with European texts, this method is inadequate because of the inevitable juxtaposition of the various languages in the dictionary. In such cases, attempts to make letters and lithography work together have been unsuccessful both at home and abroad".<sup>100</sup>

Once the significance of the purchase of Chinese type had been established, the committee then needed to examine another related issue, namely the number of Chinese typefaces required. The report used the famous Kangxi Dictionary as a reference, which contained 43,496 different Chinese characters. However, "a quarter of this number is completely obsolete. Of the remaining characters, more than half appeared very seldom, so that only 10700 remain for common use."<sup>101</sup> The answer to this question did not end there. The committee and Hoffmann believed that there was still room for further discussion on the number of types required, based on an analysis of the latest production techniques of Chinese types in Paris. Two sorts of types were discussed: a set type of over 41000 Chinese characters owned by the *Imprimerie Impériale*,<sup>102</sup> 9000 divisible Chinese types developed by Marcellin Legrand, a famous

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<sup>100</sup> Verslag en Voorstel van de Heeren T. Roorda, A. Rutgers en C. Leemans, Omtrent het Voorstel van den Heer J. Hoffmann tot Bevordering van de Beoefening der Chinesche en Japansche Taal- en Letterkunde, 48-50.

<sup>101</sup> Verslag en Voorstel van de Heeren T. Roorda, A. Rutgers en C. Leemans, Omtrent het Voorstel van den Heer J. Hoffmann tot Bevordering van de Beoefening der Chinesche en Japansche Taal- en Letterkunde, 51.

<sup>102</sup> The number 41,000 could possibly have come from Stanislas Julien, who communicated frequently with Hoffmann. However, the *Imprimerie Impériale* had already five different Chinese fonts as early as 1841. Julien

typeface engraver.<sup>103</sup> The latter was featured in this section of the discussion at a relatively large length. As early as 1834, the Parisian engraver Marcellin LeGrand, under the guidance of the sinologist Pierre-Guillaume Pauthier (1801-1873), began to develop the Chinese types. By 1855, 9,000 divisible types had been produced, which, through different aggregations, could form some 32,000 different Chinese characters. For the printing of Confucius books, 3000 different characters from Legrand's collection would be required. If added to that 4600 other types, so in total 7600 types would suffice to print the Bible and the Book of Ecclesiastes of Père Basile, which contained 13316 different characters; while an increase of another 9000, thus a total of 16600 types, would offer the opportunity of printing all 43496 characters from the Dictionary of Kangxi.<sup>104</sup>

Following on the above discussion of fonts used in Paris, the Commission raised the third and the most significant question: What means have been used to obtain loose Chinese types? In this section four different kinds of types were discussed: woodblock, movable wood type, engraved metal type and cast metal type. First, traditional xylography in China and Japan was considered to be an outdated technique. Although they were no strangers to movable wood type, there had been no technical innovation for a long time. Second, Hoffmann tried to use Chinese types engraved on wooden sticks between the European metal letters, as the early European sinologists of the fifteenth and sixteenth centuries had experimented<sup>105</sup>. However, the

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had purchased, with the help of missionaries, a set of Chinese types (probably made of wood) in Sichuan, China, before 1838, for a total of 42718 Chinese types. See: Lehner, *Der Druck chinesischer Zeichen in Europa*, 82-83.

<sup>103</sup> Verslag en Voorstel van de Heeren T. Roorda, A. Rutgers en C. Leemans, Omtrent het Voorstel van den Heer J. Hoffmann tot Bevordering van de Beoefening der Chinesche en Japansche Taal- en Letterkunde, Ingediend den 18<sup>den</sup> Junij 1855, 51.

<sup>104</sup> Verslag en Voorstel van de Heeren T. Roorda, A. Rutgers en C. Leemans, Omtrent het Voorstel van den Heer J. Hoffmann tot Bevordering van de Beoefening der Chinesche en Japansche Taal- en Letterkunde, 51. For more information regarding Legrand's divisible types, see his three publications: Marcellin Legrand, *Caractères Chinois graves sur Acier par Marcellin Legrand* (Paris, 1836); *Spécimen des Caractères Chinois, graves sur Acier, et Fondus par Marcellin Legrand* (Paris, 1837); *Specimen de Caractères Chinois, graves sur Acier et Fondus en Types Mobiles par Marcellin Legrand* (Paris, 1859).

<sup>105</sup> The early Sinologists used Chinese script in the form of illustrations for typesetting. For more details, see Chapter Three.

wood quickly wore out during use. Moreover, the different shrinkage and expansion coefficients created insurmountable obstacles for mixing wood and metal typefaces. Furthermore, the engraved metal type faced difficulties in reproduction. For example, if the same character appeared fifty times on a page, then fifty identical fonts would need to be engraved by hand. Therefore, both the committee and Hoffmann agreed that the only option was cast Chinese metal typefaces, just as "Dyer in China"<sup>106</sup> and Marcellin Legrand did in Paris.<sup>107</sup>

With the above discussion as a basis, the report concentrated on the advantages and disadvantages of the various casting fonts offered for sale. For the committee, the most promising types are the Hong Kong type and the Marcellin Legrand type.<sup>108</sup> The report complimented the Hong Kong type as a 'very finely crafted' font.<sup>109</sup> Just a few days before the meeting, S.W. Bonney (1815-1864), an American missionary based in Hong Kong<sup>110</sup>, visited Leiden and stated that the price of a set of Hong Kong types was 1600 Dollars or 4600 guilders. However, the committee cautioned that this set of Hong Kong typefaces had been produced by the Missionary Society and were likely to be incomplete for subjects outside the direct work of missionaries. Therefore, they could also be inadequate for printing in The Netherlands, where people would like to

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<sup>106</sup> Here Hoffmann's account was incorrect: Samuel Dyer has ever worked on type production in China. The locations where Dyer developed his type were Penang, Malacca and Singapore. Samuel Dyer (1804-1843) is inseparably linked with the Hong Kong type. He is, one may say, the founder of the Hong Kong type.

<sup>107</sup> Verslag en Voorstel van de Heeren T. Roorda, A. Rutgers en C. Leemans, Omtrent het Voorstel van den Heer J. Hoffmann tot Bevordering van de Beoefening der Chinesche en Japansche Taal- en Letterkunde, Ingediend den 18<sup>den</sup> Junij 1855, 52.

<sup>108</sup> Verslag en Voorstel van de Heeren T. Roorda, A. Rutgers en C. Leemans, Omtrent het Voorstel van den Heer J. Hoffmann tot Bevordering van de Beoefening der Chinesche en Japansche Taal- en Letterkunde, Ingediend den 18<sup>den</sup> Junij 1855, 52-56.

<sup>109</sup> Verslag en Voorstel van de Heeren T. Roorda, A. Rutgers en C. Leemans, Omtrent het Voorstel van den Heer J. Hoffmann tot Bevordering van de Beoefening der Chinesche en Japansche Taal- en Letterkunde, Ingediend den 18<sup>den</sup> Junij 1855, 53-54.

<sup>110</sup> When Bonny visited Leiden in 1855, he was not working in Hong Kong. Samuel Williams Bonny was born in New Canaan, Connecticut, USA. His father was a Reverend. S.W. Bonney received education at New York University before he went to Hongkong to take a temporary position at the school of the Morrison Education Society in 1845. From 1850-1853 he stayed in Whampoa and Newtown, and in 1854 he went to Canton, where he was in charge of the press of the American Board of Commissioners for Foreign Missions. In 1855, he visited various countries in Europe, including the Netherlands. See Rev. Arthur Folsom, "Dearth of Rev. Samuel W. Bonney", in Chapter II of *A Legacy of Historical Gleanings*, Compiled and Arranged by Mrs. Catharina V.R. Bonny. Volume XX. Albany N.Y.: J. Munsell 82 State Street, 1875. 403-405

publish more scientific works and various research topics.<sup>111</sup> Moreover, the types of Dyer were, however excellently designed, as the commission quoted from Medhurst's "very correct" comment in his *China, its state and prospects* (1838): too large, to be used properly in conjunction with Roman letters.<sup>112</sup>

Walter Henry Medhurst (1796-1857) was a professionally trained and skilled printer before becoming a missionary for the London Missionary Society. After he came to Asia, He was actively involved in printing in Malacca, Batavia and Shanghai. In one of the chapters of his book *China: Its State and Prospects*, which is an influential document in studying the popular Chinese and Western printing techniques, he compared the technical and economic advantages and disadvantages of woodcuts, lithography and movable type printing.<sup>113</sup> It is also worth noting that Hoffmann's Chinese teacher, Guo Chengzhang, was Medhurst's printing assistant in Batavia. Therefore, it is not surprising that Hoffmann and the committee attached great importance to Medhurst's evaluation of the Dyer movable type. However, Medhurst's 1838 work only evaluated Dyer's contribution on type when he was working at the London Mission Society printing houses in Malacca and then in Singapore, not yet recording the development of the type after Dyer's death. When Dyer died in 1843, only 1,540 large and 300 small types had been created. By 1846, Alexander Stronach and John Stronach, who followed in Dyer's footsteps at Singapore printing house, had brought the total number of typefaces to 3891 (but it is unknown whether the total number of small and large typefaces or only the number of large typefaces). Since Richard Cole came to work at the printing house of the Anglo-Chinese College in Hong Kong by 1851 (the Anglo-Chinese College moved from Singapore to Hong Kong around 1843), the number of small and large movable types had reached 4,700

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<sup>111</sup> Verslag en Voorstel van de Heeren T. Roorda, A. Rutgers en C. Leemans, Omtrent het Voorstel van den Heer J. Hoffmann tot Bevordering van de Beoefening der Chinesche en Japansche Taal- en Letterkunde, Ingediend den 18<sup>den</sup> Junij 1855, 52.

<sup>112</sup> W.H. Medhurst, *China: Its States and Prospects*. London: John Snow, 1838. 556.

<sup>113</sup> Su. *Malixun yu Zhong Wen Yin Shua Chu Ban*, 303.

each.<sup>114</sup> Nevertheless, it seems that the committee and Hoffmann were unaware of the existence of the Cole typeface, which apparently influenced their choice of typeface to a large extent, as can be seen from the report: they ruled out the Hong Kong movable type (for the time being).

Given that the publications Hoffman and his colleagues would print were intended not only for a European readership but also for the Asian market, it was better that the typefaces could meet the aesthetic requirements of Chinese and Japanese readers.<sup>115</sup> As for Legrand's divisible types, while they have advantages in terms of convenience - the possibility of quickly forming the various characters required - they also have their disadvantages. The committee and Hoffmann noted the strange form of Legrand's collocated types, which resulted from the disproportionate size and shape of the radicals (a radical is that component of a character which serves as the key to Chinese dictionaries entry, more details regarding to Chinese grammar and Legrand's type, see Chapter Three). They also referred to Medhurst's comments on it: "They are, as it respects fineness of shape and exactness of height, superior to anything, that Asiatic workmen can produce. The form of some of the characters is a little stiff and disproportionate, owing to inexperience and partly to the attempt, to split and to combine the elements of various characters, so as to prevent the necessity of cutting a new punch for each separate symbol; but on the whole they are exceedingly neat and handsome."<sup>116</sup>

In addition to the issue of the type's shape, "if one restricted one's views of merchants to the Western countries alone",<sup>117</sup> the committee and Hoffmann had another concern:

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<sup>114</sup> Su, *Zhu Yi Dai Ke*, 211-281.

<sup>115</sup> Verslag en Voorstel van de Heeren T. Roorda, A. Rutgers en C. Leemans, Omtrent het Voorstel van den Heer J. Hoffmann tot Bevordering van de Beoefening der Chinesche en Japansche Taal- en Letterkunde, Ingediend den 18<sup>den</sup> Junij 1855, 55.

<sup>116</sup> Medhurst, *China: Its States and Prospects*. 557.

<sup>117</sup> Verslag en Voorstel van de Heeren T. Roorda, A. Rutgers en C. Leemans, Omtrent het Voorstel van den Heer J. Hoffmann tot Bevordering van de Beoefening der Chinesche en Japansche Taal- en Letterkunde, Ingediend den 18<sup>den</sup> Junij 1855, 55.

copyright. Given that the electrotyping technique was then well established, purchased fonts could be easily remade into matrices, which would enable the manufacture of typefaces in-house and thus save costs. However, borrowing Legrand's type to make matrix would inevitably lead to an infringement of Legrand's intellectual property rights. On the issue of copyright, the Committee and Hoffmann saw both limitations and opportunities: the ease of electrotype technique could be used to negotiate a lower price with Legrand.<sup>118</sup>

Notably, although borrowing from the work of other font makers had existed since the dawn of type, the invention of the electrotyped matrix made copying typefaces so easy that it led to the worldwide piracy of type designs.<sup>119</sup> In the report, the Commission made specific reference to copyright in the context of “Western countries alone”. However, this cautious attitude to copyright was no longer seen in the later reproduction of Hong Kong types (regarding to the copyright issues, please see more discussion on page 32).

The last question posed in the report was: what other ways could we take to meet the needs for good types? Apart from the Legrand font (given its drawbacks as discussed above), the committee also offered two other alternatives. The first was developing a Chinese font from scratch in the Netherlands, which was too challenging to do. Therefore, only the second option remained, namely, to employ skilled Japanese engravers to carve the punch (or matrix, in the case of electrotyping). Given the long-standing trade and cultural ties between the Netherlands and Japan, and the presence of reliable contacts in Japan, it seemed a viable option to seek out engravers from Japan. It was likely that the popularity of Japanese prints in Europe also impressed the Dutch with the skills of Japanese engravers - they did not realise that letter engraving

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<sup>118</sup> Verslag en Voorstel van de Heeren T. Roorda, A. Rutgers en C. Leemans, Omtrent het Voorstel van den Heer J. Hoffmann tot Bevordering van de Beoefening der Chinesche en Japansche Taal- en Letterkunde, Ingediend den 18<sup>den</sup> Junij 1855, 55-56.

<sup>119</sup> Saxe, “Loy’s Nineteenth-Century Type Designers”, 23.

required a different skill. It apparently came from Hoffmann's suggestion, in light of the fact that he submitted samples of Japanese woodcut prints to the committee to demonstrate the technical skill of the Japanese engravers. The committee concluded from this that it could be expectable that the Japanese engravers were able to engrave works more in keeping with the aesthetics of East Asian typefaces than Legrand's. In other words, the committee wanted to produce Legrand-style divisible Chinese movable characters by using the skills of a Japanese woodcut carvers. The report specifically mentioned that the small metal bars for making the patrices should be provided by the Netherlands to ensure that all the small bars were the same size. Once the patrices have been made and sent back to the Netherlands, the electrotyping could manufacture the copper moulds without great difficulty or expense, and the casting of the types will no longer be a problem.<sup>120</sup>

Hoffmann's estimate of the number of characters required also referred to Legrand's work, i.e. 9,000 characters or radicals would be sufficient (which could form 32,000 Chinese characters). A Japanese engraver would need 225 days to complete the entire workload, for a mere 450 guilders. Adding the cost of the small metal sticks and various other incidental costs, the total cost of 9,000 movable types would be 5,660 guilders. Before proceeding to a firm order, the Japanese engraver would be asked to produce 600 moveable characters as a test, with the typeface supplied by the Dutch client.<sup>121</sup>

### 2.3.3 Report on 18 June 1859

The request to produce the Chinese typefaces in Japan was approved. On 1 May 1857, The Dutch Commissioner in Japan, Jan Hendrik Donker Curtius (1813-1879),

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<sup>120</sup> Verslag en Voorstel van de Heeren T. Roorda, A. Rutgers en C. Leemans, Omtrent het Voorstel van den Heer J. Hoffmann tot Bevordering van de Beoefening der Chinesche en Japansche Taal- en Letterkunde, Ingediend den 18<sup>den</sup> Junij 1855, 56-58.

<sup>121</sup> Verslag en Voorstel van de Heeren T. Roorda, A. Rutgers en C. Leemans, Omtrent het Voorstel van den Heer J. Hoffmann tot Bevordering van de Beoefening der Chinesche en Japansche Taal- en Letterkunde, Ingediend den 18<sup>den</sup> Junij 1855, 58-60.

received official instructions from the government to carry out this task, beginning with some samples of the Chinese characters submitted by Hoffmann to be engraved in Japan. These efforts were communicated to the Academy by Dutch Minister of the Internal Affairs on 6 July 1858. In his letters to N. Tetterode, the typefounder in Amsterdam who cooperated with Hoffmann regarding the types, Hoffmann provided very detailed instructions and illustrations for the engraving work in Japan (figure 15).<sup>122</sup> The Ministry's letter to the Academy, which was read out at the meeting of 13 September 1858, contained a report written on 17 November 1857 by Curtius. He doubted whether the matrices Hoffmann wanted could even be produced in Japan. These doubts probably stemmed from the fact that the first western type printing press of the nineteenth-century technology, which was not as a revival of the earlier machine brought to Japan by Jesuit Alessandro Valignano in the sixteenth century, had only been brought to Nagasaki in 1848 on a ship of the Dutch.<sup>123</sup> In this report, Curtius expressed the difficulty of finding an type engraver and enclosed a number of printed impressions of the newly engraved Chinese types:

順, 上, 載, 婦, 中, 寺, 禾, 勸, 佛 (see fig.12). Among them 禾, 勸, 佛 are radicals, not independent Chinese characters. Those samples costed the Dutch approximately 13 guilders.<sup>124</sup>

Of the 15 types in total, some of these characters were unseparable characters, some were made up of two split parts, suitable for use in combination with other components, just as if planned by Hoffmann.<sup>125</sup> However, in terms of the shape of these characters, such as '順', '婦', '勸' and '佛' which are made up of two parts, the left

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<sup>122</sup> The letter from Hoffmann to Tetterode on 5 March 1855. The Tetterode collection in the UvA special collection.

<sup>123</sup> Peter Kornichi. *The book in Japan: a cultural history from the beginnings to the nineteenth century* (Honolulu: University of Hawai'i Press), 2000, 163-166.

<sup>124</sup> Curtius. Brief van den Nederlandschen Commissaris in Japan wegens de Chinesche Typen, In Verslagen en Mededeelingen der Koninklijke Academie van Wetenschappen, Afdeling Letterkunde, Eerste Reeks, 4 (1859) 92.

<sup>125</sup> Curtius. Brief van den Nederlandschen Commissaris in Japan wegens de Chinesche Typen, In Verslagen en Mededeelingen, Eerste Reeks, 4 (1859) 92.

and right parts were so far apart and disproportionate that Hoffmann considered these typefaces to be aesthetically unacceptable.<sup>126</sup>

As no better engraver could be found in Nagasaki, Hoffmann turned his attention to China to find an alternative solution. One of his former pupils, C.F.M. de Grijs (1832-1902), then the Dutch vice Consul in Xiamen (Amoy) who at that time was devoted to the study of the Fujian dialect, agreed to send a set of fine Chinese movable types to Europe on Hoffmann's account.<sup>127</sup> According to the letter De Grijs wrote to Hoffmann on 12 March 1858,<sup>128</sup> De Gris personally visited the Chinese printing house in Hong Kong - the Anglo-Chinese College<sup>129</sup> - to examine the types. De Grijs introduced three fonts of Anglo-Chinese College. In the case of one issue of the journal 遐迩貫珍 *Hsia Erh Kuan Chen* "Chinese Serial", which is enclosed with this letter, the typographical font on the cover is in size one and the font in the inside pages is in size two (see fig. 17).<sup>130</sup> The number of size-one types and size-two types

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<sup>126</sup> Gweone Vergadering der Afdeeling Taal-, Letter-, Geschiedkundige en Wijsgeerige Wetenschappen. Gehouden Den 13<sup>den</sup> September 1858, in *Verlagen en Mededeelingen*, Eerste Reeks, Vol 4 (1859) 89.

<sup>127</sup> Gweone Vergadering der Afdeeling Taal-, Letter-, Geschiedkundige en Wijsgeerige Wetenschappen. Gehouden Den 13<sup>den</sup> September 1858, in *Verlagen en Mededeelingen*, Eerste Reeks, Vol 4 (1859) 89.

<sup>128</sup> The original of this letter belonged to the N. Tetterode archives in the UvA Special Collection but now seems to have been lost. Fortunately, Wim Timmer, a retired Tetterode employee and an enthusiast of the N. Tetterode archives, has transcribed the letter by hand. Mr. Ronald Steur generously provided me with a digital copy of this transcription which he had obtained from Mr. Timmer.

<sup>129</sup> Anglo-Chinese College (also refers to Yin Wa College, 英华书院) was established in Malacca in 1818 by the first Protestant missionary to China, Rev. Robert Morrison (1782-1834) of the London Missionary Society. After Hong Kong was ceded to the United Kingdom under the Treaty of Nanjing, The London Missionary Society decided to move the college to Hong Kong in 1843. In the mid-nineteenth century, the Anglo-Chinese College in Hong Kong could refer to the Hong Kong Institution of the London Missionary Society, or to the boarding school run by that institution, or to the printing house within that school. In this paper the Anglo-Chinese College refers to the printing house. For the history of the Anglo-Chinese College, please see So Ching's book *Zhu Yi Dai Ke*, 212-281.

<sup>130</sup> On the transcript of the letter are the four handwritten Chinese characters *Chinese Serial* 遐迩貫珍. From the small booklet mentioned in De Grijs's text, he must have enclosed an issue of the journal *Chinese Serial* 遐迩貫珍 within his letter. *Chinese Serial* 遐迩貫珍 was a monthly Chinese journal published in Hong Kong from 1853 to 1856, printed by the Anglo-Chinese College. The typography of its cover and interior pages remained unchanged during the three years of its release. The images in Fig 11 show an issue from December 1853. More about this journal, please see: Huang Tian, *遐迩貫珍: 香港史料类钞*. Hong Kong: Chung Hwa Book Company, 2020.

available at the time at Anglo-Chinese College was about 5,500 each, and the number of size-three types (i.e., a smaller font) was only about 500.<sup>131</sup>

Hoffman found the Hong Kong types to be not only "very reasonably priced" (see table 1) but also "one of the most beautiful Chinese fonts, both in terms of accuracy of form and gracefulness of execution".<sup>132</sup> Thus, with the help of A. W. P. Kup, the Dutch vice Consul in Hong Kong, De Grijs had acquired 5375 Chinese types (only type 2) and send them to Europe in August 1858. Hoffmann received them in three months later. Before the trip, the types had been packed according to the catalogue numbers produced in the Hong Kong printing office. However, as the types had become disarranged on the last leg of their journey-between Rotterdam and Leiden -- due to improper transport, it took several weeks before the types could be put back in their original order and were ready for producing matrices.<sup>133</sup>

Type	Amount (piece)	Price (guilder per piece)	Total (guilder)
1	5500	0.0475	261.25
2	5500	0.0255	140.25
3	500	0.0333	16.50

Table 1: The quotation of the Chinese types of Anglo-Chinese College, in De Grijs's letter to Hoffmann on 3 December 1858.

The production of the matrices by electrotyping means began in March 1859 in the type foundry Nicolaas Tetterode in Amsterdam. Nicolaas Tetterode (1816-1894) was a much-travelled merchant who had travelled widely in the Indies before taking over other two printer companies and setting his business in Amsterdam. As a typefounder

<sup>131</sup> Anglo-Chinese College's work of creating characters continued. By 1857, the number of different characters in size one and size two reached 5,584 each, and the number of size three reached 592. By 1865, the number of size one and size two reached 6,000. See: Su Jing, *Zhu Yi Dai Ke*, 239.

<sup>132</sup> Joohann Joseph Hoffmann, *Mededeeling van J. Hoffmann aangaande de Chinesche matrijzen en drukletters, krachtens magtiging van Z.M. den Koning en op last van Z.E. den minister van Staat, minister van Kolonien J.J.Rochussen vervaardigd onder toezicht van den hoogleeraar, translateur van het Nederlandsch-Indisch gouvernement voor de Japansche en Chinesche talen*. (Amsterdam: Koninklijke Akademie van Wetenschappen, 1860), 5.

<sup>133</sup> Hoffmann, *Mededeeling van J. Hoffmann aangaande de Chinesche matrijzen en drukletters*, 5-6.

he realized the commercial possibilities of making Asian types, including the Chinese and Japanese types.<sup>134</sup> By the end of April 1852 matrices had been made by Tetterode type foundry. Of these, 500 were entirely ready for use, and then the first batch of types could be cast. Up to this point, Hoffmann had driven the enterprise forward at his own expense and risk. It was not until 23 May 1859 that Hoffmann approached the Colonial Minister about this matter. In his report, Hoffmann described the procurement of the types as a "central issue for the further development of Sinological and Japanese research in the Netherlands".<sup>135</sup> After interest in Hoffmann's efforts was also expressed from Berlin, the Dutch government decided to finance the whole project, by paying 12046.37 guilders, for the work that had been done and the further production of the matrices and types. All the material necessary for printing the Chinese and Japanese characters was to remain the state's property. The further production of the matrices and type stock was thus secured, and Hoffmann was entrusted with the supervision work.<sup>136</sup> As originally planned by Hoffmann, the matrices were produced by galvanoplastic means. Fifty prototypes from Hong Kong had to be recreated due to defects in their shapes. Besides, Hoffmann added 128 characters/types not included to the set of the London Missionary Society. As a result, the Chinese types of collection in the Netherlands was more extensive than that of the London Missionary Society's printing works.<sup>137</sup> By 31 January 1860, the entire collection of 5503 matrices had already been completed<sup>138</sup>, and a catalogue of these characters could be typeset and printed, which was published 23 April 1860.<sup>139</sup>

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<sup>134</sup> Elisabeth d'Halleweyn (ed.), *De Drukletter van Zandgietsvorm tot Computer en de Tweehonderd-talenproef van B.V. Drukkerij Sigma* (Zoetmeer: Sigma, 1990), 14-15.

<sup>135</sup> Lehner, *Der Druck chinesischer Zeichen in Europa*, 195-196.

<sup>136</sup> Hoffmann, *Mededeeling van J. Hoffmann aangaande de Chinesche matrijzen en drukletters*, 1860, 7-9.

<sup>137</sup> Hoffmann, *Mededeeling van J. Hoffmann aangaande de Chinesche matrijzen en drukletters*, 1860, 10.

<sup>138</sup> Hoffmann, *Mededeeling van J. Hoffmann aangaande de Chinesche matrijzen en drukletters*, 1860, 11.

<sup>139</sup> That catalogue is the *Catalogus van Chinesche matrijzen en drukletters, krachtens magtiging van Z.M. den Koning en op last van Z.E. den Minister van Staat, Minister van Kolonien J.J. Rochussen, vervaardigd onder toezigt van den Hoogleeraar, Translateur van her Nederlandsch Indisch Gouvernement voor de Japansche en Chinese talen, Dr. J. Hoffmann, 1860.*

Through referencing worldwide Chinese publications such as Dr W.H. Medhurst's Chinese translation of the Bible in Shanghai and the scientific journals *Chinese Serial* in Hong Kong, Hoffmann kept a careful eye on the characters that might be lacking in the Dutch collection of living Chinese characters.<sup>140</sup> With the help of his two assistants J.A.Buddingh and W.P.Groeneveldt, after a comparative examination of the characters that appeared in the catalogue entitled “*Two lists of selected Chinese characters, containing all the characters which appear in the Bible and twenty-seven other books, with introductory remarks by William Gamble, Shanghai, Presbyterian Mission Press 1861*”, Hoffmann found that the Tetterode’s type collection still needed 725 fonts which Gamble’s researches had determined as necessary.<sup>141</sup> The missing characters later were engraved by Tetterode's engraver, the Belgian Louis Carkerine, whose skill was highly appreciated by Hoffmann.<sup>142</sup> The engraving was under Hoffmann's direct supervision, and he probably wrote the character samples by himself.<sup>143</sup> The new type could be created by removing a few horizontal or vertical strokes in existing letters.<sup>144</sup> For example, in figure 18, there are two notes written by Hoffman to Tetterode. The left note shows that Hoffmann instructed Tetterode to create a new character 認, which could be made by combining two existed types 言 (number 149) and 忍 (number 61-3). On the right note, Hoffmann pointed out that the

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<sup>140</sup> Anonymus, “Chineesch” in *Proeven van Oostersche Schriften der Lettergieterij “Amsterdam” Voorheen N. Tetterode*, 1909, 12.

<sup>141</sup> In Hoffmann’s 1864 writing, Hoffmann twice mentioned that he had referred to a catalogue written by W. Gamble, but the names of the two catalogues differed: one as “Two lists of selected Chinese characters, containing all the characters which appear in the Bible and twenty-seven other books, with introductory remarks by William Gamble, Shanghai, Presbyterian Mission Press 1861”, and the other as “the Government Chinese types and matrices, published in 1860”. In the 1909 Tetterode's type catalogue, the two catalogues were combined into one, namely: “Two lists”. See: J.J. Hoffmann, *Chinesche drukletters vervaardigd in Nederland: Nieuw overzicht, met opgave van de nieuw bijgekomen karakters. A. u. d. T.: Chinese printing-types found in the Netherlands. A new synopsis, with the addition of all the recently acquired characters*, A. W. Sythoff, 1864.

<sup>142</sup> Anonymus, “Chineesch” in *Proeven van Oostersche Schriften der Lettergieterij “Amsterdam” Voorheen N. Tetterode*, 1909, 12.

<sup>143</sup> In the letter from Hoffmann to Tetterode on 9 February 1860, Hoffmann wrote: “De karakters waarvan ze gemaakt worden, zijn door mij opgegeven.” Given his previous experience of character carving and his commitment to the project, it is very likely that the characters were written by himself.

<sup>144</sup> Anonymus, “Chineesch” in *Proeven van Oostersche Schriften der Lettergieterij “Amsterdam” Voorheen N. Tetterode*, 1909, 12.

right part of the character 𠄎 should be a 干 instead of a 于. The type-maker corrected it accordingly and then approved by Hoffmann (see fig 18).

	1858	1859	1860	1864	1876	1909	2019
<b>HK type</b>	5375	5375	5325	5325	5325	5325**	0***
<b>A'dam type</b>	0	0	178*	1256	2483	3775	0
<b>Matrices</b>	0	1582	5503	6581	7808	9100	9100

Table 2: Changes in the number of Hong Kong types and matrices in the Netherlands over the years

\*: In 1860, 50 imperfect Hong Kong types were replaced, and 128 new characters made in Amsterdam were added, in total 178.

\*\* : The types would wear off with increased use. It is unknown how many fonts that were initially brought from Hong Kong remained by 1909. The number here indicates that these fonts were designed in Hong Kong.

\*\*\*: When the Hong Kong characters are rediscovered in 2019, only the matrix remained in the Volkenkunde Museum's collection. The types have been lost. This number indicates the number of fonts.

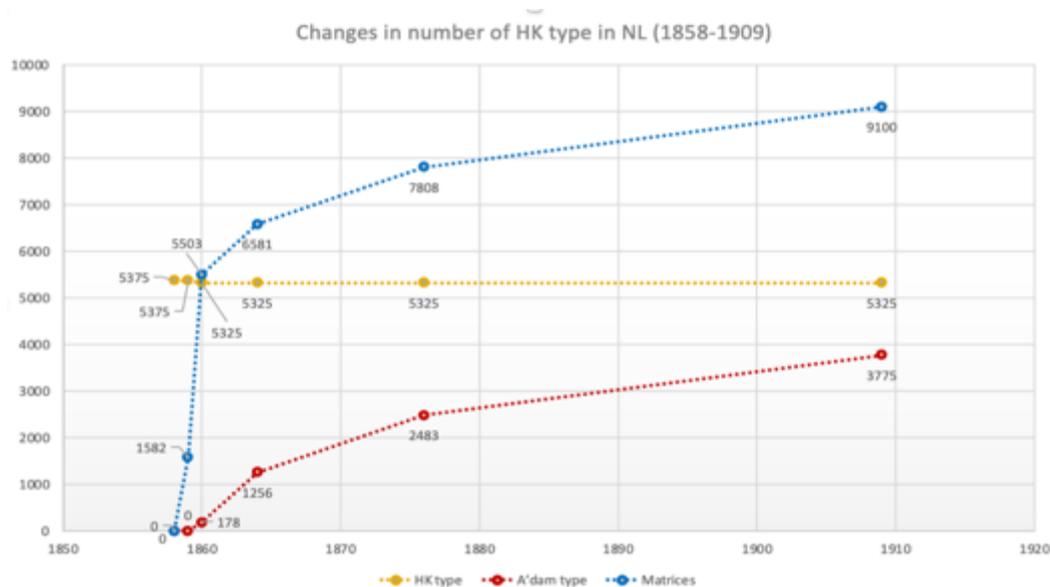


Chart 1: Changes in number of Hong Kong types and matrices in the Netherlands (1858-1909) with regulated time distribution.

The first catalogue/ specimen of the original types cast in Hong Kong was printed by Sythoff. The catalogue of Chinese moveable types cast by Tetterode in Amstersam was issued four times, in 1860, 1864, 1876 and 1909. Generally speaking, Tetterode made Chinese fonts in 16 Didot points; 14 Didot points is also possible, for the same

font but without shoulders around the typeface. In addition, Tetterode offers customers the option of choosing fonts without codes, at a slightly cheaper price than those encoded. In 1870s, Tetterode sold 7650 Chinese types to Adolf Holzhausen, a Vienna-based publisher who specialized in publication with various Asian language types.<sup>145</sup>

Besides, the considerable specific advice provided by Hoffmann during the production of the matrices and the new typeface reflects his considerable knowledge of both the latest casting and printing techniques.<sup>146</sup> The Tetterode type catalogue dated April 1864 presented a collection of already 6581 different Chinese characters. In figure 19, We can see that the characters which I single out with red boxe mark were designed and made in Amsterdam. In a third edition from July 1876 this number went up to 7808. After the death of Hoffmann, then under the guidance of Gustaff Schlegel, the Second professor of sinology at Leiden and a student of Hoffmann, the collection became more and more complete and finally about 9100 different types (See the Table 2 and the Chart 1).<sup>147</sup>

#### 2.3.4 Copyright issues

Although the copying of typefaces was an ancient practice of plagiarism, the appearance of galvanizing in the nineteenth century facilitated the replication to a considerable extent. It is evident from the three reports submitted by Hoffmann to the Literary Section of the Academy of Sciences from 1855 to 1860 that from the outset, Hoffmann had already planned to cast purchased typefaces into matrices, though where they came from might mattered little. When discussing the possible purchase of the Parisian printer Legrand's typefaces, Hoffmann and the committee were concerned

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<sup>145</sup> Lehner, *Der Druck chinesischer Zeichen in Europa*, 180-181.

<sup>146</sup> Hoffmann had an extensive correspondence with Tetterode regarding the production of typefaces and matrices. See the Tetterode collection in the UvA special collection. I thank Mr. Tim Wimmer for his efforts in preserving and transcribing the Tetterode archives, and Mr. Ronald Steur for sharing them.

<sup>147</sup> Anonymus, "Chineesch" in *Proeven van Oostersche Schriften der Lettergieterij "Amsterdam" Voorheen N. Tetterode*, 1909, 12.

that the manufacture of the matrix would infringe on Legrand's interests, thus he suggested bargaining with Legrand by implying the easy availability of electrotyping replica of the typefaces. Except for the above, Hoffmann and the committee stated clearly that they must be prudent with the copyright issues for fonts produced in “Western countries”, such as Legrand’s Chinese font.<sup>148</sup>

Concerning Hoffmann's attitude towards copyright, we must be cautious in using a postcolonial perspective to avoid a simple binary critique. Hong Kong has been known as a cosmopolitan city since it became a British colony after 1840. Although the production team of Hong Kong Type also included engravers and printers from China and other countries (see more details in Chapter 3), the dominant designers of Hong Kong Type were British missionaries. However, there is a lack of evidence to tell whether the Hong Kong Type was considered a 'Western' typeface or "Eastern typeface" to the Dutch.

In the information provided by De Grijs to Hoffmann regarding the quotation of the Hong Kong Type, we find no mention of royalties. In Europe, the laws relating to copyright were established relatively early - Hoffmann reported on the forthcoming copyright laws that could affect the electroplating project of Legrand's typefaces, so that type designers in Paris would have been entitled to protect their rights against anyone steal from them. However, type designers in Hong Kong had little control over plagiarism in the Netherlands. It is worth noting that plagiarism also occurs in the Far East. For example, the Presbyterian Mission Press at Ningbo made matrices of a variety of then-popular fonts, including Parisian Chinese Type, Berlin's Chinese Type and Hong Kong Type, by electroplating without informing the original type founders.<sup>149</sup>

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<sup>148</sup> Verslag en Voorstel van de Heeren T. Roorda, A. Rutgers en C. Leemans, Omtrent het Voorstel van den Heer J. Hoffmann tot Bevordering van de Beoefening der Chinesche en Japansche Taal- en Letterkunde, Ingediend den 18<sup>den</sup> Junij 1855, 55-56.

<sup>149</sup> Reed, *Gutenberg in Shanghai: Chinese Print Capitalism 1876-1937*, 44-48.

Apart from the inadequacy of copyright laws, the lack of awareness of copyright protection by the copyright holder of Hong Kong Type, the Anglo-Chinese College of Hong Kong, also accounted for the prevalence of plagiarism. In 1857, the Russian government sent Admiral Evfimiy V. Poutiatine to Hong Kong to purchase the Chinese matrices. James Richards, the then administrator of the Anglo-Chinese College, was excited by the potential profits of the deal but completely ignored the fact that the typesetting with the matrices by the Russians themselves will harm the future interests of the College.<sup>150</sup>

After purchasing the Hong Kong type and casting the matrices, Hoffmann commissioned A.E. Sijhoff in Leiden, a printer with whom he had long been collaborating, to print the Chinese books. Whether Sijhoff paid royalties for the use of the Hong Kong type was not known. In 1875, A.P.M. van Oordt (1840–1903), the then director of Brill publishing and the successor of Evert Jan Brill who had died in 1871—acquired the copyright for using the Chinese types, paying 3,514 Dutch guilders and 45 cents, and thus became one of the very few European publishers of Chinese and Japanese.<sup>151</sup>

#### **2.4 The composition of the Hong Kong type**

While supervising the process of casting the matrices and types at the Tetterode foundry, Hoffmann also devoted part of his energy to the printing press, first to A.W. Sijthoff and later to Brill, both in Leiden. In the prefaces to his catalogues of Chinese typefaces published in 1860 and 1864, Hoffmann introduced his innovative composition method of Chinese type.<sup>152</sup>

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<sup>150</sup> Su, *Zhu Yi Dai Ke*, 211-281.

<sup>151</sup> The Chinese types were the property of the Ministry of the Colony until the Ministry disappeared during the decolonization. Now the ownership of the types still belongs to the Dutch government. See: Archives Brill of the Special Collection of UvA, Company history 03, contract dd. 21-5-1875. Also see: Sytze van der Veen, *Brill 325 Jaar Uitgeven voor de Wetenschap* (Leiden: Brill, 2008), 64 and 174.

<sup>152</sup> In the following paragraphs in this sector, the contents are primarily summarized from the *Catalogus van Chinesche matrijzen en drukletters 1860* and the *catalogus 1864*.

Like his French counterparts Pauthier and Legrand, Hoffmann divided the movable Chinese types into 214 classes which was based on the Chinese lexicographical classification of radicals (see fig 20). The radical-strokes system is a search system in traditional Chinese lexicography, first applied by Mei Yingzuo in his *Zihui* and later known for its application in the *Kangxi Dictionary* (for more details, see Chapter Three).

Then each class is divided into several subcategories according to the order of the strokes. For example, The radical of the 20<sup>th</sup> class is 門. By adding one and two strokes to this radical, one obtains 闕, 闕 and 闕. If the number of strokes continues to increase to 4, one could have 闕, 闕, 闕, 闕, 闕, 闕 and so on to more strokes (see fig 21). These characters are thus given a corresponding number: the class number + the number of strokes (or the subdivision number). Both numbers have been casted on the body of each Chinese type. In figure 22, the numeral is 30-9, which means class 30 and 9 strokes.

I found a handwritten note in between the pages of Hoffmann's Japanese - Dutch Dictionary in the John Hoffmann Collection of the Leiden University Library (fig 23). Several characters in the text are copied on the left. Each character was marked with a numeral next to it. According to my research, these numbers prove to be the codes within the radical-stroke system: 晞72 -7, 乾5-10 (this character was written twice), 燥86-13. It was very likely that Hoffmann or other writers communicated with typesetters in this way. Typesetters did not need to know Chinese, as long as they had these numbers, they could typeset Chinese text smoothly.

Using the types I could access, I made an attempt to reconstruct the process from the author giving the number to the typesetter finding the typeface as follow: for example, "闕" 169-7 (means class 169, subdivision 7). The typesetter looked for the typeface in the radical list and found the radical order 169 is 門. The second character in the class

169 and subdivision 7 was 閱 (see fig 21 and fig 24). Since the sub-division characters were not given a unique number again, some of the types must have shared the same number, for example, the type numbers of 閱, 閱, 閱 were same: 169-7 (see fig 21 and fig 24).

Hoffmann did not number each printing character with a unique code. He gave two reasons for this: firstly, the addendum to the type collection was still in progress. If types have been numbered consecutively, it would be difficult to insert newly created types into the number list. Secondly, Hoffmann believed that the system with a continuous cypher for each character, just like what the Imprimerie Impériale and the printer Marcellin Legrand in Paris did, was inconvenient to the writers. This method compelled the writers to search for every, even the most every day, character that occurred in his manuscript in an inventory to select the cypher for the assistance of the compositor, which was a time-wasting operation. In addition, Hoffmann argued that the number of characters in each subcategory was very limited. Characters of the same cypher were lined up in a grid and a trained compositor can easily pick out the required characters.<sup>153</sup> In short, Hoffmann believed that no other method of numbering was simpler than this one, both for compositors and for authors.

Unlike types, each matrix has a unique code, which appeared on the back of the matrix (fig 4 and table 1). The numbering on the front of these matrices is the same as the type coding system (fig 5 and table 1). When new characters were created, they could be suffixed with a suffix such as a, b, c to fit in the matrices numeral list (see fig 25). The codes on the Matrices were intended for printing practitioners, who were usually used to the tradition of identifying the matrix with numerals.

Hoffmann was well aware that the typographical composition of Chinese type could not be left to the common typesetters due to the characteristics of Chinese movable

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<sup>153</sup> Hoffmann, the *Catalogus van Chinesche matrijzen en drukletters 1860* and the *catalogus 1864*.

type. Compositors must have been special trained for this work. They must have the 214 radicals memorized and be familiar with Chinese character strokes. Moreover, they had to go through a significant amount of practice before they are on board, not to be confused by characters that look similar. According to Hoffmann, at the beginning of the training, the writer must add number marks to each Chinese character in his handwriting if the radical of a combined character cannot be recognized at first glance or if several radicals were included in a combined character. Once the typesetter mastered the skill to distinguish and look up Chinese characters, Hoffmann argued, the numbering would be not necessary anymore.<sup>154</sup>

In 1877 Hoffmann's student Gustav Schlegel was appointed professor of Far Eastern languages in Leiden University, as successor to Hoffmann. He also inherited Hoffmann's way of work in printing, by training the typesetters by himself. Schlegel introduced Brill's first Chinese typesetters to the basic features of these characters during a six-week training period.<sup>155</sup> In 1927, Brill's master typesetter J. P. van Duuren, dubbed "the Mikado" (after the eponymous comic opera by Gilbert & Sullivan) on account of his specialisation in the Far East types, told the Rotterdam journalist M. J. Brusse how he had been trained by Professor Schlegel fifty years ago. The typesetters had to spend three months memorising these radicals, probably after including the six-week training time. Once they became proficient, the experience and the knowledge would be then passed on to the new generation of typesetters<sup>156</sup>. Noteworthy, according to what the Sinologist E. Zürcher recalled the working scene of the master-typesetter P.W. Martijn: "moving between his type cases like a Taoist priest performing a dancing ritual and producing with incredible speed and accuracy any character from a collection containing nearly 8000 signs, and all this without

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<sup>154</sup> Johann Hoffmann, *Chinesche drukletters vervaardigd in Nederland: Nieuw overzicht, met opgave van de nieuw bijgekomen karakters. A. u. d. T.: Chinese printing-types found in the Netherlands. A new synopsis, with the addition of all the recently acquired characters* (Leiden: A.W. Sythoff, 1864), VIII.

<sup>155</sup> Van der Veen, Sytze. *Brill 325 Jaar Uitgeven voor de Wetenschap* (Leiden: Brill,2008), 64.

<sup>156</sup> M. J. Brusse, 'De Uitgeverij', *Nieuwe Rotterdamsche Courant* 5-1-1927.

knowing the meaning of any of them.” Martijn was an apprentice of Van Duuren. Martijn was succeeded by Ton Singerling, who was followed by Wil Stikkelman. Stillelman worked at Brill in the 1970s and 1980s. Like his predecessors, Stikkelman knew little about Chinese.<sup>157</sup>

Hoffmann was very confident with the printing quality of the Chinese types. He wrote in the preface to his edition of the Chinese text and the Japanese translation of the 大学 *Daxue* “Great Learning” by Confucius: “With regard to the European edition of the Chinese and the appended Japanese text, we believe that the initiated reader will be aware, that the hand which has composed the type was directed by a knowledge of the subject. Our impression surpasses that of the original edition in clearness; and in the subject of its correctness, such guarantees are offered to the philologist, as shall leave him no reasonable doubt on that score.”<sup>158</sup>

The production of the Chinese types under Hoffmann's supervision by Tetterode and the expansion of the type collection that soon began attracted the attention of foreign clients. The French *Journal Asiatique* gave a very positive review of the Chinese and Japanese types in the Netherlands, describing them as "very graceful".<sup>159</sup> August Pfitzmaier also praised the accuracy and beauty of the typefaces and saw their value in the ease of typography thanks to the numbering system, classified by radical and strokes.<sup>160</sup>

However, feedback from customers on this coding system has not always been positive. On 27 April 1864, the *Journal für Buchdruckerkunst* published the *Orientalische Schriften von N. Tetterode. Amsterdam* as a supplement, which

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<sup>157</sup> Erik Zürcher. “East Asian Studies”, in *Tuta sub aegide Pallas: E.J. Brill and the World of Learning* (Leiden: E.J.Brill, 1983), 62.

<sup>158</sup> *Ta Hio (Da Xue)*. Part I. The Chinese text with an interlineary Japanese version; ed. By Dr. J. Hoffmann (Leiden: E.J. Brill, 1864), IV.

<sup>159</sup> *Journal Asiatique* VI 4 (1864) 112 f.

<sup>160</sup> August Pfitzmaier. *Zur Geschichte der Erfindung und des Gebrauches der chinesischen Schriftgattungen*. (Wien: K. Gerold's Sohn, 1872) 108.

introduced there have been 6581 Chinese types in Amsterdam.<sup>161</sup> At the time, Johann Heinrich Plath, who was working in Munich, contacted Hoffmann to add more Chinese texts to his works published in the *Abhandlungen der Bayerischen Akademie der Wissenschaften*. Plath wrote about the obstacles he encountered with the Hoffmann's composing method: "If I have not yet been able to use them, it is because further correspondence with Professor Hoffmann on 6 October 1864 revealed that [...] the typesetting of 6000 types requires special knowledge and a great deal of time and effort, and that the typesetting of a Chinese printed sheet would always cost 100 fl., as it takes the typesetter 33 days!" The "main obstacle", According to Plath, was that Hoffmann could not do without his typesetter "who alone knows how to find the Chinese types".<sup>162</sup>

From a technolinguistic perspective, both Hoffmann's method of radicals plus strokes and Legrand's method of continuous numbering both embodied certain information orders. According to Tom Mullaney's view of the global information order, the alphabetic order dominated the nineteenth-century global information order. In contrast, the traditional Chinese information order, the radicals plus the pidgin, has been at a disadvantage.<sup>163</sup> Hoffmann's method combined the traditional Chinese lexicographical search method with the European numerical codes to form a unique typographical method. Using it, considerable numbers of Chinese books were typeset relatively smoothly and accurately by people who knew little Chinese. Therefore, from the point of view of practical value, we can say that Hoffmann's encoding method can be seen as a bold attempt to integrate the traditional Chinese information order into the global information order. The result proved that it functioned.

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<sup>161</sup> *Journal für Buchdruckerkunst* (27.4.1864). See Lehner, *Der Druck chinesischer Zeichen in Europa*, 198.

<sup>162</sup> Lehner, *Der Druck chinesischer Zeichen in Europa*, 198.

<sup>163</sup> Mullaney, *The Chinese Typewriter: A History*, 10-11.

## 2.5 A. W. Sijthoff and E. J. Brill in Leiden

Before the arrival of Hong Kong typefaces in the Netherlands, Sijthoff, a publisher based in the Hague, had already published several publications by Hoffmann and other others (see appendix 1) with Chinese and Japanese characters which were carved by Hoffmann's own hands (see fig 16 and fig 28).<sup>164</sup>

In 1862, a set of Chinese types, which was cast by Amsterdam type foundry N. Tetterode from the matrices they successfully produced from the original 5375 Hong Kong types utilizing electrotyping, was dispatched to the Government Press (Landsdrukkerij) in Batavia. Before this, they had already cast a set of typefaces for Sijthoff using the same matrices in 1860.<sup>165</sup> The rich corpus of Hong Kong typefaces has improved the legibility and readability of Chinese printing and enabled authors no longer to compromise the content for lack of Chinese type. Furthermore, East Asian Studies publications had taken a further step forward in mixed typography in different languages with suitable Hong Kong types. Sijthoff printed 50 copies of the *Letterproeven. Chinesche tekst, in verbinding met Japansch Letterschrift Katakana*. Samples of the script were given on three sheets: one page of Daxue, One page of the Gospel of Luke and one page of “Japansche Tekst met Chineesch Vermengd”, which were presented by Hoffmann to the Koninklijke Nederlandse Akademie van Wetenschappen “Royal Academy of Sciences” on 10 June 1861. Hoffmann published *Shopping Dialogues in Dutch, English and Japanese* in 1861, in which the Japanese kanji were printed in the newly purchased Hong Kong Type (see fig 29). In this pocket-volume, Hoffmann addressed himself by his official position in the Dutch government, namely “the Interpreter for the Japanese and Chinese languages to the Dutch Indian Government”. In 1868 Sijthoff printed Hoffmann's *Japansche*

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<sup>164</sup> Hoffmann “Voorbricht” in J.H. Donker Curtius' *Proeve eener Japansche spraakkunst* in 1857, xv-xvi): “Wat de technische uitvoering van dit boek betreft, heeft de Heer A. W. Sythoff niets gespaard, om het bij alle eenvoudigheid, zoo mogelijk een sieraad der Nederlandsche drukpers te doen worden. Indien ik desniettenstaande de toegevendheid, bepaaldelijk der Japanezen, moet in roepen, het zou voor de in dit werk gebezigde Chinesche typen zijn, die ik zelf heb moeten graveren, wilde ik niet de kosten van dit werk aan zienlijk verzwaren.”

<sup>165</sup> Kuiper, *The Early Dutch Sinologists (1854-1900)*, 608, footnote 97.

*Spraakleer*, which was published simultaneously in Dutch and English. The title page of the book stated that it was “published by command of His Majesty’s Minister for Colonial Affairs” and with “the Government Chinese and Japanese types.”

The Chinese typefaces were initially kept in a separate room at Albertus Willem Sijthoff’s Leiden printing factory. The typefaces were neatly placed in 144 drawers.<sup>166</sup>

From the early 1870s onwards, there must have been considerable disagreement between Hoffmann and Sijthoff, as Hoffmann took the typefaces to his house on the pretext of them being inappropriately placed for the printing house premises.

However, the typefaces were soon brought to the E.J. Brill publishing house for the printing of *Uranographie chinoise* – a work on Chinese constellations - written by Hoffmann’s student Gustav Schlegel (1840-1903).<sup>167</sup>

In 1848, Luchtmans publishing house that was founded in 1683, was taken over by Evert Jan Brill (1812-1871), a former employee of the company.<sup>168</sup> Brill was a printer and a publisher, and in addition, he operated a combined book-selling firm and antiquarian bookshop. In the 1850s and 1860s, the total workforce of Brill company would have employed about fifteen persons. About ten men worked in the printing factory: an overseer, two or three typesetters, just as many printers, and a few apprentices; five people were employed in the shop and the publishing house.<sup>169</sup>

Since 1853 Brill had been printer to Leiden University, as the Luchtmanses had been ever since 1730. Brill’s publications covered a wide range in the humanities.

However, he had a particular orientation in mind. Brill made it known that he wanted to specialize in languages beyond the scope of other publishers.<sup>170</sup>

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<sup>166</sup> Hoffmann, *Mededeeling van J. Hoffmann aangaande de Chinesche matrijzen en drukletters*, 1860, 7.

<sup>167</sup> Lehner, *Der Druck chinesischer Zeichen in Europa*, 201.

<sup>168</sup> Van der Veen, Sytze. *Brill 325 Jaar Uitgeven voor de Wetenschap* (Leiden: Brill,2008), 9.

<sup>169</sup> Sytze. *Brill 325 Jaar Uitgeven voor de Wetenschap*, 48.

<sup>170</sup> Sytze. *Brill 325 Jaar Uitgeven voor de Wetenschap*, 50-51.

Brill published the *Het Gebed des Heeren in veertien talen* in 1855, printed in fourteen languages, using all of the non-European fonts he had at his disposal: Hebrew, Aramaic, Samaritan, Sanskrit, Coptic, Syriac, Arabic, Persian, Tartar, Turkish, Javanese, Malay, and Greek, some of them in several variants. He could also have printed the Lord's Prayer in Chinese or Japanese, had it not been for a lack of fonts of these scripts at the time.<sup>171</sup> The company continued after Brill's death by Adriaan Pieter Marie van Oordt (1840-1903) and Frans de Stoppelaar (1841-1906), thus establishing a monopoly position for the printing of Chinese and Japanese in the Netherlands in the mid-1870s.<sup>172</sup> The opening of the Dutch colonies to private capital was accompanied by a growing scientific and academic interest in the East Indian region. As a result, the demand for books in various locally used languages increased considerably. In this context, Brill's successor continued his spirit of focusing on the publication and printing of Asian languages<sup>173</sup>.

In 1864 Brill published the Chinese Confucian canon 大学 *Daxue* “Great Learning by Confucius”: in Chinese and Japanese that was edited by Hoffmann, apparently printed - not officially announced though - by Sijthoff with the Hong Kong type (see fig 30). In 1868, Brill and Sijthoff have jointly published Hoffmann's *Japansche Spraakleer*. In 1875, Van Oordt and De Stoppelaar finally purchased the Chinese and Japanese types that Brill had used in the 1860s. They paid f 3,514.45 to the Ministry of Colonial Affairs, which was a considerable investment, but possession of these types put the publishing house in a monopoly position.<sup>174</sup>

With the newly purchased Hong Kong type, Brill was able to publish the monumental four-volume *Nederlandsch-Chineesch Woordenboek* (1886-90) compiled by Schlegel

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<sup>171</sup> Sytze. *Brill 325 Jaar Uitgeven voor de Wetenschap*, 52.

<sup>172</sup> Lehner, *Der Druck chinesischer Zeichen in Europa*, 201.

<sup>173</sup> Sytze. *Brill 325 Jaar Uitgeven voor de Wetenschap*, 63.

<sup>174</sup> Sytze. *Brill 325 Jaar Uitgeven voor de Wetenschap*, 64. This price includes the price of both Chinese and Japanese fonts. see also footnote 81.

(see fig 31), and also one of the most prestigious journals in sinology, *T'oung Pao*, founded by the French scholar Henri Cordier together with Gustave Schlegel, the inaugural issue of 1890 carried the subtitle *Archives pour servir à l'étude de l'histoire, des langues, de la géo- graphie et de l'ethnographie de l'Asie Orientale* (see fig 32). Besides, foreign writers are also increasingly bringing their work to Brill, one of the few publishers in Europe with expertise in this field.<sup>175</sup>

It appears that Brill also printed content with Chinese characters for other publishers, such as Jan Jakob Maria Groot's *Het kongsiwezen van Borneo: Eene verhandeling over den grondslag en den aard der Chineesche politieke vereenigingen in de koloniën; met eene Chineesche geschiedenis van de kongsi Lanfong*, published by The Hague based publisher Matinus Nijhoff in 1885. The contents in this book were printed with Hong Kong type.

Probably in the 1950s, Brill purchased a 9-point Chinese type with matrices from Taiwan, replacing the original 16-point Hong Kong type.<sup>176</sup> However, in 1980s the print works itself became unprofitable, the printing sector was separated from the company. The cases containing the once-renowned Brill Chinese types were emptied and the lead types destroyed (see fig 33). Fortunately, the Hong Kong type matrices were preserved in the Tetterode and later transferred to the Volkenkunde Museum where they remain today.

## Conclusion

This chapter takes the Hong Kong Type back to the 19th century, the time of its birth, and examines its role in the social realm of the time. Drawing on the Actor-Network-Theory, we place the Hong Kong Type at the heart of this social domain and reconfigure the various social elements to show the associations of the Type's

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<sup>175</sup> Sytze. *Brill 325 Jaar Uitgeven voor de Wetenschap*, 64.

<sup>176</sup> I learned about the purchase of Taiwanese fonts from Mr. Ronald Steur during an unstructured conversation.

different dynamics. In terms of motivation, the demand for Hong Kong types came primarily from the Dutch government to strengthen its interests in the Dutch East Indies and Japan. Johann Hoffmann, Professor of Sinology and Japanese Studies at Leiden University, was directly involved in the procurement and processing of Hong Kong Type. To enable the typesetters at the printing house to work smoothly, Hoffmann devised a typographic method. The “radical plus the strokes” method was not original to Hoffmann but drew inspiration from traditional Chinese lexicography. However, it was merely when the Kangxi radicals were numbered and ordered that their application in typography became possible. We can say that the typographic system designed by Hoffmann harmoniously blends two different world language orders - the traditional Chinese information order "radicals plus strokes" and the Arabic numerals, which belong to the Western information order. The next chapter will introduce another actor in the social network of Hong Kong Type across time and space, the seventeenth-century Jesuits, whose understanding of Chinese script significantly benefits nineteenth-century typographers.

## Chapter 3 “Republic of characters” ----

### Worldwide intellectual interaction of Chinese movable types

The significant use-value of Hong Kong Type in the 19th century could not have been achieved without the contribution of the Jesuit missionaries of the 16th and 17th centuries. The Jesuit missionaries put their understanding and processing of the grammar of Chinese script into practice, providing the preconditions for Hoffmann's creative integration of the Chinese and European information orders. And the Jesuit interest in Chinese writing must be traced back to the search for a universal language that emerged in Europe in the sixteenth century.

#### 3.1 Chinese hieroglyphs and the pursue of *Lingua Universalis*

In the context of their overseas expansion in the 16th century, Europeans discovered many new Asian languages, which inspired a renewed interest in the disappeared primitive languages (the language that disappeared after the Babylonian Confusion of Tongues) in the Bible. From a biblical perspective, the Primitive La tongue was a very simple, clear and unified language granted by God directly to Adam, the ancestor of mankind, which disappeared due to the linguistic upheaval at the Tower of Babel.<sup>177</sup> The first line of Genesis 11, 'the whole earth had one language and the same words', inspired scholars to consider these two features, 'singularity' and 'simplicity', as fundamental criteria in the search for a universal language, of which Chinese was an important model.<sup>178</sup> Francis Bacon and many other prominent scholars argued that Chinese's ideographic principles transcended religious and dialectal differences and Chinese was, therefore, a deservedly universal language.<sup>179</sup> The Englishman John Webb (1611-1672) believed that Chinese was the original Primitive Language that

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<sup>177</sup> David E. Mungello, *Curious Land: Jesuit Accommodation and the Origins of Sinology* (Stuttgart: Franz Steiner Verlag Wiesbaden GmbH, 1985), 34.

<sup>178</sup> Mungello, *Curious Land: Jesuit Accommodation and the Origins of Sinology*, 175.

<sup>179</sup> Mungello, *Curious Land: Jesuit Accommodation and the Origins of Sinology*, 16.

had existed prior to the confusion of tongues.<sup>180</sup> Martino Martini argued that, while it would be impossible to recover the Primitive Language, it would be possible to create a new universal language, using principles of a language which is close to universal language.<sup>181</sup> This understanding made Chinese one of the more discussed objects in the quest for a *Lingua Universalis*. The letters and writings of the Jesuit missionaries to China provided the earliest introduction and description of Chinese language, history and culture, which laid the foundation for early Sinology studies in Europe.<sup>182</sup>

In Europe, the first printing of Chinese characters was produced in the Jesuit Epistles, published in Coimbra in 1570.<sup>183</sup> On one of the character pages, six characters are shown: 魂 (hun, soul), 畜生 (chusheng, beast, in two characters), 日 (ri, sun), 月 (yue, moon), 天 (tian, heaven) and 人 (ren, man). In figure 34 and figure 35 we see two versions of the 1570 book. In the version of Lisbon, All the characters are in the right position, while in the Munich aversion nd in the Vienna version, the character 魂 is rotated by 90 degrees As these characters in the book referred to a language that was used in Japan, people might argue that they are not Sinitic Chinese characters. However, until the 20th century, Chinese characters had always functioned as the lingua franca of the Chinese cultural circle. Chinese-literate cultural circle in a larger area encompassing modern-day Japan, Korea and Vietnam, thus including East and Southeast Asian regions that were historically heavily influenced by Chinese culture.<sup>184</sup> Jesuits Matteo Ricci (1552-1610) and Nicolas Trigault (1577–1628) reported in *De Christiana expedition apud Sinas* that Chinese script was understood

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<sup>180</sup> John Webb, *An Historical Essay Endeavoring a Probability That Language og the Empire of China is the Primitive Language* (London: Printed for Nath. Brook, 1669); Mungello, *Curious Land: Jesuit Accommodation and the Origins of Sinology*, 178.

<sup>181</sup> Martino Martini, *Sinicae Historiae Decas Prima* (Munich, 1658). 90.

<sup>182</sup> David E. Mungello, *Curious Land: Jesuit Accommodation and the Origins of Sinology* (Stuttgart: Franz SteinerVerlag Wiesbaden GmbH, 1985), 13-14.

<sup>183</sup> Lehner, *Der Druck chinesischer Zeichen in Europa*, 14.

<sup>184</sup> Shen Guowei, 近代中日词汇交流研究: 汉字新词的创制, 容受与共享 *Jin Dai Zhong Ri Ci Hui Jiao Liu Yan Jiu: Han Zi Xin Ci de Chuang Zhi, Rong Shou yu Gong Xiang* “A study of Sino-Japanese lexical exchange in modern times: the creation, acceptance and sharing of new words in Chinese characters” (Beijing Zhonghua book press, 2010), 62.

by the Chinese, Japanese, Koreans, Cochinese (South Vietnamese) and Leuchian islanders (Taiwanese) even though each of them spoke different languages.<sup>185</sup>

In 1577, Bernardino de Escalante (1537 - 1605) published *Discurcao de la navegacion que los portugueses hazen à los reinos y prouincias del Oriente, y de la noticia que se tiene de las grandezas del reino de la China* (see figure 36). Although there are only three characters, they are clearly marked as being Sinitic Chinese language for the first time. They were identically copied by J. G. de Mendoza in his *Historia de las cosas más notables, ritos y costumbres, Del gran Reyno de la China*, in 1585. In the Netherlands, the oldest printed characters are those presented by the Leiden professor Jacob Golius' treatise *De regno Cattayo additamentum* that was included in Martini's *Atlas Sinensis* in 1655.<sup>186</sup>

In *Sinicae Historiae Decas Prima* published in Munich in 1658, Jesuit Martino Martini (1614-1661) who had spent extensive time in China, made analogies between Chinese characters and Egyptian hieroglyphics (see fig 37).<sup>187</sup> This statement might have influenced the Leiden scholar Jacob Golius (1596-1667), who also remarked that the ancient Chinese characters have some resemblance to Egyptian hieroglyphs in his manuscript notes attached to his collection of 六体千字文 *Liu ti qian zi wen*, "Thousand-character Texts".<sup>188</sup> Golius had met Martini and consulted him for advice on Chinese language matters during Martini's stay in Europe.<sup>189</sup>

And yet, whence did Martini's account of the similarities between Chinese and Egyptian hieroglyphics derive? David Emil Mungello believes that Martini was most

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<sup>185</sup> Matteo Ricci, *De Christiana expeditione apud Sinas*. Ed. by Nicolas Trogault, Augsburg, 1615), 27.

<sup>186</sup> Thijs Weststeijn. "The Middle Kingdom in the Low Countries: Sinology in the Seventeenth-Century Netherlands," in *The Making of the Humanities: Volume II: From Early Modern to Modern Disciplines*, ed. Rens Bod, Jaap Maat and Thijs Weststeijn (Amsterdam: Amsterdam University Press, 2012), 215. Thijs Weststeijn considers these characters as the oldest printed Chinese character.

<sup>187</sup> Martino Martini, *Sinicae Historiae Decas Prima* (Munich, 1658). 12.

<sup>188</sup> J. J. L. Duyvendak, "Early Chinese studies in Holland", in *T'oung Pao*, 1936, Second Series, Vol. 32, Livr. 5 (1936), 326.

<sup>189</sup> Duyvendak, "Early Chinese studies in Holland", 299-302.

likely influenced by his teacher, Athanasius Kircher (1602-1680). The learned Kircher reduced all cultures to a harmonious unity from their sources, of which Egyptian culture was again the earliest.<sup>190</sup> In the Sino-Egyptian hypothesis that he proposed, Egyptian culture was considered the cradle of Chinese civilisation.<sup>191</sup> He was fascinated by the Egyptian hieroglyphics and believed that they concealed truths about God and the world.<sup>192</sup> Out of his esteem for Egyptian culture, he disparaged Chinese characters as a poor imitation of Egyptian hieroglyphics. Kircher's employment at the Jesuit College in Rome gave him access to missionaries returning from China.<sup>193</sup> His book contains a great deal of information about China that he received from these missionaries, but with his own understanding and interpretation. For this reason, the section on Chinese scripts in his *China Illustrata* is interpreted as the conclusion of Kircher's studies of hieroglyphics since the 1630s.<sup>194</sup> The expression of referring to Chinese characters as hieroglyphs was far-reaching in linguistics in Europe and remained so even into the 19th century: in 1849, when Professor P.J.Veth of the Royal Academy of Arts and Sciences pleaded for the establishment of a chair for Chinese and Japanese studies at a Dutch University, he used the phrase “Chinese hieroglyphs” to address the strangeness of the language.<sup>195</sup>

However, the notion that there is a corresponding hieroglyphic relationship between the two scripts has long been considered to be groundless. Mungello argues that Kircher and Martini and other seventeenth-century Chinese language researchers who held this notion placed too much emphasis on the Chinese characters' ideographic part

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<sup>190</sup> Mungello, *Curious Land: Jesuit Accommodation and the Origins of Sinology*, 31.

<sup>191</sup> Thijs Weststeijn, ‘The Chinese Isis, or the Sino-Egyptian Hypothesis’, in: *M.-J. Versluys a.o. (eds.), Temple – Monument – lieu de mémoire. The Iseum Campense from the Roman Empire to the Modern Age*, Rome: Quasar, 2019, 305.

<sup>192</sup> Mungello, *Curious Land: Jesuit Accommodation and the Origins of Sinology*, 31.

<sup>193</sup> Mungello, *Curious Land: Jesuit Accommodation and the Origins of Sinology*, 145-150.

<sup>194</sup> Lehner, *Der Druck chinesischer Zeichen in Europa*, 17.

<sup>195</sup> Kruiper, *The Early Dutch Sinologists (1854-1900)*, 588-589.

while neglecting the phonetic part. The phonetic component has played a crucial role in the development and evolution of Chinese characters into modern scripts.<sup>196</sup>

Mungello coins a term “proto-sinologist” for the early Western researchers who studied China and its culture.<sup>197</sup> Some idea may have been false or even ridiculous, however, just like many other erroneous ideas in the history of human thought, they have not borne fruit in themselves, but have inspired the sprouting of other branches on the tree of wisdom. One such proto-Sinological idea believed that a *Clavis Sinica*, or “key” to Chinese, would enable one to radically simplify and reduce the amount of study needed to master the Chinese language. The search for *Clavis Sinica* was conducted by Berlin-based proto-sinologists Andreas Müller (1630-1694) and Christian Mentzel (1622-1701).<sup>198</sup> Gottfried Leibniz (1646-1716) was involved in it as well. The impetus behind this research, which attracted the interest of scholars throughout Europe, derived from the perception that all languages shared the same underlying structure. Once this structure is mastered, it is possible to decode any unknown language, including Chinese.<sup>199</sup>

Müller claimed to have discovered *Clavis Sinica* but died without leaving any relevant publications.<sup>200</sup> Müller's proto-sinological successor Mentzel used the 214 radicals of *Zihui* and *Kangxi Zidian* in his manuscript *Clavis Sinica, ad Chinensium Scripturam et Pronunciationem Mandarinicam*, which he probably borrowed from Martino Martini's *Grammatica Sinica* manuscript.<sup>201</sup> Who was the first to number the radicals is still unknown - In the *Kangxi Dictionary*, radicals were classified based on the twelve Earthly Branches, a traditional Chinese ordering system - it is likely that it was

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<sup>196</sup> Mungello, *Curious Land: Jesuit Accommodation and the Origins of Sinology*, 131.

<sup>197</sup> Mungello, *Curious Land: Jesuit Accommodation and the Origins of Sinology*, 14-16.

<sup>198</sup> Mungello, *Curious Land: Jesuit Accommodation and the Origins of Sinology*, 89.

<sup>199</sup> Mungello, *Curious Land: Jesuit Accommodation and the Origins of Sinology*, 16.

<sup>200</sup> Mungello, *Curious Land: Jesuit Accommodation and the Origins of Sinology*, 235.

<sup>201</sup> Eva S. Kraft, "Frühe chinesische Studien in Berlin." *Medizinhistorisches Journal* 11 (1976), 116.

a Jesuit missionary slightly earlier than Martini. The orderly grouping of a significant number of Chinese characters into 214 radicals is, in Menzel's view, proof that the search for the 'key to Chinese' is feasible. Menzel did not see radicals as a mere method of lexicography, but rather as a way of understanding the structure of Chinese characters.<sup>202</sup> By 1814, Joshua Marshman, a missionary in India who produced Chinese script, had named his book on Chinese grammar *Clavis Sinica*, which shows the profound influence of the study of the key to Chinese.<sup>203</sup>

One can say that the development of the divisible typeface followed in the footsteps of the research on the Key to Chinese. Although the documentation of Dyer and Legrand's production of the typeface has not yet been found, there is still evidence in Hoffmann's archives of him instructing his type engravers. On one note, Hoffmann has drawn the radical on the left in red and the primitive of the character on the right in black lines (fig 38). The understanding of Chinese characters reflected in his typeface design is still in the same vein as that of Mentzel's *Clavis Sinica*.

### **3.2 Chinese characters**

According to evidence obtained from archaeological discoveries, Chinese characters have a history of over 3,300 years. During this long period of time, the essence of Chinese characters, i.e. the logographic script, has remained intact, but has changed considerably in terms of form and structure.<sup>204</sup>

#### 3.2.1 Chinese Calligraphy

In terms of form, Chinese characters have primarily undergone a change from complex to simple. The evolutionary process can be divided into two broad stages: first, the ancient script stage (记名金文 *Jiming Jinwen* “Jiming Bronze inscription”, 甲骨文 *Jiaguwen* “Oracle Bone Script”, 周代金文 *Zhoudai Jinwen* “Zhou Dynasty

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<sup>202</sup> Mungello, *Curious Land: Jesuit Accommodation and the Origins of Sinology*, 202.

<sup>203</sup> Joshua Marshman, *Clavis Sinica: Element of Chinese grammar*, Serampore, 1814.

<sup>204</sup> Qiu Xigui. *Wenzixue Gaiyao* (Introduction to philology) (Beijing: Commercial Press, 1988), 34.

Bronze inscription”, 小篆 *Xiaozhuan* “Small Seal Script”; and second, the 隶书 *Lishu* “Official Script” and 楷书 *Kaishu* “Regular Script” stages (see fig 39).<sup>205</sup>

The 楷书 *Kaishu* Regular Script appeared in the late Eastern Han Dynasty (25 - 220) and has been in use ever since. The earliest extant calligraphy work in Regular Script is the 宣示表 *Xuanshi Biao* by *Zhong Yao* (151-230) during the Sanguo period (Three Kingdoms period).<sup>206</sup> The change from a hieratic to a non-hieroglyphic form is the most perceptible change in the evolution of the fonts. Initially the fonts were very graphic-like. For the convenience of writing, the ancients gradually changed them to less-pictorial symbols made up of straight lines and dots. Although the causes behind most changes are challenging to outline systematically because of the lack of historical sources, as we know at least in some cases, the changes in Chinese characters resulted from a top-down push. For example, Qin Shi Huang (the founder of the Qin Dynasty, 259 - 210 BC) ordered to unify the Small Seal Script throughout the country. Another case is the introduction of 简体字 *Jiantizi* “Simplified Characters” (comparing with 繁体字 *Fantizi* “Traditional Characters”) in 1950s in mainland China. For example, “horse” in traditional Chinese is 馬, in simplified Chinese is 马; “fish” in traditional Chinese is 魚, in simplified Chinese is 鱼. However, at least in Sinology in the Netherlands, the use of traditional Chinese characters has been maintained to date. Students in the sinology department at Leiden University are required to learn both simplified and traditional characters. *T'oung Pao*, a well-known sinology journal closely associated with Leiden University, remains their use of traditional Chinese fonts till today.

The traditional theory of the composition of Chinese characters is the 六书 *Liushu* “Six Principles of Font Composition”. This term first appeared in the 周礼 *Zhouli*, a

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<sup>205</sup> Qiu Xigui. *Wenzixue Gaiyao* (Introduction to philology), 35.

<sup>206</sup> Luo Shubai, “Yinshua Ziti Shihua 1: Hanzi Wenhua yu Yinshuashu de Faming” (*History of Printing and Types 1: Chinese character culture and the invention of printing*) in *Printing Field*, 2003(8): 73.

book said to have been written during the Zhou Dynasty and was later elaborated by 许慎 Xu Shen in his 说文解字 *Shuowen Jiezi*.<sup>207</sup> According to Xu, *Liushu* are:

1. 象形 *Xiangxing*, characters that were originally pictographs, e.g. 日 *ri* “sun”, 月 *yue* “moon”.
2. 指事 *Zhishi*, the characters intended to symbolize logical or abstract terms, e.g. 上 *shang* “up”, 下 *xia* “under”.
3. 会意 *Huiyi*, Combination of two or more signifiers to form a character with a new meaning, e.g. 明 *ming* “bright” from 日 *ri* “sun” and 月 *yue* “moon”.
4. 形声 *Xingsheng*, meaning-bearing and sound-bearing elements, e.g. combination of 木 *mu* “wood” and 风 *feng* “wind” to 枫 *feng* “maple”.
5. 转注 *Zhuanzhu*, modifications of characters to form new characters, usually of related meaning, e.g. 老 *lao* “old” and 考 *kao* “long life, old”.
6. 假借 *Jiajie*, homophonic characters for terms of different meanings, e.g. 足 *zu* “foot” could be used for 足 *zu* “sufficient”.<sup>208</sup>

According to the philologist Qiu Xigui, the proportion of *Xingsheng* characters gradually increased during Chinese script development, from a minority to an overwhelming majority. Most of the new Chinese characters has been created by adding radicals.<sup>209</sup>

The number of Chinese characters has been increasing. The *Shuowen Jiezi*, created in the Eastern Han Dynasty, contained 9353 Chinese characters. By the 18th century, the number of Chinese characters included in the Kangxi dictionary reached 47,043.<sup>210</sup> In Chinese dictionaries, the 部首 *bushou* system was invented to order Chinese

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<sup>207</sup> Qiu Xigui. *Wenzixue Gaiyao* (Introduction to philology), 102.

<sup>208</sup> Lehner, *Der Druck chinesischer Zeichen in Europa*, 4; Olson, David R.. "Chinese writing". *Encyclopedia Britannica*, 14 Mar. 2014, <https://www.britannica.com/topic/Chinese-writing>. Accessed June 13, 2021.

<sup>209</sup> Qiu Xigui. *Wenzixue Gaiyao* (Introduction to philology), 39

<sup>210</sup> Qiu Xigui. *Wenzixue Gaiyao* (Introduction to philology), 37.

characters. In Western writings, *bushou* is often translated as 'radical', but this translation has become increasingly controversial in recent years.<sup>211</sup>

The number of bushou used in lexicographical works varied considerably over time: while the *Shouwen jiezi* listed the 9353 characters it contained under 540 bushous, the lexicographer Mei Yingzuo, who was active in the late Ming dynasty, classified the 33179 characters under 214 bushous in his *Zihui* printed in 1615. The dictionary (*Kangxi zidian*) compiled in the years between 1710 and 1716 on the orders of the Kangxi emperor, which contained 47043 characters, was likewise arranged according to this *Zihui* bushou system.<sup>212</sup>

It is worth noting that in traditional Chinese linguistics, radicals are merely lexicographic tools used to search for Chinese characters in dictionaries. When learning calligraphy, no calligraphy master would recommend students understanding Chinese characters starting from bushou. In stead, strokes are the fundamental component of Chinese characters. Chinese calligraphy is a unique art. Like painting, it is a plastic art in which various images are formed through strokes. Through the calligrapher's control of the strength of the brush and the direction of the line, calligraphy can also express emotion and reflect the cultural cultivation of the calligrapher. When Europeans began to know calligraphy, it took a long time to gradually recognise it as an art gradually. An important reason for this difficulty was, according to the art historian Pierre Ryckmans (his pen name is Simon Leys), a lack of knowledge of the rules and graphic mechanisms of Chinese script (for example, Chinese characters consist of a fixed number of strokes and must be written in a constant predetermined order).<sup>213</sup> Calligraphy is also an art that transcends boundaries

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<sup>211</sup> Lehner, *Der Druck chinesischer Zeichen in Europa*, 4-5.

<sup>212</sup> Lehner, *Der Druck chinesischer Zeichen in Europa*, 5.

<sup>213</sup> Simon Leys, "One More Art," (This article was first published in the April 18, 1996 issue of *The New York Review of Books*). <https://www.chinafile.com/library/nyrb-china-archive/one-more-art>. Accessed 20 September 2021

of classes: officials and emperors with a high level of calligraphic attainment could earn more respect, and ordinary people would put beautiful calligraphic spring scrolls on their doors during the New Year (fig 33). By Zhao Mengfu, a famous calligrapher of the Yuan dynasty, wrote in his *Dingwu Lanting Ba*: calligraphy values the move of the strokes most, followed by the structure of the script.<sup>214</sup> Strokes, instead of radicals, have always been the fundamental components of Chinese character's composition.<sup>215</sup> The whole structure should be considering when practicing calligraphy.

### 3.2.2 Chinese printing fonts

Chinese calligraphy fonts and Chinese printing fonts share both similarities and differences. Whereas calligraphy has an artistic aspect, print fonts are more concerned with legibility.

There has been much speculation regarding the date of the invention of woodblock printing in China. According to Zhang Xiumin, the most likely date of its appearance is during the Zhenguan period of the Tang Dynasty (627-649).<sup>216</sup> In the early days of printing, calligraphy fonts were mostly used for printing. During the Sui and Tang dynasties, a large number of master calligraphers emerged, such as Yan Zhenqing, Liu Gongquan and Ouyang Xun. Their calligraphies were often used as samples for woodblock printing fonts.<sup>217</sup>

With the development of printing techniques, printing fonts gradually departed from the handwritten calligraphy style and formed their own distinctive style. In the Song dynasty (960-1279), the printing industry saw people specialising in writing type for

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<sup>214</sup> Teng Zhipeng, *Wenren Shanshuihua yu Zhongguo Chuantong Wenhua Ynjiu* (Taipei: Songye Wenhua Press, 2019), 79.

<sup>215</sup> Ni Zhenzhong, *Shi Yong Shu Fa Ji Chu* (Zhengzhou: Henan Meishu Press, 1989), 44.

<sup>216</sup> Zhang xiumin, *Zhongguo Yinshua Shi (History of Chinese printing)* (Shanghai: Shanghai People's press, 1989), 10-22.

<sup>217</sup> Luo Shubai, "Yinshua Ziti Shihua 1: Hanzi Wenhua yu Yinshuashu de Faming", 72.

woodblock printing. They worked with engravers to ensure that the type was legible and, at the same time, easy to engrave. By the time of the Southern Song Dynasty (1127-1279), a standard printing typeface, known today as 宋体 'Songti', began to shape. The process of forming and developing *Songti*, has also resulted in different versions that are characteristic of the times. In general, this typeface was characterised by its thin horizontal and thick vertical lines and its square outline, making it easy to read. It was not until the Ming dynasty that this typeface became widespread and became the dominant typeface in woodblock printing. To date, *Songti* remains the dominant typeface for Chinese printing (see fig. 41).<sup>218</sup> Hongkong type is a kind of *Songti* as well.

### 3.2.3 Chinese printing techniques

China has been using the woodblock printing technique since the seventh century AD. This technique also spread to the countries surrounding China, such as The Great Dharani Sutra printed in the first half of the eighth century AD found in Korea, and The Hyakumantō Darani printed in 746-770 in Japan. The Vajradhara Sutra, found at Dunhuang in China, was printed in 848. In the eleventh century AD, the printing artisan Bi Sheng invented clay movable type printing, which was recorded by his contemporaries, the polymath Shen Kuo, in his scientific treatise 梦溪笔谈 *Meng Xi Pen Tian* 'The Dream Pool Essays'.<sup>219</sup> Wang Zhen (1290-1333), a scientist of the Yuan dynasty, improved on Bi Sheng's invention by using wood to make movable types. Wang Zhen's method was to engrave the characters on a whole board and then saw it into individual types.<sup>220</sup> In the Qing dynasty, according to

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<sup>218</sup> Luo Shubai, "Yinshua Ziti Shihua 1: Hanzi Wenhua yu Yinshuashu de Faming", 72-73.

<sup>219</sup> Zhang, *Zhongguo Yinshua Shi (History of Chinese printing)*, 663. For the technical details of the clay movable typography, see: "Part 1, vol. 5", ed. Joseph Needham, *Science and Civilisation in China: Paper and Printing*. Cambridge: Cambridge University Press. 201-202; Shen Kuo, 'The Dream Pool Essays', vol. 18 "技艺门 *Ji Yi Men* 'he art of crafts'" in 梦溪笔谈 *Meng Xi Bi Tan*, 1090s.; Ed. by Hu Daojing, 梦溪笔谈校证 *Meng Xi Bi Tan Jiao Zheng*, "Brush talks from the dream Pool Essays", Shanghai: Shanghai People Press, 1956.

<sup>220</sup> Zhang, *Zhongguo Yinshua Shi (History of Chinese printing)*, 673-674. For the technical details of the clay movable typography, see: "Part 1 vol. 5", ed. Joseph Needham, *Science and Civilisation in China: Paper and Printing*, 206-208; Wang Zhen, 造活字印书法 *Zao Huo Zi Yin Shu Fa* "Method of Type Making for Printing" in 农书 *Nong Shu* 'Book of Agriculture', 1313.

武英殿聚珍版程式 *Wu Ying Dian Ju Zhen Ban Cheng Shi* “Procedures of Gem Print Editions from the Wu-ying Palace”, the official standard for wooden type printing issued during the Qianlong period, the process of producing types began with making a significant number of small wooden columns of the same size and then engraving the characters at the top.<sup>221</sup> In addition, other attempts have been made to use other materials, such as tin and copper, for making types, however, these techniques had not yet been sufficiently developed to replace woodblock printing.<sup>222</sup>

### 3.3 “Republic of characters”: community of Chinese movable type

The Republic of Letters (*Respublica literaria*) is the long-distance intellectual community in the late 17th and 18th centuries in Europe and the Americas. All participants of the community corresponded by letter, exchanged published papers, scientific thoughts and artistic opinions.<sup>223</sup>

By the nineteenth century, a community of knowledge and skill-sharing had also emerged in the field of Chinese movable metallic types. This community continues the Republic of Letters of the Enlightenment period's cosmopolitan spirit, which facilitates this community knowledge exchanging through letters and visits worldwide (fig 1 and fig 2 and fig 42). Besides, they also competed on the market and sometimes even became buyers for each other. According to the known literature, most participants were European and American missionaries, sinologists and type designers, which seems to bear a resemblance to the participants in the Republic of Letters in that they were intellectuals and elites. However, we must be wary of the "survivorship bias" in the art history of cultural exchange, which means, since most

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<sup>221</sup> Zhang, *Zhongguo Yinshua Shi (History of Chinese printing)*, 674, 701-705. For the technical details of the clay movable typography, see: "Part 1 vol. 5", ed. Joseph Needham, *Science and Civilisation in China: Paper and Printing*, 206-208; Jin Jian, 武英殿聚珍版程式 *Wu Ying Dian Ju Zhen Ban Cheng Shi* “Procedures of Gem Print Editions from the Wu-ying Palace”, 1711.

<sup>222</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 1-2.

<sup>223</sup> Susan Dalton, *Engendering the Republic of Letters: Reconnecting Public and Private Spheres* (Montreal: McGill-Queen's University Press, 2003), 7.

Chinese craftsmen did not write monographs except for a few literati who were involved in technical activities, most of the observations on the production operations can only be found in the writings of the Europeans and Americans. Their perspective was often full of subjectivity, over-amplifying the role of certain people, such as their compatriots, and often ignoring the role of the Asian craftsmen. Thus, when we try to use the framework of Actors-Network-Theory for studying the Republic of Characters - the name I give to the community mentioned above - in addition to examining the role of European and American missionaries and sinologists, one must keep an eye on the role of the participants from non-European and American backgrounds, such as Chinese engravers, and printers.

### 3.3.1 Jesuit missionaries and Chinese printing

Catholic Jesuit missionaries attempted to bring Western printing to China as early as the 16th century. Alessandro Valignano (1539 -1606), a Jesuit missionary working in Japan, led a mission of Japanese Christians to Europe in 1582. However, on his arrival in Goa, Valignano received a new appointment that required him to preach there. It was not until 1587 that the Japanese mission passed through Goa on its way back from Europe with Western printing equipment that Valignano departed with the mission. They passed through Malacca and arrived in Macau in July 1588. Because the Japanese Shogunate opposed the preaching, they had to stay in Macao for over a year. During their stay in Macao, these printing devices were used at least three times, printing three different books, all of them religious books in Latin. This short-lived attempt ended with the return of the Japanese mission to Japan with the equipment.<sup>224</sup>

Jesuit Matteo Ricci (1552-1610), who practiced missionary work in China for over twenty years in the sixteenth century, recognized the importance of using books for evangelism. His religious and scientific books, printed using the woodcut technique,

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<sup>224</sup> Zhang Binglun, Sun Jian and Lü Lingfeng, Fan Lian yu Xifang Yinshuashu de Huichuan, in *Chinese Print*, 2001(11), 43-44.

gained the appreciation and admiration of many Chinese intellectuals. After him, the Jesuit missionaries continued to use woodcuts to print not only Chinese books but also Western books. After the imperial ban on Catholic missions in the early years of the Qing dynasty - banned in 1720 (59th year of the Kangxi reign) and strictly enforced from 1723 (first year of the Yongzheng reign) - Spreading Catholicism became very difficult. Missionaries began printing books with movable wood types for quickly packing up their equipment and moving to another location in case of raids by the authorities.<sup>225</sup>

### 3.3.2 Robert Morrison at Canton and Joshua Marshman at Serampore

In 1804, the London Missionary Society decided to go on a mission to China. The first Christian missionary to be sent to China was the well-known Robert Morrison (1782 -1834),<sup>226</sup> who contributed significantly to Chinese printing besides his missionary work. However, the first book using metal cast movable Chinese type was printed by Joshua Marshman (1768-1837), a Baptist missionary in Serampore in India.<sup>227</sup>

When Morrison arrived in China in 1807, the domestic political environment was very hostile to missionary work. Morrison believed “the effect of books is silent, but powerful”, and also “reference to China, the press is almost the only Engine that can be employed.” Therefore, he pinned his hopes on the printing and publication of religious books for missionary purposes.<sup>228</sup> From 1810 to 1813, based in Guangzhou by then, he printed six religious books using the Chinese woodblock technique.<sup>229</sup>

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<sup>225</sup> Su, *Zhu Yi Dai Ke*, 3-4.

<sup>226</sup> Eliza Morrison, *Memoire of the Life and Labours of Robert Morrison, D.D.: With Critical Motices of His Chinese Works and an Appendix Containing Original Documents, Vol.1* (London: Longman, 1839), 1-2.

<sup>227</sup> Ma Min, “Joshua Marshman and the First Chinese Book Printed with Movable Metal Type”, in *Journal of Cultural Interaction in East Asia*, 2015 (3), 11.

<sup>228</sup> Su, *Zhu Yi Dai Ke*, 4-5. See footnotes 6, 7, 8 in this book for the sources of the quoted words of Morrison.

<sup>229</sup> Su, *Zhu Yi Dai Ke*, 6.

During the period that Morrison was engaged in printing religious books with woodblocks, he had no shortage of opportunities to discuss the technique of movable type. The earliest person with whom Morrison discussed discussing the technique of movable type was Marshman.<sup>230</sup>

Founded in 1792, the Baptist Missionary Society was the first overseas missionary society in Europe and the United States. The experience of William Carey (1761-1834), the founder of the mission, in his missionary work in India, greatly impacted British society. After Carey arrived in Calcutta in 1793, he was subjected to difficulties by the British East India Company, which ruled India, as the Baptists were not part of the British national denomination. Carey had to hide out in the countryside and set up a dyeing workshop for his living, which familiarised him with the Indian cloth-dyeing technique.<sup>231</sup> Joshua Marshman and William Ward, two other Baptist missionaries who came to India in 1799, faced similar difficulties and therefore had to take up residence in Serampore, a Danish colony near Calcutta, where they set up a preaching station and printing house.<sup>232</sup>

The arrival of the ambitious new Governor-General of India, Marquess Wellesley, in 1799 unexpectedly improved the position of the Baptists. During Wellesley's eight-year reign, the territory of the Indian colonies underwent an unprecedented expansion, resulting in a need for a large number of highly qualified colonial officials. To this end, the College of Fort William, founded in 1800, offered courses in Indian dialects. Due to the lack of teachers, Carey, who was already familiar with the various dialects of Indian, was employed as a professor, which significantly enhanced the position of Baptist missionaries in India. In addition, the financial situation of the printing house

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<sup>230</sup> Su, *Zhu Yi Dai Ke*, 9.

<sup>231</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 132.

<sup>232</sup> *Ibid.*

was considerably improved by the fact that the college needed many textbooks and commissioned the Baptist printing house at Serampore to print them.<sup>233</sup>

Marshman spent a year studying Chinese with Johannes Lasser, a Chinese language professor who settled in Calcutta. Lesser was a Christian of Armenian descent born in Macau to a wealthy merchant family. He studied Chinese with Chinese teachers from a young age and had a strong foundation in the language. Before Lasser taught Marshman Chinese, the Baptists had already been hoping to preach in China. In 1803 the Baptist Church's annual report mentioned that the Serampore printing house would cast types in nine languages, including Chinese.<sup>234</sup>

In 1804, the Serampore printing house began experimenting with the woodblock technique for printing *Genesis* and the *Gospel of Matthew*. Since 1808, while printing Matthew's Gospel on woodblock, to print Marshman's translation of 论语 *Lunyu* "The Analects", one of the Four Books (which contained a mixture of Chinese and English typescripts), the printing house employed a Chinese to instruct indigenous Bengali craftsmen, who specialised in carving various floral designs on wood for printing on cotton textiles, in the carving of wooden movable Chinese type.<sup>235</sup> Perhaps it was Carey's experience of running a dyeing workshop that inspired him to apply the skills of the dyeing industry engravers to printing. Their method was to carve the required movable Chinese characters on a board, cut the board into columns (probably multiple characters on one column), and compose them with English lead types together for printing. Due to the large size of the Chinese movable wooden type, this quarto-size book ended with 725 pages (see fig 43). From 1810-1812, Serampore printing house developed also a set of smaller wooden movable Chinese type.<sup>236</sup>

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<sup>233</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 133.

<sup>234</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 134-135.

<sup>235</sup> Ma, "Joshua Marshman and the First Chinese Book Printed with Movable Metal Type", 7.

<sup>236</sup> Ma, "Joshua Marshman and the First Chinese Book Printed with Movable Metal Type", 7.

In 1810 Morrison sent Marshman a 耶稣救世使徒行传真本 *Yesu Jiushi Shitu Xingzhuan Zhenben* (the Chinese version of *Acts of the Apostles*) printed with woodblock technique. In 1811 Marshman sent Morrison a printed specimen of his newly developed metal type - not cast but engraved one by one.<sup>237</sup>

From 1811 onwards, the Serampore printing house decided to create Chinese lead types. With the arrival of John Lawson, a professional printer, in 1812, a breakthrough was made in the casting of Chinese lead characters. However, Semrapore's metal Chinese fonts were not entirely made with Western type casting methods. According to the account of John Marshman, the son of Joshua Marshman, the craftsmen first cast small slugs of lead and tin alloy at the height of the English type, and then the cutters engraved the characters on the top surface of the column. Only for heavily reused Chinese characters was the Gutenberg-style casting method - from punch to type- applied.<sup>238</sup> This practice is akin to the 'half-cast, half-engraved' method that Morrison later developed with the printer Peter. P. Thomas in Macau in 1815.<sup>239</sup>

Marshman took great pride in the achievements of the Serampore printing house in the production of movable type. He was prepared to produce 6,000 of them using this method.<sup>240</sup> By comparing with the old wooden characters, Marshman claimed that the cast metal types were smaller in size, more aesthetically pleasing (see the printing sample, fig 44),<sup>241</sup> and less than half the cost of woodblock printing.<sup>242</sup> However, Morrison disagreed with him. Morrison argued that Marshman had made a massive

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<sup>237</sup> Su, *Zhu Yi Dai Ke*, 9-10.

<sup>238</sup> Johan C. Marshman, *The Life and Times of Carey, Marshman, and Ward: Embracing the History of the Serampore Mission*, Vol II (London: Longman, Brown, Green, Longmans, & Roberts, 1859), 63.

<sup>239</sup> Ma, "Joshua Marshman and the First Chinese Book Printed with Movable Metal Type", 12.

<sup>240</sup> Su, *Zhu Yi Dai Ke*, 10.

<sup>241</sup> Ma, "Joshua Marshman and the First Chinese Book Printed with Movable Metal Type", 12.

<sup>242</sup> Su, *Zhu Yi Dai Ke*, 10.

error in his calculation of the cost of woodblock printing. Rather than being as expensive as he claimed, woodblock printing was much cheaper than lead type. Furthermore, Morrison challenged Marshman's claim that his Chinese type was more aesthetically pleasing than that of woodblock printing. Morrison argued that while they might have been beautiful enough for the English, it was questionable whether they were so in the eyes of the Chinese.<sup>243</sup> This is the first time since Europeans began making movable Chinese characters that the aesthetics of their characters had been questioned.

### 3.3.3 Robert Morrison and Peter Perring Thoms at Macau

Although Morrison defended woodblock printing, he did not reject movable type itself. He stated that he would be willing to use it to print books if Chinese movable type technology was developed to a sufficient level. Indeed, Morrison had been exploring the technique of movable type printing.

Macau is a small peninsula situated at the mouth of the Pearl River southeast of Canton. After the Portuguese settled here in the mid-16th century, Macau became a commercial entrepôt for Portuguese trade in East Asia. In terms of religion, it was the steppingstone into China for the Catholic missionaries. Macao was under the control of a Governor appointed by the Portuguese Governor-General at Goa, India, and a senate elected by local Portuguese residents. However, the Chinese government also had jurisdiction in this area. From the eighteenth century onwards, various national chartered companies successively obtained residence permission for their staff, but people who had not associated with any of these companies continued to be unwelcome at Macao. Furthermore, to protect its exclusive advantages in trading with China, the British East India Company requested the Portuguese not to issue

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<sup>243</sup> Robert Morrison, "Literary Notices", *The Evangelical Magazine and Missionary Chronicle*, Vol 24, London, 1816. 252-253. Also see Su, *Zhu Yi Dai Ke*, 10-11.

permission for residence to any individual Englishman.<sup>244</sup> Under British law of the time, British citizens were not even permitted to enter China without permission from the East India Company.<sup>245</sup>

However, Morrison was an exception (see fig 45). He differed from the other Englishmen who came to China for commercial gain. In addition, Morrison studied Chinese very hard after he arrived in China. Su Jing has dedicated short biographies to Morrison's seven principal full-time Chinese teachers and three key printing assistants. Of the seven Chinese teachers, Yung Sam Tak had the closest relationship with Morrison. In addition to teaching him Chinese, Yung helped hire Chinese printers and sent them into Malacca (in an illigal way) when Morrison decided to set up a printing house there.<sup>246</sup> Tsae Heen (1782-?), Liang A-Fa (1789-1855) and Qu Ang (1787-1867/68) worked for Morrison the longest and most closely together of the printing assistants. In the early years of Morrison's publishing career, Tsae Heen, who was good at calligraphy, was responsible for transcribing books into proofs for woodblock carving.<sup>247</sup> Leung A-Fa, a woodblock engraver, was employed by Missionary William Milne and followed him to Malacca. In addition to printing work, Leung Fat was baptised and became a missionary. Qu Ang was the printing assistant of Liang A-Fa.<sup>248</sup> Leung A-Fa and Qu Ang also learned the lithographic technique from John R. Morrison (1814-1843), son of Morrison.<sup>249</sup>

Besides preaching to the Chinese, Morrison was also active in writing Chinese textbooks to help the British learn the language. As communication problems had

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<sup>244</sup> Su Ching, "The Printing Presses of the London Missionary Society among the Chinese" (Dissertation, The University of London, 1996), 42-43.

<sup>245</sup> Su, *Zhu Yi Dai Ke*, 25.

<sup>246</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 55-78.

<sup>247</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 21-23.

<sup>248</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 25-29.

<sup>249</sup> Su, *Zhu Yi Dai Ke*, 18.

always troubled the East India Company, Morrison's arrival was a blessing to them. Not only did the East India Company not expel Morrison, but in 1809 they hired him as an interpreter, and thus he was granted permission to stay in China as a company employee.<sup>250</sup>

In 1811, Morrison's had his Chinese grammar book 通用汉言之法 *A Grammar of the Chinese Language* printed in Serampore, with the smaller wooden Chinese type.<sup>251</sup> In the same year, Marshman sent him a specimen of metal type.<sup>252</sup> However, Morrison decided not to have his book printed in India anymore. In 1812, Morrison wrote to Johan F. Elphinstone, the then President of the Select Committee (this committee was responsible for supervising and directing the other staff of the Canton factory and the personnel on board the East India Company ships) of the English East India Company at Canton. In his letter, Morrison firstly described the progress of his Chinese-English dictionary over the past five years. Secondly, he considered that it was too expensive to print in India and their technique was immature as well. He suggested that the British East India Company sponsored a printing house and employed professional printers to create new movable Chinese types for printing his Chinese-English dictionary. Morrison stressed that his dictionary would bring prestige to the company and would ultimately benefit its business.<sup>253</sup>

Morrison's letter was forwarded to the Court of the company with Elphinstone's strong endorsement.<sup>254</sup> In 1814, the Court took up this proposal. In a letter from the London to the Canton office, the Court responded to Morrison's requests: 1) setting up a printing house in Macao; 2) sending out a professional printer to Macau. 3) The printing of religious publications is strictly prohibited. This last point was to prevent

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<sup>250</sup> Su, *Zhu Yi Dai Ke*, 25.

<sup>251</sup> Su, *Zhu Yi Dai Ke*, 26.

<sup>252</sup> Su, *Zhu Yi Dai Ke*, 10.

<sup>253</sup> Su, *Zhu Yi Dai Ke*, 27.

<sup>254</sup> Su, "The Printing Press of the London Missionary Society among the Chinese", 47-48.

Morrison from making any move that would offend the Chinese government and thus jeopardise the company's business interests.<sup>255</sup>

On 9 April 1814, Peter P. Thoms arrived in China. He faced two significant challenges. The first was to provide enough Chinese fonts for Morrison's dictionary. The second was to solve the mixed typesetting between Chinese and English. The number of Chinese characters in Morrison's dictionary is comparable to that of the Kangxi dictionary (about 40,000 characters), which means that the number of typefaces must be at least 80,000 to 100,000 (because some characters must be reused in typesetting). If Thoms and Morrison had applied Gutenberg's method of casting all the characters, they would never be able to finish the work. Thoms, working with Morrison together, experimented a half-cast, half-engraved method, similar to that of the Serampore printing house (see 3.3.2).<sup>256</sup> They cast the metal column and engraved the character on the top. Whether Morrison communicated with Marshman about the method is not known.

Apart from Chinese, Portuguese and Bengalis were working in the Macau printing press. At that time, it was illegal to print foreign texts in China - including Macau - without the government's permission. After several official raids on the Macau printing house, the Chinese printers quit in droves. The company found the Portuguese workers unreliable: they were either unfamiliar with Chinese or demanded high wages. Therefore, the company decided to hire skilled printers from Serampore. In 1817 the East India Company's Guangzhou office wrote to the Viceroy of India for help, who forwarded the request to Marshman. Marshman agreed to assist and sent two Bengali engravers to Macau. These two Bengali engravers came to Macau in August 1819 and signed a three-year contract with the Macao Printing House. It was thus in this international working environment that the first production of Chinese

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<sup>255</sup> Su, *Zhu Yi Dai Ke*, 30.

<sup>256</sup> Su, *Zhu Yi Dai Ke*, 39-40.

movable metal type began.<sup>257</sup> However, it is impossible to know their work details and whether they fulfilled the three-year work contract due to the lack of relevant archives. All we know is that in 1921 there were at least six Portuguese workers and one Chinese working as engraver and typesetter in the Macao printing house, and two other workers of unknown nationality as binder. Portuguese workers were the mainstay of the Macao printing house.<sup>258</sup>

Between its establishment in 1814 and its closure in 1834, the Macao Printing House printed 20 books, including Chinese languages studies, English translations of Chinese works, trade guides, histories, and journals, the most important of which was Morrison's Chinese-English dictionary (see fig 46). The experience of printing the dictionary using movable metal type inspired Morrison to print religious books in the same way, certainly not in Macao due to the political environment, but in Malacca.

#### 3.3.4 William Milne and Anglo-Chinese College at Malacca

It was an unfavourable timing for missionary when Morrison arrived in China in 1807. Restrictions on the actions of foreigners required that he conceal his mission.<sup>259</sup> In February 1809, Morrison accepted an offer from the English East India Company of the position of Chinese Interpreter, on the condition that he would not give up his missionary career.<sup>260</sup> Feeling his missionary work was reduced by secular duties, Morrison he asked the London Missionary Society for an assistant. William Milne (1785-1872) was selected.<sup>261</sup> Milne's contribution to printing techniques is not as significant as that of the other figures mentioned in this chapter, but his experience is still worth mentioning because it reflects the context in which the Hong Kong type

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<sup>257</sup> Su, *Zhu Yi Dai Ke*, 40-44.

<sup>258</sup> Su, *Zhu Yi Dai Ke*, 44-45.

<sup>259</sup> R. L. O'Sullivan, "The Anglo-Chinese College and the Early 'Singapore Institution'," in *Journal of the Malaysian Branch of the Royal Asiatic Society*, Vol. 61, No. 2 (255) (1988), 45.

<sup>260</sup> Su Ching, *Zhong Guo, Kaimen: Ma Li Xun ji Xiang Guan Ren Wu Yan Jiu* (Hongkong: Christian Study Centre on Chinese Religion & Culture, 2005), 40-45.

<sup>261</sup> O'Sullivan, "The Anglo-Chinese College and the Early 'Singapore Institution'," 45.

was created. Furthermore, the Anglo-Chinese College which he founded, became the initial incubation site for the Hong Kong type after Samuel Dyer came to Malacca.

Morrison believed that under the restrictions of the prohibition on preaching, the gospel could only be spread among the Chinese masses by books. However, printing workshop materials in China risked being seized by the government, and printers also took advantage of the opportunity to demand high fees.<sup>262</sup> Moreover, Milne had difficulties with gaining legal residence in China. After he arrived in Macau on July 4, 1813, he was almost immediately expelled by the Macau authorities because the Catholics ostracized him. In Canton, he could not obtain help from the British East India Company as Morrison had received. Under these circumstances, Milne accepted Morrison's suggestion to go to Java or Malacca, both being British colonies (Java was a Dutch colony but under British protection at that time) with a large Chinese population, to set up a missionary station and to find a location for printing religious books.<sup>263</sup>

In 1815, Milne went to Malacca – with his Chinese assistant Liang A-Fa – and established the Malacca station, and the Anglo-Chinese college which served both educational and printing functions. Morrison recruited printers and purchased supplies such as paper in China and requested Milne to purchase Chinese movable type equipment from India.<sup>264</sup> Besides, Morrison ordered around 9000 “half cast, half engraving” Chinese types from Macao's printing house and sent them to Malacca in 1817.<sup>265</sup> Furthermore, Morrison wrote to the London Missionary Society's

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<sup>262</sup> Su, *Zhu Yi Dai Ke*, 68.

<sup>263</sup> Su, *Zhong Guo, Kaimen: Ma Li Xun ji Xiang Guan Ren Wu Yan Jiu*, 134-137.

<sup>264</sup> Su, *Zhu Yi Dai Ke*, 8 and 69.

<sup>265</sup> Su, “The Printing Press of the London Missionary Society among the Chinese”, 71. According to Morrison it was 9000, In Milne's account the number was 10,000. See William Milne, *A Retrospect of the First Ten Years of the Protestant Mission to China*. Malacca: The Anglo-Chinese Press, 1820, 238.

headquarter requesting a professional printer to be sent to Malacca. The London Society then sent Walter H. Medhurst, who was a well-trained printer.<sup>266</sup>

The printing work at the Malacca preaching station was developing rapidly. From the establishment of the station in 1815 until Milne died in 1822, forty books and periodicals were printed. As of August 1818, there were eighteen printers in Malacca station.<sup>267</sup> Despite not being a professional printer, Milne himself was knowledgeable about printing. In his book *A Retrospect of the First Ten Years of the Protestant Mission to China*, there are 65 pages of discussion on various Chinese printing techniques.<sup>268</sup> However, traditional Chinese woodblock printing still dominated at Malacca station, with movable type - using movable type from Serampore - making up only a small proportion of the printing.<sup>269</sup> Initially, Liang A-Fa was in charge of printing the Chinese journal 察世俗每月统计传 *Cha Shi Su Mei Yue Tong Ji Zhuan* "Chasai Monthly Magazine" issued by the Malacca printing house. As the number of printers coming to Malacca (primarily through illegal means, with Yung Sam Tak's help) increased, Leung A-Fa was promoted to head of the team.<sup>270</sup>

In addition, as the number of Chinese printers working in Malacca increased, the quality of their printing gradually improved. For example, the Malacca printing house also produced a political propaganda pamphlet for the British East India Company for people in China, 大英国人事略说 *Da Ying Guo Ren Shi Lue Shuo* "Brief Account of the English Character" in 1832.<sup>271</sup> This woodblock printing pamphlet, which was distributed illegally in China, alerted the authorities and was sent to Beijing for

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<sup>266</sup> Su, *Zhu Yi Dai Ke*, 8, 68 and 70.

<sup>267</sup> Su, *Zhong Guo, Kaimen: Ma Li Xun ji Xiang Guan Ren Wu Yan Jiu*, 149-150.

<sup>268</sup> William Milne, *A Retrospect of the First Ten Years of the Protestant Mission to China* (Malacca: Anglo-Chinese Press, 1820), 222-287.

<sup>269</sup> Su, *Zhong Guo, Kaimen: Ma Li Xun ji Xiang Guan Ren Wu Yan Jiu*, 150.

<sup>270</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 25.

<sup>271</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 113.

Emperor's inspection. It was so finely printed that the Daoguang Emperor believed that it had been produced in China.<sup>272</sup> It is conceivable that the knowledge and experience of these Chinese printers could have provided the technical conditions for Dyer development of the Chinese movable type shortly.

### 3.3.5 Walter H. Medhurst at Batavia and his connections

In 1817 Walter H. Medhurst arrived in Malacca. At first, he was only involved in the practice as a manager rather than directly due to his unfamiliarity with Chinese, although he already had six years of printing experience. He studied Chinese at the station and was ordained as a missionary in 1819. Due to some internal disputes over the management of the station, Medhurst left Malacca in 1820 and moved to Panang. In 1821, at the request of John Slater (1789-1825), an English missionary who had already settled in Batavia, the capital of the Dutch East India colony, Medhurst moved to Batavia with his four young Chinese assistants.<sup>273</sup> In 1823, Slater hired two Chinese engravers and character-writers from Singapore, Asin and Aseih. However, Medhurst felt that the preaching station could not afford their high wages and began training his two assistants to become engravers.<sup>274</sup>

Before the First Opium War - the war between the Qing government and Britain over the opium trade from 1840 to 1842 -, the London Missionary Society established four mission stations in Southeast Asia: Malacca, Penang, Singapore and Batavia, each with printing facilities attached. The largest of these were the stations in Malacca and Batavia. From 1823 to 1843, the Batavia station surpassed Malacca as the most productive station in publishing, with credit to Medhurst. Of all the missionaries sent to Asia by the London Missionary Society, Medhurst was the only one with the

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<sup>272</sup> Wei Yuanliang, "Dao Guang Chao Wai Yang Tong Shang An (Memorial to the throne -2)", in 史料旬刊 *Shi Liao Xun Kan* "Serial Publication of Historical Sources," no. 21 (1930), 397. Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 120.

<sup>273</sup> Su, *Zhu Yi Dai Ke*, 70-71.

<sup>274</sup> Su, *Zhu Yi Dai Ke*, 83-84.

background of a professional printer. In addition, Medhurst's well-managed contacts in Batavia with the Dutch colonial government and the Dutch Church in Batavia helped him in his printing career.<sup>275</sup> During his time in Batavia, Medhurst was almost the only trusted interpreter of Chinese for the Dutch government. In addition, Medhurst's carefully managed contacts in Batavia with the Dutch colonial government and the Dutch Church in Batavia helped him in his printing career. During his time at Batavia, Medhurst was almost the only trusted interpreter of Chinese for the Dutch government. When he left Batavia for Shanghai in 1834, the Dutch government immediately found itself in a predicament of lack of interpreters and decided to establish Sinology department in Leiden and print Chinese textbooks.<sup>276</sup> Under Medhurst's auspices, the Batavia printing house published the most significant number of books (47% of the total published by the four stations) and used three different techniques: woodcut, lithography, and movable type. The movable type was the latest of these to be introduced: it was only used for the first time in 1832, and the first movable type Chinese book was introduced in 1836. Until 1843, only five movable type Chinese books had been printed in total. The decisive cause of this phenomenon was the lack of available movable type.<sup>277</sup>

Before 1830s, there were two set of metal Chinese movable types known: The type in Serampore, and the one in Macao. The Serampore typeface is insufficient in number and aesthetically unpleasant. The Macao type was too large. In addition, both types were made by the half-cast, half-engraved method and were thus difficult to reproduce.<sup>278</sup>

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<sup>275</sup> Su, *Zhu Yi Dai Ke*, 72-78.

<sup>276</sup> Blussé, "Of Hewers of Wood and Drawers of Water", 36.

<sup>277</sup> Su, *Zhu Yi Dai Ke*, 79.

<sup>278</sup> Su, *Zhu Yi Dai Ke*, 92.

Medhurst published an article under the pseudonym *Typographus Sinensis* in 1834 in the *Chinese Repository*, a journal edited by the American missionary Elijah C. Bridgman, comparing the costs and advantages and disadvantages of the three methods of printing Chinese: woodcut, lithography and movable type. The conclusion was that Western movable type was the best method of printing Chinese.<sup>279</sup> Medhurst himself had experience in casting type. He had produced a Javanese font in 1828. The Javanese language is a phonemic script, so only about 100 characters needed to be cast. Medhurst, a professional printer, could not have been unaware of these difficulties. Nor is it apparent from his correspondence that he ever had the idea of devoting himself to the casting of Chinese typefaces.<sup>280</sup>

Nevertheless, when Penang-based missionary Samuel Dyer announced that he would be producing Chinese type in an entirely Western technique of movable type casting, Medhurst gave him substantial support. Medhurst's article above amounts to an endorsement of Dyer's movable type - with Medhurst's background as a printer and experience in Chinese printing, his analysis and conclusions were of considerable authority. In addition, Medhurst supported Dyer in practical terms: he ordered a set of movable type from Dyer in the name of Batavia Station and made an advance payment of £50.<sup>281</sup>

Medhurst was also concerned with the creation of Chinese movable type by European printers. He noted that in Paris, the main centre of Chinese studies in Europe in the early nineteenth century, the famous type-maker Marcellin Legrand, under the direction of the sinologist Pierre Guillaume (1801-1873), had begun in 1834 to produce a divisible Chinese typeface, in which the partial radicals of a typeface could be divided and combined to form a new typeface. On his way back to England in

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<sup>279</sup> *Typographus Sinensis*, *The Chinese Repository*, 3:5 (September 1834), 236-252. *Typographus Sinensis* the pseudonym of Medhurst.

<sup>280</sup> Su, *Zhu Yi Dai Ke*, 93.

<sup>281</sup> Su, *Zhu Yi Dai Ke*, 92-93.

1836, Medhurst visited Legrand's workshop in Paris and examined the divisible type. As a result, Medhurst was pleased with the typefaces, the only drawback of which was the poor proportion of the various parts of the type's structure. He offered Legrand advice on how to improve the typeface in person. Despite his interest in Legrand's typefaces, Medhurst still viewed him as a competitor - Medhurst was more supportive of Dyer, who also belonged to the London Missionary Society. He suggested to the Directors of the Board that Dyer should produce a smaller typeface to reduce printing costs and produce a more portable book. Moreover, smaller types would be more advantageous in the Chinese character market. The Directors eventually agreed and requested Dyer to produce a smaller set of characters in addition to the ones it was currently making.<sup>282</sup>

### 3.3.6 Samuel Dyer at Penang and Malacca

Samuel Dyer (see fig 47), a missionary of the London Missionary Society, was the founding father of Hongkong type, one of the key figures in this thesis. Therefore, his biography and achievement deserve a more comprehensive account.

#### ***3.3.6.1 Early life and studies***

In 1804, Samuel Dyer (1804-1843) was born in a nonconformist family at Greenwich. His father was the Secretary of the Royal Navy Hospital. His mother was a well-educated woman. With an ambition becoming a lawyer, the young Dyer entered first the Inner Temple, then Trinity Hall at the University of Cambridge for studying law. Because he could not graduate without joining in the Established Church, Dyer left Cambridge in his fifth term, in 1824, and joined the London Missionary Society, of which his father was a Director of the Board.<sup>283</sup> His missionary training coincided

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<sup>282</sup> Su, *Zhu Yi Dai Ke*, 94-95.

<sup>283</sup> Evan Davies, *Memoir of the Rev. Samuel Dyer sixteen years missionary to the Chinese This book* (London: John Snow, 1846), 2-25

with Morrison's retuning to England on furlough. Dyer could receive Chinese language instruction directly from Morrison.<sup>284</sup>

While studying Chinese with Morrison in England, Dyer had already had the idea of casting Chinese movable types and spent much time on the techniques of printing, punching cutting and type-founding.<sup>285</sup> He was aware that casting all of them would be impractical as the total number of Chinese characters reaches over 40,000.

Therefore, Dyer determined the number of fonts to be cast by counting the number of characters in common use. Taking Morrison's translation of the Bible as a starting point, he calculated that 3,600 Chinese characters would be approximately sufficient.<sup>286</sup>

He enquired with the London type casters about the cost and concluded that the creating of punch and matrix would cost about 2,000 pounds and that the type casting would cost around 400 pounds.<sup>287</sup> To raise funds for type casting, Dale wrote twice to the Evangelical Magazine, appealing to the Christian public for donation to "set the press actively at work for more than one third of the heathen world".<sup>288</sup>

Dyer set out for Asia in March 1827. Initially, the London Missionary Society had planned for him to take over Anglo-Chinese College in Malacca, which had been in close contact with Morrison, who was based in China. However, he decided to stay in Penang because he learned that there were already three missionaries in Malacca and no one had been preaching in Penang for two years.<sup>289</sup>

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<sup>284</sup> Davies, *Memoir of Rev. Samuel Dyer*, 37.

<sup>285</sup> Davies, *Memoir of Rev. Samuel Dyer*, 42.

<sup>286</sup> Samuel Dyer, *A Selection of Three Thousand Characters* (Malacca: Anglo-Chinese College, 1834), preface.

<sup>287</sup> Tae-W\*\*-U\*\*, "On Chinese Metallic Type," in *The Evangelical Magazine*, April 1826, 144-145; Tae-W\*\*-U\*\*, "Expenses of Chinese Metal Type," in *The Evangelical Magazine*, August 1826, 234-235.

<sup>288</sup> Su, "The Printing Press of the London Missionary Society among the Chinese", 260.

<sup>289</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 194.

Since 1828, in addition to his missionary work, Dyer began to experiment Chinese movable types. Inspired by the printing of “coats of arms” (a heraldic visual design on an escutcheon), which usually started with wooden engravings then stereotyped with metal, Dyer believed that the same method might be efficiently used to make Chinese type. The whole process involved three locations: characters were first transcribed on woodblocks by Dyer’s Chinese teachers at Penang, cut the blocks at the mission press at Malacca, then sent them to London to be stereotyped and sawn into individual type. In January 1829, fifty-five woodblocks containing 700 various Chinese characters, which were described as 'very beautifully cut,'<sup>290</sup> were sent to Britain. They were first brought to London and then sent to Richard Watts's printing office at Crown Court, Temple Bar.<sup>291</sup> Richard Watts earned a reputation as "a cutter and founder of Oriental and foreign characters" by long-term working with various religious societies and missionary presses.<sup>292</sup> Although it took more than two years before Dyer received the finished movable type, Dyer was very pleased with the results of this daring experiment: not only were the characters identical to the drafts, they were also fairly inexpensive to produce. The carving and cutting of the boards in Malacca and the engraving and casting of the type in England added up to a mere 27.50 pounds. The traditional process of punch, matrix and type would have cost 700 pounds.<sup>293</sup>

However, the drawbacks of the movable type produced by the engraving technique were also apparent. The characters would wear out over time, and the whole time-consuming process would then have to be carried out all over again. Furthermore, as Dyer could not supervise the production elsewhere, the quality of the movable type would not always be consistent.<sup>294</sup> Using the classic Gutenberg process to cast

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<sup>290</sup> Su, “The Printing Press of the London Missionary Society among the Chinese”, 260. London Missionary Society, PE, 3.2.A., Extract from a letter of Dyer to Hankey, Penang, dated 15 May 1830.

<sup>291</sup> Su, “The Printing Press of the London Missionary Society among the Chinese”, 260.

<sup>292</sup> Talbot Baines Reed, *A History of the Old English Letter Foundries*, (London: Elliot Stock, 1887), 362-363.

<sup>293</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 195.

<sup>294</sup> *Ibid.*

Chinese characters is costly, but once the matrices were done, the required characters can be cast at any time. After much deliberation, Dyer's mind changed, and in 1832 he wrote to the London headquarter: "A punch is the foundation of perpetuity; and a single punch for a character would furnish as many as are wanted of this character, in Malacca, Canton, England, or anywhere else; and so to any extent of variety."<sup>295</sup>

### **3.3.6.2 Chinese character's frequency of use**

Prior to the foundry started, the sheer volume of characters and the resulting budgetary problems needed to be addressed. Before Dyer left London, he found, by counting the number of characters in Morrison's Bible, that there were 3,600 different characters, which would have cost £2,200 to produce in London (see 3.3.6.1). In Penang, before he began to create each character in cast form, Dyer recounted the number of Chinese characters required and the frequency of use of each character. The scope of his sample collection expanded to fourteen books. Besides the Bible, he also consulted secular books such as the Confucian canon 四书 *Si Shu* "The Four Books", the popular novels 三国演义 *San Guo Yan Yi* "the Romance of the Three Kingdoms", and 烈女传 *Lie Nü Zhuan* "The Daughters' Legend". If taking 20 pages of each book, 709 characters in the first 20 pages of *Si Shu*, of which 309 only appear once. In 20 pages of *San Guo*, 929 words are used, of which 400 occur only once. In the 225 characters of 20 pages of Matthew's Gospel, of which 91 occur once. While the calculation for the number of characters of *Zhu Fu Zi* (perhaps it is 朱子语类 *Zhu Zi Yu Lei* "Classified Conversations of Zhu Zi") was not completed by then, Dyer surmises that the number of words that occur only once (i.e., rare words) in *Zhu Fu Zi* is so small that they do not affect the overall data too much. According to his word frequency statistics, Dyer concludes that approximately 2,500-3,000 common words could be sufficient for regular printing.<sup>296</sup> This calculation was probably the source of

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<sup>295</sup> Davies, *Memoir of Rev. Samuel Dyer*, 89.

<sup>296</sup> Davies, *Memoir of Rev. Samuel Dyer*, 94-95.

the theory and data for 重校几书作印集字 *Chong Jiao Ji Shu Zuo Yin Ji Zi* “A Selection of Three Thousand Characters being the Most Important in the Chinese Language” which is published in 1834 in Malacca (see fig 48). It is the only printing treatise published during Dyer's lifetime and the earliest printing treatise among the missionaries.<sup>297</sup> Dyer's statistics on the frequency of Chinese vocabulary usage became an essential reference for other designers working on Chinese typefaces later on.<sup>298</sup>

### ***3.3.6.3 Producing Chinese characters with western method***

Dyer began punching making before the London headquarters agreed to grant him funds for it. In June 1833, Dyer hired Chinese craftsmen to create punches, based on the Songti characters from a woodblock Bible printed in Malacca in 1827. The cost was so high that he had to raise money from the public and write to his headquarters in London for financial support. In his letter he guaranteed that he could complete 3,000 punches for just 400 pounds. The cost of casting a set of movable type from punches and matrices was only 100 pounds. Impressed by his persistence, London headquarters sponsored him for 100 pounds. In addition, through public fundraising, he received over 300 pounds. The financial problem was thus solved. His work with movable type continued.<sup>299</sup>

In September 1834, Dyer published a booklet: *Christ's Sermon on the Mount*, the first publication to be printed with Dyer's movable type.<sup>300</sup> In the same year Dyer also published 重校几书印集字 *Chong Jiao Ji Shu Yin Ji Zi* “*A Selection of Three Thousand Characters being the Most Important in the Chinese Language*”, the

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<sup>297</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 307.

<sup>298</sup> Han Qi. “十九世纪中文叠接活字研制史续考 Shi Jie Shi Ji Zhong Wen Die Jie Huo Zi Yan Zhi Shi Xu Kao” in *Printing Technology*, 13(2) 1996, 76.

<sup>299</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 196-197.

<sup>300</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 197.

earliest printing treatise on Chinese among the missionaries.<sup>301</sup> Meanwhile his movable type began to be known in the market. In 1835 Dyer was producing four sets of movable type at the same time: one for the London Missionary society's Batavia station; one for the Singapore station of the American Board of Commissioners for Foreign Missions; the third for the Penang station's own use, and the fourth set reserved for the next customer.<sup>302</sup>

### 3.3.7 Divisible types: Dyer, Legrand, Beyerhaus and Gamble

Although Dyer's types are whole characters, in his practice of type foundrying, Dyer developed an idea of divisible types as well:

*“A multitude of characters are composed of two distinct parts, the radical and its component; and these parts may be cast separately, without the slightest detriment to the character.*

*A certain 300 of the 14,000 (thousand) in the fount have the same radical; this radical sometimes occupies half of the square, (all Chinese characters occupy the same space exactly, i.e., a square,) sometimes one-third; hence two punches will be enough for the radicals of a certain 300 characters; hence there is a saving of 298 half-punches, or 149 punches.*

*Again, a certain 240 (of the 14,000) have the same radical; and, as before, two punches would be enough for the radical parts of the 240 characters; and here is a saving of 238 half-punches or 119 punches.*

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<sup>301</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 307.

<sup>302</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 197.

Again, of the 238 component parts of the latter set of punches, 70 are the same as component parts of the former set of 300; here then is a saving of 70 half-punches more, or 35 punches.”<sup>303</sup>

In the above example, for 540 characters from two radical groups, only 237 punches were needed (see table 3).

Group	Amount	Saved numbers
First group's radical	300	149
Second group's radical	240	119
Component (from g1 and g2)	238	35
In total		303
Punches needed		300+240-303=237

Table 3: Example from Dyer to explain his idea of divisible type. In this case, two group of types in total 540 characters, need only 237 punches.

We can see that Dyer borrowed the concepts of radicals and components from Chinese lexicography and translated these concepts into the constituent elements of Chinese characters. A suitable combination of these elements would have reduced the needed number of punches considerably (by the above calculations, the reduction would have been more than half), which would have meant a significant decrease in workload - Dyer once complained that his printing house could produce only three punches a day, even with all the craftsmen and himself involved.<sup>304</sup> In his *重校几书印集字*, Dyer divides Chinese characters into several categories: 全字 *Quan Zi* "whole type", 三份二份 *San Fen Er Fen* "two out of three", 三份一份 *San Fen Yi Fen* "one out of three", 直写对半 *Zhi Xie Dui Ban* "vertical to half", 横折对半 *Heng Zhe Dui Ban* "horizontal to half" and 四份一份 *Si Fen Yi Fen* "one out of four"

<sup>303</sup> Davies, *Memoir of Rev. Samuel Dyer*, 91-92. The passage is not given a source. However, it is very likely taken from *重校几书作印集字 Chong Jiao Ji Shu Zuo Yin Ji Zi* "A Selection of Three Thousand Characters", which is summarized in Han Qi's article *十九世纪中文叠接活字研制史续考 Shi Jie Shi Ji Zhong Wen Die Jie Huo Zi Yan Zhi Shi Xu Kao*.

<sup>304</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 196.

(fig 49). However, the forms of the characters printed in the 重校几书印集字 (see fig 48), suggest that Dyer probably did not produce usable divisible movable types at that time. However, Dyer mentions that the faces of some character punches were damaged during pressing the matrices, and he has used punches containing only a few partial strokes of the same character to repair them.<sup>305</sup> This suggests that Dyer might have tried "divisible punches" to produce whole typefaces, rather than directly producing divisible types.

In Paris, at almost the same time, a type-founder Marcellin Legrand, with the help of the famous sinologist Pierre-Guillaume Pauthier, also began developing divisible Chinese typefaces. A large number of characters could be produced by combining their ‘radical’ and ‘primitive’ (equivalent of ‘component’ in Dyer’s term) when possible, thus thus saving many thousands of matrices needed for solid characters. Over three thousand matrices were cut through this method. Legrand used 214 ‘Kangxi’ radical (“Kangxi” radical is a common term, we know 214 radicals’ classification came from an earlier period) as well as his western contemporaries did which was commonly employed in Sino-western dictionaries and grammar books, and near 1100 common primitives in Chinese. By cutting the radical on one-third of the body, and the primitive on two-thirds, a well-produced character resulted when they were combined (see fig 49 and 50). For example, the radical 口 *kou*, 扌 *shou* and 木 *mu* were cut, then with the primitives 可 *ke*, 定 *ding*, 占 *zhan* and 反 *fan* together, twelve new characters could be made, as 呵, 唛, 咕, 口反, 扌, 拈, 扳, 柯, 椹, 拈 and 板. In total a list of 22,741 characters possible to be made from this font (see fig 51). In 1844, New York-based Walter Lowrie, the then corresponding secretary of the American Presbyterian Mission (the Chinese Mission of the Board of Foreign Missions of the Presbyterian Church in the USA) purchased a set of Legrand’s matrices and sent them to Macao. In 华花校书房 *Huahua Shu Fang* “the American

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<sup>305</sup> Samuel Dyer, “Chinese Metal Types”, *Chinese Recorder*, II, 1834, 477-478.

Presbyterian Mission Press at Macau”, missionary Walter M. Lowrie, the third son of Lowrie, and American printer Richard Cole worked together printed 新铸华英铅印 *Xin Xhu Hua Ying Qian Yin* “Specimen of the Chinese Type Belonging to the Chinese Mission of the Board of Foreign Missions of the Presbyterian Church in the U.S.A.” with Legrand’s matrices.<sup>306</sup> It is worth noting that the Specimen also provided a design of typecases. The types were arranged on the cases in zones according to common and non-common characters (see fig 49). The typographic system used "radicals + strokes", which was remarkably similar to Hoffmann's typesetting system. As Cole later became one of the Hong Kong Type designers, this typographic system was highly likely brought by him from Macao to Ningbo, then to Hong Kong, and eventually disseminated to the Netherlands.

Dyer and Legrand might have each independently developed the idea of divisible typefaces, since no evidence suggesting Dyer and LeGrand exchanged views on it. However, their ideas have much in common: they both revolve around the variety of the typeface type and the frequency of use. Variety refers to the type of books that were printed. For example, Dyer specifically included secular books in his statistics to cater to markets other than religion. The calculation of frequency of use provides the typefounder with a set of 'priority' data so that the most commonly used types are supposed to be created first. Thomas S. Mullaney argues that one of the advantages of divisible fonts is to escape the massive workload of calculating word frequencies,<sup>307</sup> which I think is debatable. Before Eletrotyping method was invented, creating typefaces is a time-consuming process. It is a common marketing strategy to prioritise the most frequently used typefaces to avoid long waiting times for customers. Therefore, makers of divisible types also must conduct word frequency statistics.

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<sup>306</sup> Samuel Wells Williams, “Movable Types for Printing Chinese”, *Chinese Recorder* 6 (1875), 28-29.

<sup>307</sup> Thomas S Mullaney, *The Chinese Typewriter: A History*, 79-80.

Dyer was not a professional printer. He had to teach himself about printing and teach his craftsmen, and as a result he was much less efficient than Legrand. Dyer initially created only large-sized movable type. At Medrust's suggestion, he also began to make small movable type. But until his death in 1843, the number of large movable type was only 1,540 and the number of small movable type only 300. After his death his colleagues at the Singapore Mission, brothers Alexander Stronach and John Stronach, continued Dyer's type-making career. By the time the Stronach brothers moved their printing house to Hong Kong in 1846, the number of movable types had reached 3591 (it is not clear whether this was large, small or combined.) In 1846 the number of large typefaces reached about 4,000 and the number of small typefaces only 400. From 1847 onwards, the arrival of Richard Cole, a professional printer who had previously belonged to the American Presbyterian Church and had worked in the Presbyterian printing houses in Macau and Ningbo, greatly increased the efficiency of the type-casting work. In May 1851, Samuel Wells Williams described in *The Chinese Repository* the number of large and small movable characters of the Anglo-Chinese College as 4,700. In 1857 there were already three sizes, large and small, with numbers of 5584, 5584 and 592, which essentially corresponded to the figures reported by De Grijs to Hoffmann.<sup>308</sup>

### 3.7.8 Chinese printers in the Anglo-Chinese College in Hong Kong

It is noteworthy that the number of Chinese employees in printing department printers increased - some positions were quite important - after the move of the Anglo-Chinese College to Hong Kong. Dissatisfied with the pay and treatment, Cole, head of the printing department, tendered his resignation in January 1852. Cole agreed to stay on until September 1853 so that the Anglo-Chinese College could arrange for a replacement.<sup>309</sup> A young man of Chinese descent, Li Jinlin, was chosen to replace Cole. A Singaporean who had studied at the Anglo-Chinese College in Malacca, Li

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<sup>308</sup> Su, *Zhu Yi Dai Ke*, 256-259.

<sup>309</sup> Su, *Zhu Yi Dai Ke*, 216-220.

came to Hong Kong in 1845 to continue his studies with James Legge (1815-1897), the headmaster of the Anglo-Chinese College in Hong Kong (see figure 52). He also went to England with James Legge from 1845 to 1848, along with two other students. On his return to Hong Kong, he became an assistant teacher at the Anglo-Chinese College. After he was chosen to replace Cole, he began studying printing and typesetting on a full-time basis. However, Cole suddenly decided to leave earlier, while Li Jinlin had not yet learnt all the necessary skills. The missionaries of the Anglo-Chinese College allowed Li Jinlin to concentrate only on printing and appointed Wong Shing, a Cantonese native, as the type-caster. However, things soon changed again when Li Jinlin had to return to Singapore to recuperate from a lung disease, and the position of head of the printing department at Anglo-Chinese College fell to Wong Shing.<sup>310</sup>

A native of Xiangshan County, Guangdong, Wong Shing entered the Morrison Educational Society School in Macau in 1841 and went to study with his classmates Yung Wing and Wong Fun at the Monson Academy in Massachusetts in early 1847, accompanied by his American teacher Samuel R. Brown (1810-1880). However, Wong Shing returned to China in the autumn of 1848 due to illness.<sup>311</sup> On his return to Hong Kong, Wong Shing worked for a year and a half in the printing press of the Hong Kong newspaper *The China Mail*, where he learnt printing techniques before coming to work at the Anglo-Chinese College. Because he was proficient in both Chinese and English and familiar with printing techniques, he was unanimously considered by the missionaries of the Anglo-Chinese College to be an excellent choice to be the head (titled with “superintendent”) of the printing house (including both printing and typesetting work). With his Chinese assistant, Wong Mu, Wong Shing performed so well in printing and type-casting work that the missionaries

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<sup>310</sup> Su, *Zhu Yi Dai Ke*, 220-222.

<sup>311</sup> Chen Xuelin, “Wong Shing: a Distinguished Chinese in Early Hong Kong,” in *Chung Chi Journal* Vol. 3. No. 2 (1964 May), 226.

thought the Anglo-Chinese College did not have to rely on European and American printers anymore.<sup>312</sup>

### 3.7.9 The clients of Hong Kong Type at Anglo-Chinese College

Since Dyer began casting type in 1833, there has been a steady stream of customers. Su Ching divides the customers of Hong Kong characters from 1835 to 1873 (the year in which the Anglo-Chinese College was sold to Zhong Hua General Printing House) into four categories: missionary groups, newspapers and journals, foreign governments and the Chinese (including Chinese officials, individuals and even anti-government forces).<sup>313</sup>

Before Anglo-Chinese College moved to Hong Kong, five mission stations of four missionary groups, including Dyer's own mission station in Penang (which later moved to Singapore), ordered Chinese movable types from Dyer: the Singapore Station of the American Board of Commissioners for Foreign Missions, the Batavia Station of the London Missionary Society (run by Medhurst till 1843), the Penang Station of the London Missionary Society, the Bangkok Station of the American Baptist Churches, and the Macau Station of the Presbyterian Church in the United States of America.<sup>314</sup>

Before the First Opium War, the establishment of Chinese Christian printing houses in Southeast Asia was initially a measure that European and American missionaries had to take to circumvent the Chinese government's ban on missionary work.<sup>315</sup> After the Opium War, China opened five ports to Europe and the United States, so this concern was no longer necessary. Medhurst then moved the Batavia station to Shanghai. He chose two of the ten printers from Batavia Station to go with him to

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<sup>312</sup> Su, *Zhu Yi Dai Ke*, 224-225.

<sup>313</sup> Su, *Zhu Yi Dai Ke*, 264-281.

<sup>314</sup> Su, *Zhu Yi Dai Ke*, 265.

<sup>315</sup> Su, *Zhu Yi Dai Ke*, 155.

Shanghai: Kew Teen-Sang, an indigenous Chinese from Batavia, and William Velsberg, a Dutchman. They were both orphans, attended the school for orphans founded by Medhurst and were trained as apprentice printers. On arrival in Shanghai, Medhurst established the Mohai Shuguan 'The London Missionary Society Press in Shang Hai', which employed nine transport workers. However, apart from Kew Teen-Sang and William Velsberg, the names of the others are unknown.<sup>316</sup> As Medhurst was a customer of Dyer's during his time in Batavia, the Mohai Shuguan, established by him, continued to order Chinese movable type from the Anglo Chinese School in Hong Kong.<sup>317</sup>

In addition to Mohai Shuyuan, two other mission stations ordered movable types from Anglo-Chinese College: the Guangzhou Station of the American Board of Commissioners for Foreign Missions, run by Samuel Wells Williams (1812-1884) and the Ningbo Station of the Presbyterian Church in the United States of America, run by William Gamble (1830-1886). Samuel Wells Williams purchased two sets of Hong Kong characters (first large and then small) in 1848 and 1851, but unfortunately both sets were destroyed in the fire at Thirteen Hongs in 1856. After purchasing the Hong Kong typeface, Gamble created the matrix by galvanic methods and sold the reproduced typefaces publicly, which resulted in a market competition with the Anglo-Chinese College.<sup>318</sup>

Foreign governments or institutions with a government background that purchased Hong Kong types were: Imprimerie Nationale in France, Russian government, The Dutch government, and Singapore government. The French (in 1857-1860) and Singaporean (in 1872) governments purchased the typefaces only while the Russian government purchased the matrices only (in 1857). The Dutch government (in 1858),

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<sup>316</sup> Su, *Zhu Yi Dai Ke*, 165-167.

<sup>317</sup> Su, *Zhu Yi Dai Ke*, 266.

<sup>318</sup> Su, *Zhu Yi Dai Ke*, 266-267.

however, purchased the typeface only and then made the matrices after by electroplating.<sup>319</sup>

The customers mentioned above were all foreigners. Since 1860 the Chinese government and individuals joined the ranks of buyers of Hong Kong types, which could be seen as the beginning of the Chinese acceptance of Western movable type printing. Surprisingly, the first Chinese customer of the Anglo-Chinese College was Hong Rengan, Prince Gan of 太平天国Taiping Tianguo "Taiping Heavenly Kingdom".<sup>320</sup> Taiping Tianguo was a strong anti-government force in China with a particular religious background from 1851 to 1864. Hongrengan spent six months as a guest at the Shanghai station of The London Missionary Society, so he had likely seen the printing techniques of the Mohai Shuguan. From 1855 to 1858, he lived in Hong Kong and served as a missionary at the Hong Kong station of the London Missionary Society. He often preached with his supervisor, Legge, and the two men developed a close friendship.<sup>321</sup> Upon his return to Nanjing, Hong Rengan was appointed Prince Gan and became an important leader and reformer in the late Taiping Tianguo period.<sup>322</sup> He must have been impressed by the typesetting techniques at the Anglo-Chinese College during his time in Hong Kong, hence the order to the College. However, as the Qing government soon defeated the Taiping Heavenly Kingdom, this order was never mentioned again by Legge or the other missionaries, so we have no way of knowing whether the types were delivered.<sup>323</sup>

In 1864, a son of Guo Songtao, the governor of Guangdong, came to visit the Anglo-Chinese College and purchased some types. As these types were used for official

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<sup>319</sup> Su, *Zhu Yi Dai Ke*, 269-271.

<sup>320</sup> Su, *Zhu Yi Dai Ke*, 271.

<sup>321</sup> Xia Chuntao, 从塾师、基督徒到王爷：洪仁玕 *Cong Shushi Ji Du Tu Dao Wang Ye: Hong Rengan* (Changsha: Hubei Educational Press, 1999), 41.

<sup>322</sup> Franz Michael, *The Taiping Rebellion: History and Documents* (Seattle: University of Washington Press, 1966-1971), vol.3, pp.751-776.

<sup>323</sup> Su, *Zhu Yi Dai Ke*, 272.

documents printing, the transaction was likely either at Guo's direction or with his consent. There was also a letter from a Guangzhou-based Hanlin (a fellowship title at Qing Royal Academy) who wrote to Legge expressing his desire to purchase the matrices (it is unknown whether this deal was realised). In 1865, the Anglo-Chinese College welcomed a more influential customer, Ding Richang, one of the prominent reformist officials of the Qing government.<sup>324</sup> The sale of types at the Anglo-Chinese School culminated in 1872 when the Beijing Premier's Office of State Affairs ordered two sets of Hong Kong Type through Sir Robert Hart, the Inspector-General of China's Imperial Maritime Custom Service.<sup>325</sup> The last customer of the House was the Chinese Printing Company, a printing and publishing company founded by Wang Tao, a Chinese translator and publisher. Wang wanted to buy not only the movable types but also the entire Anglo-Chinese College printing house. At that time, the Anglo-Chinese Institute was facing the challenges of both operating costs and competition in the market, so the purchase negotiations did not encounter significant obstacles. In January 1873, the Chinese officially took over the printing house established by British missionaries and had seen the birth and development of the Hong Kong Type.<sup>326</sup> The Chinese Printing Company's acquisition of the Anglo-Chinese College was not only the beginning of the localisation of Western movable type printing, but also the beginning of modern Chinese publishing.<sup>327</sup>

#### 3.7.10 The Genealogy of Hong Kong Type

At the time of Dyer's death, a new Chinese font appeared in Berlin by German typefounder Augustus Beyerhaus. Here we need to address the size of fonts. Before in 1880s the Point System was introduced, most fonts in the early part of the nineteenth

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<sup>324</sup> Su, *Zhu Yi Dai Ke*, 272-274.

<sup>325</sup> Su, *Zhu Yi Dai Ke*, 274-275.

<sup>326</sup> Su, *Zhu Yi Dai Ke*, 275-280.

<sup>327</sup> Su, *Malixun yu Zhong Wen Yin Shua Chu Ban*, 271.

century were named with descriptive phrases, such as Pica.<sup>328</sup> Dyer's big font' was "Two-line Pica", equal to approximately 24 points; the small size (the size of Hong kong type in the Netherlands) was three-line diamond (13.5 or 14 points).

Beyerhaus's font size was between the Dyer's two fonts.<sup>329</sup>

In 1833, German missionary Karl Gutzlaff (1803-1851, anglicised as Charles Gutzlaff) created four thousand matrices of Chinese characters and sent them to Serampore to be used in casting type. However, the types they produced were "ill-formed, uneven and imperfect".<sup>330</sup> In 1838, Karl Gutzlaff presented his Chinese matrices to the King of Prussia as a gift. The Berlin based type founder Beyerhaus modified the matrices and sent some movable types back to Gutzlaff in China.<sup>331</sup>

Gutzlaff sent them to Walter L. Lowrie in Macau, who forwarded them to his father, Walter Lowrie in New York. Samuel Wells Williams, a Presbyterian missionary in Guangzhou with experience in printing, corresponded frequently with Beyerhaus on his return to the United States and learned of his interest in creating a set of divisible movable types. After examining Beyerhaus's specimen of fonts, Williams believed that Beyerhaus could produce "a far more elegant character" than Legrand did in Paris.<sup>332</sup> On his return to New York, Williams discussed the matter with Lowrie and decided to sponsor Beyerhaus.<sup>333</sup> In order to furnish for the outlay, Williams delivered many lectures upon China in U.S.A., which were afterwards revised and published as the book *The Middle Kingdom* in 1848.<sup>334</sup>

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<sup>328</sup> Saxe, "Loy's Nineteenth-Century Type Designers", 25.

<sup>329</sup> Williams, "Movable Types for Printing Chinese", 28-29.

<sup>330</sup> Williams, "Movable Types for Printing Chinese", 26.

<sup>331</sup> Lehner, *Der Druck chinesischer Zeichen in Europa*, 127.

<sup>332</sup> Williams, "Movable Types for Printing Chinese", 29.

<sup>333</sup> Su, *Zhu Yi Dai Ke*, 394.

<sup>334</sup> Samuel Wells Williams, *The Middle Kingdom*. New York: Wiley & Putnam, 1848.

The production of the font (Beyerhaus's Berlin type) went on very slowly and the matrices did not reach China till 1859. During the waiting, Williams found that Richard Cole in Hong kong had completed two "handsome" fonts of 4700 characters.<sup>335</sup> They were the continuation and expansion of Dyer's fonts, two-line Pica (24 points) and three-line diamond (13.5 or 14 points).

Williams also noticed that a still smaller font, of th size small pica (11 points) was created by William Gamble (1830-1886) of the Presbyterian Mission Press at Shanghai by electrotyping.<sup>336</sup> As discussed in the chapter 1 in this paper, electrotyping technique for printing use appeared in 1840s in Europe and America. Although the Presbyterian missionaries made trials with electrotyping as early as 1846, the success came only in 1860, first in Ningbo and then Shanghai.<sup>337</sup>

It is noteworthy that the Huahua Shufang "the Presbyterian Mission Press at Ningbo" (1845-1860) owned four metal fonts through purchase: Legrand's Paris type, Beyerhaus's Berlin type, Dyer's big type from Malacca, and Cole's small type from Hongkong, making Huahua Shufang the most comprehensive Chinese printing house of its time (see fig 53).<sup>338</sup> Gamble electrotyped all of them into matrices and began to sell the reproduced types. Williams praised Gamble's galvanic method as timesaving, cheap and efficient, but did not mention its much-criticised copyright infringement.<sup>339</sup>

In the Netherlands, the N. Tetterode foundry, in collaboration with Johann Hoffmann, professor of sinology at Leiden University, produced approximately 9000 matrices of Hong Kong types (around 5000 types were bought from Hong Kong, 4000 were made in Amsterdam) using the electroplating method. In addition to its long-time customer

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<sup>335</sup> Williams, "Movable Types for Printing Chinese", 30.

<sup>336</sup> Williams, "Movable Types for Printing Chinese", 30.

<sup>337</sup> Reed, *Gutenberg in Shanghai: Chinese Print Capitalism 1876-1937*, 45.

<sup>338</sup> Su, *Zhu Yi Dai Ke*, 387.

<sup>339</sup> Williams, "Movable Types for Printing Chinese", 30.

Brill, Tetterode sold at least one set of Chinese characters reproduced with these matrices to Vienna.<sup>340</sup>

In Japan, Motoki Shōzō (1824-1875), the Japanese letterpress pioneer, invited Gamble to Japan to teach electroplating techniques in 1869. The arrival of Gamble contributed to the dissemination of Songti characters (also known as Mingti in Hong Kong and Japan) in various sizes - including Hong Kong Type - in Japan (see fig 54).<sup>341</sup>

In Australia, Johnson Sun (1868–1925), a Hongkong-born leader of the Chinese community, purchased 4,000 Hong Kong Type from the Chinese Printing Company in 1896 to publish *The Chinese-Australian Herald* and to typeset *The Self Educator*, an English self-learning handbook. In 1896, *The Daily Telegraph* in Australia noticed this move and praised that this batch of Chinese movable types represented the most advanced technology at the time.<sup>342</sup>

The Hong Kong Type was designed by Dyer and then developed by Cole into two sets of large and small fonts of around 5,000 characters. Along with global trade and technological exchange (and plagiarism), Hong Kong Type disseminated worldwide and spawned new characters to enrich the font pool or inspired the creation of new fonts. A systematic analysis of the worldwide various derivative versions of Hong Kong Type has never been conducted, and perhaps we need one. A study of the genealogy of Hong Kong Type will not only help us to reconnect with the original use-value of Hong Kong characters but also help to establish a new understanding of Hong Kong Type - that is, the significant role they play as a medium for global intellectual and technological exchange amidst the evolving in Chinese fonts.

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<sup>340</sup> Lehner, *Der Druck chinesischer Zeichen in Europa*, 180-181.

<sup>341</sup> Peter Kornichi. *The book in Japan: a cultural history from the beginnings to the nineteenth century*, 165.

<sup>342</sup> Yung Sau-mui, *Between the Lines: The Legends of Hong Kong Printing*, 13.

### 3.4 Conclusion

This chapter attempts to construct a social network centred on Hong Kong characters - the Republic of Chinese Characters. In this network, I endeavour to follow the footsteps of the type designers, consultants, consumers and even plagiarists surrounding Hong Kong Type to understand how they were used and how Hong Kong Type was transformed in their hands. Among type designers, in particular, their almost disinterested sharing of knowledge is reminiscent of the Republic of Letters of the European Enlightenment.

This network was not confined to the nineteenth century and not only between people. Things could also act as participants in the network. The traditional Chinese calligraphic aesthetic and the sixteenth-century European missionary understanding of Chinese characters were reflected, to varying degrees, in the design of nineteenth-century Chinese lead typefaces. Furthermore, in the case of Chinese typeface typography, it is surprising to see that the traditional Chinese information order, the radicals plus strokes, was combined with the European information order represented by the alphabet and applied and disseminated with the circulation of Hong Kong Type in Europe and the United States.

Moreover, in the Republic of Characters, although the dominant type designers were European and American, we cannot ignore the contributions of non-Westerners. Among them were Chinese teachers of missionaries, Chinese engravers, and Bengali dyers and engravers. After the move of the Anglo-Chinese College to Hong Kong, besides the fact that for the first time, the Chinese could replace Western printers in charge of the casting of Chinese characters, Hong Kong Type reached an unprecedented level of inclusiveness in the marketplace. The Chinese later acquired the Anglo-Chinese College, and Hong Kong Type became a veritable Hong Konger's font.

## Chapter 4 Localism and cosmopolitanism: the rebirth of Hongkong Type

### 4.1 The rebirth of Hong Kong Type

When, in the the summer of 2018, when Ronald Steur was still struggling to track down Hong Kong Type, his emails to Yung Sau-mui, the Programme Director of the Hong Kong Open Printshop, inadvertently kicked off the rebirth of the legendary typeface. Steur sent Yung Sau-mui a black-white photograph that featured a delegation of Hongkong visiting the N. Tetterode type foundry and requested assistance from Yung to identify the type and the people in this picture. At that time Yung was preparing for an international conference “IMPACT 11 - International Multi-disciplinary Printmaking, Artists, Concepts and Techniques” dedicated to printmaking, and an exhibition “Between the Lines – The Legends of Hong Kong Printing” dedicated to Hong Kong’s local printing culture. Before seeing the type in situ, Yung had speculated that these movable types could be produced at the Anglo-Chinese College printing factory in Hong Kong. In 2019, after the matrices of the movable type were found in the depot of the Volkenkunde Museum, the Hong Kong Open Printshop immediately decided to collaborate with the Foundation Type Foundry Westzaan on a project to recast the Hong Kong Type. In December of the same year, they gained the support of the Volkenkunde Museum to use the matrices for recasting (fig 55).<sup>343</sup>

In 2020, the project of recasting Hong Kong Type was able to commence in the Foundation Type Foundry Westzaan. However, the recasting process was beset with difficulties. Firstly, the most suitable kind of casting machine used by Tetterode to cast Chinese type is no longer available in the Netherlands. Although the casting machine owned by Foundation Type Foundry Westzaan could be operational, it required a certain amount of technical modification. Fortunately, Steur and his

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<sup>343</sup> Information is based on the interview to Yung; also Yuan yuanlong and He Guichan, “重铸失落传奇 – 千里寻【香港字】 *Chongzhu Shiluo Chuanqi – Qianli Xun [Hong kong Zi]* ‘Recasting the Lost Legend - Travelling Thousands of Miles to Search Hong Kong Type’”, *Mingpao Weekly*, 18 January, 2021, <https://www.mpweekly.com/culture/香港字-鑄字-活字印刷-169188>. Accessed 25 January 2021.

colleagues managed to overcome the technical difficulties with their ingenuity (fig 56 and 57). Secondly, the outbreak of the Covid Pandemic posed another challenge for the recasting. Yet with the persistence of the casting team to tackle all difficulties, the first set of 73 “Hong Kong Type” was successfully completed in July 2020 and sent back to Hong Kong for featuring the exhibition “Between the lines” at Hong Kong Heritage Museum (fig 58, 59, 60, 61 and 62).

Among the pictures taken in the exhibition, I noticed that the English-Chinese Dictionary (fig 63), written by a German missionary Wilhelm Lobscheid, was opened to the page bearing the words *Free* and *Freedom*, with sample words and sentences such as: 自主之人 “Free persons”, 治己之城”Free city,” 任意讲之权 “Freedom of Speech”, 为城之赤子”Freedom of the city”. Yung said: “Hong Kong Type served as a medium, which allowed missionaries to introduce Western ideas such as liberty and democracy with the nineteenth century China.”<sup>344</sup> It is worth noting that Yung's assertion of "freedom as a Western idea brought by missionaries" is questionable and could be criticised by the Beijing-based central government as "colonialist nostalgia". However, in the current political environment of Hong Kong, the gradual tightening of freedom of expression does contrast relatively markedly with the period of British rule. Therefore, our interpretation of the dictionary as an exhibit and Yung's related statement should consider the specificity of the 'decolonisation' discourse on the topic of Hong Kong.



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<sup>344</sup> From the interview to Yung on 9 August 2021.

[REDACTED]

[REDACTED]

But a rapid change in the political environment - On 1 July 2020, the Chinese People's Congress passed the Hong Kong National Security Law [REDACTED] [REDACTED] have necessitated adjustments to the exhibition programme. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

"No one, including the headmaster and graduates of the Anglo-Chinese College, knows that this place produced an important typeface," Yung said.<sup>348</sup> Her great enthusiasm for Hong Kong lettering is undoubtedly motivated by a desire to preserve the city's cultural heritage. This enthusiasm can be seen as a microcosm of the cultural heritage preservation boom in Hong Kong in recent years.

In 2003, Hong Kong witnessed the first significant protest since returning the city's sovereignty from Britain to China in 1997. Half a million people poured into the streets to express their discontent with the then Chief Executive of Hong Kong, Tung Chee-Hwa, who proposed Article 23 of the Basic Law, which was widely seen as a means of curtailing civil liberties in the name of punishing subversion, treason and secession. What was remarkable about this event was not only its scale, but the fact

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<sup>345</sup> From an unstructured online interview to Willemijn van Noord on 11<sup>th</sup> June 2021.

<sup>346</sup> Through an unstructured interview to See Why Ng in August 2021.

<sup>347</sup> James Pomfret and Sara Cheng, "Hong Kong man jailed for nine years in first national security case", *Reuters*, 31 July, 2021, <https://www.reuters.com/world/china/hong-kong-man-sentenced-9-years-prison-first-national-security-case-2021-07-30/>. Accessed 15 August 2021.

<sup>348</sup> Nico Liu, "【文化故事】漂洋過海「香港字」：尋找 19 世紀中葉最美的中文活字," accessed 15 July 2021, <https://www.orangenews.hk/artanddesign/144395/> 【文化故事】漂洋過海「香港字」：尋找 19 世紀中葉最美的中文活字.jhtml.

that it was formed by "self-mobilisation": the citizens themselves constituted the most important mobilisers. Through participating in this event, the people of Hong Kong saw their collective identity - as social stakeholders who care about their city and saw their capabilities.<sup>349</sup>

If the rallies of 2003 inspired the citizens of Hong Kong to become political subjects in defence of civil liberties, the series of struggles between 2004 and 2010 to protect cultural heritage and oppose urban developmentalism contributed to the formation of a new political ideology: localism. During the campaigns –opposing the demolition of the Star Ferry and Queen’s Pier from 2004 to 2007 and the anti-express-rail campaign from 2009 to 2010, through various social activities, such as public debates, public space occupation and even hunger strikes, public interest in cultural heritage were stimulated, and the concept of collective memory was popularised. Activities concerning heritage, space and memory were thus linked to the idea of fighting for community autonomy and democracy.<sup>350</sup>

In this exhibition of Hong Kong Type, we see a mixture of local sentiment and cosmopolitanism. Samuel Scheffler, Professor of Philosophy and Law at New York University, argues that cosmopolitans believe that culture is constantly fluid, ever-changing, frequently modified, renewed, supplemented, recast and reconstructed. Populations of cosmopolitan character will always contact other populations and their ideas, languages, artefacts and practices. In addition, cosmopolitanism emphasises the fluidity of individual identities and the extraordinary ability of people to shape new identities using materials from other cultural sources. In addition, cosmopolitans emphasise the fluidity of cultural identity. One's sense of self is not acquired by immersing oneself in a single culture, but by using materials and information from

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<sup>349</sup> Lee and Sing, ed. *Take Back Our Future: An Eventful Sociology of the Hong Kong Umbrella Movement*, 13.

<sup>350</sup> Lee and Sing, ed. *Take Back Our Future: An Eventful Sociology of the Hong Kong Umbrella Movement*, 14-15.

different cultures to construct new ways of living through the exercise of one's own creativity, thus flourishing oneself and at the same time increasing the stock of cultural resources for humanity as a whole so that others can benefit. Because cosmopolitanism aligns itself with broad liberalism, it also creates a confrontation with nationalism.<sup>351</sup>

It can be argued that the local sentiments of Hong Kong people form a hybrid with the spirit of cosmopolitanism. Firstly, Hong Kong people have embraced the spirit of freedom advocated by cosmopolitanism. Studies show that since the last few decades of British rule, the opposition to colonial suppression has been persistent. After the Tiananmen Protest in 1989, Hong Kong people increasingly came to support the idea of freedom and democracy, and frequently placed it at the center of political debates.<sup>352</sup> Secondly, with more than 100 years of British rule, many among the Hong Kong people have gradually accepted the English language, lifestyle and consumption patterns and, through this mixture of elements, have developed local characteristics.<sup>353</sup> For example, the mixture of Chinese and English has been integrated into the language habits of many Hong Kongers.<sup>354</sup> The gradual popularisation of the Chinese Mandarin language and the weakening of English language teaching following the transfer of sovereignty in Hong Kong has also raised objections, which might demonstrate that many Hongkongers consider English as an important cultural capital and the lowering of English language proficiency would render the identity of Hong Kong people as citizens of a cosmopolitan city less convincing.<sup>355</sup>

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<sup>351</sup> Scheffler, "Conception of Cosmopolitanism," 112-113.

<sup>352</sup> Wai-Man Lam and Kai Chi-Yan Lam, "Civil Society and Cosmopolitanism: Identity Politics in Hong Kong," in Roger Coate and Markus Thiel, ed. *Identity Politics in the Age of Globalization* (Boulder, Colo: Lynne Rienner Publishers, 2010), 61-62.

<sup>353</sup> Lam and Lam, "Civil Society and Cosmopolitanism: Identity Politics in Hong Kong," 63.

<sup>354</sup> Simon Shen. "【沈旭晖专栏】中英夹杂，才是真香港文化" accessed 31 July, 2021, <https://www.esquirehk.com/mens-talk/simon-shen-hong-kong-english-chinese>

<sup>355</sup> Lam and Lam, "Civil Society and Cosmopolitanism: Identity Politics in Hong Kong," 64.

In a word, the Hong Kong identity is characterized by its embedded awareness of the city's association with the world. A survey conducted among secondary school teachers and principals in 2006 can demonstrate Hongkonger's awareness of international identity: almost 93% of respondents strongly agreed or agreed that education for global citizenship needed to be strengthened.<sup>356</sup> There is no denying that Hong Kong people's desire to connect with the world has sometimes led to misguided assumptions, such as Yung's conviction that only Westerners are able to bring democracy and freedom. However, we need to understand that behind this nostalgia is often a degree of distrust of the communist regime and anxiety about the uncertainty of the future.

#### **4.2 Conclusion**

Taking the rebirth of Hong Kong Type and its return to Hong Kong as an entry point, this chapter extends the social network of Hong Kong Type in the temporal dimension into the 21st century. The interaction between new actors in the network has revived the use of Hong Kong characters as printed typefaces and has also granted the types a significant symbolic meaning. The source of these values is inextricably tied to the changes that have taken place in the city of Hong Kong itself.

According to Professor Ching Kwan Lee, to understand Hong Kong, one should start from three dimensions, China, Hong Kong as a global city and Hong Kong as a local society.<sup>357</sup> It can be argued that the ebb and flow of forces between the three dimensions determines the changes in Hong Kong's identity. When the Hong Kong Type was used as a Chinese font, it embodied a distinctly stronger Chinese identity than its two other identities. When it reappears as a Hong Kong typeface, its local Hong Kong identity outweighs the other two. When we look back at the birth and spread of the Hong Kong Type, its global identity is accentuated. The Hong Kong

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<sup>356</sup> Lam and Lam, "Civil Society and Cosmopolitanism: Identity Politics in Hong Kong," 63-64.

<sup>357</sup> "什麼人訪問什麼人：香港研究 不止研究香港 -- 6 Jan 2019."

Type thus assumes an intriguing role in describing the relationship between China and Hong Kong and the cultural exchange between China and the West.

## Conclusion

In the Introduction, I argued that the virtually unknown Hong Kong Type in Dutch collections deserves to be studied in terms of how it has been conceived and evaluated in the past and present. To support this argument, in this present thesis, I have attempted to uncover the provenance of these Hong Kong types, the reasons for their arrival in the Netherlands, how they were used and transformed in the Netherlands, and the connection between Hong Kong Type, the understanding of Chinese script by early European sinologists, and the significance of the rebirth of Hong Kong Type in the 21st century. I have argued that the many participants' contributions have driven the above process. To uncover the value of Hong Kong Type in the past and the present, I attempted to trace the social interactions around Hong Kong typefaces and thus construct a social network centred on them. Therefore, my main task in this thesis has been to gain insight into the co-construction role of actors such as sinologists, type designers and missionaries, supported by the labor of local assistants who often remained unnamed, in a social network that spans spatial and temporal dimensions centred on Hong Kong typefaces.

The theoretical framework employed in this paper is Actor-Network-Theory (or ANT for short), which studies how objects function as a critical medium for creating and maintaining social connections, thus enabling us to reconstruct the dynamics of interaction between human and non-human participants. This approach is valuable in capturing the co-constructive role of social networks surrounding the Hong Kong Type. Based on the theoretical framework of ANT, I have drawn on the concepts of cosmopolitanism, decolonisation and technolinguistics to focus on how the Hong Kong Type exercises its function as a mediator to demonstrate the various interactions in a changing human society. To answer these questions, I have employed archival research as main methods, supplemented by interviews, objects examination and digital mapping tools, to reconstruct the history of the Dutch purchase of Hong Kong

Type and the international network of Chinese type production in the nineteenth century - which I call the "Republic of Characters".

The Hong Kong typefaces preserved in the Netherlands can be studied as a microcosm of nineteenth-century globalisation. In response to the Dutch East Indian colonial government's shortage of Chinese interpreters, the Dutch government, at the initiative of Johann Hoffmann, Professor of Sinology at Leiden University, purchased from Hong Kong the Hong Kong typefaces designed by the British missionary Samuel Dyer, improved by the American printer Richard Cole, and finally cast by the Chinese printer Wong Shing. The significance of the Hong Kong Type varied for the different participants in the social networks that surround it. For the East India colonial government, the Hong Kong types were meant to be a political tool to assist colonial rule; for the sinologists at Leiden University, the Hong Kong type served as a printing tool to help them achieve their goal of spreading knowledge; for the Anglo-Chinese College in Hong Kong, the Hong Kong Type was a commodity. As can be seen, the Hong Kong types have been attributed various values through their dissemination in the hands of different participants. In the process, participants who were thought unrelated were brought together, and thus new social bonds were established.

Among these social relations, which have not been noticed before, is an extremely interesting and specific social network, the Republic of Characters. European missionaries began to develop the technique of the Chinese lead movable type in the nineteenth century. The missionaries abandoned traditional Chinese woodcut printing, an established and popular technique, mainly because they could not have a safe and stable printing environment and lacked the necessary engravers in the Qing Empire, where missionary work was forbidden. Only their familiar lead technique was the most suitable option. However, Western lead technology based on the Latin alphabet encountered difficulties in developing Chinese lead types: the sheer number of

characters and the calligraphic aesthetics of Chinese script. To overcome these difficulties, Chinese type designers around the world carried on the cosmopolitan spirit of the Republic of Letters, a spirit of intellectual insistence on sharing knowledge equally, handed down from the 16th century. They exchanged their views on other people's typeface work through correspondence, writing articles and visiting. These opinions have significantly influenced, directly or indirectly, the design, application and dissemination of Hong Kong Type. In this 'Republic of Characters', people who had never been part of the same circle before were connected through a common interest in typefaces. Over time, the involvement of non-European participants, including printers and buyers, made this social network increasingly diverse.

Concerning the use of Hong Kong typefaces in the Netherlands, I have adopted a technolinguistic approach. The significant number of Chinese typefaces required a suitable lexicographic method that enabled non-Chinese speaking typographers to operate them. In the then European and American printing industries at the time, the dominant information order was based on the Latin alphabet and numerals. Hoffmann introduced the traditional Chinese information order - radicals plus strokes - and encoded it with numerals, thus creating a hybrid information order. This hybrid information order, which broke the dominance of the European and American information orders based on the alphabet in the nineteenth-century media industry, deserves recognition and revisit.

With the development of technology and changes in the political environment, the actors in the social network around Hong Kong Type have either disappeared or transformed, and the interaction between them has changed. The retreat of the Hong Kong typefaces from its usage context and its placement in museum storage for 40 years has caused a dramatic change in the social network environment around it. The old participants are gone, and the new ones have yet to take their place. The historical

significance of Hong Kong characters has not yet been fully recognised due to the prolonged absence of new actors such as museums, curators, and the government's cultural heritage conservation department. The alienation of Hong Kong typefaces from the circulation has resulted in their use, political significance and commodity value being put on ice in museum warehouses. For forty years no one but the storekeeper had given them a second glance.

The rediscovery of Hong Kong characters in 2019 brought new actors to the social network surrounding Hong Kong Type. The participation of curators from Hong Kong led to the rebirth of the old-fashioned Hong Kong typefaces. Although the use-value of lead characters is far less critical than in the past due to the widespread computer printing technology, the symbolic significance projected on the Hong Kong font, to a certain extent, becomes the primary motivation for preserving this cultural heritage in the present.

The nineteenth-century typeface has evidently acquired new meaning in the twenty-first century. However, the exhibition “Between the lines” in Hong Kong in 2021, featuring Hong Kong typefaces, has apparently undergone self-censorship. Only a spread-out nineteenth-century English-Chinese dictionary printed with Hong Kong font silently yells the voice of contemporary Hong Kong people: freedom. "Moveable type" in Chinese literally means 活字 Huozi "living Chinese character". It is worth noting that the Chinese characters in Hong Kong Type are traditional Chinese, an ancient but still used script in Hong Kong and Taiwan, while mainland China uses simplified Chinese. The increasing use of Simplified Chinese in Hong Kong in recent years has raised concerns in Hong Kong about the growing influence of the Beijing regime in Hong Kong.<sup>358</sup> The Chinese Ministry of Education has also issued

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<sup>358</sup> Li Hanwen, “中国和香港的繁简矛盾. Zhongguo he Hong Kong de Fanjian Maodun ‘Conflict between China and Hong Kong over traditional and simplified Chinese scripts’ ”, *BBC*, 24 February, 2016, [https://www.bbc.com/zhongwen/simp/hong\\_kong\\_review/2016/02/160224\\_monitoring\\_simp\\_trad](https://www.bbc.com/zhongwen/simp/hong_kong_review/2016/02/160224_monitoring_simp_trad). Accessed 21 August 2021.

proposals to establish the official status of simplified Chinese characters in Hong Kong as Beijing's political control over the territory tightens after the 2019 anti-extradition campaign.<sup>359</sup>

As a cultural heritage, the reborn Hong Kong characters are of great significance to Hong Kong at a time of political repression. Brian Graham points out: “heritage does not engage directly with the study of the past. Instead, it is concerned with the ways in which very selective material artefacts, mythologies, memories and traditions become resources for the present.”<sup>360</sup> One hundred fifty years ago, Hong Kong characters helped spread Chinese script and culture worldwide. Just like the exhibition “Between the lines” curator Yung said: “This heritage is not only for the Netherlands and Hong Kong, but for the whole world.”<sup>361</sup> However, today, Hong Kong people can no longer express themselves freely with their own characters.

As this thesis is being written, the history of Hong Kong is being systematically rewritten, erased, and fabricated with the name of decolonization. Today, curators are no longer able to give new symbolic meanings to Hong Kong Type as they wish, and the space for free discussion of their significances is increasingly narrowed. The current experience of the Hong Kong Type in Hong Kong should be a wake-up call for museums in the Netherlands, where a campaign on the theme of decolonisation is in full swing in the museum world. The *Washington Post* defines the current decolonization campaign in European, American and Australian museums as “a process that institutions undergo to expand the perspectives they portray beyond those of the dominant cultural group, particularly white colonizers.”<sup>362</sup> However, the

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<sup>359</sup> Deng, Yinglin, “內地倡香港確立普通話簡體字法定地位 楊潤雄：學繁體字後再簡體,” accessed on 22 August 2021, <https://www.hk01.com/社會新聞/636586/內地倡香港確立普通話簡體字法定地位-楊潤雄-學繁體字後再簡體>

<sup>360</sup> Brian Graham, *Heritage as Knowledge: Capital or Culture?* in *Urban Studies*, vol 39 (2012), 1006.

<sup>361</sup> Yuan yuanlong and He Guichan, “*Chongzhu Shiluo Chuanqi – Qianli Xun [Hong kong Zi]*”.

<sup>362</sup> Rachel Hatzipanagos, “The Decolonization of the American Museum,” *Washington Post*, Section: /national/post-nation, October 12, 2018.

example of Hong Kong reminds us to re-examine the research approach of decolonisation: how decolonial discourses can be self-consistent when the coloniser is not 'white'? How can diverse voices - such as those of Hong Kong people - be effectively articulated when the power to interpret decolonial discourse is held only by countries such as Europe and the United States? For example, in the case of Hong Kong Type, can Museum Volkenkunde, another owner of this dual Hong Kong-Dutch cultural heritage, convey message that cannot be expressed in Hong Kong? These reflections lead to the conclusion that the discourse of decolonisation, perhaps itself, needs to be decolonised.

### **Opportunities for future research**

During the Covid-19 epidemic, my research into the Tetterode Archives held by the Allard Pierson Museum could not be carried out in-depth as I planned due to restricted access to the archives. This archive contains a great amount of correspondence between Johann Hoffmann and Tetterode's type designers concerning Chinese typefaces. It is perhaps the world's only surviving first-hand account of European and American design of Chinese typefaces. After Covid, the next step in my research will be to focus on this archive. I look forward to learning more from it about European understanding of Chinese characters and the Chinese information order.

Besides, the recasting of Hong Kong characters is ongoing. In the past two years, less than one-tenth of the total number of 5,000 Hong Kong movable characters have been recast. Poor tools, lack of staffing and regular shortages of funds have all resulted in slow progress. As a Hong Kong-based cultural institution, inevitably, part of the funding for the Hong Kong Open Printshop's Hong Kong Type Rebirth project comes from the Hong Kong government. How will sponsorship from the government affect the narrative of Hong Kong characters in the future? It is still unknown. Suffice it to say that the Hong Kong Type is still in constant motion. I will continue to keep an eye on it.

There is another ambitious direction of research that I hope future researchers will put into practice. That is, to trace the genealogy of Hong Kong Type around the world. We already know that there are derived versions of Hong Kong Type in Shanghai and the Netherlands, and there are some paralogues in Japan and Australia. However, there are many more tributaries to be discovered. For example, did the Russians put the matrix of Hong Kong characters into use after they purchased it from the Anglo-Chinese School 150 years ago? How many customers outside Hong Kong bought the typefaces and matrices from Wang Tao's Chinese Printing Company, and did any Chinese publications survive in Vienna after Tetterode's typefaces were sold there? Such a study's significance is to break down further the definition of 'hybrid' in cross-cultural studies. In our previous studies of cross-cultural exchanges, we have often considered export artworks to be the product of hybridity.<sup>363</sup> When these works of art were exchanged as commodities, they were alienated from circulation by paying a purchase price, thus bringing the communication between the two parties to a close. However, the exceptional reproducibility of the typeface incorporates the buyer's understanding of Chinese characters into the design of the typeface, thus extending the extending the dissemination cycle of Hong Kong Type, creating a hybrid product in the physical sense and dissolving the boundaries between the dichotomy of culture between Hong Kong and the world.

Last but not least, it is an acknowledged fact that a large number of museum collections have not had the opportunity to be exhibited. The Hong Kong types, however, deserve special attention as a unique Hong Kong-Dutch double cultural heritage. In Germany, the *Typographia Sinica* by Andreas Müller, which is held in the German National Library as a top item in the collection, was loaned to the Humboldt Forum for display for five years. During the preparations for the exhibition at the Humboldt Forum, the *Typographia Sinica* was 3D digitised in its entirety using multi-

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<sup>363</sup> Emile de Bruijn, "The sale and distribution of Chinese wallpapers in Britain and Ireland between the eighteenth century and the present," *History of Retailing and Consumption* Vol 4, No. 3 (2018): 255-277.

camera photogrammetry. The process was presented at the 26th Electronic Media and Visual Arts (EVA) in Berlin in November 2019.<sup>364</sup> In contrast, museums in the Netherlands have paid insufficient attention to their Chinese typeface collection. To create a cultural and educational atmosphere that cares about culture and appreciates 'museum-learning',<sup>365</sup> the significance of the Hong Kong Type should be experienced in a cutting-edge exhibition alongside nineteenth-century printing demonstration. Furthermore, their narrative should be carefully established by a responsible curatorial team. Amid the 'museum decolonisation' boom, the Hong Kong Type in Dutch collection with its unique context and cultural significances deserves a stage to tell its own story.

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<sup>364</sup> Cordula Gumbrecht, "Unser Beitrag im Humboldt Forum: Die Typographia Sinica", *Staatsbibliothek zu Berlin*, 21 September 2021, <https://blog.sbb.berlin/unsere-beitrag-im-humboldt-forum-die-typographia-sinica/>. Accessed 25 September 2021.

<sup>365</sup> Alex, Elwick. Non-formal learning in museums and galleries (dissertation). Newcastle: Newcastle University, 2013. Erll, Astrid, 'Circulating art and material culture. A model of transcultural mediation'. Kaufmann, Thomas DaCosta & Michael North (eds.), *Mediating Netherlandish art and material culture in Asia*. Amsterdam: Amsterdam University Press, 2014, 321-328.

## List of illustration

Photos without attributions have been taken by me.

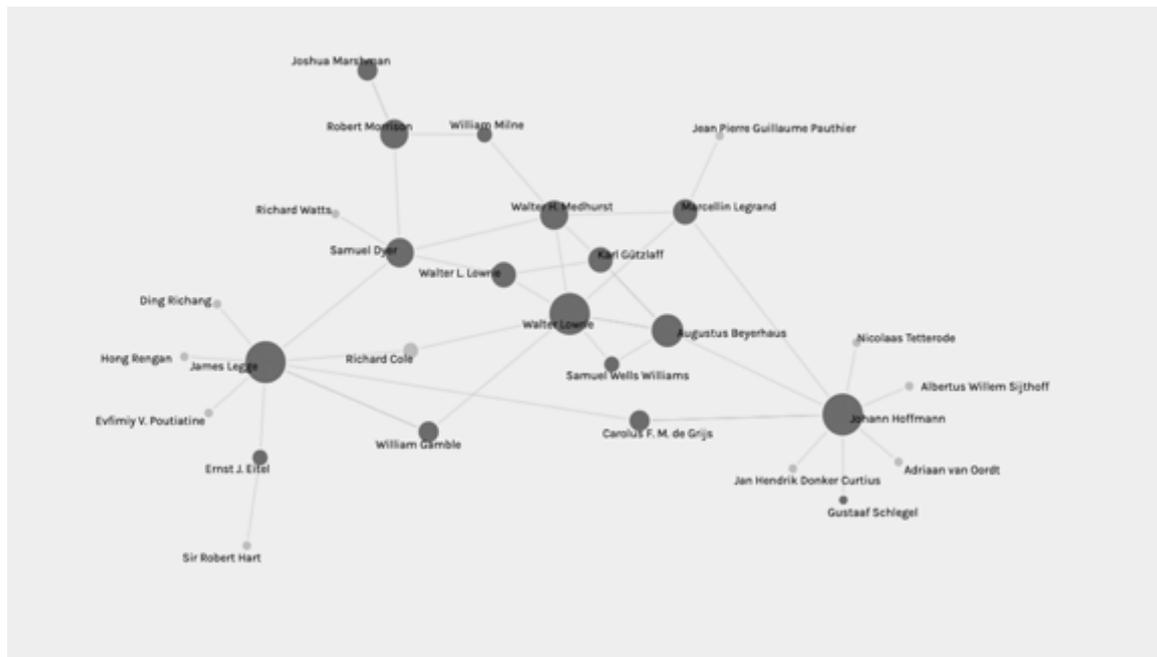
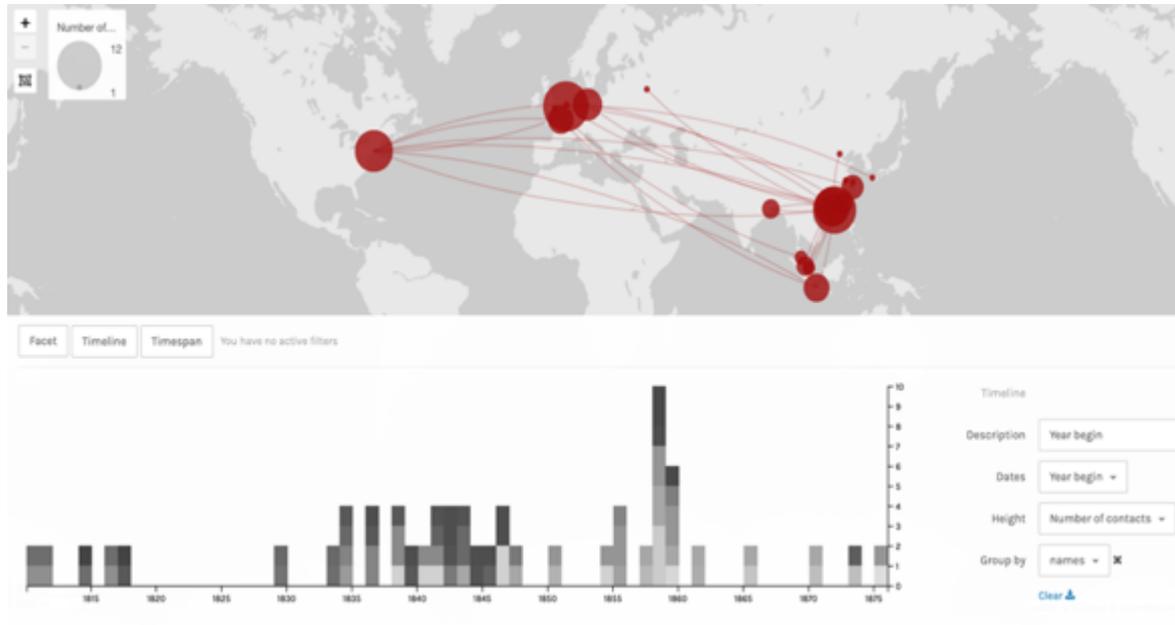




Figure 3: Metal chest containing drawers. Material: Zinc and lead. Ca. 1970. Inventory nr: RV-5123-1, Volkenkunde Museum, Leiden. Photo: Willemijn van Noord



Figure 4: One of the drawers containing matrices lead, backside of the matrices. Ca. 1860-1870. Inventory nr: RV-5123-1, Volkenkunde Museum, Leiden. Photo: Willemijn van Noord.



Figure 5: matrices of different sides. Copper layer on the body made with lead. Ca. 1850s. Inventory nr: RV-5123-1, Volkenkunde Museum, Leiden.



Figure 6 Chinese types used by Brill. Private collection of Ronald Steur.



Figure 7 Two identical typefaces with different orientation of the numerals. Private collection of Ronald Steur.

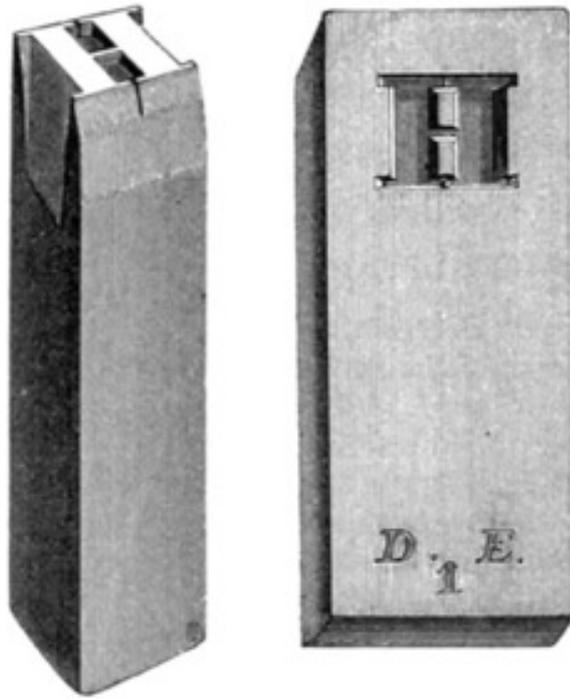


Figure 8. Illustration of a punch (left) and a matrix (right). The small letters at the base of the matrix are the founder mark. From Theodore Low De Vinne's *The Invention of Printing* (New York: F. Hart & Co., 1876), 55.

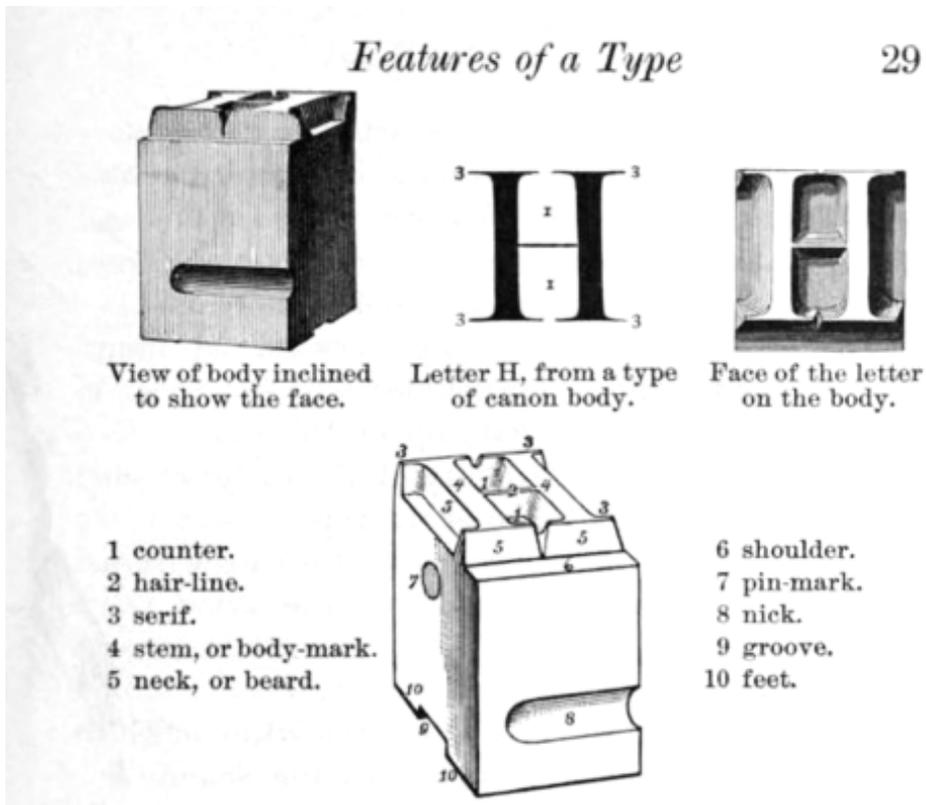


Figure.9 Illustration of feature of a type. From Theodore Low De Vinne's *The Practice of Typography: A Treatise on the Processes of Type-making, the Point System, the Names, Sizes, Styles and Prices of Plain Printing Types* (New York: Century Co., 1900), 29.

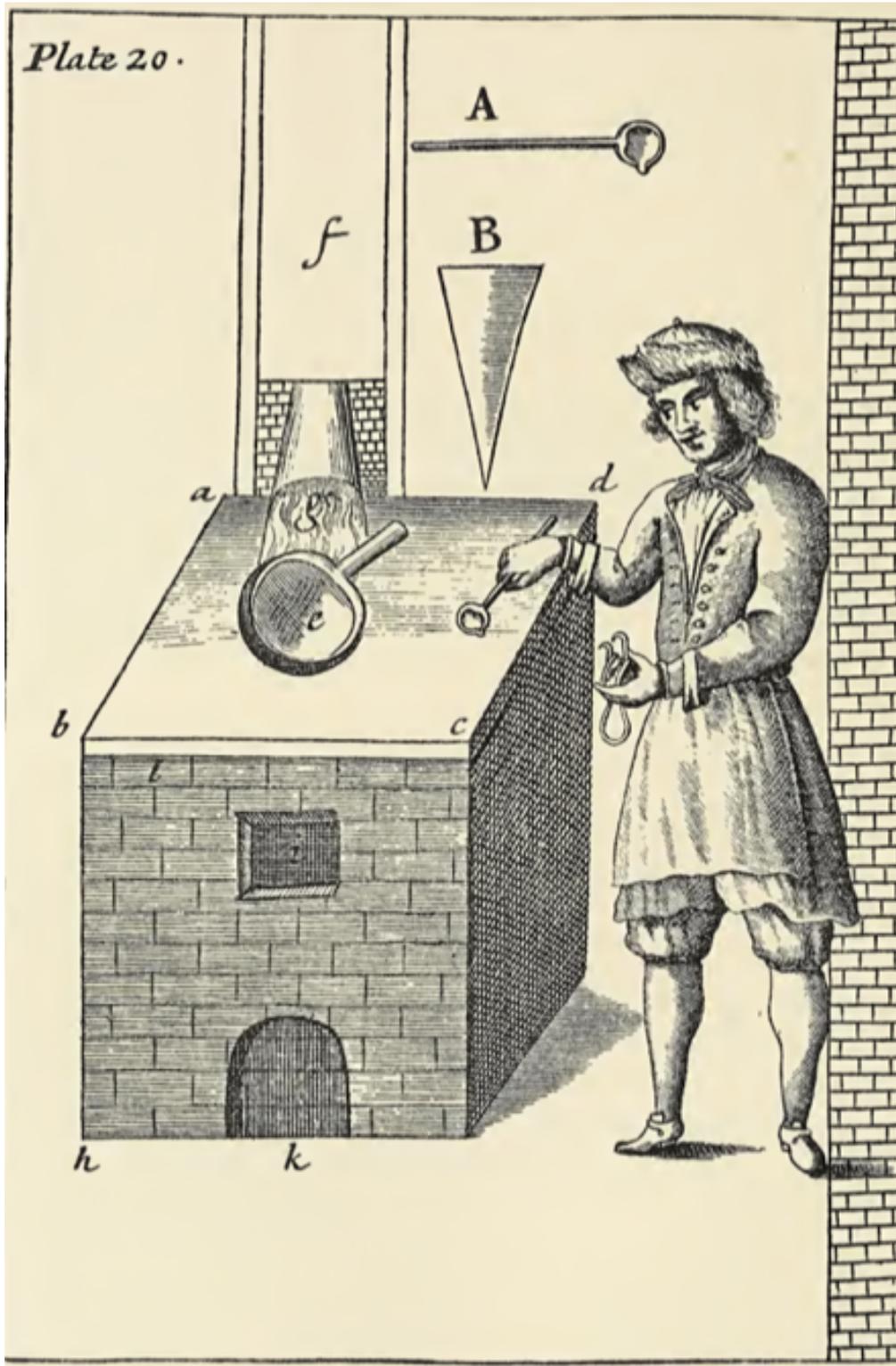


Figure.10 The type caster took the molten lead from a furnace and poured it into a mould which fastened a matrix. The matrix contained the shape of an individual letter which had been punched with a carefully crafted steel punch.

Illustration of typesetting practice. *Mechanick exercises*. Plate 20. Joseph Moxon. 1683. Also cited in Theodore Low De Vinne's *The Practice of Typography: A Treatise on the Processes of Type-making, the Point System, the Names, Sizes, Styles and Prices of Plain Printing Types* (New York: Century Co., 1900), pp.59.



Figure 11 Copper layer on electrotyped matrix. These electrotyped copper matrix-eyes came loose from their “bodies”, presumably a zinc alloy. Copper does not bind well with zinc and has to be tinned at the backside. Object: matrices from Gerstenberg type foundry in Germany. Photo: Indra Kupferschmid, 2015. Source: <https://www.alphabetes.org/making-matrices/> (accessed on 1 May 2021)



Figure 12 Chinese coolies at Borneo (modern-day Kalimantan). Courtesy of KITLV/Royal Netherlands Institute of Southeast Asian and Caribbean Studies. (Image code 6549, original size: 10×15cm, date 1890). Blussé, “Of Hewers of Wood and Drawers of Water”, in: *Chinese Studies in the Netherlands*. 35-35.



Figure.13 Portrait of Johann. Joseph. Hoffmann. Eva de Visser, Oil on Canvas. 2017. Senaatskamer at Leiden University.

B. Chinesche getallen, *kazoezi* of getal-merken genoemd.

	Getal merken.	Uitspraak.		Japansche uitspraak.		Schrijfwijze van het Nagasakische handschrift.
		volgens de Chinesche ambts-taal.	volgens het Canton-dialect.			
1, een,	一	<i>yi</i>	<i>yat</i>		<i>itsi</i> <i>itsoe (its')</i>	<i>itsji.</i>
2, twee,	二	<i>ni,rl</i>	<i>í</i>		<i>ni</i>	<i>ni.</i>
3, drie,	三	<i>sán</i>	<i>sam</i>		<i>san</i>	<i>sang.</i>
4, vier,	四	<i>ssi</i>	<i>sz</i>		<i>si</i>	<i>si.</i>
5, vijf,	五	<i>n'g,oe</i>	<i>'ng</i>		<i>go</i>	<i>go.</i>
6, zes,	六	<i>luk</i>	<i>luk</i>		<i>lok', rok'</i> <i>lik', rik'</i>	<i>rok'f.</i>
7, zeven,	七	<i>ts'i'</i>	<i>ts'at</i>		<i>sitsi, sits'</i>	<i>hitsji (sicl).</i>
8, acht,	八	<i>pa'</i>	<i>pat</i>		<i>fatsi, fals'</i> <i>hatsi, hats'</i>	<i>hatsj'.</i>
9, negen,	九	<i>kioe</i>	<i>kaoe</i>		<i>kioe, koe</i>	<i>koe.</i>
10, tien,	十	<i>sch'p</i>	<i>sch'ap</i>		<i>zijoe</i> <i>zie'</i>	<i>dsj'juw.</i>
100, honderd,	百	<i>p'ek</i>	<i>pak</i>		<i>fjak, hijak</i> <i>fak, hak</i>	<i>hijak'f.</i>
1000, duizend,	千	<i>ts'ien</i>	<i>ts'ien</i>		<i>sen</i>	<i>sing.</i>
10.000, tien-duizend,	萬	<i>wán</i>	<i>wan</i>		<i>man</i> <i>ban</i>	<i>mang.</i>
10.000.000?	億	<i>yí</i>	<i>yik</i>		<i>ok'</i>	<i>ok'f.</i>
100.000.000'?			<i>wik</i>			

Het getal van de tienheden, honderden, duizenden, tien-

Figure.14 Hoffmann's hand-caved Chinese and Japanese fonts in *Proeve eener Japansche spraakkunst* by J.H. Donker Curtius, 1857. Pp.64.

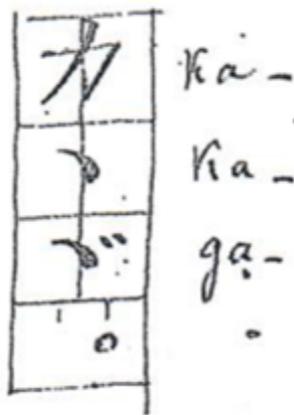


Figure 15: Illustration in the letter from Hoffmann to Tetterode on 5 March 1855. The Tetterode collection in the UvA special collection.

BRIEF VAN DEN NEDERLANDSCHEN COMMISSARIS  
IN JAPAN WEGENS DE CHINESCHE TYPEN.

(Zie bladz. 89.)

AFSCHRIJF

N<sup>o</sup>. 68.

Desima, 17 November 1857.

BIJLAGEN:

15 Chin. Drukletters.

In voldoening aan den last, mij gegeven bij missive van den Eersten Gouvernements-Secretaris, dd. 1 Mei 1857, N<sup>o</sup>. 1140, heb ik de eer Uwe Excellentie te berigten, dat ik met veel moeite een persoon gevonden heb, die de door Professor HOFFMAN opgegevene Chinesche karakters aannam te graveren. Vijftien stuks daarvan worden hierbij aangeboden \*).

Daarvoor is betaald  $\text{ƒ } 8,3$  of  $\text{ƒ } 13, \frac{72}{100}$ .

\*) Zie hier den afdruk dezer prooffletters. Eenige daarvan zijn in twee bestanddeelen gesplitst, geschikt om tot zamenvoeging met andere bestanddeelen te worden gebezigd.

弗力謹刊竹禾寺中帛女載上頁

Figure 16 Letter from the Dutch Commissioner in Japan regarding the Chinese types (Brief van den Nederlandschen Commissaris in Japan wegens de Chinesche Typen). In: Verslagen en Mededeelingen der Koninglijke Academie van Wetenschappen, Afdeling Letterkunde, Eerste Reeks, Vol 4 (1859), pp.92.

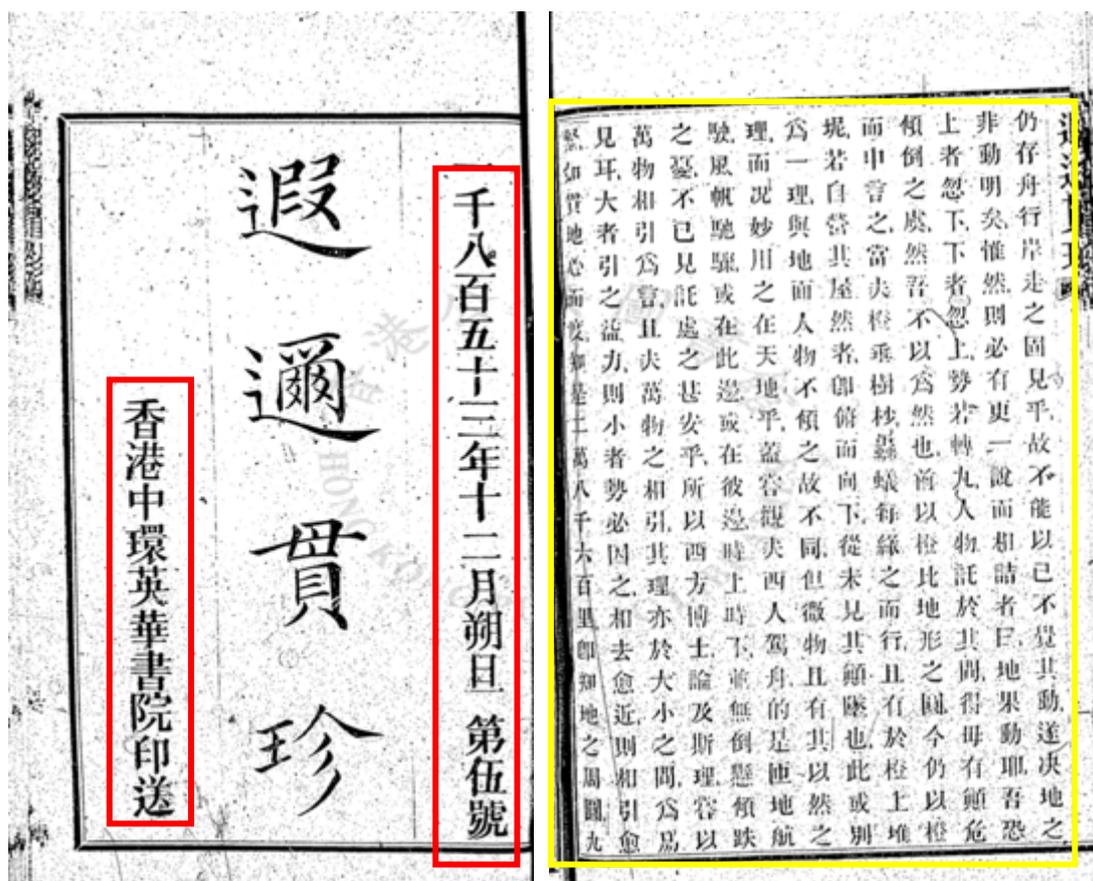


Figure 17 遐邇貫珍 Hsia Erh Kuan Chen "Chinese Serial". Nr.5,1 December 1853. Printed by Anglo-Chinese College in Hong Kong Central District. Left: the cover. Right: an inside page. Hong Kong Public Libraries, Bib ID: HEKC185312. The font of texts in red frame is Hong Kong type size one, the font in yellow frame is size two.

認  
 心  
 149/1120  
 polis. 15  
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 每  
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 no 3

Kolon by rwaaly.

I 鱒 鱒 鱒 鱒 馱 鴿 鳴 鴿 鴿 鴿

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III 鴿 鴿 鴿 鴿 鴿 鴿 鴿 鴿 鴿 鴿

IV 電 𪗇 𪗇 𪗇 𪗇

13 Jan. '71  
 goed. 84

IV no 2 𪗇. Verander 𪗇 tot 𪗇  
 om 𪗇 te verdragen.

Fig 18: Notes written by Hoffmann, in Tetterode Archives in UvA Special Collection, with a date of 13 January 1871.

Kl. 9. 人 亻 什 仁 仄 仆 仇 今 介 仍 从 行 3 仔 仕 他  
 仗 付 仙 全 仞 仞 代 令 以 令 4 份 仲 企 件 伍 伙 休 伏  
 伶 伉 任 伎 伎 此 仲 伐 伊 饭 仿 价 5 伴 佃 何 伴 伶 余  
 余 余 估 估 伶 伎 伎 伽 位 住 伯 伺 仲 但 佐 作 似 佑 佛 低  
 你 做 佈 佢 佢 俞 6 伴 佻 侑 份 佬 供 侏 侄 侗 併 使 侍  
 佛 郇 侑 侃 佶 佩 依 侈 例 佳 來 7 侮 俘 俟 信 俟 侶 俑  
 便 俚 促 係 保 俗 俠 俊 伎 倦 俎 侑 例 俄 8 俳 倡 倫 做  
 俸 倘 倍 倭 倒 倅 個 俺 倪 借 值 俠 倩 俱 倉 俯 倦 修 脩 俾  
 倏 倆 們 倨 倚 候 働 倥 倫 9 替 偏 偏 假 偶 健 倫 偵 側  
 偃 偉 做 停 做 傷 偵 側 10 傅 傀 傑 僕 備 傍 做 傘 債

Figure 19: Catalogues of Chinese types published in 1864. The characters in rode box were made by Louis Carkerine in Amsterdam, other types are original Hong Kong types. "Klass 9" in *Catalogues van Chinese Matrijzen en Drukletters, Krachtens Magtiging van Z.M.den Koning en op last van Z.E.Den Minister van Staat, Minister van Koloniën J.J. Rochussen vervaardigd onder Toezigt van den Hoogleeraar, Translateur van het Nederlandsch Indisch Gouvernement voor de Japansche en Chinesche Talen*, 1864. Matrijzen and types were processed by type foundry N.Tetterode in Amsterdam, printed by publishing house A.W.Sythoff in

DE KLASSENHOOFDEN.

1. 一	35. 士	65. 支	95. 玄	125. 羊	154. 貝	185. 飛
2. 丨	34. 久	66. 支	96. 玉	124. 羽	155. 赤	184. 食
3. 丶	55. 夕	67. 文	97. 瓜	125. 老	156. 走	185. 首
4. ノ	56. 大	68. 斗	98. 瓦	126. 而	157. 足	186. 香
5. 乙	57. 女	69. 斤	99. 甘	127. 未	158. 身	187. 馬
6. 丨	58. 子	70. 方	100. 生	128. 耳	159. 車	188. 骨
7. 二	59. 寸	71. 无	101. 用	129. 聿	160. 辛	189. 高
8. 十	40. 八	72. 日	102. 田	130. 肉	161. 辰	190. 影
9. 人	41. 寸	73. 日	103. 疋	131. 月	162. 亥	191. 門
10. 儿	42. 小	74. 月	104. 疋	132. 區	163. 亥	192. 壘
11. 入	43. 九	75. 木	105. 疋	133. 自	164. 酉	193. 高
12. 八	44. 尸	76. 末	106. 白	134. 至	165. 邑	194. 鬼
13. 門	45. 山	77. 止	107. 皮	135. 白	166. 酉	195. 魚
14. 冂	46. 山	78. 歹	108. 皿	136. 舌	167. 采	196. 鳥
15. 冂	47. 山	79. 交	109. 目	137. 舛	168. 采	197. 南
16. 冂	48. 工	80. 毋	110. 矛	138. 舟	169. 里	198. 鹿
17. 冂	49. 己	81. 比	111. 矢	139. 艮	170. 金	199. 麥
18. 刀	50. 巾	82. 毛	112. 石	140. 艸	171. 長	200. 麻
19. 力	51. 干	83. 氏	113. 示	141. 艸	172. 門	201. 黃
20. 勹	52. 久	84. 气	114. 宀	142. 虫	173. 卓	202. 黍
21. 勹	53. 广	85. 水	115. 宀	143. 血	174. 隹	203. 黑
22. 勹	54. 瓦	86. 火	116. 宀	144. 行	175. 雨	204. 衞
23. 勹	55. 井	87. 爪	117. 立	145. 衣	176. 青	205. 龜
24. 勹	56. 弋	88. 父	118. 竹	146. 西	177. 非	206. 鼎
25. 勹	57. 弓	89. 爻	119. 米	147. 見	178. 革	207. 鼓
26. 勹	58. 彡	90. 爻	120. 糸	148. 角	179. 韋	208. 鼠
27. 勹	59. 彡	91. 爻	121. 糸	149. 言	180. 韭	209. 鼻
28. 勹	60. 彡	92. 牙	122. 糸	150. 谷	181. 音	210. 齋
29. 勹	61. 心	93. 牛	123. 糸	151. 豆	182. 頁	211. 齒
30. 勹	62. 小	94. 犬	124. 糸	152. 豕	183. 頁	212. 龍
31. 勹	63. 戈	95. 彡	125. 糸	153. 豕	184. 頁	213. 龜
32. 勹	64. 戶	96. 彡	126. 糸	154. 豕	185. 頁	214. 龜

Figure 20: 214 classes of Chinese type, in Johann. Joseph. Hoffmann, *Catalogus van chinesche Matrijzen en Drukletters*, 1864. Type made by N. Tetterode, printed by A.W.Sythoff.

Kl. 169. 門 門 門 門 4 . 閩 閩 閩 閩 閩 閩 閩  
 閩 5 關 關 關 6 閩 閩 閩 7 閩 閩 閩 8  
 關 關 關 關 9 關 關 關 關 關 10 關 關 關  
 11 關 12 關 13 關

Figure 21: Class 169. Johann. Joseph. Hoffmann, *Catalogus van chinesche Matrijzen en Drukletters*, 1860.

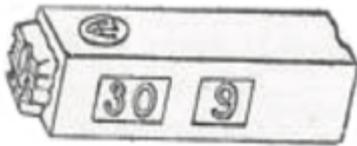


Figure 22: "Type 30-9", the illustration of the numbers on the body of the Chinese type. From *Proeven van Oostersche Schriften der Lettergieterij "Amsterdam" Voorheen N. Tetterode*, 1909.

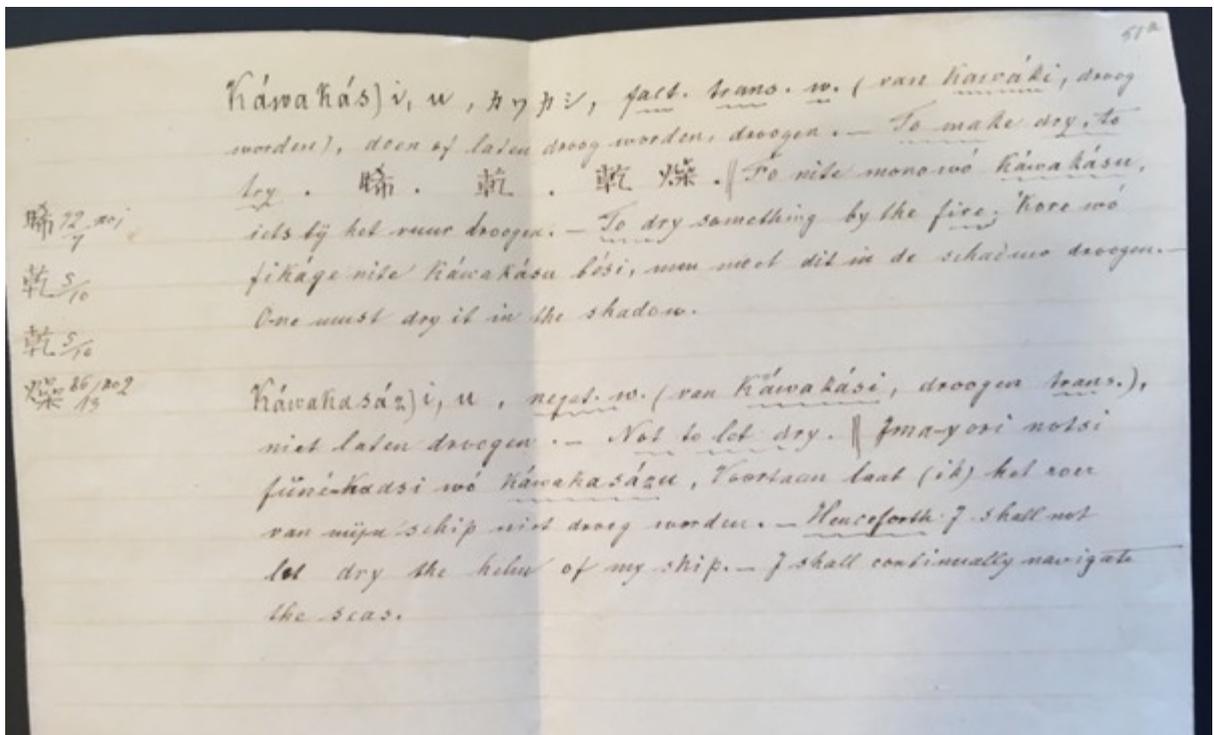


Figure 23 Handwriting note in the manuscript of the Japanese-Nederlands-English dictionary by J.J. Hoffmann, 1874, Special Collection Leiden University.



Figure 24: The search process for types with Hoffman's composition method, taking example of 閱

Volg- N <sup>o</sup> .	No. der Matrizen	Type	Class.	Sub- div.
133	107	任	9	4
132	99	伉	9	4
131	98,a	仝	9	4
130	98	伏	9	4
129	97	休	9	4
128	96	伙	9	4
127	95	伍	9	4
126	94	件	9	4
125	93	企	9	4
124	92	仲	9	4
123	91	份	9	4
122	90,d	仝	9	3
121	90,c	余	9	3
120	90,b	仝	9	3
119	90,a	令	9	3

Figure 25: A part of a Chinese Matrices list in Tetterode Archives, UvA Special Collection.



Figure 26 Sloping cabinets contained more than 11,000 Chinese characters. 20<sup>th</sup> century. Brill archives, UvA special collection. Elisabeth d'Halleweyn (ed.), *De Drukletter van Zandgietsvorm tot Computer en de Tweehonderd-talenproef van B.V. Drukkerij Sigma*, 22.



Figure 27 Composition of Chinese. 20<sup>th</sup> century. Brill archives, UvA special collection. Elisabeth d'Halleweyn (ed.), *De Drukletter van Zandgietsvorm tot Computer en de Tweehonderd-talenproef van B.V. Drukkerij Sigma*, 22.

日本國之文字

Handcrafted by Hoffmann

日本國之文字

Hong Kong type

Figure 28 Comparison of Hoffmann's hand-carved type with Hong Kong type. Above: *Proeve eener Japansche spraakkunst* by J. H. Donker Curtius (1857); Below: *Japansche spraakleer* by Johann. Joseph. Hoffmann (1868)

HOLLANDSCH.	ENGELSCH.	JAPANSCH.
Goeden dag. (Heden.)	Good day.	今日 <small>こんにち</small> Kon-nitsi wa.
Welkom!	Welcome!	御出 <small>ヨクイデ</small> Yokü O ide.
Ik kom iets' koopen.	I come to buy something.	私 <small>ワタクサ</small> 買物 <small>カイモノ</small> 來 <small>キタ</small> Wataksa kai-mono-ni maitta.
Kom binnen.	Walk in.	御上 <small>オガリ</small> O agari-nasare.
Wat verlangt u te zien?	What would you like to see?	何 <small>ナニ</small> 御覽 <small>オラン</small> ナニ-wo Go-ran nasarü ka?
Wat zal ik u laten zien?	What shall I show you?	何 <small>ナニ</small> 御目 <small>オメ</small> 掛 <small>ケ</small> ナニ-wo O me-ni ka-ke-masi yoo [masoo] ka?

Figure 29 Shopping Dialogues in Dutch, English and Japanese. 1861, by J.J. Hoffmann.



大學 ダイガク

朱熹章句 シユキシヨウク

子程子曰。大學。孔氏之遺書。而初學入

徳之門也。於今可見古人爲學次第者。獨

頼此篇之存。而論孟次之。學者必由

是而學焉。則庶乎其不差矣。

Figure 30 *Ta Hio* or *Dai Gaku*, Edited by J.J. Hoffmann, published by E.J. Brill, Printed by A.W. Sijhoff, in

**Ontdekken** 看破 *k'àn p'ò*; 看  
 得出 *k'àn tik ts'ut*; hij heeft mijne  
 list reeds ontdekt 他既窺破我  
 計 *t'ə k'è kui p'ò ngó k'è (i i k'ing  
 k'oà p'oà goá é k'è b'ò)*; het scheelde  
 weinig, of het was door de Juffrouw  
 ontdekt 萬一被小姐識破 *bān  
 it p'ī siaó tsiaó sit p'ò*; hij heeft mijne  
 geheime liefde reeds ontdekt 我之隱  
 情被他窺破 *ngó tsi ín ts'ing p'ī  
 t'ə kui p'ò*; aha! Juffrouw; ik heb uw  
 hartsgeheim ontdekt 噯、小姐呵、  
 你心事我已窺破 *ai! siaó tsiaó  
 o! n'í sim sū ngó i h'è p'ò*; hij merkte,  
 dat de zaak ontdekt was, maar kon niet  
 begrijpen, wie het nieuws had laten uit-  
 lekken 方知事情敗露、未曉  
 誰人走漏消息 *hong tí sū ts'ing  
 paī lō; b'ī h'iaó suí dz'ín ts'ó lō siaó sit*;  
 — (aan den dag brengen) 考明 *k'ó b'ing*;  
 攷察 *k'ó ts'at*; 訐揚 *k'iet úng*; —  
 (openbaren) 呈露 *t'ing lō*; iemands ta-  
 lenten — 甄別人才 *ien piet dz'ín tsai*;  
 — (zooals een nieuw land) 檢出 *kiém  
 ts'ut*; in 1494 ontdekte Columbus Amerika  
 和一千四百九十四年閣  
 龍始檢出亞墨利加 *Hó it  
 ts'ien sù pik kiú s'íp sù lién, Kok-lióng  
 sí kiém ts'ut A-b'ik-l'í-k'è*; — (zooals b. v.  
 het kruid) 發明 *hoat b'ing*; — (zooals  
 een geheim) 察出 *ts'at ts'ut*; 訪出  
*hóng ts'ut*; — (uitkomen) 發覺 *hoat kak*.  
**Ontdekker** 檢出者 *kiém ts'ut tsiaó*;  
 始察出者 *sí ts'at ts'ut tsiaó*; 始考

明者 *si k'ó b'ing tsiaó*, enz.; de — van  
 het buskruid 發明火藥者 *hoat  
 b'ing hó íák tsiaó*.  
**Ontdekking** 發明之術 *hoat  
 b'ing tsi s'ut*; in 1851, — in Holland,  
 om zeewater in zoetwater te veranderen  
 和一千八百五十一年和  
 蘭發明海水爲淡水術 *Hó it  
 ts'ien pat pik ngó s'íp it lién, Hó-lán hoat  
 b'ing hui sui ú tām sui s'ut*.  
**Ontdekkingsreis** 遨遊尋新地  
*gó ú s'ím s'ín t'ē*.  
**Ontdoen** 取去 *ts'í k'è*; 脫 *t'oat*;  
 奪 *toát*; hij ontdeed haar van hare  
 schoentjes 把弓鞋除去 *pá kióng  
 h'ái tí k'è*; zich — van 脫 *t'oat*; zich van  
 zijne kleeren — 脫衫 *t'oat san*; zich  
 van zijne huid — (zooals slangen) 脫  
 皮 *t'oat p'í*; zich van zijn hoed — 免  
 冠 *bién koan*; wilt Ge U van de ge-  
 woonte des wijns —, aanschouw dan  
 met nuchtere oogen een' beschonkenen  
 若要斷酒法、醒眼看醉人  
*dz'íák iad toān ts'ú hoat, s'ing gán k'àn  
 tsuè dz'ín*; zich van zijne vijanden —  
 絕敵人 *tsóat tik dz'ín*; 消滅仇敵  
*siao biét kiú tik*; zich van koopwaren — 消  
 貨 *siao hò*; zich van iets — (ontslaan) 丟  
 開手 *tiu k'ai síú*; er bleef hem nu slechts  
 Juffer *Sin-iao-kim*, die levende koopwaar,  
 over, waarvan hij zich nu wilde gaan —  
 止剩得莘瑤琴一件活貨、  
 欲行出脫 *tsi s'ín tik Sin-iao-k'im it  
 kién hoat hò; iók k'ing ts'ut t'oat*.

Figure 31 *Nederlandsch-Chineesch Woordenboek*, compiled by Gustav Schlegel, printed and published by Brill 1886-1890.

gold"; *tui kim tiau* 兌金條 means "to buy a small bar of gold for silver" (Douglas); *hoat toe* 發兌 is the same as *hoat kik* 發客, and means "to offer for sale" (W. Williams). *Tui ka* 兌價 (the Japanese *dai ka*)<sup>24</sup> is the selling-price or cost-price. E. g.: 十千兌得餘杭酒 for 10,000 (pieces of money) he bartered (bought: *tui tik*) *Yü-hang* wine" (Khang-hi, i. v. 兌). 兌金、兌物、兌價 have a sense in Chinese, but 代金、代物、代價 have none; or if they had, it would be a wrong sense, for they would mean "substitute money, substitute articles and substitute price", which is nonsense.

But, as we have just said, *dai* often forms the second part of a word, and then it means something else. *Shin dai*, transcribed 身代, means "property, possession, estate"; *ba dai*, 馬代, means "the price of a horse, formerly made a present to high officers"; *cha dai* 茶代 means "a fee or drink-money"; *yakü dai* 藥代 means "the price of medicine", etc., and is then a substantive of which the first part stands in the genitive case exactly as in Chinese grammar, as e. g. in *Yakü tai-shi* 藥袋紙 "a corner or paper-wrapper for medicines, *yakü rou* 藥籠 "a medicine-chest", *yakü nou* 藥能 "virtues or powers of a medicine, medicinal virtues", *yakü zai* 藥劑 "a medical compound", *yakü sau* 藥草 "medicinal plants", *yakü yen* 藥園 "a garden where medicinal plants are cultivated, a hortus botanicus", etc. Here, evidently, 代 *dai* belongs to the *ji on no kana* class, an easier character written instead of the more difficult one. This character must be 貸 *tai*, the Japanese having omitted the radical 貝 *pei*. The primitive mean-

<sup>24</sup> The char. 兌 is now pronounced *da* in Japanese, as in *da kwan satsei* 兌換札 "to exchange papermoney"; but it must have had first the sound *dai*, as regular change of the Chinese *tai* (Comp. 隊 *tai*, Jap. *tai* or *dai*; 對 *tai*, Jap. *tai*, etc. The character 大 *tai* is pronounced as well *dai* as *da* in Japanese. Comp. *dai zai* (大罪) Amoy *tai tse* and *da jaw kwan* 大上皇 Amoy *tai siang hong*.

# 通報

*T'oung pao*

## ARCHIVES

POUR SERVIR À

L'ÉTUDE DE L'HISTOIRE, DES LANGUES, DE LA GÉOGRAPHIE ET  
DE L'ÉPIGRAPHIE DE L'ASIE ORIENTALE

(CHINE, JAPON, CORÉE, INDO-CHINE, ANNE  
CENTRALE et MALAISE).

RÉDIGÉE PAR M.

GUSTAVE SCHLEGEL

Professeur de Chinois à l'Université de Leide

ET

HENRI CORDIER

Professeur à l'École spéciale des Langues orientales créées et à l'École libre des  
Sciences politiques à Paris.

Vol. IV.

LEIDE, E. J. BRILL, 1893.

Figure 32 *T'oung Pao*, Volume 4-5, 1893



Figure 33 The end of the type-metal era in the eighties: a typesetter empties the type cases. Manual typesetting, only for works in Chinese and Japanese, continued at Brill until 1987. Brill archives in UvA special collection.

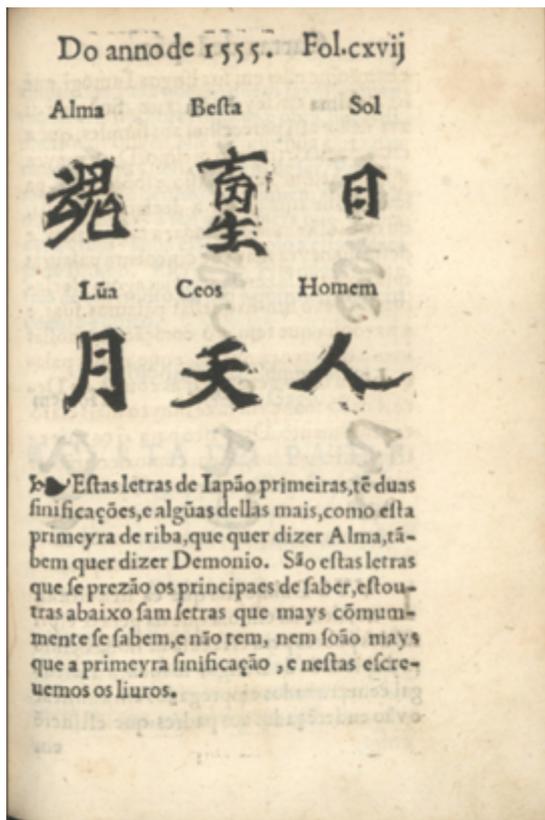


Figure 34 (left): CARTAS QUE OS PADRES pp.273, published in Coimbra, 1570. Biblioteca Nacional De Portugal in Lisbon.



Figure 35 (right): CARTAS QUE OS PADRES pp.236, published in Alcalá, 1570. Bayerische Staatsbibliothek in Munich; and Österreichische Nationalbibliothek in Vienna

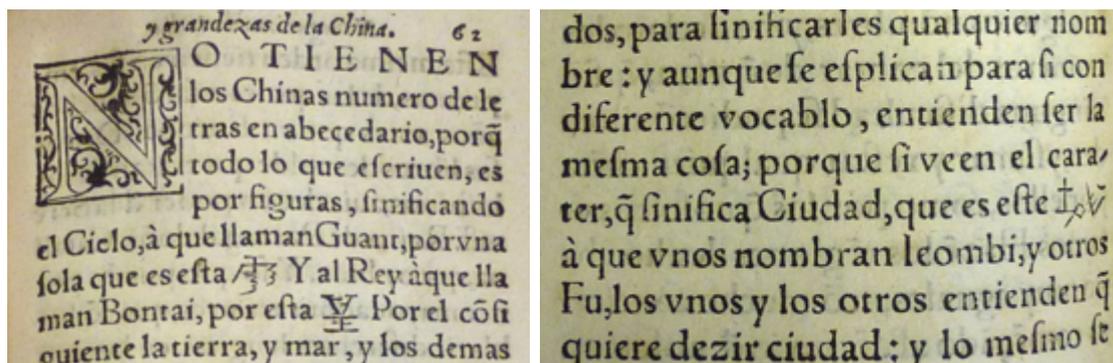


Figure 36 *Discurao de la navegacion que los portugueses hazen à los reinos y prouincias del Oriente, y de la noticia que se tiene de las grandezas del reino de la China*. Bernardino de Escalante. 1577.

atque Romani aquilam in insignibus ostentant. Illud tamen admiratione dignum, in regij Draconis pedibus digitos quinos pingi à Sinitis: si qui alij eo symbolo utantur, nefas & capitis poenâ cautum est, nequis plures in pede unguis effingat quàm quaternos. Sed infra plura de Sinarum circa Draconem superstitione dicam.

liberallorum  
initium & p.  
gura.

Idem Imperator Sinicos characteres reperit, quos loco nodorum adhibuit, sed ipsis nodis intricatiores. In quolibet enim caractere sunt observanda sex; Figura, Sonus, Usus, Significatio, Compositio, Explicatio. Literæ tamen illæ à F O H I O inventæ, ab his, quæ nunc in usu versantur, olim diversæ, ad Ægyptiaca hieroglyphica accedebant,



ut figura rem significandam ipso adpectu exhiberet. Ut exemplis res magis in aperto sit. hæc litera, 1. quæ montem significat, olim ita, 2. pingebatur. Sic Iosalem eo modo exprimebant, quo Mathematicis hodie circulo mediòque puncto, 3. describitur; nunc istâ formâ, 4. effingunt. Draconis hæc 5. olim figura erat; hodie ita 6. formatur. Regis litera, seu nomen sceptrum cum oculo, 7. referebat; nunc ita, 8. pingunt. Volucrum, gallinam, vel gallum, suâ, hoc est, nativâ specie, 9. 11. representabant; nunc his ductibus 10. 12. explicantur. Habeo penes me librum literis Sinicis ad sex diversos modos conscriptum, opus antiquissimum & rarum, Sinitis ob vetustatem raritatemque magno semper in pretio habitum. In eo libro antiquæ literæ formam utcumque referunt earum, quas Romæ in obeliscis sæpe me videre memini. Et hæc de literis Sinarum; nunc cetera persequamur.

Ad hoc usque temporis, mares inter ac feminas nullum erat apud Sinitas in moribus ac veste discrimen, nulla connubia lege firmata; sed belluarum more temere & vagâ libidine jungebantur. Utrinque F O H I O discriminem invenit. Nam & viros à feminis cultu distinxit, & conjugia instituit, tantâ etiam propinquitatis reverentiâ, ut lege

Co-nubia  
Sinita.

vetuerit

Figure 37 The comparison of Chinese characters with Egyptian hieroglyphs. Martino Martini. *Sinicae Historiae Decas Prima* (Munich, 1658). 12.

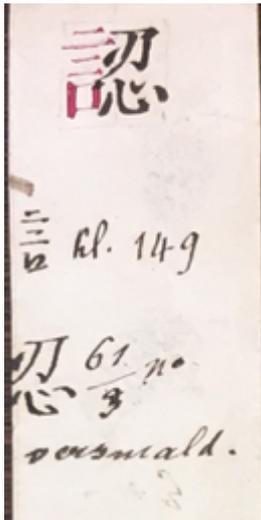


Figure 38 Zoom in of fig 14, Hoffmann's instruction to type engraver

古文字				隶书	楷书
记名金文	甲骨文	周代金文	小篆		
				馬	馬
				魚	魚

Figure 39 The evolution of Chinese character fonts, source: *Wenzixue Gaiyao* (Introduction to Philology) by Qiu Xigui, pp.35.

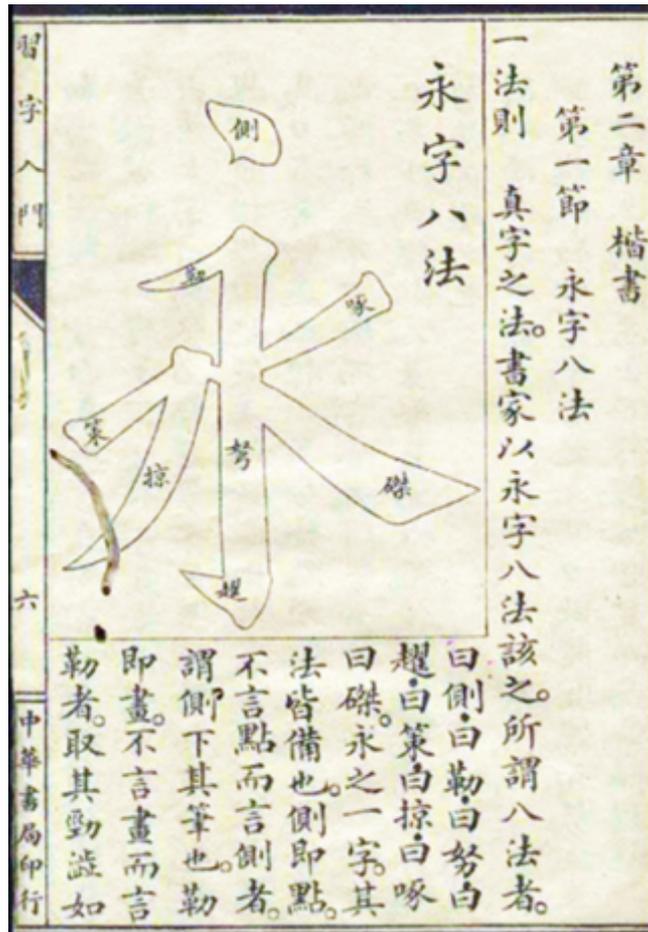


Figure 40 Eight strokes of 永 *yong* “forever” in 楷書 *Kaishu* calligraphy style. Source: 习字入门 Xizi Rumen “Introduction to Calligraphy”, (Beijing: Zhonghua Book Company, 1919), 6.



Figure 41 Chinese script styles. Source: Jeoren Wiendehof. *A Grammar of Mandarin* (Amsterdam: John Benjamins Publishing Company, 2015), 363.



若翰所書之福音

第一章

原始雜言神同言即神也。夫言本同神萬物由他所造非其造無一而成焉。且命在其中。命者人之光也。光照昏冥者弗迎之矣。由神造來一人名若翰。因來為証以証光使生民藉他而信。其本非此光乃使為光之証耳。照生民之光者即真光也。其居世上。世亦由他所造而世不識之。其臨於事物而民弗迎之。凡迎他乃信他名者即賜之德以為神子。非肉產非血產。又非人事。惟神而已。言者化體居于我們之中。見其光榮儼然乃父獨子之光榮。

若翰所書之福音

第十章

滿恩誠者也。若翰為之作証。高呼曰。我前所言。其來我之後。拿舉在我之先。因其先我而有也。我們皆沾其厚澤與恩。上加恩矣。蓋法紀由有慧而制定。恩誠自耶穌記。刺斯督而布施。從未有人視神。惟其獨子在父衾懷得見而昭明之。○若翰作証。彼時有如述人。自柔撒哈。遣諸伯與盧。委人詢若翰曰。汝何人也。若翰直言不諱曰。我非記督。復問曰。毋乃意利亞乎。曰非也。曰毋乃先知耶。又曰非也。曰爾果何人。明以示我。俾得復于遣我者。爾自謂誰。若翰曰。前意厘。亞先知所云。曠野中高呼。理正主道者。即我也。化厘素遣此諸伯與盧。委人問曰。汝若非記刺斯督。又非意厘亞。又非先知。何以僱民也。若翰曰。我實洋人。以水。有一人跨在汝中。汝所弗

Figure 44 The opening pages of *The Gospel of the Apostle John*, printed with movable metal type at the Mission Press at Serampore in 1813.

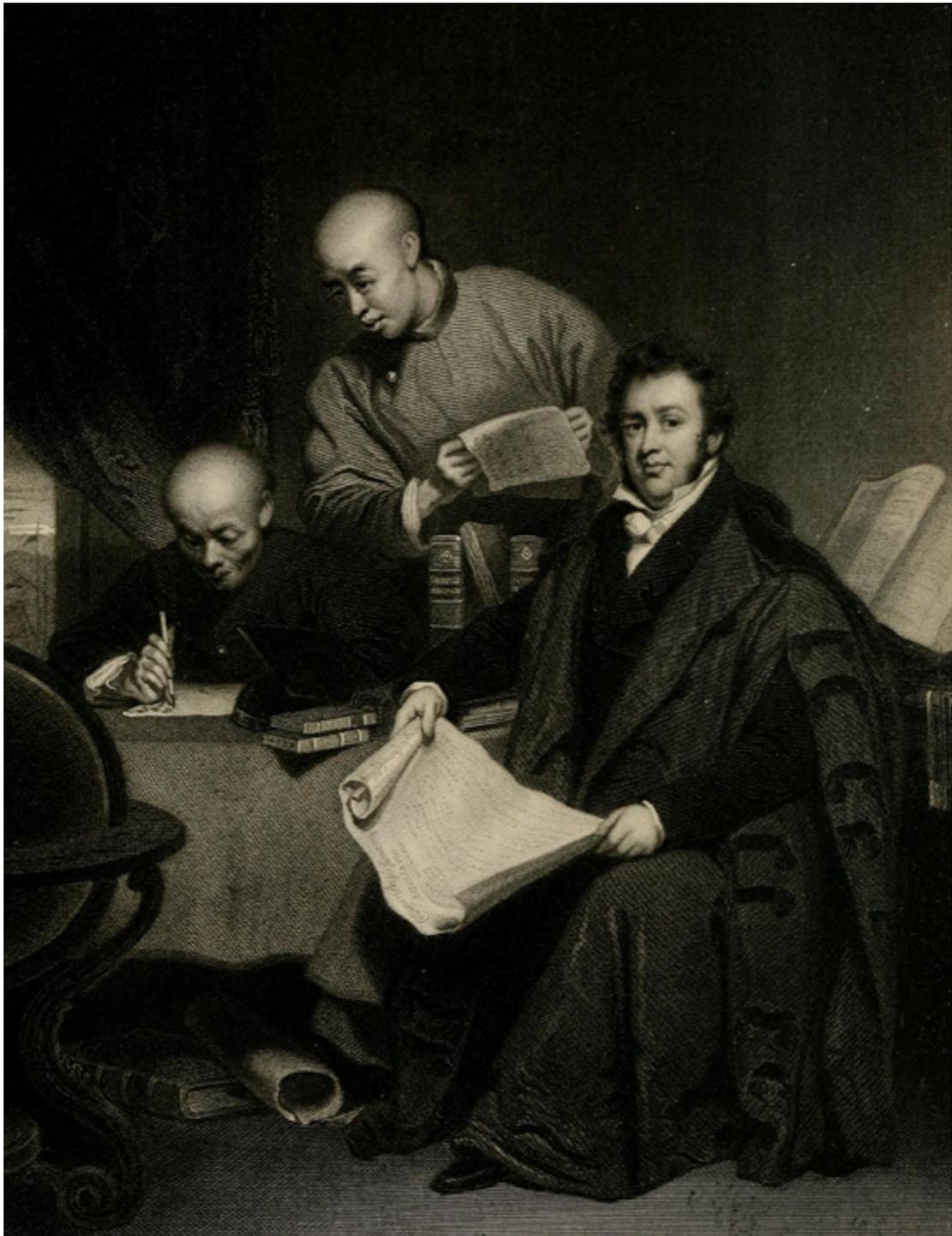


Figure 45 From left to right: Li Shigong, Chen Laoyi, and Robert Morrison. Engraved by J. Jenkins (?) from a painting by George Chinnery (1774–1852) done in about 1828. This engraving was the cover image of *Memoirs of the Life and Labours Robert Morrison*. Volume 1. Eliza Morrison (1839). London: Longman, Orme, Brown, Green, and Longmans. The original painting was destroyed in a fire in 1874.

or principles" 一 | 教 Chuen keou. "To propagate religion." | 教的人 Chuen kenou t'ih jin. "One who propagates religion." | 遞 Chuen te. "To pass from one to another." | 遞文章 Chuen te wän chang. "To transfer a written document from one hand to another." | Chuen, expresses a person's having arrived at the age of seventy, from his then transferring the management of affairs to the hands of others. | 說 Chuen shwä. "To transmit by tradition; to spread by verbal communication." | 你不用上來 | 話 Ne püh yung shang lae chuen hwa. "You need not come up stairs to report any thing that occurs." | 好事不出門惡事 | 千里 Hsou sze püh ch'ih mun; g'ö sze chuen t'ih'en le. "A good action is not heard of out of doors; a bad action is reported to the distance of a thousand le." | 可 | 於後世 K'ho chuen yu how she. "Worthy to be transmitted to succeeding generations." | 歷代相 | L'ei tae sang chuen. "Transmitted through successive generations." | 秘 | Pe chuen. "To transmit secretly;" some secret, as the composition of quack medicines &c., communicated by others. | 祖 | Tsao chuen. "Received from one's ancestors." | 春秋 | Chün t'ae chuen. Name of an Historical Work, by Confucius, one of the Five King. Also read, Ch'uen.

偃 YÜ. 隱 S. C. 僂 R. H.

To bend forward as a mark of respect. Hunch-backed.

僂 SUY. Lateral; inclined.

VOL. I.

55

債 CHÄE. 贖 S. C. 債 R. H.

To bear a burden; to be in debt; to owe something. 欠

下重債 Keän hea chung chae. "To owe a large debt."

| 人 Chae jin, or 負 | Foo chae. "A debtor."

| 主 Chae choo. "A creditor;" also, one who has some claim on another, some reason for resentment against.

忍忍 | 主冤家從此盡 Jin, jin, jin, chae choo yuen kea, tung 'sze tsin. "Endurance, endurance, (or patiently suffering poverty and hardship.)

is that by which all revengeful claimants and resentments, will be entirely prevented." | 孽 | N'ei chae. Some

debt owing to justice; or some crime left unpunished in a former state of existence, which involves the individual in this

life.

愧我未酬書史 | Kwei wo we chow shoo she chae. "I am ashamed that I have not paid the debt

which I owe to the Classics and Historians;" the import of this is, I have neglected, I have not read them.

自古

道父 | 子還 Tsze koo taou, foo chae, tsze hwan.

"From ancient times it has been said, the son should pay the father's debts."

冤有頭 | 有主 Yuen yew t'how, chae yew choo. "Resentments have a head, debts

have a lord;" i. e. resentments and debts have respect to a particular individual, let them not involve others; find the

person to whom the affair properly belongs, and it will soon be arranged.

責 Ts'ih, occurs in the sense of Chae.

僮 Same as 僮 Tang.

Figure 46. One page of the Chinese-English dictionary, Vol 1. Robert Morrison. Macao: The East India Company's Press, 1815. The Kaiti characters might be woodcut.

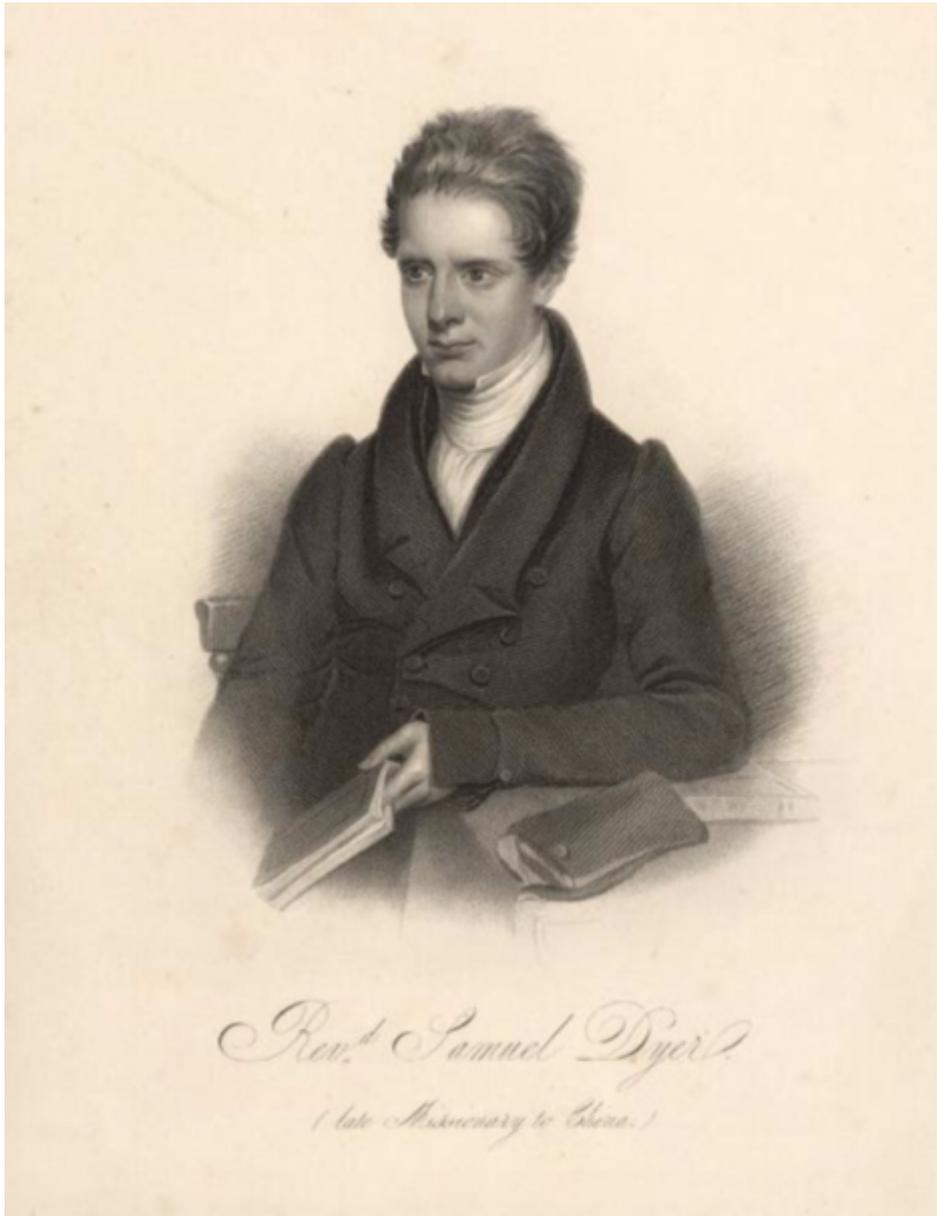


Figure 47 A portrait of Rev. Samuel Dyer, stipple engraving, 221x141mm. Engraver: Cochran, J. (John), 1847. Inv ID: 99141378202419. The National Library of Wales.



Dyer's conception of divisible types

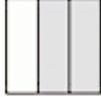
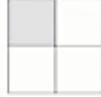
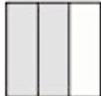
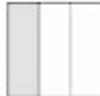
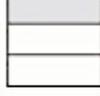
Whole type	Divisible types				
	三份二份	三份一份	直写对半	横折对半	四份一份
					
					
					
					

Figure 49 Dyer's conception of the categories of divisible movable type. Source: Luo Jia Yang “掌控东方：晚清西人汉字排印的模数化系统设计 Zhangkong Dongfang: Wan Qing Xiren Hanzi Paiyin de Moshuhua Xitong Sheji ‘Taking Control of the East: The Design of a Modal System for the Typography of Western Chinese Characters in the Late Qing Dynasty’”, *The Type*, 17 Dec 2016, <https://www.thetype.com/2016/12/11232/#fn:28>. Accessed 30 June 2021.

Legrand's divisible types

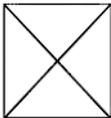
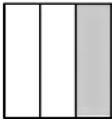
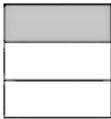
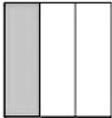
Whole type	Divisible types	
	垂直分割	水平分割
		
		

Figure 50 Legrand's categories of divisible movable type. Source: Luo Jia Yang “掌控东方：晚清西人汉字排印的模数化系统设计 Zhangkong Dongfang: Wan Qing Xiren Hanzi Paiyin de Moshuhua Xitong Sheji ‘Taking Control of the East: The Design of a Modal System for the Typography of Western Chinese Characters in the Late Qing Dynasty’”, *The Type*, 17 Dec 2016, <https://www.thetype.com/2016/12/11232/#fn:28>. Accessed 30 June 2021.

## SPÉCIMEN.

EXTRAIT DE LA BIBLE.

下之水得集。處且乾土發稊而卽有之。乾土者神  
 名之爲地。集水者其名爲洋。而神視之爲好也。神曰  
 由地萌芽。菜草發種。隨其類。樹在地有種。在自之內  
 結實。隨其類。而卽有之。則地萌芽。又菜發種。隨其類。  
 樹亦有種。在自之內。結實。隨其類。而神視之爲好。且  
 夕旦爲第三日也。神曰。由各光得在于天之天空。以  
 分別日夜。亦以使號時日年。由其光明者在于天之  
 天空。以發光于地上。而卽有之。且神成造爾大光者。  
 其大光以埤日。共小光以埤夜也。亦造星者也。神置

Marcellin-Legrand, graveur.

Figure 51 *Spécimen de caractères chinois, gravés sur acier et fondus en types mobiles*, Marcellin Legrand. Paris: Marcellin Legrand Rue Lepeletier 22, 1859.



Figure 52 Text: “Dr. Legge and his three Chinese students, from a painting by H. Room.”  
 One of the Chinese students could be Li Jinlin. By John Cochran, after Henry Room steel engraving, mid 19th century 6 7/8 in. x 7 1/2 in. (175 mm x 191 mm) Purchased with help from the Friends of the National Libraries and the Pilgrim Trust, 1966 National Portrait Gallery, London. D8772



Figure 53 Western-created nineteenth century Chinese fonts. Source: Williams, “Movable Types for Printing Chinese”, Chinese Recorder 6 (1875), 30.

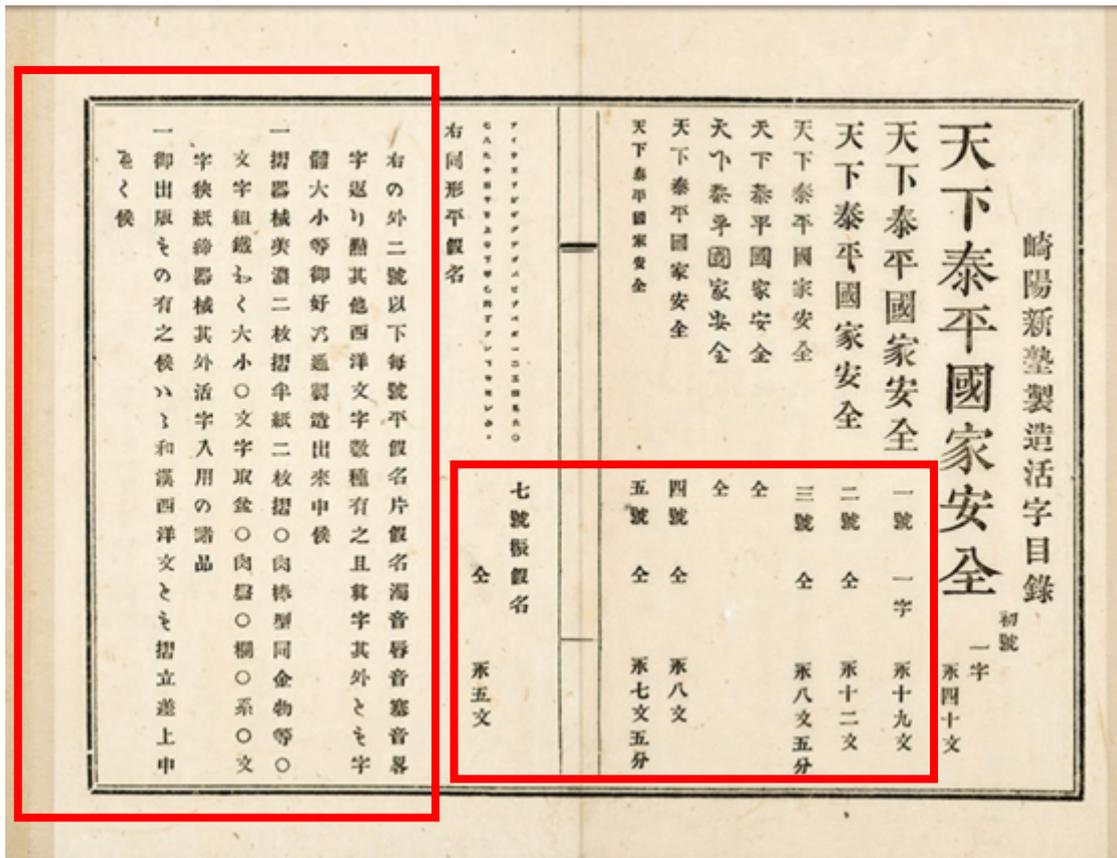


Figure 54 崎陽新塾製造活字目錄. A Catalogue of fonts in the letterpress workshop run by Motogi Shōzō, 1982. The font in the red frames resemble the Hong Kong Type.

Source:

[https://www.dynacw.com.cn/fontstory/fontstory\\_detail.aspx?s=111&r=5&ftag=小宮山博史の活字百宝箱](https://www.dynacw.com.cn/fontstory/fontstory_detail.aspx?s=111&r=5&ftag=小宮山博史の活字百宝箱)

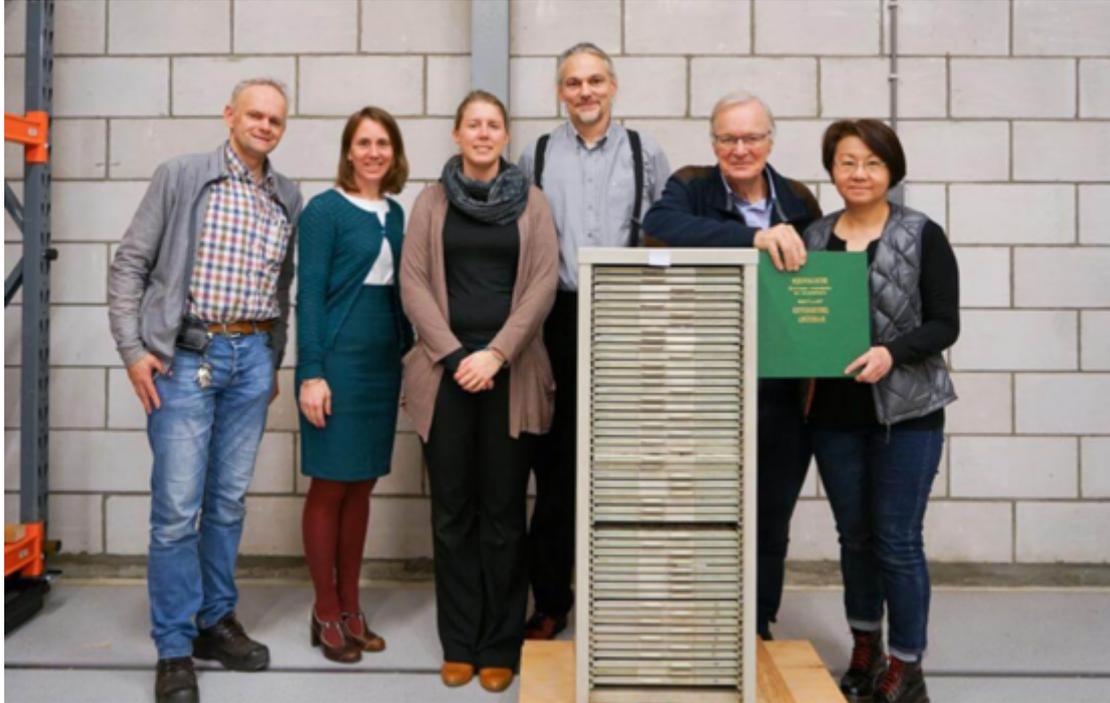


Figure 55 Examination of the Matrices in the depot of Volkenkunde Museum. Yung Sau-mui (left first), Ronald Steur (left second), Joeroen Wietenhorf (left third, Sinologist of Leiden University) and Willemijn van Noord (right third, curator of Volkenkunde Museum) and collection keepers of Volkenkunde Museum. December 2019. Source: <https://www.mpweekly.com/culture/香港字-鑄字-活字印刷-169188>



Figure 56 Ronald Steur and See Why Ng, a volunteer member of the recasting project, were working on the type casting at Stichting Lettergieten 1983 in Westzaan. 2020. They were holding a matrixholder for Monotype machine. This machine model was not the original machine used by Tetterode to produce Chinese type, but Ronald Steur adapted its matrix holder so that it could now be used to cast Hong Kong Type. Source: Source: <https://www.mpweekly.com/culture/香港字-鑄字-活字印刷-169188>

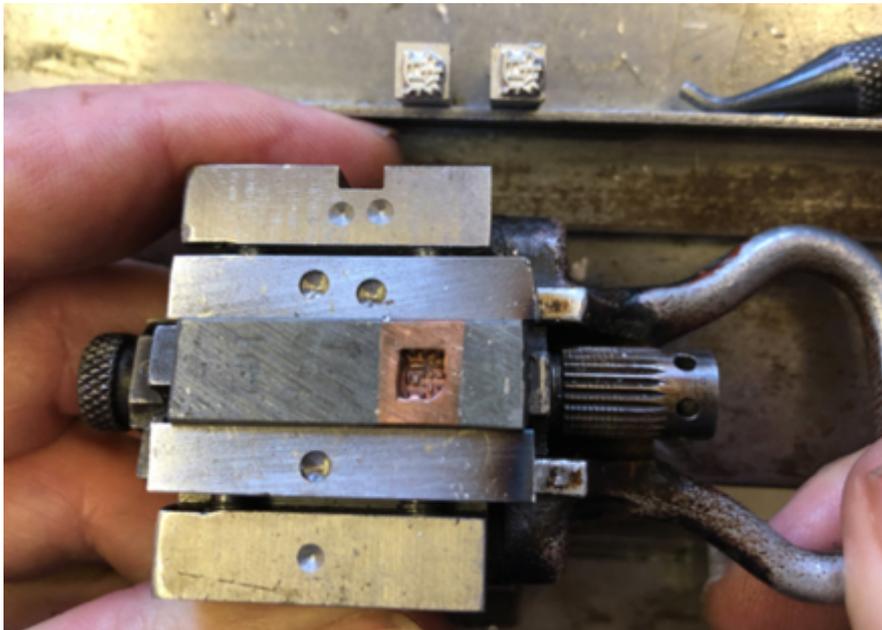


Figure 57 A matrixholder for Monotype machine. This machine model was not the original machine used by Tetterode to produce Chinese type, but Ronald Steur adapted its matrix holder so that it could now be used to cast Hong Kong Type. Source: Source: <https://www.mpweekly.com/culture/香港字-鑄字-活字印刷-169188>

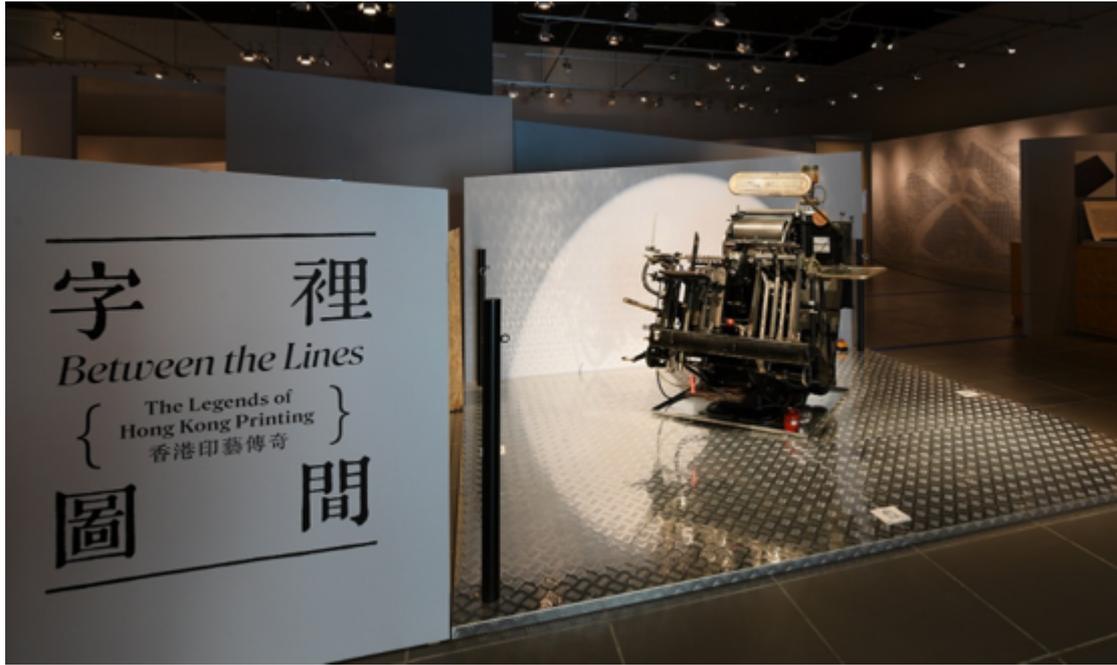


Figure 58 The exhibition “Between the Lines – The Legends of Hong Kong Printing”. Source: [https://www.heritagemuseum.gov.hk/en\\_US/web/hm/exhibitions/data/exid265.html#/nogo](https://www.heritagemuseum.gov.hk/en_US/web/hm/exhibitions/data/exid265.html#/nogo)

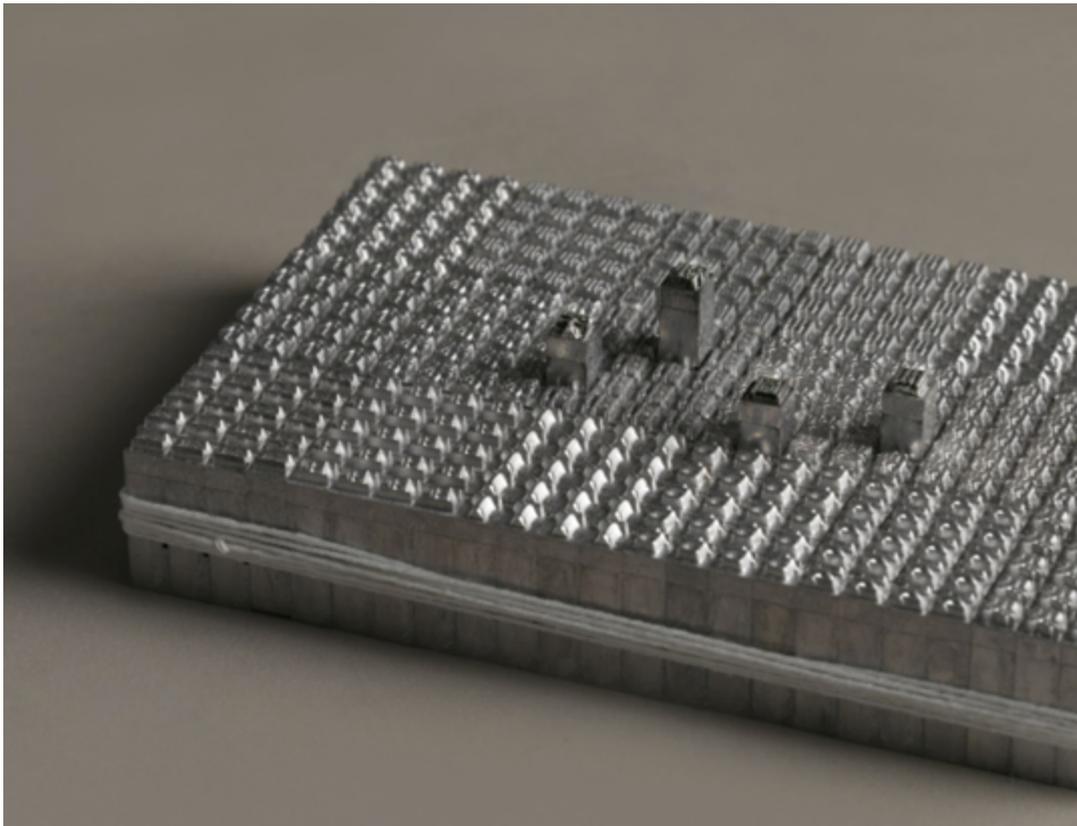


Figure 59 73 recast Hong Kong types on display. “Between the Lines- The Legends of Hong Kong Printing” exhibition. Source: Booklet of the exhibition.

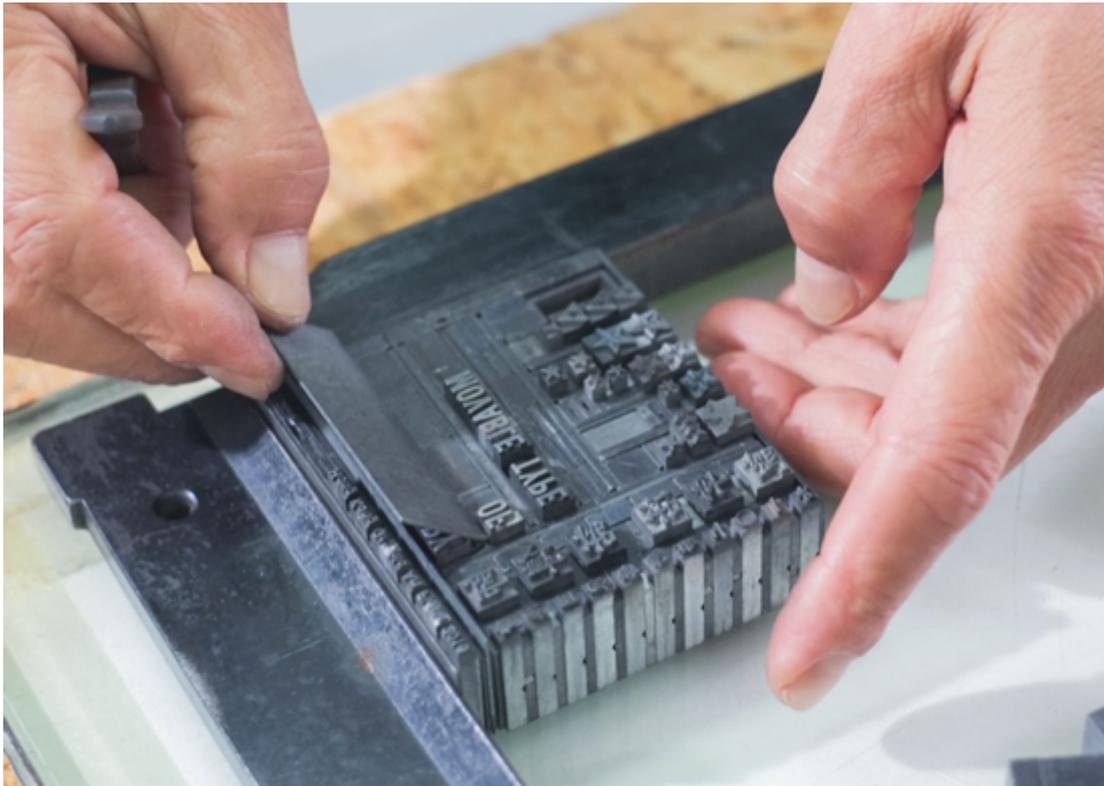


Figure 60 Mixed typesetting between Chinese and English. Photo from the exhibition “Between the Lines – The Legends of Hong Kong Printing”. Source: [https://www.heritagemuseum.gov.hk/en\\_US/web/hm/exhibitions/data/exid265.html#/nogo](https://www.heritagemuseum.gov.hk/en_US/web/hm/exhibitions/data/exid265.html#/nogo)

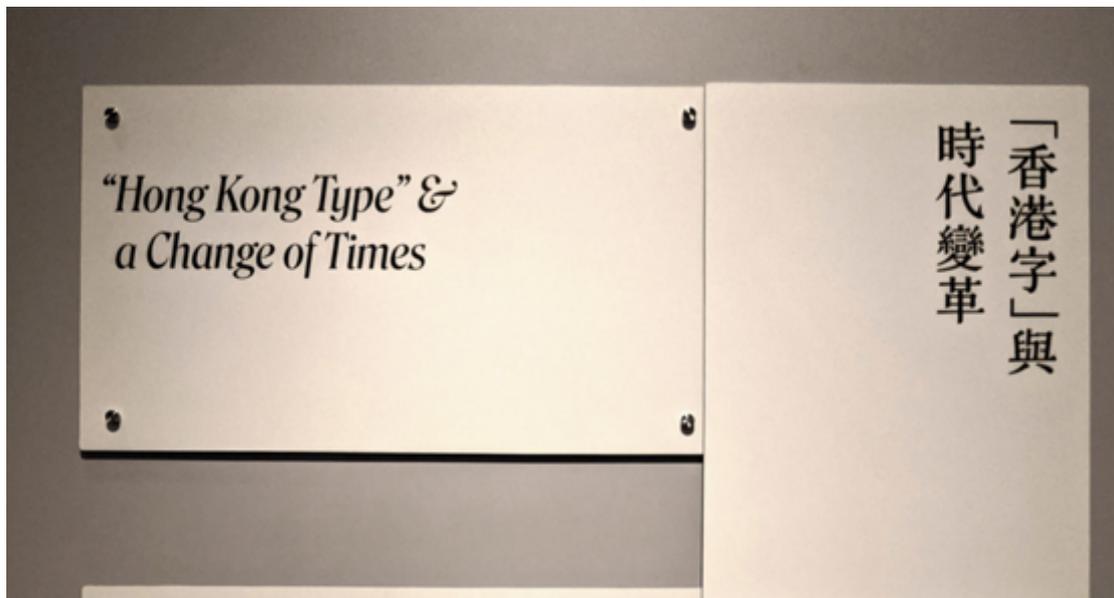


Figure 61 “Hong Kong Type” & A Change of Times. A board on the wall at the exhibition “Between the lines – The Legends of Hong Kong Printing”. Source: Lo Yin Shan

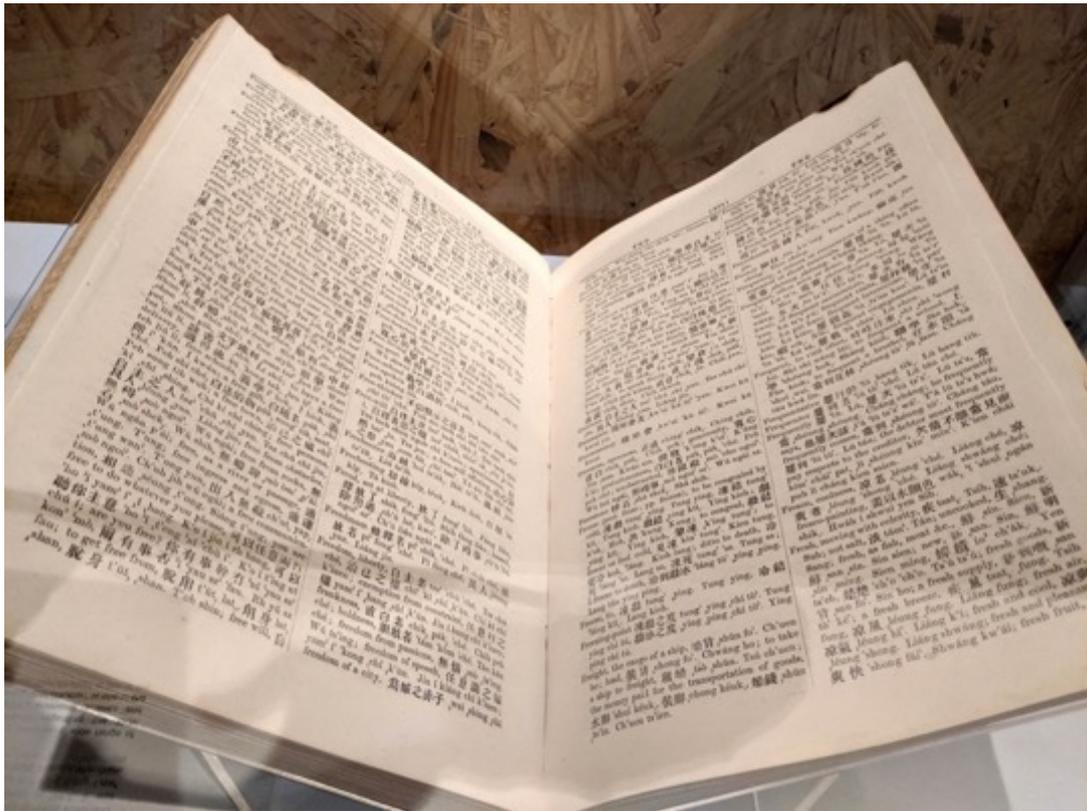


Figure 62 English and Chinese dictionary (1866-1869), compiled by Wilhelm Lobscheid (1822-1893). “Between the Lines- The Legends of Hong Kong Printing” exhibition. Source: Lo Yin Shan.

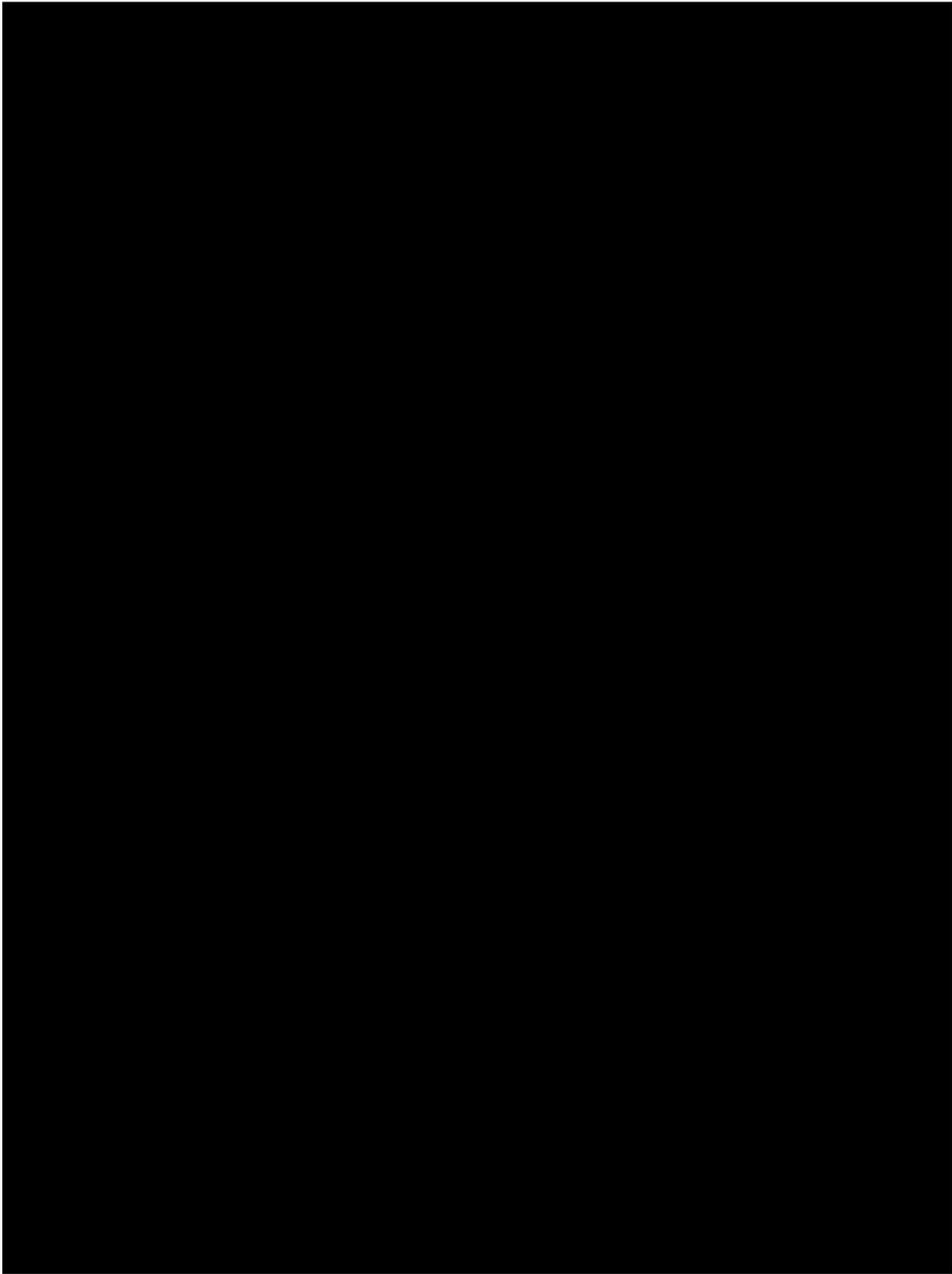


Figure 64

[Redacted text]

## Appendix 1

Matrix	Front	Side	Back
倅			
	Typeface. Nr: 9-8 11.65mm (width) ↔	None 10.15mm (thickness) ↔	Nr: 180 38.55 mm (length) ↕
倒			
	Typeface. Nr: 9-8 10.80mm (w) ↔	None 10.00mm (t) ↔	Nr: 189 35.15mm (l) ↕
倭			
	Typeface. Nr: 9-8 11.70mm (w) ↔	None 10.10mm (t) ↔	Nr: 188 39.80mm (l) ↕

The appearance of thr Hong Kong Type matrices (Volkenkunde Museum)

## Appendix 2

Type	Made	Top	Bottom	Side a	Side b	Side c	Side d
若	HK						
		typeface	2mm groove (vertical)	none	none	Nr. 140-5	none
你	HK						
		typeface	2.50mm groove (horizontal)	1.75mm neck	logo	none	none
胥	HK						
		typeface	2.50mm groove (horizontal)	None	none	Nr: 130-5	logo
贊	Am						
		typeface	none	Nr: 154-8	logo	none	none

The appearance of some old types (from Ronald Steur's private collection)

Appendix 3

Publication with Chinese types by A.W. Sijthoff	
1857	Hoffmann. J. J.: <i>De trappen van vergelijking in de Japansche taal</i> . Tweebladen uit de <i>Proeve eener Japansche spraakkunst</i> van Mr. J. H. Donker Curtius, toegelicht, verb. En uit gebreide bijvoegselen vermeerderd (with Hoffmann's hand-carved type).
1857	Hoffmann. J. J.: <i>Physiologie in de Japansche hulpwerkwoorden</i> . Tweebladen uit de <i>Proeve eener Japansche spraakkunst</i> van Mr. J. H. Donker Curtius, toegelicht, verb. En uit gebreide bijvoegselen vermeerderd. (with Hoffmann's hand-carved type)
1857	Curtius, J. H. Donker: <i>Proeve eener Japansche spraakkunst, toegelicht, verb.</i> En uit gebreide bijvoegselen vermeerderd door Johann. Joseph. Hoffmann. (with Hoffmann's hand-carved type)
1857- 1861	Hoffmann. J. J.: <i>Het Japansche sursiefschrift. Firagana</i> . Overzicht zijner meest gebruikelijke vormen met opgave der Chinese karakters, waarvan zij zijn afgeleid. 2 <sup>e</sup> dr. Verb. En vermeerderd volgens de opgaven van Mats Mato, en W. J. C. Huyssen van Kattendijke.
1861	Letterproven. <i>Chinesche tekst in verbinding met Japansch letterschrift Katakana</i> . (50 copies)
1861	Hofmann, J. J.: <i>Shopping Dialogues in Dutch, English and Japanese</i> (on Sale by Trübner in London and Martinus Nijhoff at the Huage)
1868	Hoffmann. J. J.: <i>Japansche spraakleer</i> . Uitgeg. op last van Z. Excell. Den Minister van Koloniën, Gedrukt met's Rijks Chineesche en Japansche drukletters. (An English version under the title of <i>A Japanese Grammar</i> , published at the time time)

## Appendix 4

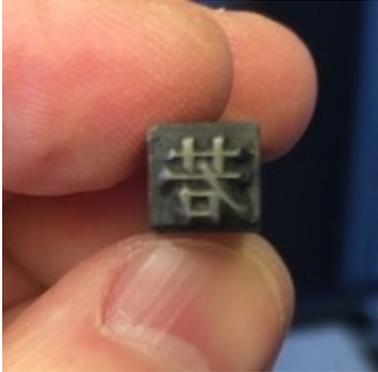
<b>Publication with Chinese types by E. J. Brill (1875-1909)</b>	
<b>1864</b>	Confucius.: <i>The Grand Study (TA HIO or DAI GAKU) Part I</i> . The Chinese Text with an Interlineary Japanese Version, Edited by Dr. J. Hoffmann (Published and on Sale by E. J. Brill).*
<b>1864</b>	Confucius.: <i>The Grand Study (TA HIO or DAI GAKU) Part II</i> . The Chinese Text with an Interlineary Japanese Version, Edited by Dr. J. Hoffmann ((Published and on Sale by E. J. Brill).
<b>1885</b>	Groot Jan Jakob Maria: <i>Het kongsiwezen van Borneo: Eene verhandeling over den grondslag en den aard der Chineesche politieke vereenigen in de koloniën; met eene Chineesche geschiedenis van de kongsi Lanfong</i> (Published by Martinus Nijhoff in The Hauge).**
<b>1886-1890</b>	Schlegel, Gustav: <i>Nederlandsch-Chineesch Woordenboek: Archives pour servir à l'étude de l'histoire, des langues, de la géo- graphie et de l'ethnographie de l'Asie Orientale</i>
<b>1890-</b>	<i>T'oung Pao</i> , Sinological Journal.

\* It was not until 1875 that Brill formally purchased the Chinese types and the rights to use them from the Dutch government (the matrix remained the government's property). This book must have printed in Sijthoff's factory.

\*\* It seems that Brill provided the Chinese type printing service to the Martinus Nijhoff publishing house.

Appendix 5

2. Chinese type 若



1. Numerals on the type :  
140-5



3. The numerals

出	140	5
范	140	5
若	140	5
苑	140	5
茅	140	5

4. The numerals and the corresponding type

出	140	5	10	3
范	140	5	10	2
若	140	5	30	
苑	140	5	15	699
茅	140	5	10	8
茂	140	5	20	7

## Bibliography

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