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IN THE SERVICE OF THE EMPEROR: FÉLIX DA ROCHA S.J. (1731-1781) AND QIANLONG'S "TEN GREAT CAMPAIGNS"

Davor Antonucci*

ABSTRACT

In the mid-late 18th century the Qianlong emperor (1711-1799) launched a number of great military campaigns in order to expand the Qing control over new territories on the north and south western part of his empire, as well as over the Tibet-Himalayan region: they have been recorded as the "Ten Great Campaigns" (*Shi quan wugong* 十全武功). The results of these winning campaigns were the acquisition of new territories and the submission of people, primarily the Zunghar tribes and the Khambas of Sichuan, to the Qing empire. Such an endeavor had its cost in number of lives and military expenditure. During this time some Jesuit missionaries living at court in Peking were involved on a few occasions in the emperor's agenda. In particular, the Portuguese fathers Félix da Rocha and José de Espinha, following in the footsteps of their fellow brethren almost a century earlier, at the request of the emperor not only drew maps of his new domains, but also cast cannons for one of his campaigns. In doing so, Qianlong followed the example of his predecessor Kangxi in using the scientific and technical skills of the court Jesuits in order to secure his victory and control over new conquered territories. This paper focuses mainly on Félix da Rocha's undertakings in the service of Qianlong, both as a map-maker and as an expert in ballistics and cannon casting. At the same time, it aims to show how in the 18th century the Qianlong emperor followed the example of his grandfather in his relationship with the Jesuit missionaries at court and their scientific knowledge.

Keywords: Félix da Rocha, Jesuit map-making, Zungharia, Qianlong's campaigns, Jinchuan war

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SHORT BIOGRAPHY OF FÉLIX DA ROCHA S. J.
(ALSO D'ARROCHA, DAROCHA)¹

Félix da Rocha (Ch. name Fu Zuolin 傅作霖) was born in Lisbon, on 1 August 1713. He entered the Order of the Society of Jesus on 1 May 1728 at Evora. After his period of novitiate and having followed the four-year philosophy course, during his theology training he persistently urged his superior to send him to China.

Departing from Lisbon on 13 April 1735, da Rocha arrived at the seminary of Macao on 1737 where he continued his theology studies. The following year was appointed court astronomer (12 January 1738), therefore he left for the imperial court which he reached on 1 May. In Peking he began his work as mathematician and astronomer, although according to the visitor and distinguished scientist August von Hallerstein (1703-1774) he and the other newcomer, José de Espinha (Ch. name Gao Shensi 高慎思, 1722-1788),² were not worth much as a scientist and even predicted that da Rocha would never become a mathematician.³ In contrast, Father Ignaz Kögler considered da Rocha "...juvenis est valde acris et penetrantis ingenii et avidus sciendi...".⁴ Once in Peking the young da Rocha along his fellow brother José Simões started to make trouble in their very active behavior in defending the Portuguese *Padroado*, since they were dissatisfied with the German Jesuit position in the Astronomical Bureau.⁵ As a consequence the Vice-Provincial Domingos Pinheiro decided to send him away from Peking. In 1746 a new persecution began which reduced the missionary presence to a minimum; when it ended in 1749 only 16 of the 44 missionaries still remained in the provinces,⁶ many were deported or fled to Macao. Félix da Rocha himself was called before the tribunal of the governor of the capital for having visited Christian communities outside Peking, and for having provided crucifixes, rosaries, images, and "Christianis libros sanctae legis."⁷ But in

¹ For biographical information see L. Pfister, *Notices biographiques et bibliographiques sur les jésuites de l'ancienne mission de Chine, 1552-1773*, vol. 2 (Shanghai: Imprimerie de la Mission Catholique, 1932-1934), 773-7; J. Dehergne, *Répertoire des jésuites de Chine de 1552 à 1800* (Rome: Institutum Historicum, S.I., 1973), 692; F. Rodrigues, *Jesuítas portugueses astrónomos na China, 1583-1805* (Porto: Tipografia Porto Medico, 1925), 58-64; J. Sebes, "Rocha, Félix da," *Diccionario histórico de la Compañía de Jesús*, ed. Charles E. O'Neill, S.I. and Joaquín M. Domínguez, S.I., vol. 4 (Rome: Institutum Historicum, S.I.; Madrid: Universidad Pontificia Comillas, 2001), 3382. See also R. Streit, *Bibliotheca Missionum* (Aachen: 1931), *ad indicem*.

² For biographical information see the same sources as in footnote 1.

³ Cf. J. Krahl, *China Missions in Crisis. Bishop Laimbeckhoven and His Times 1738-1787* (Rome: Gregorian Biblical BookShop, 1964), 68.

⁴ Archivum Romanum Societatis Iesu (ARSI), Rome, *Jap. Sin.* 184, fol. 188r, quoted by Rodrigues, *Jesuítas portuguesas astrónomos na China*, 58.

⁵ Krahl, *China Missions in Crisis*, 67-68.

⁶ *Ibid.*, 51.

⁷ See the *Epistolæ anecdotæ* by August von Hallerstein in Georg Pray, *Imposturæ CCXVIII. in dissertatione B. Cetto [...] de Sinensium imposturis detectæ et convulsæ. Accedunt Epistolæ anecdotæ R. P. Augustini e comitibus Hallerstein ex China scriptæ* (Budaë: Typis Regiæ Universitatis 1781), xviii.

the end, the emperor granted him pardon (“...sed Imperator, cum Judex ad eum rem detulisset, pepercit”).⁸

Two years later in 1749 da Rocha accompanied Hallerstein who had been ordered by the emperor to draw a map of Muran area in Eastern Tartary where he used to go hunting.⁹ On this occasion da Rocha likely learned-by-doing the techniques of map-making, which he would use in his surveys of Zungharia some years later.¹⁰ From 1753 to 1759 da Rocha was appointed Vice-Provincial of the China Vice-Province. In 1752 a new Portuguese embassy led by Francisco de Assis Pacheco de Sampaio arrived at Macao. Hallerstein went in person to Macao to accompany the ambassador in Peking.¹¹ On several occasions during this delegation, da Rocha helped the ambassador in his office, buying horses for the embassy and acting as a Chinese interpreter (when Hallerstein was absent).¹² According to the ambassador’s account, it was during one of these occasions that the emperor asked da Rocha about his duties at court to which he replied that he was a mathematician,¹³ possibly this was the first encounter vis-à-vis with Qianlong. For these reasons he was promoted to the mandarin rank (sixth rank), and appointed assistant director of the Astronomical Bureau (June 1, 1753).

The Portuguese embassy had little effect on the cause of Christianity in China as in 1754 various regional persecutions began. Some missionaries in Jiangnan were arrested and imprisoned (preaching Christian religion in the provinces was prohibited), as Vice-Provincial da Rocha tried to intervene in favor of his brethren without succeeding.¹⁴ In 1755 as a consequence of Qianlong’s first victory over the Zunghars, Félix da Rocha and José de Espinha were sent by imperial order to map the newly conquered territories by the Qing (see *infra*). The work of the two Jesuits pleased the emperor, which resulted in the imprisoned missionaries finally being freed after 18 months in prison. The two Jesuits went back again in Xinjiang in 1759 to finish their work, and as a consequence they were granted the title of mandarin of the third and fourth rank respectively. The emperor made use of da Rocha’s scientific

⁸ Ibid.

⁹ Ibid., xxviii.

¹⁰ According to Mosca this experience “probably determined da Rocha’s participation in the two (*sic*) later surveys of Xinjiang,” Matthew W. Mosca, *From Frontier Policy to Foreign Policy: The Question of India and the Transformation of Geopolitics in Qing China* (Stanford, CA: Stanford University Press, 2013), 110.

¹¹ *Epistolæ anecdotæ*, xxix-xxxiii.

¹² See J. S. de Neuvialle, *Relaçãõ da jornada, que fez ao Imperio da China, e summaria noticia da embaixada que deo na Corte de Pekim em o primeiro de Mayo de 1753, o Senhor Francisco Xavier Assiz Pacheco e Sampaio* (Lisboa: Na Officina dos Herd. de A. Pedrozo Galram, 1754), 4, 5, 9, 12. For da Rocha making interpreter see *Relatorio de Francisco de Assis Pacheco de Sampaio a El-Rey D. José I dando conta dos successos da embaixada a que fôra mandado á côrte de Pekim no anno de 1752*, edited by Júlio Firmino Júdice Biker, *Memória sobre o estabelecimento de Macau escripta pelo Visconde de Santarém. Abreviada relação da embaixada que el-Rey D. João V mandou ao imperador da China e Tartaria...* (Lisboa: Imprensa Nacional, 1879), 76, 85.

¹³ Ibid., 85.

¹⁴ On this question see Krahl, *China Missions in Crisis*, 111-6.

skills on two further occasions: the first during his campaign against the Khambas in Jinchuan when (see *infra*) he was sent to the front in order to help improve the Qing artillery (1774). On the second occasion he returned to the pacified area in order to draw the map of the region (1777). On this last occasion he used his influence to obtain the liberation of Jean-François Gleyo a MEP (Missions Étrangères de Paris) missionary, who had been imprisoned in Sichuan for nine years.¹⁵ Meanwhile, in a twist of fate, da Rocha had succeeded Hallerstein, who had criticized da Rocha for lacking scientific training, as president of the Imperial Astronomical Bureau 1774-1781 (*Qintianjian* 欽天監). It is worth remembering that da Rocha was in communication with the Russian Academy of Science, (the *Academia Scientiarum Imperialis Petropolitana*) and in 1755 he wrote a letter to its president, Kirill Razumowsky (1728-1803) thanking him for the books donated to the three Jesuit libraries in Peking. In return the Jesuits sent to the Russian Academy various book collections on the geography of China (description of some provinces, an *Atlas sinicus*) as well as astronomical maps (*Mappae generales stellarum*).¹⁶ Finally, in November 1774 the news of the suppression of the Society (1773) reached Peking.¹⁷ Félix da Rocha, together with some other Jesuits, promptly declared himself ex-Jesuit asking for new faculties for the administration of the Sacraments. Although the Papal brief of the suppression led to confusion and anxiety among the Jesuits concerning their status, da Rocha accepted the promulgation and continued his work at court until his death on May 22, 1781.

QIANLONG'S "TEN COMPLETE VICTORIES"

Qianlong's reign 乾隆 (r. 1736-1795) although sometimes considered as a period of peace and tranquility, was distinguished by continuous military campaigns that were waged particularly in the peripheral regions of the empire. These wars were crucial in the establishment of Qing control over distant territories such as Zungharia and the oasis of the Tarim basin (afterwards all this region was renamed Xinjiang, i.e. 'new territories') or Sichuan-Tibet borders. It is not by chance that Qianlong, considering his long reign in 1792, began to use the nickname "Old Man of the Ten Complete Victories" (*Shi quan laoren* 十全老人), with the clear aim of demonstrating how his triumphs surpassed the westward expansions of the Han and Tang empires. According to Waley-Cohen, such assertion "served to justify the immense expense

¹⁵ The episode is reported among others in *Lettres édifiantes et curieuses, écrites des missions étrangères*. Nouvelle édition, ornée de cinquante belles gravures. Mémoires de la Chine, t. 13 (Lyon: J. Vernarel, et E. Cabin, 1819), 520-6.

¹⁶ The letter to Razumowsky along with the list of books donated has been published in Rodrigues, *Jesuítas portuguesas astrónomos na China*, 119-24.

¹⁷ The events related to the suppression of the Society in China are described in Krahl, *China Missions in Crisis*, 223-45.

incurred by frequent long-distance campaigning.”¹⁸ The “Ten Complete Victories” included: three campaigns against the Zunghars 1755, 1756-57, and the conquest of Chinese Turkestan and Ili region 1758-59 (campaigns against Muslims were also led); two wars against the Jinchuan minorities in Sichuan 1747-49 and 1771-76; campaigns in Burma 1776-70, Vietnam 1788-89, Taiwan 1787-89; two wars against the Gurkhas in Nepal 1790-92.¹⁹ Qianlong’s desire to emulate the conquests of his grandfather Kangxi, as well as his aspiration to universal rulership (the Buddhist *cakravartin* king) were part of his great endeavor.²⁰

During and after two of these campaigns, specifically those against the Zunghars and the Jinchuan people, Qianlong, following the example of his grandfather, Kangxi, made use of the Jesuits in Peking, that is Félix da Rocha and José de Espinha, taking advantage of their scientific skills. The emperor, like Kangxi, had a true interest towards Western science and technology and was aware of their usefulness and accuracy (since Shunzhi’s time the Jesuits were at the head of the Imperial Astronomical Bureau), and did not hesitate in using them for his own purposes when necessary. Qianlong’s curiosity about Western customs and beliefs, as well as their rulers, is demonstrated in the questions he asked Father Benoist during a conversation at the imperial palace in the 1770s.²¹ Notably, the emperor showed a great interest towards the Western (and Russian) art of war but was unable to satisfy his curiosity (on this see *infra*).²²

FÉLIX DA ROCHA AND THE SURVEY OF ZUNGHARIA (1756-1759)

It is well-known that Kangxi emperor was accustomed to being accompanied during his trips outside the Great Wall *ad res solatium et res literarias* by the Jesuit Fathers.²³ During the 1690s the Jesuits Antoine Thomas (1644-1709), Jean-François

¹⁸ See J. Waley-Cohen, “Commemorating War in Eighteenth-Century China,” *Modern Asian Studies* 30, no. 4 (1996): 869. For the cost of Burma campaign see for instance C. Patterson Giersch, *Asian Borderlands: the Transformation of Qing China's Yunnan Frontier* (Cambridge, MA: Harvard University Press, 2006), 103.

¹⁹ Qing armies were also used to quell uprisings by the Miao minorities (1790s), Muslims (1780s) and rebels in Shandong (1774).

²⁰ On this topic see Waley-Cohen, “Commemorating War in Eighteenth-Century China,” 869-99.

²¹ The cost of the two campaigns was more than double of that spent in the conquest of Xinjiang. See *Lettres édifiantes et curieuses concernant l'Asie, l'Afrique et l'Amérique: avec quelques relations nouvelles des missions et des notes géographiques et historiques. Publiées sous la direction de M. L. Aimé-Martin* (Paris: Société du Panthéon Littéraire, 1843), 209-217.

²² It is worth noticing that emperor’s interests ranged from the Western system of governance to philosophical questions, as well as from navigation techniques to astronomical observations. According to Benoist it was impossible for him to talk about Christian religion because the emperor “continua avec tant de rapidité une suite d’autres questions, auxquelles il fallut répondre, qu’il ne me fut pas possible de toucher cette matière importante...,” *Ibid.*, 217. See also the second letter by Benoist, pp. 217-26.

²³ For instance, Ferdinand Verbiest and Claudio Filippo Grimaldi themselves accompanied Kangxi on a trip to Jehol in 1683. While Tomás Pereira accompanied Kangxi on a hunting trip to Tartary in 1685, he was actually chosen by the Emperor for his musical skills. See J. Sebes, S.I., *The Jesuits and the Sino-*

Gerbillon (1654-1707), and also Tomás Pereira (1646-1708) went to Western Tartaria²⁴ as members of Kangxi's retinue in his campaigns against the Zunghars.²⁵ Kangxi, who personally led the expeditions against the Zunghar leader Galdan (1644-1697), wanted to benefit from the Jesuits' scientific skills and satisfy his own curiosity by always having the Jesuits on hand to answer his questions. Once the war was over, in 1698 Gerbillon and Thomas took a five-month trip into Tartary to carry out Kangxi's wishes of having a map drawn of this part of his Empire.²⁶ A few years later in 1708, a full-scale survey of the empire was begun, Jesuit missionaries were divided into several surveying companies in order to be able to draw maps of different provinces and new conquered territories at the same time. The final map of the expanded Qing empire *Huangyu quanlan tu* 皇輿全覽圖 (Overview Maps of the Imperial Territories) was presented to Kangxi on 1717.²⁷ It is important to note that Kangxi's atlas laid the foundation for all the subsequent geographic surveys of China.

The Qing-Zunghar conflict lasted nearly a century, from the Kangxi emperor's first campaigns against Galdan in 1690, to the Qianlong emperor's final blow in 1760. As Peter Perdue has pointed out, during this time three empires – Russian, Qing and Zunghar (*i.e.* Western Mongols) – struggled for supremacy in the eastern part of the

Russian Treaty of Nerchinsk (1689). The Diary of Thomas Pereira, S.J. (Rome: Institutum Historicum S.I., 1962), 136.

²⁴ According to the Jesuits the Western Tartary roughly corresponds with present-day Mongolia, Inner Mongolia, Zungharia, and part of Xinjiang. The Western Tartars (*Tartari Occidentales*) are the *Kalkas* the *Kalmucs* or *Eluths*, the latter are divided into three tribes corresponding to the Torghud, Zunghar and Qoshüd, see D. Antonucci, "Some Notes from Western Sources on Galdan," *Études Orientales* 25 (1st Semester 2008): 37-38.

²⁵ See D. Antonucci, "Antoine Thomas' De Bello Cam Hi Imperatoris Tartaro-Sinici contra Tartaros Eru-tanos. Feliciter confecto anno 1697: Its Historical Meaning," in *About Books, Maps, Songs and Steles: the Wording and Teaching of the Christian Faith in China*, ed. Dirk Van Overmeire and Pieter Ackerman, *Leuven Chinese Studies* 21 (Leuven: Ferdinand Verbiest Institute, 2011), 79-100; Id., "Antoine Thomas: A Historian of the Sino-Zunghar War," in *The Itinerary of Antoine Thomas S.J. (1644-1709), scientist and missionary from Namur in China. // Itinéraire d'Antoine Thomas S.J. (1644-1709), scientifique et missionnaire namurois en Chine*, ed. Michel Hermans and Isabelle Parmentier; co-ed. Pieter Ackerman, Carole Ledent and Carole Payen, *Leuven Chinese Studies* 33 (Leuven: Ferdinand Verbiest Institute, 2017), 219-52.

²⁶ Gerbillon wrote a full detailed account of this expedition, see Du Halde, *Description géographique, historique, chronologique, politique et physique de l'Empire de la Chine et de la Tartarie Chinoise*, vol. 4 (Paris, 1735), 385-422, the map of Tartary has been published by Du Halde in his work, Thomas also left a short account. On this trip see D. Antonucci, "Dibujando el mapa de Tartaria: dos jesuitas al servicio del emperador Kangxi," in *Asia, Europa y el Mediterráneo: ciencia, tecnología y circulación del conocimiento*, ed. Lola Balaguer-Núñez, Luis Calvo Calvo and F. Xavier Medina (Barcelona: Publicacions de la Residència d'Investigadors, 2013), 217-30.

²⁷ On the different surveying stages see T. Foss, "A Western Interpretation of China. Jesuit Cartography," in *East Meets West: The Jesuits in China: 1582-1773*, ed. Bonnie B. C. Oh, and Charles E. Ronan (Chicago, IL: Loyola University Press, 1988), 222-35; map making in the Qing-dynasty empire during the reign of Kangxi emperor is analysed by M. Cams, *Companions in Geography. East-West Collaboration in the Mapping of Qing China (c. 1685-1735)* (Leiden: Brill, 2017). My review in *Imago Mundi* 70, no. 2 (2018): 246-7.

Eurasian continent.²⁸ In the end, only the Qing and Russian states survived; the Zunghars, decimated by epidemic disease, Chinese massacres, death on the battlefield, enslavement by Chinese, Russians and Kazakhs, were almost exterminated and vanished from the stage of history. The war was of great importance to the strengthening and development of the Qing empire; as a matter of fact, Kangxi's campaigns against Galdan not only helped to establish Manchu control over Northern Mongolia but also the temporary subordination of Tibet, Köke-nür and Turkestan oasis. On the other hand, Qianlong campaigns finally established a permanent control over these regions to an extent that had never before been held for a long period of time. The opportunity to launch new military campaigns was due to internal disputes over succession among the Zunghar leaders Dawaci (d. 1759) and Amursana (d. 1757). Qianlong decided to support Amursana by sending in 1754/55 a first great military expedition, Dawaci was defeated and brought back a prisoner to Peking. Amursana, however, revolted against the Qing soon after. A second campaign begun late in 1755 and ended in 1757 when Amursana fled across the Russian border and died there.

Unlike Kangxi, Qianlong never took part personally in the expeditions, but chose to follow the example of his grandfather and avail himself of Western methods of survey. As a matter of fact, he had been interested in obtaining more information on the geography and history of the region since the beginning of the war, for he considered previous histories and geographical data extremely inaccurate.²⁹ Moreover, it is worth remembering that the surveying in the Kangxi atlas (*Huangyu quanlan tu*) never went further as Hami. Clearly, highly detailed maps of the region were in the list of the emperor's *desiderata*.³⁰

As soon as Dawaci was defeated, in order to improve geographical information on the new territories, Qianlong ordered a complete survey of the region.³¹ This task was part of a larger imperial project which also included a glossary of names and large gazetteer.³² According to the *Littera Annua* of 1755, there was great expectation at court for the victory over the Eleuths/Zunghar, and as soon as the emperor

²⁸ On this topic see P. Perdue, "Military Mobilization in Seventeenth and Eighteenth-Century China, Russia, and Mongolia," *Modern Asian Studies* 30, no. 4 (1996): 757-93; Id., "Fate and Fortune in Central Eurasian Warfare: Three Qing Emperors and their Mongol Rivals," in *War in Inner Asian History*, ed. N. di Cosmo (Leiden: Brill, 2002), 369-404.

²⁹ See for instance the edicts issued on 3 March 1755 and 13 March 1756 quoted in Enoki Kazuo, "Researches in Chinese Turkestan during the Ch'ien-lung Period, with Special Reference to the Hsi-yü-t'ung-wen-chih," *Memoirs of the Research Department of the Tōyō Bunko* 14 (1955): 5-6.

³⁰ Edicts in this regard were issued for instance on 10 May 1755, 19 July 1755, 13 March 1756 "Orders have now been issued to He Guozong to proceed to Ili and make a survey of the area..." on May 7, 1756 etc., quoted in Enoki, "Researches in Chinese Turkestan during the Ch'ien-lung Period," 6-7, 9.

³¹ According to M. Mosca, Qianlong was already making preparations for surveying his new territories even before the victory over Dawaci. Mosca, *From Frontier Policy to Foreign Policy*, 107.

³² It also included the construction of a temple (Puning si) in Jehol, a victory memorial building (Ziguangge), portraits of campaign scenes by Jesuit missionaries, as well as the compilation of the detailed history of the campaigns (*Pingding Zhungar fanlue*), and a geographical study of the Zunghars

saw with his own eyes the Zunghar leader brought back as a prisoner to Peking, he was “still determined that the Vice-Provincial [at the time Félix da Rocha] along with his companion (José de Espinha) should proceed in order to draw a map of the new kingdom. Undoubtedly, on this occasion no one could doubt the expected outcome that it would have had.”³³ An imperial decree issued on 19 July 1755, ordered a team to survey and record in a complete atlas the Ili region, the land of the Zunghar tribes, and to present the maps drafted.³⁴ On 21 March 1756 a team of mapmakers under the direction of He Guozong 何国宗 (d. 1766), mathematician and president of the Censorate,³⁵ made up of Mingghatu (Ch. Ming’antu 明安图, c. 1692-c. 1763), a Mongolian mathematician and astronomer of the Imperial Astronomical Bureau from the Plain White Banner,³⁶ the Manchu officer Fu De 富德 (d. 1776), two well-trained lamas Jiramba dandar and Subudi,³⁷ and the two Jesuits, Félix da Rocha and José de Espinha, head out for Zungharia.³⁸ According to a letter by Father Jean Joseph Marie Amiot, before their departure the emperor honored the two Jesuits with a special audience, and he told them that “qu’il comptait beaucoup plus sur ce qu’ils feraient que sur ce que pourraient faire ses propres sujets et les lamas eux-mêmes car avec les deux jésuites il y a deux lamas assez bons mathématiciens pour le pays

and Muslims tribes (*Xiyu tuzhi*), see Enoki, “Researches in Chinese Turkestan during the Ch’ien-lung Period,” 2-5; J. A. Millward, “Coming onto the Map: ‘Western Regions’ Geography and Cartographic Nomenclature in the Making of Chinese Empire in Xinjiang,” *Late Imperial China* 20, no. 2 (1999): 69; on the genesis and the methods of the Qianlong court survey map see Mosca, *From Frontier Policy to Foreign Policy*, 107-14.

³³ “Victoriam igitur expectavimus, sed et spectavimus. Nam ipse Rex Elutarum captus in triumphum huc Pekinum est adductus. Determinaverat etiam Imp(erat)or ut P. V(ice)-Prov(incia)lis adlecto sibi socio (qui fuit P. Josephus Espinha) pergeret ad describendas novi Regni Mappa Geographica. Hac enim vero occasione nemo dubitabat speratum nos habituros rei exitum.” *Littera Annua* of the Chinese Vice-Province, 1755, ARSI, *Fondo Gesuitico (FG)* 722, fol. 5rv.

³⁴ Fu Lo-shu, *A Documentary Chronicle of Sino-Western Relations (1644-1820)*, vol. 1 (Tucson: University of Arizona Press, 1966), 194.

³⁵ See A. W. Hummel, *Eminent Chinese of the Ch’ing Period* (Taipei: Ch’eng Wen Pub., 1970), 285-86.

³⁶ On Mingghatu involvement in the surveying project see Shi Yun 史筠, “Menggu zu kexuejia Ming’antu” 蒙古族科学家明安图 (Ming’antu a Mongolian scientist), *Neimenggu daxue xuebao* 内蒙古大学学报 1 (1963), 69-73.

³⁷ Two other members, namely Haqinga 哈清阿 and Nusan 努三 were already on the ground.

³⁸ Actually, Father August von Hallerstein was asked by the emperor to take part to the expedition, however he refused because of his old age and the lack of strength (“...ergo quietum me tenui. Tandem ipse edixit, parcere se aetati, et viribus...”), then he told to da Rocha to choose his own *socius* for the journey, *Epistolae anecdotæ*, xxxix. In the past some scholars claimed erroneously that Hallerstein took part in the second expedition, among others A. von Humboldt, *Asie centrale: recherches sur les chaines de montagnes et la climatologie comparee*, t. 1 (Paris: Gide, 1843), xv; Baddeley, *Russia, Mongolia, China* (London: Macmillan and Co, 1919), cxci; Sven Hedin, *Southern Tibet: Discoveries in Former Times Compared with My Own Researches in 1906-1908*, vol. 1 (Stockholm: Lithographic Institute of the General Staff of the Swedish Army, 1917), 222.

et deux Chinois ou Tartares chinoises, membres du tribunal d'astronomie de Pékin.³⁹ Moreover, in order to facilitate the missionaries in obtaining the necessary assistance for their operations, the emperor awarded da Rocha with the title of mandarin of the third rank, while de Espinha was awarded with the fourth rank,⁴⁰ for the same reason the emperor granted the former with four hundred "argenti uncias," and the latter with three hundred *ad viaticum*.⁴¹ When the team finally arrived at the Chinese borders they found the country in great *désordre*, Amursana and many other minor kings had retreated and turned against the Qing. In a letter sent from King-se, a small river, da Rocha blames Amursana for having caused death and destruction over Zungharia, which he considers as one of the most flourishing kingdoms in Tartary of the past centuries.⁴² Because of the turmoil the group waited a couple of months at the Chinese borders, then at Barkul it divided into two teams: Haqinga, Hong Guozong, José de Espinha and the lama Jiramba dandar proceeded southwards; the team formed by Nusan, Mingghatu, da Rocha and the lama Subudi took the northern route.⁴³ The two Jesuits on camel and horseback taking different routes,

³⁹ Letter to P. de La Tour, in Paris, (Péking November 24, 1756) contained in P. Brucker, "Position géographiques du Turkestan et de la Dzoungarie," *Bulletin de la Société de géographie de Lyon* 3 (1879): 368.

⁴⁰ Ibid. Pfister instead says that da Rocha was honoured with the second rank. Pfister, *Notices biographiques et bibliographiques*, 774, see also Dehergne, *Répertoire des jésuites de Chine*, 313. Nevertheless, in the *Littera Annua* of 1755, ARSI, FG 722, fol. 13v, it is clearly stated "Felici da Rocha tertii gradii, Patribus Josepho Espinha quarti gradii dignitatem inter Mandarinos contulit." The Father General sent him his personal congratulations for this achievement, ARSI, *Jap. Sin.* 98, fol. 55v.

⁴¹ ARSI, FG 722, fol. 13v.

⁴² Brucker, "Position géographiques du Turkestan et de la Dzoungarie," 369. Up to now I could not find this letter.

⁴³ A thorough study based on new Manchu archival sources sheds new light in the surveying process, Jin Yu 靳煜, "Qing Qianlong nianjian Xiyu cehui zai kaocha" 清乾隆年间西域测绘再考察 (Further investigations on the surveying and mapping of the Western regions during the reign of Qianlong), *历史地理* 30 (2014): 249-66. Since there is great confusion among sources the point needs clarification. Due to the lack of the original account by the two Jesuits (up to now I could not find da Rocha's account of the trip), Western sources have been based on second hand accounts by other Jesuit missionaries, namely Amiot and Antoine Gaubil. The above-mentioned paper by Brucker reports a letter by Father Amiot in which some words by da Rocha seem to be quoted, accordingly da Rocha "s'avancant par le nord jusqu'à la riviere Ili" (in Italic in the text), on the other hand "Le P. Espinha est allé par le sud d'ou il se rendra également à Ili en passant par l'ouest," p. 369. Accordingly, other secondary sources relied upon Brucker (see for instance the *Petermann's Geographische Mitteilungen* 2 (1880): 467 and E. Bretschneider, *Mediaeval Researches from Eastern Asiatic Sources: Fragments Towards the Knowledge of the Geography and History of Central and Western Asia from the 13th to the 17th Century*, vol. 2 (London, 1888), 201, truly based on Petermann's). Father Gaubil in his letters (see Renée Simon, ed., *Correspondance de Pékin, 1722-1759* (Geneva: Droz, 1970), 849, 862-3, letters to Delisle, 14 Nov., 1758, and 20 Nov., 1758 respectively) although it records several places they visited says nothing about the journey. In more recent time Enoki, relying upon He Guozhong's biography, states that He Guozhong and da Rocha went south-westwards while Nusan and de Espinha proceeded north-westwards ("Researches in Chinese Turkestan during the Ch'ien-lung Period," 10); Hummel on the other hand support the northern route for da Rocha, and western route for de Espinha along with He Guozhong (Hummel, *Eminent Chinese of the Ch'ing Period*, 286). Among the Chinese scholars there was a great confusion too, on the different opinions see Jin, "Qing Qianlong nianjian Xiyu cehui zai kaocha," 249n2.

made measurements, calculated the latitude and longitude, covering different localities.⁴⁴ According to the account contained in the above mentioned *Littera Annua* (1755), upon describing the city of Ili, which was the last capital of the Zunghars and the farthest place to be surveyed (five thousand *li* from the last Chinese fortress), the missionary (likely da Rocha) advises his reader not to expect a walled city surrounded by moats as the Tartars usually live in tents. However, he found a place surrounded by an embankment, full of merchants, mostly Muslims. Not far from the city in a sunny place and surrounded by pleasant mountains and petty brooks, the king used to set up his tent and keep around 10-15 thousand soldiers in the camp.⁴⁵

Finally, the two teams went back to Barkul (12 November 1756), and rejoined at Suzhou 肃州 where they put together their work into one map to be presented to the emperor.⁴⁶ As it happened, Amursana's rebellion forced the team to stop surveying and to retreat, on 1 March 1757, He Guozhong arrived in Peking. The results of this survey had been immediately brought back to Peking by Nusan and Haqing and submitted to the emperor on the end of 1756.⁴⁷

A few years later, Amursana died (1757) and having subdued the rebellious Muslims tribes (Khojas) of the oases of southern Xinjiang, Qianlong sent another surveying expedition in order to complete the map of the region. This time the team, which departed from Peking on 10 May 1759,⁴⁸ included Mingghatu, Félix da Rocha, José de Espinha, Baode and Wu Lintai 乌林泰.⁴⁹ They reached Hami (哈密, 18/8/1759), then proceeded to Aksu (阿克苏, 1/11/1759), Kashgar (喀什, left on 25/11/1759), Yarkand (莎车, 6/12/1759), they went as far as Kucha (和田, 27/12/1759), then they started the return trip, passing through Khotan (库车, 4/2/1760), Hami ecc, they arrived in Peking between April and May 1760.⁵⁰

⁴⁴ The two teams routes are given in Jin, "Qing Qianlong nianjian Xiyu cehui zai kaocha," 251-3. A list of localities with their latitude and longitude is given by Gaubil (see *infra*).

⁴⁵ The Latin text runs as follows: Sed dum civitatem Ili urbem Regiam et Aulam Regis compello, nolim quis urbem muris ac fossis circumdatam, ac superbis palatiis ornatam intelligat: cum Tartari pro habitazione sua tentorii non autem domibus, ex ligno vel lapide fabricatis, uti soleant. Sed locum intelligo, uti revera est, terreo muro cinctum, plenum mercatoribus, maximam partem Mahumetanis, in cuius campo adsito, ob apricam loci, montibus et rivulis circummontati, amoenitatem, Rex sua pretiosa tentoria figere solebat, decem aut quindecim selecti militis millibus circum circa stativa tenentibus. ARSI, FG 722, fol. 13v.

⁴⁶ Brucker, "Position géographiques du Turkestan et de la Dzoungarie," 369.

⁴⁷ Cf. Enoki, "Researches in Chinese Turkestan during the Ch'ien-lung Period," 10; Jin, "Qing Qianlong nianjian Xiyu cehui zai kaocha," 252.

⁴⁸ According to Enoki the team left on 25 May 1759, "Researches in Chinese Turkestan during the Ch'ien-lung Period...," 10.

⁴⁹ This time the emperor granted da Rocha as well as de Espinha with two hundred *tael*, Jin, "Qing Qianlong nianjian Xiyu cehui zai kaocha," 254n1.

⁵⁰ See Enoki, the team left on 25 May 1759, "Researches in Chinese Turkestan during the Ch'ien-lung Period...," 11; Jin Yu, "Qing Qianlong nianjian Xiyu cehui zai kaocha," 254-6, gives all the localities surveyed and useful maps.

On this occasion the map-makers directly determined 43 geographical positions,⁵¹ but according to Gaubil the Jesuit fathers were dissatisfied because they were not able to make all the measurements they wished to.⁵²

In 1769 Qianlong issued orders to the French Jesuit Michael Benoist (1715-1774) to produce a new map of China using the results of these surveys along with the maps drawn by the surveying team to implement Kangxi's atlas with the new territories.⁵³

According to Gaubil, after their first trip the two Portuguese surveyors intended to send the maps to Lisbon for printing,⁵⁴ but to this day we still do not know whether or not they reached Europe. As Bernard-Maître suggested "peut-être a-t-elle péri avec d'autres documents importants dans les troubles que suscita la suppression de la Compagnie de Jésus au Portugal!"⁵⁵ As a matter of fact, the Father General in

⁵¹ These are recorded in the first volume of the *Mémoires concernant les Chinois*, t. 1 (Paris: Didot, 1779), 399-400, just after the *Explication du monument gravé sur la pierre en vers chinois, composés par l'empereur, pour constater à la postérité la conquête du royaume des Eleuths faite par les Tartares Mantchoux sous le règne de Kien-long, vers l'an 1757*, by Amiot, pp. 325-99. Some scholars claim that during the second journey the survey team reached as far as Bolor, Tashkent, Andijan and other places in Central Asia (see John F. Baddeley, *Russia, Mongolia, China*, cxc, and Enoki, "Researches in Chinese Turkestan during the Ch'ien-lung Period," 11), already in 1935 Henri Bernard-Maître questioned about this claim, "Les étapes de la cartographie scientifique pour la Chine et les pays voisins," *Monumenta Serica* 1 (1935): 470. According to Manchu sources the map-making team never reached Central Asian areas, for an analysis of this point see Jin, "Qing Qianlong nianjian Xiyu cehui zai kaocha," 256-64; on this matter according to Mosca, "they plotted their location [of these Central Asian areas] based on the testimony of an informant," see Mosca, *From Frontier Policy to Foreign Policy*, 109. Finally, it is worth noticing that in the letter Gaubil sent to Delisle (14 Nov. 1758) he asked his correspondent to forward him reliable data of the distance from the city of Samarkand to the Caspian Sea, as "nous n'avons eu aucune connoissance de ces observations," Simon, ed., *Correspondance de Pékin*, 850.

⁵² Cf. Letter to Delisle, 14 Nov. 1758, Simon, ed., *Correspondance de Pékin*, 849.

⁵³ On the different editions of Qianlong's atlas see among others Foss, "A Western Interpretation of China. Jesuit Cartography," 235-6; Millward, "Coming onto the Map: 'Western Regions' Geography and Cartographic Nomenclature in the Making of Chinese Empire in Xinjiang," 70-72; M. Cams, "The printed life of the Huangyu quanlan tu 皇輿全覽圖," in *Visual and Textual Representations in Exchanges between Europe and East Asia 16th-18th Centuries*, ed. Luís Saraiva, and Catherine Jami (New Jersey: World Scientific, 2018), 261; Li Xiaocong 李孝聰, *Ou zhou shou cang bu fen zhong wen gu ditu xu lu* 歐洲收藏部分中文古地圖叙錄 (A Descriptive Catalogue of pre-1900 Chinese Maps seen in Europe) (Beijing: Guoji wenhua chubansongsi, 1996), 175-81. On the steps toward preparing the edition of Qianlong's atlas see Mosca, *From Frontier Policy to Foreign Policy*, 112-3. It is worth noticing that da Rocha, de Espinha along with Hallerstein and A. Gogeisl were ordered to inspect the existing maps in order to make corrections when necessary. *Ibid.*, 112.

⁵⁴ Letter to Delisle, 14 Nov. 1758, Simon, ed., *Correspondance de Pékin*, 849. In a following letter (20 Nov. 1758) to the same addressee Gaubil expressed his uncertainty whether the maps had been sent or not (p. 861).

⁵⁵ Henri Bernard-Maître, "Les étapes de la cartographie scientifique pour la Chine et les pays voisins," 472. See also Pfister, *Notices biographiques et bibliographiques*, 776. The same opinion had been expressed by Brucker, "Position géographiques du Turkestan et de la Dzoungarie," 367.

Rome, who knew about da Rocha's and de Espinha's trip to Tartary,⁵⁶ was eager to see the maps. In a letter sent to de Espinha on 29 October 1761, he hoped that da Rocha would keep the promise to send him as soon as possible "aliquas ex his chartis geographicas..."⁵⁷

However, the copies of maps drafted by the two expeditions were kept secure at the Qing court. Gaubil claimed that the maps were preserved in the Palace, and they were not available to the public;⁵⁸ on the other hand, he regretted that the Portuguese brethren gave him little information of their measurements.⁵⁹ Be that as it may, with the help of a mandarin, Gaubil was able to see the maps and to take note of the geographical coordinates of eighteen places.⁶⁰ He remarked that the measurements were taken according to the Peking meridian, adding that some longitudes were incorrect. Finally, according to Amiot, da Rocha should be given credit for the first eight positions, de Espinha for the other ones.⁶¹ In the following table are the eighteen coordinates (the current name is in brackets):⁶²

| Place name ⁶³ | Latitude Nord | Longitude west of Peking |
|---------------------------------|---------------|--------------------------|
| Parcol (Barkul, Balikun 巴里坤) | 43° 39' | 23° 0' |
| Aptac (Habudake 哈布塔克) | 45° 0' | 24° 26' |
| Paitac | 44° 43' | 23° 0' |

⁵⁶ See for instance the letters sent in Peking to da Rocha ARSI, *Jap. Sin.* 98, fol. 46v without date, likely 1757, to F. Bahr on 7/2/1758 fol. 48r, to da Rocha on 1758, fol. 52v, and fol. 56v (1758) where the General acknowledges to have read the narration of their trip ("Gavisus sum vehementer legendo narrationem suscepti itineris...," to de Espinha, fol. 62v (28/11/1758), and fol. 77r (29/10/1761).

⁵⁷ The Latin text runs as follows: "Hic memini me alias scripsisse ad P. Felicem da Rocha, ut promissis staret, aliquas ex his carthis (sic) geographicas quam primum ad me mittendo, quod etiam R. V. ae commendatum esse volo. Cupio enim laborum suorum aliquam imaginem prae oculis habere, neque permit- tis hominibus in geographiae legibus peritis deesse has carthas tanto labore, ac sudore in remotissimis regionibus confectas", ARSI, *Jap. Sin.* 98, fol. 77v.

⁵⁸ Letter to Delisle, 14 Nov. 1758, Simon, ed., *Correspondance de Pékin*, 849.

⁵⁹ Letter to Delisle, 20 Nov. 1758, *Ibid.*, 861.

⁶⁰ *Ibid.*; Baddeley, *Russia, Mongolia, China*, cxcii.

⁶¹ Brucker, "Position géographiques du Turkestan et de la Dzungarie," 371.

⁶² Letter to Delisle, 20 Nov. 1758, Simon, ed., *Correspondance de Pékin*, 862-3, with Gaubil's notes. See also Brucker, "Position géographiques du Turkestan et de la Dzungarie," 369-71; Baddeley, *Russia, Mongolia, China*, cxcii; S. Julien, "Notices sur les pays et les peuples étrangere, tirées des géographes et des historiens chinois," *Journal Asiatique* 8 (1846): 228-52, 385-445.

⁶³ For the Chinese place names see "Lüe lun Fu Zuolin [Félix da Rocha] zai Hua zhi gongzuo" 略论傅作霖在华之工作 (A Brief Discussion on Fu Zuolin's Work in China), 故宫博物院刊 4 (2003): 43, Jin, "Qing Qianlong nianjian Xiyu cehui zai kaocha," 264; see also Tan Qixiang, ed., 谭其骧, *Zhongguo lishi ditu ji* 中国历史地图集. *The Historical atlas of China* (Beijing: Ditu Chubanshe, 1987), 52-54.

| | | |
|---|---------|---------|
| (Baitag, Baidake 拜达克) | | |
| Moley (Mori, Musan 木垒, 穆叁) | 43° 45' | 25° 36' |
| Ki mo sa (Jimusa 吉木萨) | 43° 40' | 26° 52' |
| Oulou mo tsi (Ürümqi, 乌鲁木齐) | 43° 27' | 27° 57' |
| Gan tsi hay (Yansikhay, Anjihai 安济海) | 44° 13' | 30° 54' |
| Tsieul (Zhaier 斋尔?) | 45° 30' | 31° 0' |
| Polotala (Börtala, Boerdala 博尔塔拉) | 44° 50' | 33° 30' |
| Ili (Ili, Yili 伊犁) | 43° 56' | 34° 20' |
| Louhi kin (Lukeqin 鲁克沁) | 42° 48' | 26° 11' |
| Touloufan (Turfan, Tulufan 吐鲁番) | 43° 4' | 26° 45' |
| Ou cha ketar (Wushaketale 乌沙克塔勒) ⁶⁴ | 42° 16' | 28° 26' |
| Harachar (Karashar, Halashaer 哈喇沙尔) | 42° 7' | 29° 17' |
| Kourle (Korla, Kuerle 库尔勒) | 41° 46' | 29° 56' |
| Tchourtous (Yulduz, Youludusi 尤鲁都斯) | 43° 17' | 30° 50' |
| Kongkis (Kongjisi 空吉斯) | 43° 33' | 32° 0' |
| Hache (Kashi, Kashen 喀什) | 44° 8' | 33° 0' |

⁶⁴ Near the *Bagrasch-köl* (Bositeng lake 博斯腾湖). See Tan, *Zhongguo lishi ditu ji*, 52-53.

According to recently discovered Manchu archival materials, da Rocha made a third surveying trip to Xinjiang in 1772.⁶⁵ This time the team, composed of Bao Ning 保宁, Amubatu 阿木巴图, da Rocha and De Bao, 德保 set out from Peking, passed through the Mongolian plateau reaching Uliastai (in present-day Mongolia) and arrived at Kebuduo 科布多 where on 2 August 1778 they divided into two groups. The region surveyed included the Tarbagatai and Ili to the west, as well as the Torghut (Tuerhute 土尔扈特) region in the northwest;⁶⁶ relay stations, topography, boundaries, and pasture lands were carefully mapped. At the beginning of March 1773, da Rocha and Bao Ning departed from Hami for the return trip. This time da Rocha was 60 years old and the long journey to Xinjiang would have been very tiring and demanding for him. As Jin Yu pointed out, we do not have records of the survey and measurements taken by the Jesuit, therefore we have to rely upon Chinese and Manchu sources.⁶⁷ In fact, during archival research I could not find any reference to this trip by da Rocha or by other Jesuits,⁶⁸ and further research is needed

FÉLIX DA ROCHA AND THE JINCHUAN WAR (1747-49 AND 1771-76)

As mentioned earlier da Rocha was engaged by Qianlong in activities related with his military campaigns. As far as the Jinchuan war is concerned he not only surveyed the newly pacified area, but he also contributed to final Qing victory casting cannons on the spot for the Qing army.

Before dealing with his involvement in the second campaign, I should summarily outline the genesis of the war fought for control of the Sichuan-Tibetan borderlands and the first campaign. The Jinchuan war was the longest and the more expensive of all Qianlong's wars, troops were mobilized in a massive scale. The "Golden Stream" people (Jinchuan 金川, tib. rGyal-mo-rong) were an ethnic minority living in the western part of Sichuan; they call themselves Khambas (people of the Kham), and there were fewer than 30.000 of them.⁶⁹ Although they were devoted to the

⁶⁵ See: Guo Meilan 郭美兰, "Qianlong nianjian xibei diqu sanci huitu shimo" 乾隆年间西北地区三次绘图始末 (The Whole Story of Drawing in the Northwestern from Qianlong Period), *满语研究* (Manchu Studies) 1 (2013): 139-44; Jin Yu 靳煜, "Qianlong nianjian sancu Xiyu cehui zai fenxi" 乾隆年间三次西域测绘再分析 (Further analysis of the third surveying and mapping of the Western regions during the reign of Qianlong), *西域研究* 1 (2016): 27-34.

⁶⁶ For the surveyed places see Jin, "Qianlong nianjian sancu Xiyu cehui zai fenxi" 乾隆年间三次西域测绘再分析.

⁶⁷ *Ibid.*, 31.

⁶⁸ For instance, the letter sent from Peking on October 4, 1772, by the French Jesuit Louis de Poirot does not mention da Rocha's journey, Biblioteca Nazionale Centrale di Roma, Roma, *Fondo Gesuitico* 1386/18, fols. 89r-92v.

⁶⁹ A. Woodside, "The Ch'ien-lung Reign," in *The Cambridge History of China*, vol. 9, part I, ed. W. J. Peterson (Cambridge: Cambridge University Press, 2002), 261.

Bonpo religion and spoke a different language from Tibetan, they recognize the supreme authority of the Dalai Lama. As well-known, the Manchus supported the dGel-lugs-pa or Yellow Hat school of the Tibetan Buddhism with which they had established a “lama-patron” relationship: the emperor was acknowledged a universal Buddhist ruler (*cakravartin*) and a reincarnation of the bodhisattva Manjushri, on the other side the emperor recognize the Dalai Lama’s spiritual and secular rulership over the faithful. In short, the Yellow Hats desired to extend their influence into the Jinchuan area expelling the Bonpos and the Red Hats, their major competitors, whereas the Qing wanted to support the Yellow Hats and at the same time obtain the control over the region: political and religious matters were the reasons behind the war.⁷⁰ The first campaign was a cruel and bloody war, its horrors can be read in the diary of Andreas Ly (1692-1772) a Chinese Catholic priest in Sichuan who was formed by the MEP missionaries: “While the campaign lasted, some were cut to pieces by the barbarians, or maimed by cold and hunger; others dashed themselves to pieces off the cliffs, unable to bear the onslaught.”⁷¹ The Qing army, fighting in a trackless and steep mountainous area where the Khambas had built stone fortresses at the mountain passes, suffered great loss of men causing great distress and embarrassment at court. In particular, the stone fortresses proved to be a formidable barrier against the Qing artillery. In his diary, Father Ly describes the Jinchuan fortifications as follows: “the barbarian themselves are established in very strongly fortified towns, four leagues square in circumference, and built on top of high mountains. Except for one or two entrances, they are otherwise impenetrable because of cliffs or guards.”⁷² It was to improve the efficiency of Qing artillery against these fortress that da Rocha was sent to Sichuan during the second campaign. It is worth noticing that from Andreas Ly’s diary (7 July 1748) we learn that rumors circulated about a European (meaning missionary) who had been sent to the frontline at the order of the emperor “to teach the Chinese how to make cannon, called a *xigua pao*, with which the Chinese could overcome their barbarian enemies.”⁷³ As it is, the rumors resulted to be untrue as no missionary took part in the first campaign as I could find no evidence in Western sources on the involvement of Jesuit missionaries at the time. Taking into consideration that Félix da Rocha was sent to the war front during the second campaign, it is plausible that the Qing had the idea of having a missionary who could help improve their artillery after the first war.

Be that as it may, the first campaign ended without solving the question over the control of the region and as a consequence, in 1771 a second and longer war broke

⁷⁰ Cf. J. Waley-Cohen, “Religion, War, and Empire-Building in Eighteenth-Century China,” *The International History Review* 20, no. 2 (June 1998): 338-41.

⁷¹ R. Entenmann, “Andreas Ly on the first Jinchuan war in western Sichuan (1747-1749),” *Sino-Western Cultural Relations Journal* 19 (1997): 8. The diary of Andreas Ly has been published by Adrien Launay, *Journal d’André Ly, prêtre chinois, missionnaire et notaire apostolique, 1747-1763* (Paris: Alphonse Picard et Fils, 1906).

⁷² *Ibid.*, 13.

⁷³ *Ibid.*, 14.

out.⁷⁴ As in the first campaign Qing troops had to face the trials of a mountainous area which made the transporting of heavy artillery impracticable, in the words of da Rocha: “de ses chemins impraticables, de ses précipices affreux, de ses chûtes d’eau, de ses marais, de ses rochers réellement inaccessibles.”⁷⁵ Moreover, the rebels had taken shelter in the well-known stone fortresses that could not be destroyed without the use of cannon fire. In order to solve the problem thousands of metal ingots were carried straight to the front along with artisans that could cast them into cannons.⁷⁶ Unfortunately, because of the poor quality of the cannons, they tended to explode after few days of heavy firing. In addition, the Manchus were not acquainted with the siege warfare. On this subject, it is worth reporting a short story by da Rocha.⁷⁷ He tells us that while he was passing throughout rocky mountains he noticed a small fort perched on one of the highest peaks, his guides told him how the Chinese troops had besieged it for two months with all the resources and skill at their disposal but without success. Finally, the fort was seized by happy chance after some Chinese guards seized a woman who was drawing water from a spring. They questioned her about the garrison that was supposed to be in the fort, if she thought that the defenders were prepared to resist for a long time, and if there was any way for them to enter it. She replied that for two months she alone had defended it against them. She then led the soldiers, along a hidden footpath into the fortress which she had so obstinately defended it, sometimes firing shots, sometimes rolling stones and fragments of rock against the attackers.

In order to solve these difficulties, Qianlong ordered the Portuguese Jesuit Félix da Rocha to go to the front, edicts were issued to transport cannon-balls and cannon-patters and da Rocha was chosen as a the Western expert surveyor (the other choice was Michel Benoist).⁷⁸ On 20 August 1774 da Rocha left to join Agui 阿桂 (1717-1797),⁷⁹ the commander-in-chief for the war, at the headquarters, escorted

⁷⁴ The second Jinchuan war is also recorded by the Jesuits in China, the French Father J.-M. Amiot wrote a long letter dated 12 September 1776 titled “Lettre sur la réduction des miao-tsée en 1775,” published in the *Mémoires concernant l’histoire, les sciences, les arts, les mœurs, les usages, &c. des Chinois, par les missionnaires de Pekin*, t. 3 (Paris: chez Nyon, 1779), 387-411, and in the following supplement titled “Autre relation de la conquête du pays des Miao-Tsée,” by François Bourgeois (1723-1792), p. 412-22; see also the letter in *Lettres édifiantes et curieuses concernant l’Asie, l’Afrique et l’Amérique: avec quelques relations nouvelles des missions et des notes géographiques et historiques / publiées sous la direction de M. L. Aimé-Martin...*, t. 4 (Paris: Panthéon, 1843), 235-40. On the second campaign see U. Theobald, *War Finance and Logistics in Late Imperial China: A Study of the Second Jinchuan Campaign (1771-1776)* (Leiden: Brill, 2013).

⁷⁵ According to author of this letter François Bourgeois SJ, this description was reported personally to him by da Rocha. Bourgeois, “Autre relation de la conquête du pays des Miao-Tsée,” 415.

⁷⁶ J. Waley-Cohen, “God and Guns in Eighteenth-Century China: Jesuit Missionaries and the Military Campaigns of the Qianlong Emperor (1736-1795),” in *Contacts between Cultures*, ed. Bernard H. K. Luk, vol. 4 (Lampeter: Edwin Mellen Press, 1992), 96; Id., “China and Western Technology in the Late Eighteenth Century,” *The American Historical Review* 98, no. 5 (Dec. 1993): 1537-38.

⁷⁷ Recorded in Bourgeois, “Autre relation de la conquête du pays des Miao-Tsée,” 415-6.

⁷⁸ The edict issued on 15 August 1774 has been translated in Fu Lo-shu, *A Documentary Chronicle of Sino-Western Relations*, 273-4.

⁷⁹ For Agui biography see Hummel, *Eminent Chinese of the Ch’ing Period*, 6-8.

under the command of guardsman Debao 德保. According to Waley-Cohen, da Rocha bore with him designs for mortars popularly known as “watermelon guns” (*xigua-pao* 西瓜炮),⁸⁰ most likely designed one century earlier by Ferdinand Verbiest.⁸¹

As a matter of fact, Western cannons were introduced in China at the time of the Ming dynasty by the Portuguese through Macao. The Jesuits following the suggestion of high-ranking Chinese converts, began to cast new pieces of artillery. Adam Schall von Bell (1592-1666) was the first one to produce firearms for the failing Ming dynasty.⁸² He not only cast new cannons by emperor’s order, but he also collaborated in the writing of a work on gunnery the *Huogong qieyao* 火攻挈要 (Essentials of gunnery, 1643). Ferdinand Verbiest (1623-1688), Schall’s successor at the Imperial Astronomical Bureau, was heavily involved by the Kangxi emperor in casting new, lighter and more mobile artillery suitable for transportation over mountains. Verbiest, who is said to have cast more than five hundred pieces of artillery, was urged by Kangxi to cast cannons which were used in the suppression of the Three Feudatories Uprising (1673-1681), against the Russians (1685-1686) as well as in the campaigns led against the Zunghar leader Galdan (1690-1697). In Verbiest’s time the Jesuits were well aware of the importance of ballistics science as the Flemish father composed an illustrated booklet dealing with cannon (*Shenwei tushuo* 神威圖說), as well as works on ballistics.⁸³ In short when da Rocha was ordered to go to the front to help the casting of cannons, it was already a well-established pattern for the Qing emperors to call upon the Jesuit’s expertise in their military activities.

According to the Jesuit sources, da Rocha was sent to make a map of the area. However, upon his arrival impaired by fatigue and by bad air (“mais la fatigue & le mauvais air le mirent hors d’état de remplir son objet”) and was in such a bad condition as to not be able to accomplish his mission and consequently went back to Peking.⁸⁴ As Joanna Waley-Cohen aptly pointed out, Chinese sources tell us a complete different story.⁸⁵ The correspondence between Qianlong and Agui, the commander-in-chief, reports that da Rocha was sent because earlier calculations concerning the mortars were miscalculated, artillery shells had consequently been ineffective, and one of his tasks was therefore to instruct the gunners on the subject of

⁸⁰ The same type of cannon is recorded in the diary of Andreas Ly, Entenmann, “Andreas Ly on the first Jinchuan war in western Sichuan (1747-1749),” 14. For a description of this firearm see Theobald, *War Finance and Logistics in Late Imperial China*, 80-81.

⁸¹ Waley-Cohen, “China and Western Technology in the Late Eighteenth Century,” 1538.

⁸² On the Jesuit’s involvement in casting cannons see N. Standaert, ed., *Handbook Christianity China*, vol. 1, 635-1800 (Leiden: Brill, 2001), chapter on cannon, p. 771-7.

⁸³ On Verbiest’s cannons see Shu Liguang, “Ferdinand Verbiest and the casting of cannons in the Qing dynasty,” in *Ferdinand Verbiest (1623-1688): Jesuit Missionary, Scientist, Engineer and Diplomat*, ed. John W. Witek (Nettetal: Steyler Verl, 1994), 227-44.

⁸⁴ Bourgeois, “Autre relation de la conquête du pays des Miao-Tsée,” 416.

⁸⁵ Waley-Cohen, “God and Guns in Eighteenth-Century China,” 97; Id., “China and Western Technology in the Late Eighteenth Century,” 1539.

ballistic calculations. According to Chinese sources, da Rocha began to test old cannons firing the very same day of his arrival (22 October 1774), after various measurements “relating mainly to the angle of firing (just as Verbiest had discussed in his treatise), the margin of error was sharply narrowed, and bombardment of the rebel fortresses became considerably more effective.”⁸⁶ Accordingly new cannons, most likely based on the designs da Rocha brought with him, began to be cast under his supervision.⁸⁷

Taking into consideration that the Jesuits, at least at court, must have known of da Rocha’s direct involvement in improving Qing artillery, the question that immediately springs to mind is why only few information on da Rocha’s journey can be found in Amiot’s long account on the war or in other Jesuits’ reports. The complicated situation of the Jesuits in China during the 1770s and the disagreements among the Jesuits in Peking broke out after the suppression of the Society (1773), must have played a role. As a matter of fact, since Verbiest’s time missionaries had been criticized for their cannon foundry, still in a 1772 letter to his superiors Jean-Mathieu de Ventavon claimed that no missionary was involved in military matters.⁸⁸ In short, da Rocha’s commitment in military training and cannon casting was a subject not to be discussed with the Society’s enemies.

Finally, da Rocha returned in 1777 to the Jinchuan area in order to survey the newly pacified area, his map was not however included in the official campaign history (*Qinding pingding liang Jinchuan fanglüe*).⁸⁹

CONCLUSION

As we have seen, Qing emperors highly appreciated the Jesuits’ scientific skills and they made use of them for several purposes, included in their military affairs, in the words of Qianlong “Westerners are much more skilled in surveying than domestic personnel.”⁹⁰

⁸⁶ Ibid., 1539.

⁸⁷ Ibid.

⁸⁸ Waley-Cohen, “God and Guns in Eighteenth-Century China,” 96.

⁸⁹ According to Waley-Cohen da Rocha’s map is preserved in the First Historical Archive in Peking, unfortunately, I could not consult this map. Moreover, an undated map of part of the Jinchuan region is also preserved in the Bibliothèque Nationale in Paris, this map although drawn by Chinese seems to be linked to da Rocha’s work, Waley-Cohen, “China and Western Technology in the Late Eighteenth Century,” 1540n52. In any way this last one cannot refer to the *Da Jinchuan dili tuxing* 大金川圖地理图形 map (shelf mark Res. Ge. C. 16409) as it was drew on 1747, see Li Xiaocong 李孝聰, *Ou zhou shou cang bu fen zhong wen gu ditu xu lu* 欧洲收藏部分中文古地图叙录 (A Descriptive Catalogue of pre-1900 Chinese Maps seen in Europe), 323.

⁹⁰ Quoted in Mosca, *From Frontier Policy to Foreign Policy*, 110. According to Mosca the Jesuits “served in a consulting capacity, brought in as technical advisors for particularly changelling tasks,” 110.

Although da Rocha, as well as other Jesuits, was mostly involved in map-making activities, it must be remembered, as Peter Perdue pointed out, that maps are valuable instruments of power, very useful tools for stabilizing control over territories.⁹¹ Qing emperors during the eighteenth century were well aware of the military significance of cartography, therefore they used the new and more accurate techniques of measurement and surveying employed by the Jesuits. Kangxi and Qianlong followed the same pattern in handling the aftermath of their conquests: the former wanted a detailed map of his empire after he had managed troubles with the Russians, the Zunghars and the Mongols (Gerbillon, Thomas, Regis, Fridelli, Jartoux and others), the latter updated Kangxi's atlas with the new Western territories (da Rocha and de Espinha). In both cases the Jesuits were instrumental in the accomplishment of the emperors' wishes.

Finally, as the Chinese sources prove, in the Jinchuan campaign da Rocha's knowledge of ballistics and cannon casting played a crucial role in the improvement of artillery which may have been the decisive factor for the victory of the imperial army. Once again Qianlong, as his predecessor relied upon the Jesuits for obtaining more effective artillery. Nevertheless, while previously the Jesuits' main tasks were the casting of the cannons and the explanations of ballistics, this time da Rocha was directly sent to the front, a new task which the Jesuits, likely, desired to keep hidden.

⁹¹ P. Perdue, "Boundaries, Maps, and Movement: Chinese, Russian, and Mongolian Empires in Early Modern Central Eurasia," *International History Review* 20, no. 2 (June 1998): 272.