

# The Jesuit mission in China (17<sup>th</sup>-18<sup>th</sup> cent.) as the framework for the circulation of knowledge between Europe and China\*

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**Abstract:** The circulation of Western knowledge (in its broadest sense) can be described from various angles. Relying on an overall evidence collected in the last 20 years, I focus on the various routes (especially less well-known “viae”), the media used as carriers (printed books; periodicals; correspondence; illustrations; objects and instruments; oral contacts), and the places where these exchanges happened. Particular attention I pay to the two-sided character of this exchange and the ‘intercultural’ crossing and interaction between Western / Chinese books, illustrations, and forms / techniques of knowledge. All in all, this evidence undeniably shows the primary role of the Jesuit mission as communication route between cultures, the enormous volume of exchanged knowledge and the gigantic personal and collective involvement in this process.

**Keywords:** SJ mission history, Padroado in the Far East, History of knowledge, Europe-China contacts.

## A missão jesuíta na China (sécs XVII-XVIII) como suporte de circulação do conhecimento entre a Europa e a China

**Resumo:** A circulação do conhecimento ocidental (no seu sentido mais amplo) pode ser descrita sob várias perspetivas. Baseando-me numa evidência global apurada nos últimos 20 anos, concentro-me nas várias rotas (especialmente em “viae” menos conhecidas), nos meios usados como portadores (livros, periódicos, correspondência, ilustrações, objetos e instrumentos e contactos verbais) e nos lugares onde essas trocas aconteceram. Presto particular atenção ao carácter bilateral dessa troca e ao cruzamento e interação “intercultural” entre livros, ilustrações e formas ou técnicas de conhecimento ocidentais e chineses. Em suma, esta evidência mostra claramente o papel primordial da missão jesuíta como via de comunicação entre as culturas, o enorme volume de conhecimento trocado e o gigantesco envolvimento pessoal e coletivo nesse processo.

**Palavras-chave:** História da missão SJ, Padroado no Extremo Oriente, História do conhecimento, Contactos Europa-China.

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With this title, I would like to put the SJ mission in China (roughly from the last decades of the 16<sup>th</sup> to the last decades of the 18<sup>th</sup> cent.) in an inter-cultural perspective. Far from being original with this approach, neither with the title<sup>1</sup>, I intend, nevertheless, to add some original viewpoints and information from my recent research, directly from primary sources and focusing on the cultural, especially scholarly, or even scientific aspects of this encounter between two civilizations, as different as possible, namely the Late-Humanistic Western and the Chinese one. On the contrary, both had at least one point in common: the prestigious position and central function of learning, reading and writing, materialized in a real book culture. Therefore, books, libraries and related communication tools of learning and knowledge were the communication vehicle between both Jesuit missionaries and Chinese *literati*. While these were intended by the Jesuits as a kind of ‘lubricant’ for the evangelization, the Chinese – unless individual exceptions – saw these only as a source of ‘new’ knowledge with many potential applications, nothing more. At the risk of distortion of the global picture, but for practical reasons of timing and concentration, I prefer, in this contribution, to put aside the instrumentalization of books and libraries as a medium for evangelization – the *Apostolate through the press* –, and to focus on the process itself, more precisely and successively the routes it followed, the various forms of support used for it and the topographical contexts in which this process happened, taking into account the two directions. Such an overall overview of the scholarly or scientific aspect of this intercultural meeting at least has to my knowledge no precedents and may be rather ambitious; it is always a first, tentative overview on a very broad field of data and questions, and would therefore necessarily be incomplete.

## 1. Which were the routes of circulation?

For the West-East connections in the 17<sup>th</sup> and 18<sup>th</sup> centuries, these ‘routes of learning’ coincided with the seven main commercial routes (*Via Lusitana*, etc.), overseas routes or land-routes, *Minerva* following *Mercurius* (using hereby a metaphor of the missionary and scholar Ferdinand Verbiest [1623-1688]). Apart from the well-known routes, such as the *Via Goana / Lusitana* and the *Via Hollandica* or *Batavica*<sup>2</sup>, several other lines revealed themselves as important for the scholarly

1 Cf. such titles as: Charlotte de Castelnau-L’Estoile; F. Regourd (eds.) – *Connaissances et pouvoirs. Les espaces impériaux (XVIIe-XVIIIe siècles). France, Espagne, Portugal*. Pessac: Presses universitaires de Bordeaux, 2005; Charlotte de Castelnau-L’Estoile, et al. (eds.) – *Missions d’évangélisation et circulation des savoirs XVIIe-XVIIIe siècles*. Madrid: Casa de Velazquez, 2011; Catherine Jami (red.) – *Mobilité humaine et circulation des savoirs techniques (XVIIIe-XIXe siècles)*. Vincennes: Presses Universitaires, 2014, etc.

2 On the role of the *Vereenigde Oostindische Compagnie* (abbr. VOC) in the inter-continental exchange of knowledge: see especially Frasië Hertroijs – *Hoe kennis van China naar Europa kwam. De rol van jezuïeten en VOC-dienaren circa 1860-1795*.

communication. The involvement of the *Via Gallica* emerges, for instance, in several names of *corsaires Malouins* (St. Malo, France) found in some book inscriptions, still visible in some owner's inscriptions in the Beitang collection now<sup>3</sup>, but I think especially of two more 'peripheral' lines, first of all the *Via Ostendana*, served by the *Oostendsche Compagnie*. This Ostend line connected during a short period the port of Ostend (Flanders, Spanish Low Countries) to Canton: this commercial line (operating basically between 1718-1728) was so successful – it distributed dividends up to 166% – that the major neighboring states (England; France; Holland) urged the Austrian Emperor to abolish it<sup>4</sup>. In this decade, it had also become a primary exchange vehicle for books, correspondence, artifacts, *naturalia* such as seeds etc. from West to East, and vice-versa. Thanks to the direct relations between some of the shareholders of the Ostend Company and the Jesuit procurator Petrus Maelcamp (1679-1741), residing in the Antwerp Professed House, this Jesuit house became also for a short period a turning point for the communication from northwest and central Europe towards China. Ca. 180 mostly unknown autograph letters, presently in the archives of the Leuven University (Belgium) and stemming from the previous archives of this Professed House are the most convincing testimonies of this connection<sup>5</sup>.

In addition, there was also the *Via Sibirica*, linking the Peking Jesuits and the *Academia Imperialis Petropolitana* (est. 1725). The communication through this three-yearly caravan route is mainly reflected in the correspondence of the French Jesuits (especially Antoine Gaubil [1689-1759]<sup>6</sup> among others) and the letters and academic reports preserved until now in the Academic archives in St. Petersburg<sup>7</sup>.

Doct.diss. Amsterdam: Vrije Universiteit van Amsterdam, 2014. A study on the corresponding role of the *Via Lusitana* is still lacking, as far as I know; for the French East Asian company, see for the time being: Claudius Madrolle – *Les premiers voyages français à la Chine: la Compagnie de la Chine*: Paris: A. Challamel, 1901.

3 Cf. Noël Golvers – *Libraries of Western Learning for China. Circulation of books between Europe and China within the Jesuit Mission*. Vol. I: *Logistics*. Leuven: F. Verbiest Institute, 2012, p. 452 and vol. II: *Formation of Jesuit Libraries*. Leuven: F. Verbiest Institute, 2013, p. 462.

4 For the general literature: see Edward J. Baels – *De Generale Keizerlijke en Koninklijke Indische Compagnie*. Oostende: Erel, 1972; Karel Degryse – *De Oostendse China-handel, 1718-1735*. *Belgisch Tijdschrift voor Filologie & Geschiedenis*. LII:2 (1974) 306-347, and the two books of Jan Parmentier – *Thee van Overzee. Maritieme en Handelsrelaties tussen Vlaanderen en China tijdens de 18e eeuw*. Brugge-Zeebrugge: Ludion, 1996, and *Oostende. Het Verhaal van de Zuid-Nederlandse Oost-Indiëvaart 1715-1735*. Amsterdam: Ludion: 2002.

5 See for a first presentation: Noël Golvers – Een collectie autografe brieven i.v.m. de China-missie van de Jezuïeten, uit de Bollandistencollecties van de Antwerpse Domus Professa in de Universiteitsbibliotheek van Leuven. In *Archieven of bibliotheken? Akten van het Colloquium van 7 december 2015, Brussel*. Dir. Dirk Leyder & Cl. Sorgeloos. Brussel: Koninklijke Bibliotheek van België, 2016, p. 17-31.

6 Published by Renée Simon – *Antoine Gaubil. Correspondance de Pékin, 1722-1759*. Genève: Droz, 1970.

7 For an 'economic' survey: see Natalia Victorovna Platonova – *Les caravanes russes à Pékin au XVIIIe siècle. Aspects financiers et comptables d'un commerce entre les deux empires*, (HAL archives-ouvertes.fr) [HAL Id: halshs-00565787]; for the connections between St. Petersburg academy and Peking: see, e.g., Francisco Rodrigues – *Jesuitas Portugueses Astronomos*. Porto: Tipografia Porto Medico, 1925, and João Manuel S. A. Miranda – *Alguns aspectos do intercâmbio científico e cultural entre a Academia das Ciências de Petersburgo e a comunidade dos "Jesuítas matemáticos" em Pequim*

The written evidence demonstrate how the works of the historian Theophilus (Gottlieb) Siegfried Bayer (1694-1738), the mathematician Leonhard Euler (1707-1783), the physicians Michael Ettmüller (1644-1683) and Josias Weitbrecht (1702-1747), but also astronomical instruments arrived through this way in Peking. Thanks to the engagement of the French astronomer Joseph Nicolas Delisle (1688-1768) and the Portuguese physician Antonio Nunes Ribeiro Sanches (1699-1783) – the latter a multi-faceted, fascinating personality – also books published in England, Central Europe, France and Portugal arrived – through St. Petersburg – in Peking, and this until the 1770s, when Sanches already left St. Petersburg and lived in Paris<sup>8</sup>.

Except from the *Via Sibirica*, all the lines mentioned – from the most current one, the *Via Lusitana* or *Goana*, to the *Gallica*, the *Batavica* and the *Anglica*, later also the Swedish and Danish ones – they all converged either in Macau or in Canton (Guangzhou). The products they brought were stored in the procurator's office of the local Jesuit college, which before had also received the 'want lists' from the individual residences / colleges in China, and destined for European fellow priests, book agents and benefactors. They reported their arrival by letter to their addressees and dispatched also at the next appropriate occasion the books, letters, etc. to their destination, unless they were withhold for the local college library. On the same occasion, the newly arrived books were also checked by the agents of the Inquisition; also, the local Fathers were occasionally involved in this control. I would refer to the discovery in 1721 by João Mourão (1681-1726) of a contingent of Jansenist pamphlets and writings on a ship of the Ostend Company, arrived in the port of Macau, almost simultaneously with a similar discovery the German Jesuit Ignatius Kögler (1680-1746) made in the luggage of the Russian merchants in Peking (1722)<sup>9</sup>; we know precisely which these titles were, thanks to the lists both Jesuits made and sent to Rome<sup>10</sup>; of all these items, only one (an edition of David's Psalms) was accepted, all the rest having been refused; whether these were destroyed or not, I don't know.

## 2. Which material carriers were used for this communication'?

Of all the possible material carriers, books (and letters) were in all probability the most important ones, also for meta-communicative reasons, as books – equally appreciated among the Chinese literati as among the Jesuits – were more than

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nas décadas de 30-50 do século XVIII. In *A Companhia de Jesus e a Missão no Oriente*. Dir. Nuno da Silva Gonçalves. Lisboa: Fundação Oriente, 2000, p. 331-364.

8 Georges Dulac – Science et politique: les réseaux du Dr. Antonio Ribeiro Sanches (1699-1783). *Cahiers du monde russe*. 43:2 (2002) 251-274, especially p. 261.

9 Noël Golvers – *Libraries of Western Learning...*, I, p. 470.

10 See Rome: Jesuit archives ARSI: JapSin., 196, f° 21r.-21v., and 44-63r.

simply instruments of communication, but were also objects of intellectual and social prestige for the Jesuits, and bibliophile interest for the Chinese literati<sup>11</sup>.

With regard to these books, a preliminary but basic question was, how to get informed on new editions, how to make a selection, and how to take care of the logistics and financing of the acquisition<sup>12</sup>. Several kinds of people were involved in this, first ‘institutional’ persons, such as the provincial *procurator Missionum Orientalium*, either in Lisbon or in Paris, Genoa etc. He was “ex officio” committed with collecting useful books for the mission – on the missionaries’ suggestion, and occasional advices by ‘experts’ such as Gottfried Wilhelm Leibniz (1646-1716) and the already mentioned Joseph-Nicolas Delisle. The procurator also searched for supernumerous doubles and triples in the libraries of religious institutions or scholar’s libraries, and paid the bills for the purchase and the transport. In order to reduce the expenses, Jesuit authors were incited to send complimentary copies of their own publications to the mission, and other people to offer books for free (“gratis”), as alms (“eleemosyna”) for the mission. The identification of the donor’s names, which can be recognized, among others, from the inscriptions in the extant books of the Beitang collection – the ca. 4,100 items of pre-Suppression Jesuit libraries in China, after 1949 transferred to the Chinese National Library (*Baishi Qiao*) – enables us therefore to recognize the social milieu in Europe, on which the mission relied: apart from Jesuits – both colleges and individuals –, these were secular priests, physicians, military men, printers (editors), etc.

Other books arrived in China in the private luggage of newly arrived Jesuits, and, last but not least, through the acquisitions, visits of the periodical *procuratores* sent by the Chinese Vice-Province to Europe made during their multiannual stay in Europe, starting with the one by Nicolas Trigault (1577-1628) and his companion (“socius”) Johann Schreck Terrentius (1576-1630). To give an idea of the potentiality of these purchases, I refer to the acquisition, in one day, the 7<sup>th</sup> of December 1616, of no less than 320 different titles in the shop of the *Officina Plantiniana* in Antwerp<sup>13</sup>. These books, as well as other items purchased at other occasions on this ‘tour’ converged, in 1617-1618, in the procurator’s office of the Far Eastern mission of the *Colégio Santo Antônio* (Lisbon), before they were sent by ship to Macau<sup>14</sup>. Unfortunately, as the archives of this Lisbon procurator are lost, we are

11 Noël Golvers – The pre-1773 Jesuit libraries in Peking as a Medium for Western Learning in Seventeenth- and Early eighteenth-Century China. *The Library*, 7<sup>th</sup> series, vol. 16:4 (Dec. 2015) 429-445.

12 For a parallel research: Natale Vacalebre – I canali di acquisizione libraria negli ordini di chierici regolari: il caso della Compagnia di Gesù. *Bibliothecae.it* 3:2 (2014) 187-202.

13 For the presentation and analysis of the acquisition list, made in the Antwerp bookshop, see my book on Terrentius (forthcoming).

14 For a (incomplete) list of these procurators, see my *Portuguese Books and their Readers in the Jesuit Mission of China*. Lisboa: CCCM, 2011, p. 19.

not able to recognize the overall role of this institution in this and all the following procurator's journeys. Similar analyses we can make for the Procurator's working in the *Maison de Professe* in Paris<sup>15</sup>.

One of the results of my research is that it demonstrated for the first time that the Western book transfer to China within the framework of the China-mission between ca. 1600-1800 was far more extensive and various than ever assumed: the 4,100 extant volumes and the ca. 1,700 different titles I could retrace from the written sources – often in more copies and /or editions – are demonstrably only part of the books once circulating in China, and an unknown proportion of books was, in different ways lost. These books introduced both 'traditional' and 'new', also un-orthodox and not-mainstream ideas and knowledge within the China mission (e.g. Copernicus; Kepler; Boccardo Frances; Gregorio Barreto; Descartes). They constituted – especially in the Peking SJ libraries, in the 1<sup>st</sup> place that of the 'Portuguese College' (Xitang, since ca. 1700 called Nantang) – slowly growing and continuously updated collections, with several consecutive layers, which made it possible also to hark back to older books (the oldest going back to 1496 [Regiomontanus]). When the main collections were thus growing in a more or less spontaneous and organic way, we recognize, on the other hand, also clear signs of a more systematic, controlled and inter-continentially coordinated acquisition policy, dictated by budgetary limitations, the particular needs of the missionaries themselves and the interests of the Chinese. A first example is when Trigault in 1615 etc. through General Muzio Vitelleschi (1563-1645) incited Pope Paul V (1550-1621) to offer an entire library<sup>16</sup>; later, in 1685, Verbiest requested the Superior General Charles De Noyelle (1615-1686) to order a more systematic search through European colleges in Lisbon, Madrid, Rome, etc., for 'modern' medical books, in order to update the medical section of the Portuguese college library<sup>17</sup>; in 1731 Cyr de Contancin (1670-1732) deliberated from Canton, in a long letter to Etienne Souciet (1671-1744), Jesuit librarian in Paris about which new books should be acquired<sup>18</sup>; one year later, in 1732, Antoine Gaubil's extensively screened the shelves in the Beitang residence, stressing the missing books or lacking and under-represented sections probably in view of a reconstitution after the 1730 earthquake<sup>19</sup>.

15 For the procurators in Paris, see the list in Joseph Dehergne – *Répertoire des jésuites de Chine de 1552 à 1800*. Roma: Institutum Historicum S.I., 1973, p. 317.

16 For this the only source is a reference (based on a letter in the Peking archive) of F. Verbiest, in 1680 (ARSI: Congr.Prov. 81, f° 219, c, recto).

17 Noël Golvers – 'The Jesuits in China and the circulation of Western Books in the Sciences (17<sup>th</sup>-18<sup>th</sup> Centuries): The Medical and Pharmaceutical Sections in the SJ Libraries of Peking'. *East Asian Science, Technology and Medicine*. 34 (2011) 15-85.

18 Noël Golvers – *Libraries of Western Learning...*, vol. 1, p. 76-82.

19 Noël Golvers – *Libraries of Western Learning...*, vol. 2, p. 197-213.

From my analysis, it clearly emerges also that the main libraries – those in Peking, Canton and Macau – had a multiple function: not only that of *bibliothèques de recherche*, offering the materials needed for their scholarly commitments and a large translation and writing project (German: *Wissensspeicher*<sup>20</sup>), but also as *bibliothèques de combat*, with books serving as ‘ammunition’ in the permanent polemics with Chinese and European opponents (*Argumentationsarsenal*), and, last but not least, *bibliothèques de prestige*, which should impress the Chinese literati – curious visitors of the Jesuit compounds – by the unusual size of the folio volumes, the exotic scripture with only 25 characters, the gilded features<sup>21</sup>, the illustrations, especially the etchings of the frontispieces, etc.

Only through this painfully collected evidence – the extant books, inventories, want lists, quotations and references in treatises and letters – it was possible to get ‘grasp’ on the reading patterns of the missionaries – sometimes as individuals<sup>22</sup> but mostly as a group – in view of their intellectual, spiritual and pastoral commitments in China, crossed with the expectations and desiderata / interests from their Chinese counterparts. Individual accents we can only recognize in case we dispose of the inventories of a personal library or a considerable series of extant books, as for Diogo Valente (Macau, 1633), Jean-François Foucquet (Peking: Beitang, between 1710-20), Policarpo de Souza (ca. 1745), Alexandre de Gouveia (ca. 1784).

Most important is the double character at least of the main libraries, which combined a Western with a Chinese library, either within the same room or in another one. The Chinese section – on which we are less well informed – may even have been more extensive than the European counterpart, if the example of Foucquet would be representative, who on his private *cubiculum* had, apart from ca. 300 Western books more than 1,000 Chinese *juan*<sup>23</sup>. Several Jesuit *scriptores* crossed the information from their Western books with that from Chinese works

20 Terms taken from the “*Gemeinsames Promotionsprogramm gefördert vom Niedersächsischen Ministerium für Wissenschaft und Kultur*” [Herzog August Bibliothek, Wolfenbüttel, 2014].

21 For instance an important element in the library descriptions of bishop Diogo Valente (Macau, 1633) and Filippo de Marino ca. 1670, provincial of the Japanese province; see the “*dorures*” mentioned in the descriptions of the French Jesuit library of Peking (Beitang).

22 The few individual (personal) libraries, of which we know the holdings, reflect through their composition very different personal (and professional) interests, also bound to the different periods: I refer to the episcopal library of Diogo Valente (of which we have a complete inventory of ca. 280 books), the library reflecting the ‘idiosyncratic’ interests of the French Jesuit Jean-François Foucquet (ca. 1710-20 in Peking), the one of bishop Policarpo de Souza (mid-18th cent. in Peking), the typical ‘Illuminist’ library of the last bishop of Peking, Alexandre de Gouveia, OFM. For the three Portuguese collections see: Noël Golvers – Circulation and Reception of Portuguese Books in the 17th/18th Jesuit Mission of China, mainly in three Episcopal Collections (D. Valente; P. de Souza; A. de Gouveia). In *Portuguese Humanism and the Republic of Letters* (Intersections, vol. XXVII). Dir. M. Berbara, K. Enenkel & A. Montoya. Leiden: Brill, 2011, p. 243-264; for Jean-François Foucquet, Noël Golvers – “*Bibliotheca in cubiculo*”: the personal library of (especially Western books of) J.-F. Foucquet, S.J. in Peking (Beitang), 1720. *Monumenta Serica*. 58 (2010) 249-280.

23 Nicolas Standaert – Jean-François Foucquet’s contribution to the establishment of Chinese book collections in European libraries: circulation of Chinese books. *Monumenta Serica*. 63:2 (2015) 361-423.

immediately at hand, confronting their data, in the fields of philosophy, astronomy, history, chronology, geography, medicine, pharmacy and natural history. Scanty indications show also that the Jesuit writers applied the same *philological techniques and methods* towards Chinese texts as they used for their Western texts.

It was thus in the context of these libraries that the intercultural exchange of knowledge found its apogee. The products of this exchange were, among others, *translations* of European texts into Chinese, and the reverse; this translation activity included also the creation of a new *terminology* in Chinese, with a large series of neologisms (for Western concepts, etc.)<sup>24</sup>, and the development of appropriate lexicological *instruments*, esp. word lists (Latin-Chinese or Chinese-Latin), sometimes starting also here from Western models (such as the dictionary of Danet<sup>25</sup>), and mostly made for individual and local use, of which many are now spread over European collections; on the other hand, there was apparently an initiative to produce a universal translation dictionary for all the SJ in China, committed to Christian Herdrich (1625-1684); when the latter died in 1684, the dictionary was not yet printed, and we lost all traces of it, and no similar initiative has been taken afterwards.

As collectors and students of Chinese texts, the European Jesuits in China were also among the first to send *Chinese texts to Europe*, the first time in the 1570s, starting with individual volumes (even torn in several parts) and later entire libraries (Couplet; Foucquet; Bouvet, etc.<sup>26</sup>). From the evidence so far collected<sup>27</sup> it emerges that most of the items inventoried now and arrived in the 17<sup>th</sup>, (early) 18<sup>th</sup> century in Europe could indeed be retraced – directly or indirectly – to a Jesuit provenance, even those acquired through the VOC and Batavia. Another conclusion: these items were sent in the first place as typographical or bibliophile curiosities, either in return for benefits or to excite more attention for the China mission. *Printing* Chinese texts in Europe, on the contrary, collided with the technological problems the Chinese characters posed. Although the first individual characters appeared in Europe already in the 1570s (in Portugal [printed *Litterae Annuae* from Japan] and in

24 For the analysis of one example (Furtado & philosophical terms), see Joachim Kurtz – Anatomy of a Textual Monstrosity: dissecting the Mingli Tan (De Logica, 1631). In *Linguistic Exchanges between Europe, China and Japan*. Dir. Federica Casalin. Rome: Tielle Media, 2008, p. 35-57.

25 Jean de Fontaney on 16 Nov. 1687 (Paris: Archives des Missions Etrangères de Paris, 479 Jes. 1687-91, p. 39): “*bon dictionnaire comme celui de Danet pour le mettre peu à peu en Chinois*”; Chinese version by Dominique Parrenin, now in Glasgow: University Library: Hunterian Ms., 392, with inscription: “*Petri Daneti Lexicon Latinum Sinice conversum in usum gymnasii Pekinensis a R.P. Dominico Parrenino S.J. Missionario Pekinensi [1734]*.”

26 See Nicolas Standaert (note 23) and J. W. Witek – Jean-François Foucquet et les livres chinois de la bibliothèque royale. In *Les rapports entre la Chine et l’Europe au temps des lumières. Actes du IIème colloque internationale de sinologie*. Paris: Les Belles Lettres, 1980, p. 145-172.

27 Noël Golvers – *Building Humanistic Libraries in Late Imperial China. Circulation of Books, Prints and Letters between Europe and China (XVIIth-XVIIIth Centuries) in the Framework of the Jesuit Mission*. Roma: Ed. Nuova Cultura, 2011, p. 52 ff.; other overviews were published online (Ad Dudink & N. Standaert, CCT database; David Helliwell: Oxford).



Antwerp) [Ortelius's *Theatrum Orbis*]<sup>28</sup>, larger, coherent Chinese texts were dropped, for instance during the printing of *Confucius Sinarum Philosophus*, and in 1671 the Sicilian Jesuit Prospero Intorcetta (1625-1696) showed how difficult it was even to print the transcriptions of the characters, with the five-tones system<sup>29</sup>; it was only after the end of the 17<sup>th</sup> century that a complete set of Chinese characters ('made in Europe') was available (Berlin [the *Typographia Sinica* of Christian Müller<sup>30</sup>]); Paris [Etienne Fourmont<sup>31</sup>].

The Chinese books sent to Europe – also on 'command' (e.g. of the French King Louis XIV) – do not show to my opinion a primary intention among the Jesuits to communicate Chinese language to a more general European public; this explains also the few attention for the composition / spread of a Chinese grammar or dictionary, *pace* Martino Martini's manuscript *Grammatica Sinensis*<sup>32</sup>. All in all – even when these Chinese books became in some cases the start of a private study of Chinese (Andreas Müller; Christian Mentzel; J. Th. Royer) –, the absence of a systematic introduction, and the fact that most of the Chinese books submerged as precious curiosities in private collections made, that these may have prepared some intellectual Sino-philia in Europe, but did not give rise to a European Sinology in its proper sense; this happened only in the 19<sup>th</sup> century.

In Jesuit manuscripts a series of auctorial remarks concerning their consultation of Western and Chinese books, quotations and references as well as a series of physical indications in extant books, such as underscores and marginal or interlinear annotations, all this leaves no doubt about the fact, that these libraries were not 'sleeping' collections, but the books were part of a *living / vivid* scholarly culture, and the readers 'active'; reading was not a gratuitous pastime, nor a form of distraction or evasion: the part of the *Belles Lettres* was therefore also too small. On the contrary, reading was directly connected to scholarly projects, technological enterprises and spiritual / pastoral needs.

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28 For Portugal: João José Alves Dias – Os primeiros caracteres chineses impressos no Ocidente. In *Portugal-China, 500 anos*. Dir. Miguel Castelo-Branco. Lisboa: BNP, 2014, p. 77-83.

29 Noël Golvers – An unobserved letter of Prospero Intorcetta, S.J., to Godefridus Hensgens, S.J., and the printing of the Jesuit translations of the Confucian Classics (Rome – Antwerp, 2 June 1672). In *Syntagmata. Essays on neo-Latin Literature in Honour of Monique Mund-Dopchie and Gilbert Tournoy*. Dir. Dirk Sacré & Jan Papy (eds.). Leuven: UPL, 2009, p. 679-698.

30 On this typography (now in the *Bayerische Staatsbibliothek* in Munich): Johann Dill – Die *Typographia Sinica* in der Asia-Afrika Abteilung der Deutschen Staatsbibliothek. *Marginalien. Zeitschrift für Buchkunst und Bibliophilie*. Heft 100 (1985) 85-96 and Hartmut Walravens – *China Illustrata. Das europäische Chinaverständnis im Spiegel des 16. bis 18. Jahrhunderts*. Weinheim: Acta Humaniora, VCH, 1987, p. 266-267.

31 Cécile Leung – *Etienne Fourmont (1683-1745). Oriental and Chinese Languages in Eighteenth-Century France*. Leuven: LUP, 2002, 241 ff.

32 On this grammar, see the recent study of Luisa Paternicò – *When the Europeans Began to Study Chinese. Martino Martini's Grammatica Linguae Sinensis*. Leuven: LUP, 2013: yet, also in this case the only certain contemporary testimony of the intention to 'spread' this knowledge was the (revised) copy of Lobkowitz.

This scholarly culture was also kept at level – and updated – by an *extensive correspondence* between Europe and China, using the same means of transport (the aforementioned 7 “viae”) as for the books themselves. Yet, whereas books were, for obvious reasons (costs!) mostly sent in one sole copy, letters could be sent in more copies / transcriptions, and the knowledge transmitted through them was thus less subject to be lost; not rarely, precious and luxurious books indeed disappeared – or were even withheld in one of the Jesuit colleges between Europa and inland China. Finally, even when letters were – physically speaking – more ‘vulnerable’, they were also more mobile, and mostly faster. Therefore, since Johann Schreck Terrentius in the 1620, the Jesuits in China preferred for the communication of scientific novelties (“*novissima*”; “*recentissima*”) from Europe letters<sup>33</sup>, and Terrentius had, before his departure from Europe purposely made structural appointments in order to keep the stream of information he got from his ramified network in Europe going on also after his departure. As in the Early Modern *Res Publica Litterarum* in general, especially among the Jesuits correspondence was a well-regulated medium (cf. the Jesuit *Formula scribendi*), which connected the remotest part of the world with the center (Rome) and the basis with the top, and vice-versa, contributing by this to shape a ‘corporatist’ identity<sup>34</sup>. As most Jesuits were sharp and intelligent observers, who wrote from a particular interesting position<sup>35</sup>, common letters and general reports (from individual reports through the *pontos*<sup>36</sup> from individual colleges to synthetic *Litterae Annuae*<sup>37</sup>), very often contain scholarly information: the book request was discussed through letters, projects were described in detail (see the so-called ‘Tartary letters’ of F. Verbiest), or information was requested for particularly complicated technological details (Grimaldi and some hydraulic instrument) or difficult operations (see Verbiest’s letter to Antoine Thomas on geodetic operations in Tartary), while other letters contain the results of astronomical observations (Thomas’s *Epistola astronomica*); real *Gelehrtenbriefe* – dedicated exclusively to learned topics – we find especially in the correspondence of Ignatius Kögler (1680-1746) and Antoine Gaubil, as well as in that of other French Jesuits. Basically, much

33 Gabrielo Gabrieli – Giovanni Schreck Lincoo, gesuita e missionario in Cina e le sue lettere dall’Asia. *Rendiconti dell’Accademia dei Lincei, Classe Scienze Morali* etc. 6° s., VIII (1937) 462-514, especially p. 510: “*Eos libros expectare nimis longum est, facillime detinentur, aut pereunt quod non mittantur pluribus viis: charta facilius et citius huc pertingit nimirum intra tres annos*”.

34 According to the appropriate description of Luce Giard & Antonella Romano – L’usage jésuite de la correspondance. La mise en pratique par le mathématicien Christoph Clavius (1570-1611). In *Rome et la Science Moderne entre Renaissance et Lumières*. Collection de l’Ecole française de Rome, 403. Ed. A. Romano. Rome: Ecole française de Rome, 2008, p. 65-119.

35 Overview: Noël Golvers – “Savant” correspondence from China with Europe in the 17<sup>th</sup>-18<sup>th</sup> centuries. *Journal of Early Modern Studies*. 1:1 (2012) 21-41.

36 Or preparatory annotations.

37 Overview by Joseph Dehergne – Les lettres annuelles des missions jésuites de Chine au temps des Ming (1581-1644). *Archivum Historicum Societatis Iesu*. 49 (1980) 379-392; Lettres annuelles et sources complémentaires des missions jésuites de Chine (Suite). *Archivum Historicum Societatis Iesu*. 51 (1982) 247-284.

of the Jesuits' scientific work in China would remain unknown to us without this epistolary evidence. This correspondence was of course also the main instrument for decision making, for asking theological advices in pastoral or liturgical questions (cf. Verbiest; Brancati-Bardi), and much more, but this I will keep now aside.

Finally, mostly it is only the Western part of this extremely copious – and very ramified – correspondence, which is preserved, that is, the outgoing Jesuit mail from China, which converged in European collections, while the archives of the SJ residences in China were destroyed, including most part of the incoming mail. The main exception are the copies of the *Jesuitas na Asia*-collection (Ajuda: Lisbon), which are, however, rarely on scientific / scholarly topics. Of the very rich Chinese correspondence of the Jesuits almost nothing is preserved, unless some translated letters (e.g. letter of “Thaiso” [i.e. *Qu Rukui*] in Longobardo<sup>38</sup>).

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For a fast update of their information, and a quick circulation of new observational results, instruments or tools, medicaments and treatments, projects and publications etc., the European *Res publica Litterarum* extensively used since the end of the 17<sup>th</sup> century *periodicals* and newspapers. The presence and circulation of European periodicals, academic, specialized and others, also in China, is one of the aspects which remained so far overlooked in the study of the Jesuit mission, although it is one of the most convincing testimonies of their ‘active’, vivid intellectual culture. During my investigation on their book culture, I found evidence for more than 20 titles, such as *Acta Eruditorum*, *Journal des Sçavans*, *Transactions of the London Philosophical Society*, the *Acta Curiosorum Naturae*, *Mémoires de Trévoux*, the *Acta* of the Academy of St. Petersburg, etc.<sup>39</sup>. The *Gazeta de Lisboa*, a general journal with a large scope on intellectual life in simultaneous Lisbon represents Portugal, and the analyses of André Belo have proven, that the consecutive issues of this *Gazeta* were the source for many new information on medical treatments, etc.<sup>40</sup>. The few issues of the *Jornal enciclopédico (...) destinado para instrução geral com a noticia dos novos descobrimentos em todas as sciências e artes (...)* prove<sup>41</sup> that this contact continued

38 Cf. Niccola Longobardo – *Recentissima de amplissimo regno Chinae*. Moguntiae (Mainz): Typis Ioannis Albini, 1601, p. 12 ff.

39 Noël Golvers – *Libraries of Western Learning for China*. Vol. III: *Of Books and Readers*. Leuven: F. Verbiest Institute, 2015, p. 461 ff.

40 André Belo – *As gazetas e os livros. A “Gazeta de Lisboa” e a vulgarização do impresso (1715-1760)*. Lisboa: Instituto de Ciências Sociais da Universidade de Lisboa, 1997.

41 Fernando Egidio Reis – The popularisation of science in Portugal in the eighteenth century: «The Encyclopaedic Journal» (*Jornal Enciclopédico*). In *Institutions and Societies for Teaching, Research and Popularisation*. Ed. A. Despy-Meyer. Turnhout: Brepols Publishers, 2002, p. 295-305.

after the suppression of the mission, during the period of the *Luzes*, thanks to Alexandre de Gouveia, last bishop of Peking (1783-1808)<sup>42</sup>.

Obviously there was an *interaction* between periodicals, books and correspondence: first as many new titles were known in China by a reference in periodicals, be it only through a title, a review or a summary, and for several titles it remained the only source of information; this emerges clearly from many titles of Adelbulnerus, Amort, Della Briga, Charon, Fleurieau d'Armenonville, Malpeines, François Noël, etc.<sup>43</sup>. On the reverse, Jesuit letters from China with learned observations were also read throughout the European *Res publica litterarum*, sometimes also inserted and printed in periodicals. Finally, many letters were, mostly partly, dedicated to the acquisition of copies of both periodicals and books. The letters offer indeed a unique and impressive evidence of the considerable efforts the Jesuits made to obtain missing issues, back sets, and to keep their 'collections' of journals complete, and this until the end of the 18<sup>th</sup> century: particularly instructive in this respect is again the correspondence of Gaubil (in Peking between 1722-1759), while the results of this action are still visible in the many still extant volumes in the National Library of Peking.

This persistent request is almost absurd, if this new knowledge would not have been used and applied: physical traces in many extant issues, as well as a host of references in manuscript texts and letters to passages in the current issues of these periodicals prove indeed the *real consumption* of this fresh information. Still, there is one reserve to be kept in mind: the evidence almost exclusively stems from Peking, and it is unclear to what extent current issues also circulated throughout the minor residences within China: while a relatively constant arrival was in Peking the rule, outside the capital it was depending from the scholarly activities of one or other Jesuit on the spot; this is suggested, e.g. by the enthusiastic receipt, on 10 Oct. 1723, of 28 issues of the *Acta Curiosorum Naturae* (1670-1717) in a small French mission post of Jiujiang (Jiangxi Province) by Joseph de Prémare, sets which afterwards were apparently forwarded to the French residence in Peking<sup>44</sup>.

A peculiar type of periodicals was the European *newspaper*, mostly called *gazetta* or *Mercurius*, in one of the national languages. Arrived by ship, not rarely from Batavia, not rarely lost *in via* or terminated for budgetary reasons, more than once epitomized, translated and circulated through China (Petrus van Hamme, SJ), these newspapers were eagerly read for their information on the national, especially international political situation in Europe. This was probably not only a question of

42 On his library, see Johann Beckmann – Bischof Alexander de Gouvea von Peking (1771-1808) im Lichte seiner Bibliothek. *Euntes Docete*. 21 (1968) 457-479.

43 See Noël Golvers – *Libraries of Western Learning...*, Vol. I, p. 106-107.

44 Noël Golvers – *Libraries of Western Learning...*, vol. III, p. 465.

pure curiosity, but also for the impact European international politics had on the international communication, including the routes between Europe and China.

Strategic interests and general curiosity incited the Jesuits also to read *Chinese newspapers* or other official publications, called “jingbao” or “dibao” (in Latin texts called: “gazetta” as well): there, they found important information on the circulation of officials and new promotions, but also on natural disasters and other *mirabilia*; in several Jesuit letters or other texts large parts of these *portenta* or *omina* – part of Aristotelian meteorology – were translated in Latin / Flemish and spread to Europe, representing a so far overlooked complement to the late-17<sup>th</sup> century issues, which in China do no longer exist<sup>45</sup>.

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With this, we did by far not exhaust all the media, which circulated new knowledge or information between both parts of the Eurasian continent. There is indeed a conspicuous corpus of testimonies on the acquisition, the circulation and various application of *figurative* sources, often called in general *imagines*, if not more specifically *figurae*, *adumbrationes*; *schema(ta)*; *delineationes*; *iconismus*, etc., indicating prints, diagrams, etchings, portraits, book illustrations and other graphics. Prominently used as a medium for the evangelization, the catechization and the liturgy, I think within this framework in the first place of diagrams of instruments, experiments, anatomy, plants and other “realia”, which were related to the cultural and ethnographic aspect of either Europe or China<sup>46</sup>. While the esthetic aspect of the (especially) large size figurative representations, especially in etchings and frontispieces was particularly teasing the Chinese bibliophile literati, most appreciated among the Jesuit scholars were *technological* book illustrations, if possible of folio-size – even on folding plates –, with letters / numbers indicating the individual parts of the print and referring to accompanying, extensive textual explanations, either in the captions (*explicatiuncula*) or the running text. This was the more welcome – as explicitly explained by such ‘engineering Jesuits’ as Ferdinand Verbiest and Ignatius Kögler<sup>47</sup> – as none of them had received in Europe a specialized instruction in technological matters, and often they had – on their own – to translate or interpret the textual descriptions into a real ‘machine’ (cf. *infra*). I think here of technological books, like Tycho Brahe’s *Astronomiae Instauratae Progymnasmata* (Uraniburg, 1610), Kircher’s and Gaspar Schott’s lavishly illustrated

45 Examples are for instance to be found in the correspondence of Philippe Couplet, and in the *Compendiosa Narratione* (Rome: Tizzoni, 1672) of Prospero Intorcetta.

46 Noël Golvers – *Libraries of Western Learning...*, Vol. III, p. 480 ff.

47 See Noël Golvers – *Libraries of Western Learning...*, Vol. III, p. 160, the explicit testimony of Ignatius Kögler: “*Quae de mechanicis desiderabam non erant libri, qui leges motuum aut machinarum theorias tradunt, sed qui nova quaedam inventa organica in figuris exhibent cum commoda et dilucida explicatione, quae ad facillimam imitationem indicat*” (13.XI.1723).

technological volumes and Plumier's *L'art de tourner* (Lyon, 1701), the latter a manual for the building and application of the lathe, a 'universal' instrument much in demand in the China Mission.

But also outside the technological sphere illustrative sources of information were intensively used for new information – circulating occasionally also as loose sheets. I think of *astronomical tables*: more than 20 different *Tabulae* or Tables circulated parallelly (in alphabetical order from the *Alphonsinae* (ca. 1252-1270) to the ones of V. Wing [1652, etc.] and E. Zanotti [1750; 1774]<sup>48</sup>) as well as other drawings and – with regard to the sublunary world – plate books and illustrated monographs on natural history, especially botany (from Dioscorides over Caspar Bauhin to Joseph de Tournefort), but also on entomology (Maria Sybilla Merian) and anatomy. As anatomy concerns: it may be typical that, when in 1685 Verbiest writes directly to the General in order to update the medical section in the library of the Portuguese college in Peking, he refers to *tabulae anatomicae*, a reference either to contemporary anatomical sheets<sup>49</sup> or to anatomical plate books<sup>50</sup>; because of the Chinese *pruderie* these prints were probably not acceptable, but they were equally necessary for the surgical operations in which some Jesuits (especially the *coadjutores temporales*) were involved.

These and other Western figurative models became a source of amazement among Chinese, and incited some artists to forms of *imitation*, not only of topics and models, but also of techniques, such as *clair obscur*, perspective, etc.<sup>51</sup>. Often, however, these imitations show misunderstandings of the original scene, and especially distortions of the technical details. The former is recognizable, for instance, in a Leuven thesis plate of 1653 – an allegorical representation of a mathematical thesis, with a series of instruments – which I could recognize as the model of a Chinese painting wrongly attributed to Dong Qichang (1555-1636), and in which the Chinese artist misinterpreted the instruments<sup>52</sup>. Similar misinterpretations of instruments and their parts we find especially in other science or technology-related prints. Such are the technical diagrams in Terrentius's *Qiqi tushuo* (1627) and in Verbiest's *Yixiang tu* (1674), the former showing especially hydraulic techniques

48 Noël Golvers – *Libraries of Western Learning...*, Vol. III, p. 243 ff.

49 For basic literature on these sheets, see Le Roy Crummer – Early anatomical fugitive sheets. *Annals of Medical History*. 5 (1923) 189-209 and 7 (1925) 1-5, and especially Andrea Carlino – *Paper bodies: a catalogue of anatomical fugitive sheets in the Age of Printing and Dissecting (Medical History Supplement)*. London: Wellcome Trust Centre for the History of Medicine, 1999.

50 I thank Dr. Hervé Baudry (CHAM, Lisbon) for this suggestion.

51 Elisabetta Corsi – *La fabrica de las ilusiones. Los jesuitas y la difusión de la perspectiva lineal en China, 1698-1766*. México: El Colegio de México, Centro de Estudios de Asia y África, 2004; Hui Zou – Jesuit Perspective in China. *Arquitectura*. 31 (2001) 148-168.

52 Noël Golvers – A Chinese Imitation of a Flemish allegorical picture representing the Muses of European Sciences. *T'oung Pao*. 81 (1995) 303-314.

and machines<sup>53</sup>, the latter offering a series of 117 beautiful, Tycho-based drawings of astronomical instruments, in some aspects distorted, attributed by Verbiest to the *incuria* (“negligence”) of the Chinese designer / carver.

Other cultural topics included European *cityscapes, palaces and gardens*, style Vredeman de Vries (+ 1604) or Frans Hogenberg (+ 1590), all demonstrating the effects of Western perspective, but also French plate books on the theme ‘*Royal palaces and gardens in Versailles*’<sup>54</sup>, and, much later, the illustrations of festivities at the St. Petersburg Court<sup>55</sup>; copies of these models, made by Jesuits and their Chinese pupils – e.g. in the Xitang and Dongtong garden – as well as paintings representing the Portuguese College church, with all its *mirabilia* (e.g. a double organ) circulated through China, also as a protection against persecutions (as the Emperor’s inscription, received in July 1675, was clearly displayed on these imitations). Even *portraits* of contemporary European Kings (Jan III Sobieski; the Roman Emperor Leopold I; the ‘*Rex Christianissimus*’ Louis XIV) were put on display in the Jesuit residences of Peking, and were functional in building up ‘diplomatic relations’ with personalities highly eulogized by the Jesuits, but not directly acquainted nor met by the Chinese Emperor.

There existed among the Jesuits also great interest for graphic representations of their *Chinese* context, in its naturalistic, urbanistic and even industrial aspect: products of Chinese graphic arts were sent to Europe, in the same way as books, although our evidence for the prints is (as far as I know) far less explicit: I think of the Chinese prints on natural history (fauna and flora) offered by Intorcetta to the Duke of Bavaria and the Roman Emperor in Vienna (both ca. 1671), and the Chinese and Manchu *imagines* Petrus Van Hamme (1651-1727) sent to Europe<sup>56</sup>; other (albums of) illustrations were sent by François-Xavier Dentrecolles (1664-1741) e.g. the series on the production of porcelain<sup>57</sup>, and Jean-Joseph Marie Amiot (1718-1793), e.g. illustrations on Chinese religious dance<sup>58</sup>. Sometimes these Chinese illustrations were, after their arrival in Europe, adapted to the Western esthetic standards: see the drawings made on the spot by Joan Nieuhof (1618-1672),

53 On such technical ‘misunderstandings’ by the Chinese carver in *Qiqi tushuo*, see Samuel Y. Edgerton – *The Heritage of Giotto’s Geometry: Art and Science on the Eve of the Scientific Revolution*. Ithaca (N.Y.): Cornell University Press, 1991, p. 272-273.

54 See some extant copies mentioned by Hubert Verhaeren – *Catalogue de la bibliothèque du Pé-tang*. Pékin: Impr. des Lazaristes, 1949 and the explicit request of Antoine Gaubil by letter of 1733: “(...) des vues enluminées de Marli, de Versailles” (Renée Simon – *Antoine Gaubil. Correspondance de Pékin...*, p. 345).

55 See the correspondence in the Academy of St. Petersburg.

56 See the references in his letters, published by Pieter Visschers – *Onuitgegeven brieven van eenige Paters der Societeit van Jesus, Missionarissen in China, van de 17e en 18e eeuw, met aanteekeningen*. Arnhem: Jozué Witz, 1857.

57 See Mme Yves de Thomaz de Bossierre – *François-Xavier Dentrecolles (Yin Hong-Siu Ki-Tsong) et l’apport de la Chine à l’Europe du XVIIIe siècle*. Paris: les Belles Lettres, 1982. For the relevant passages in his letters: <http://gotheborg.com/letters/>.

58 See Yves Lenoir & Nic. Standaert – *Les danses rituelles chinoises d’après Joseph-Marie Amiot*. Namur: Presses Universitaires de Namur, 2005.

which were afterwards Europeanized<sup>59</sup>. A chapter on its own are the Sino-Western instrument drawings in Verbiest's *Yixiang tu* (1674), which were sent in rather great number to Europe, where they functioned as a kind of 'graphic ambassadors' for the astronomical work of the Jesuits in China<sup>60</sup>.

A particular graphic instrument for the transmission of knowledge were geographical, nautical or stellar *maps*, either printed on loose sheets (e.g. as a wall map) and easy to be circulated, e.g. as a present, or as part of an *Atlas*, either a national or a world atlas. They not only visualized one particular *area* of the world, but reflected also a cartographic *vision* on the planet, its shape and the proportion of its parts, and some techniques applied for the production of the same. *World* maps were useful to demonstrate the Western view of the earth and the position of China to Chinese literati, confronting and correcting the traditional Chinese vision. Partial (national) maps were accompanied by textual descriptions (see, e.g. Verbiest's *Kun yu tu shuo*, etc.), all this to satisfy the curiosity of the Chinese, who were also interested to know more about the Western countries, where the individual Jesuits came from. In addition, Jesuits such as Michael Boym (1612-1659) and Martino Martini (1614-1661) also adapted pre-existing Chinese maps into European products, the latter shaping with his *Novus Atlas Sinensis* (1655) for almost one century the European view on this part of the world, the former missing all further reception<sup>61</sup>. Later, the Jesuits applied their own *mapping skills* on the terrain, within the framework of the Emperor's mapping projects, starting with Verbiest observing in Tartary (1682-1683) and Antoine Thomas measuring the earth radius, etc.<sup>62</sup>. Really productive they only became, after having been accepted by the Imperial cartographical bureaus and being complemented by Chinese techniques: this at last resulted in the early 18<sup>th</sup> century in the famous Kangxi maps of China<sup>63</sup>.

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In the margin of the transmission of Western knowledge to China also many *non-paper objects* functioned, carrying, visualizing (diagrams) or producing knowledge, or being subject to new skills, practices and techniques. Especially influential were scientific tools or instruments, which were used for the production

59 See on these drawings Leonhard Blussé & R. Falkenburg – *Johann Nieuwhofs beelden van een Chinareis 1655-1657*. Middelburg: Stichting VOC, 1987 and Friederike Ulrichs – *Johan Nieuwhofs Blick auf China (1655-1657). Die Kupferstiche in seinem Chinabuch und ihre Wirkung auf den Verleger Jakob van Meurs*. Wiesbaden: O. Harrassowitz, 2003.

60 Noël Golvers – *Ferdinand Verbiest and the Chinese Heaven*. Leuven: LUP, 2003.

61 For a contrastive picture of both Jesuit missionaries-cartographers in European perspective: N. Golvers – Michael Boym and Martino Martini: a Contrastive Portrait of two China missionaries-mapmakers. *Monumenta Serica*. 59 (2011) 259-271.

62 A letter, in which the former consulted the latter on geodetic methods is in Antwerp, Museum Plantin Moretus (MPM), 30. Noël Golvers – An unnoticed letter of F. Verbiest, S.J. on his geodesic operations in Tartary (1683 / 1684). *Archives internationales d'histoire des sciences*. 50 (2000) 86-102.

63 See Mario Cams – *Companions in Geography. East-West Collaboration in the Mapping of Qing China (c. 1685-1735)*. Leiden: Brill, 2016.



of new knowledge: (1) *optical* instruments (from lenses to sophisticated telescopes and microscopes); products of an always more refined European fabrication, in which the most advanced and specialized production houses of Europe (especially in France and England) were involved (the firms Borelly, Butterfield, Campana; Clapotot, etc.); (2) *measuring* instruments, in various fields, incl. geometry, geodesy and...medicine (we are in the period of *iatro-mechanica*: cf., e.g. the “*pulsilogium*” of Santoro Santorio, etc.); (3) *surgical* tools (Gilbert Bordes); (4) *mechanical* tools (from a *pantocrator* to the lathe), etc. These also introduced artistic and industrial *techniques*, such as perspective painting (e.g. Grüber; Buglio; Grimaldi; Moggi-Castiglione, Panzi); glass blowing; casting techniques for guns / cannon (Schall; Verbiest); etc.; hydraulic techniques for the production of fountains etc. (Verbiest > Michel Benoist). Instructive for the various domains Jesuit competences spanned in the 1<sup>st</sup> half of the 18<sup>th</sup> century may be a list of professional skills needed in the China mission, made by Ignatius Kögler<sup>64</sup>, as well as an overview of the competences represented by the French missionaries<sup>65</sup>.

For the use, or even mounting or assembling of these instruments on the spot the Jesuits relied on a series of *technical manuals*, of various types, from comprehensive works (e.g. the *theatra machinarum*<sup>66</sup>) to particular books (such as Plumier’s monograph on the lathe), occasionally complemented by epistolary information. The further collection of textual or physical proofs of the mutual interaction between the reading of these books (reflected by underscores; marginal annotations, etc.) and the instruments, and these instruments and one particular project is a challenging project for the future<sup>67</sup>.

Finally the transmission of new knowledge / information from Europe to China, and vice versa occurred also by *oral contacts*, the effect of which is, for obvious reasons, far more difficult to recognize in our (written) historical sources. Newly arrived Jesuits were interrogated, not only by their colleagues, but also the Emperor, who took the occasion to check the level of knowledge of the Jesuits in the Palace service<sup>68</sup>. But also less expected meetings brought new information: I think of the medical information orally transmitted by the German physicians of the Russian

64 Berlin, Staatsbibliothek Berlin-Preussischer Kulturbesitz, Ms. Lat. Fol. 640, f° 84v.

65 See Pierre Huard & M. Wong – Les enquêtes françaises sur la science et la technologie chinoise au XVIII<sup>me</sup> siècle. *Bulletin de l’Ecole française d’Extrême Orient*. 53:1 (1966) 137-226.

66 On the presence of books of this genre: Noël Golvers – *Libraries of Western Learning for China...*, vol. III, p. 162ff.

67 Think, e.g. on Claudio Filippo Grimaldi and Francesco Eschinardi (*De Impetu*, p. 241) through their correspondence with the Jesuit Francesco Baldigiani in Rome (JS 167, f° 92r.); Verbiest – Grimaldi and Barattieri, also concerning hydraulics; Michel Benoit and Böckler (for hydraulic machines, incl. fountains, etc.: Lianming Wang – *Propaganda Fidei. Die Nantang-Kirche und die jesuitischen Sakralräume im Peking der Frühen Neuzeit*. Diss. Heidelberg, 2014, p. 155ff.).

68 A revealing sentence I found in the aforementioned letter of Kögler (Berlin: SBB-PKB Mas. Lat. Fol. 640, f° 85r).

caravan routes, in their meeting with Jesuits of the Portuguese college in Peking, as the Jesuits from the French residence jealously reported.

### 3. Topographical contexts of these exchanges

We cannot finish this tentative overview of the circulation and exchange of knowledge between the Jesuits and the Chinese, without shortly reflecting on the *topographical contexts* of this exchange, that is, the various places, in which this happened.

Speaking in geographical terms: the contribution of Catherine Jami on *Pékin au début de la Dynastie Qing: capital des savoirs impériaux*<sup>69</sup> has shown how revealing also a topographical approach can be, illustrating the impact of the institutional framework, with the Emperor's personality. For the Jesuits, the *Court City* offered, potentially speaking during two centuries plenty of occasions for exchanges of knowledge between Western and Chinese traditions, and, thanks to the international composition of the Jesuit staff in the Portuguese college Xitang (Nantang) and since ca. 1700 the presence of a 'parallel' French residence Beitang, between the different European learned cultures. Even when there are signs of mutual contacts and exchanges of new information between both (such as observation results) and books were consulted in the 'other' library (J.-F. Foucquet; K. Stumpf), occasionally also signs of *reserve* in transmitting papers etc. are mentioned, as well as towards the Chinese (Verbiest and the *machine de Römer*<sup>70</sup>).

Another point is, what happened outside Peking, in the first place in *Macau*, not only a commercial emporium, but also the logistic and institutional basis of the Japan Province and the Chinese Vice-Province, as well as the *equus Troianus* of the Jesuits to China. Due to the almost complete loss of the local library and large parts of the archives, the basic position of this city in the transmission of knowledge is largely obscured. In the footsteps of the aforementioned Charles Boxer, Manuel

69 Catherine Jami – Pékin au début de la dynastie Qing: capitale des savoirs impériaux et relais de l'Académie Royale des Sciences de Paris. *Revue d'histoire moderne et contemporaine*. 55 (2008) 43-70.

70 See Noël Golvers – A note on the "machine of Roemer" in late-17<sup>th</sup> century China, Antoine Thomas, SJ, and the first contacts of Ferdinand Verbiest, S.J., with the Jesuits in Paris. *Almagest*. 4:1 (2013) 63-73. Verbiest's doubts towards the Chinese we find expressed against Andreas Lubelli in JA 49-V-19, f° 510v.; Verbiest apparently had taken these instruments on his private room, the *cubiculum mathematicum* of the Xitang college, as in 1688 Antoine Thomas, who took over the room after Verbiest died, writes "(...) *machinas planetarum et eclipsium, quas attulerunt Patres (= the French) sunt [que] nunc in meo cubiculo*" (Vanves: Brotier, 117).

Teixeira<sup>71</sup> and Ugo Baldini<sup>72</sup>, one should try to puzzle together from fragmentary data the scholarly and scientific activities in Macau, and to make the ‘crossing’ of the different traditions more visible. The opportunities are different for the individual sciences. For *mathematical* sciences, U. Baldini made a first attempt, collecting the data on mathematical teaching (and practices) in the 1620’s, but for the following decades until 1762 it is really questionable which astronomical activities were unfolded there, and how. One of the few situations we can recognize concerns Antoine Thomas, SJ (1644-1709), who was active in Macau in 1682-1685, and from his information it appears there was no equipped observatory in the city nor in the college at his disposal, and he observed with instruments ‘*fai da té*’; I have so far no reason to assume, that this situation changed drastically afterwards. Yet, from the same Thomas we know that – in connection with Macau’s position as the administrative & logistic center of the Japanese Province – there was a concentration of *maritime* or *navigational* information, arrived in this harbor with the ships coming from East and West: among this information were also maps of Japan and the Japan-route (1684).

Somewhat better informed we are on the *medical* sector, and Macau – with its SJ ‘hospital’ and *botica* – seems to have been a place where lines of communication on medical treatments and pharmaceutical remedies, coming from Europe, Goa, Batavia, Manila and Siam converged and were crossed with Chinese counterparts: main testimonies are some *receituário*’s, the handwritten medical *vademecum* composed by F. de Rougemont in the late 1650s and 1660’s and recently found in Paris (BnF).

In particular situations, also *other Chinese cities* could temporarily have seen similar scholarly activities and forms of exchange: one example is Canton, especially during the so-called ‘Canton detention’ (1665-1671), when the ca. 20 Jesuits and some Dominicans and Franciscans produced a series of translations of Chinese texts into European languages (Confucian but also medical texts<sup>73</sup>), and produced polemic texts (the apologia’s against Domingos de Navarrete by

71 Manuel Teixeira – *A medicina em Macau*. 4 vols. Macau: Imprensa Nacional, 1975-1976; Charles R. Boxer – A note on the interaction of Portuguese and Chinese medicine at Macao and Peking (16th-18th centuries). *Estudos para a historia de Macau. Séculos XVI a XVIII*. Lisbon: Fundação Oriente, 1991, p. 155 ff.; the *receituário* of Macau was published by Ana Maria Amaro – *Introdução da medicina ocidental em Macau e as receitas de segredo da botica do Colégio de São Paulo*: Lisbon: Instituto Cultural de Macau, 1992; for the global context see Sabine Anagnostou – *Missionspharmazie. Konzepte, Praxis, Organisation und wissenschaftliche Ausstrahlung* (*Sudhoffs Archiv – Beihefte*, 60). Stuttgart: F. Steiner Verlag, 2011.

72 See Ugo Baldini – The Jesuit college in Macao as a meeting point of mathematical traditions. In *The Jesuits, the Padroado and East Asian Science (1552-1773). History of Mathematical Sciences: Portugal & East Asia*, III. Dir. Luis Saraiva & Catherine Jami. Singapore: Hackensack, etc., 2008, p. 33-79.

73 Apart from the Confucian texts Da Xue, Lun yu and Zhong yong, the medical texts were translated by an ‘*eruditus Europaeus*’, namely Philippe Couplet made in 1669-1670 to the attention of Andreas Cleyer in Batavia; cf. my forthcoming article in *Archives internationales d’histoire des sciences*.

J. Lefaire, Pr. Intorcetta and F.S. Filippucci) as well as ‘historical’ reports in Latin (G. Gabiani; F. de Rougemont), which also prove the access to abundant, original Chinese materials, including relevant commentaries and linguistic instruments. All this needs more detailed investigation, to put the enormous intellectual efforts of the missionaries in its real volume<sup>74</sup>.

Finally, other places of exchange were *outside China*, where Chinese and Europeans had contacts, be it Ambon (Rumphius), Batavia (Van Hoorn; Heurnius and his translation dictionary), Pondicherry<sup>75</sup>, Goa and the rest of India<sup>76</sup>.

Complementarily, we could also investigate this circulation, and the scholarly meetings / exchanges it produced, in *micro-milieus*.

I already mentioned the Jesuit college *libraries* as meeting points, acc. to the sources eagerly visited by Chinese literati and bibliophiles, as well as Courtiers. Their consultation of illustrated Western books on artillery (Tartaglia?) became in the early 1670s the direct incitement to Verbiest’s involvement in the ‘gun-affair’. European tools and instruments were received *in toto* or mounted / assembled or even built in technical *ateliers* like the *botica* of Gabriel de Magalhães (1610-1677) in the Xitang, in the mid-1670s transferred to his country-fellow Tomás Pereira (1645-1708), both appreciated for their *ingeniosa manus*. Part of these instruments and engines, also ‘prototypes’ (Verbiest; Thomas) were put on display, e.g., in an ‘indoor’ *Museum mathematicum*’ (also called: *Wunderkammer* (Ides Brandt), mentioned for the Portuguese college as well as for the French residence<sup>77</sup>. Prototypes of other (e.g. hydraulic) engines, as well as wall paintings illustrating the techniques of distorted and anamorphic perspective were visited by the Chinese in the college’s garden.

In Europe, private collections ordered Chinese exotica, which afterwards needed to be explained by Jesuits, when passing by: cf. Martino Martini and Olav Wormius, by letter from Brussels to Copenhagen; Philippe Couplet and Christian Huygens (by letter from Paris to The Hague). In China, I think of the ateliers arranged by the Kangxi Emperor within the Palace, where Jesuits were working on clocks and other mechanical engines, learning their skills to Chinese collaborators, and other ateliers, where Pierre Jartoux (1669-1720) ‘assembled’ and ‘uniformed’ the new regional maps into one great Kangxi Atlas<sup>78</sup>. Finally I refer to the *places of*

74 A first attempt I made in: The Canton-Macau area as a ‘lieu de savoir’: the Western missionaries’ detention in the Canton Jesuit Residence (1665-1671) and their Written and Editorial Output. In *Macau. Past and Present*. Dir. Luis F. Barreto & Wu Zhiliang. Lisboa: Centro Científico e Cultural de Macau, 2015, p. 215-233.

75 See, e.g. the exchange of astronomical information between Gaubil and Boudier / Duchamps in the 1740s.

76 See Jean-Michel Delire – Astronomes européens à la cour de Savai Jai Singh II. *Journal des savants*. 1 (2013) 175-192.

77 The evidence for the Xitang is, e.g., in F. Verbiest, *Mechanica* (1676), p. 208-209 and 214-215; for the Beitang, e.g. Gaubil, p. 269 (“*cabinet de mathématique*”) and the book inscription in a copy of C. Huygens, *Horologium oscillatorium* [Verhaeren, n° 1848]: “*Pro Musaeo mathematico Sinensi PP. Gallorum*”.

78 Both the *Wuyingdian* and *Yangxindian* Halls. Mentioned as ‘supervisors’ or at least as collaborators here are Jesuits such as Ehrebert Fridelli, indicated in a book inscription as the “*Sinarum Imperatoris Musaei Mathematici Director*” (autograph

*astronomical observation*, i.e. Imperial Observatory in Peking (*“specula astroptica”*) – replacing its ‘removed’ predecessors on the spot (Gaubil, 554) – and its counterpart in Nanking, and all the other places – without particular equipment – used for doing observations: in Peking the Portuguese college Xitang and its branch, called Dongtang; the French residence and the house in Haidian; in Macau the *Monte Norte* and the Jesuit property on *Ilha Verde*; in Huai’an, etc: a systematic overview is still lacking.

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All in all, from this far too incomplete overview it appears the Jesuits were the *turning point of a two-sided communication process and two-headed project they had created themselves*, in which they tried to realize their goals in China with the means they received from Europe, and tried to engage, on the other hand, the European (political and economic, but mainly intellectual) establishment through information and exotica from China in creating better conditions for, or giving different forms of support to the China mission. This included also an entire ‘offensive’ of polemic writings: anti-Jesuit writings in Europe were collected in Europe and sent to China, where refutations were written, which as a manuscript left China for Europe to be printed and circulated there, partly also returning to China. It is clear from this that both aspects of their working (to China; to Europe) were thus organically connected (China for Europe, to improve the engagement of their European basis for their working in China). Obviously the entire enterprise in both directions was completely *relying on the same ‘routes of communication’*, either overseas or overland: these ‘routes’ – and the ‘companies / ‘lines’ which served them – were in both directions the same, and created the ‘*material’ circumstances* (the continuity; the regularity; the reliability and the technological ‘comfort’ different acc. to the company) of the communication, including also the *limitations* to it, with its various consequences to the communication itself, regarding (a) the speed by which books, information and important decisions arrived in China [with its consequences for the decisions itself, facilitated or complicated]; (b) the material losses “in via”, by accident or human intervention (mutual interceptions by opponents; the fear for interceptions on English ships; the intervention of the ‘censure’ in the port cities [Macao; Canton]; (c) the rationalization in the selection of materials to be carried from Europe to China, and vice-versa (for reasons of taxes / budget and volume).

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annotation on the copy of Pozzo’s translation *Shixue jingyun* in Vienna, OeNB, Sin. 160-C.Alt. Sin.), mentioned by Elisabetta Corsi, in: *Mirabili disinganni. Andrea Pozzo (Trento 1642 – Vienna 1709). Pittore e architetto gesuita*. Cur. Richard Bösel & Lydia Salviucci Insolera. Roma: Artemide, 2010, p. 187.