

# 徐家匯對社會及科學界的貢獻

梁作祿著 林瑞琪譯

## *Xujiahui: Contribution to Science and Society*

Angelo Lazzarotto, P.I.M.E.

In his landmark history of Christianity in China, Abbé Huc, French missionary and traveler, mentioned the sad situation he found in Shanghai in the early decades of the 19th century. Because of China's prolonged religious persecution, the local community of Catholics, that traced its roots back to Paul Xu Guangqi, were in a state of neglect. The once imposing monument erected over the burial ground of the great Christian scholar and statesman had all but "crumbled into dust".<sup>1</sup>

### *Secular Clergy and Missionaries in China*

In 1833, Louis De Besi, an Italian secular priest, was sent to China to succeed the ailing Pires Pereira as Bishop of Nanjing and administrator of Beijing. Part of his task was to help free the China mission from the Portuguese Protectorate. Between 1838 and 1840, four new

法國著名的傳教士兼遊歷家古伯察神父 (Abbe Huc) 在其經典性的中國基督宗教史著作中提到，十九世紀初葉他到達上海，到處所見是一片傷心景象。由於經歷了長期的宗教迫害，祖傳自徐光啓的上海天主教徒團體幾乎已蕩然無存。而曾一度矗立在徐氏墓前以紀念這位偉大的基督徒學者及政治家的碑銘，亦早被「砸個粉碎」。(註一)

### 到華的在俗教士及傳教士

一八三三年，意大利籍在俗教士羅類思神父 (Louis De Besi) 被派遣到中國，以接替病弱不堪的南京主教兼北京代理畢學源主教 (Pires Pereira)。他的任務之一，是協助中國教會擺脫葡萄牙的保教權而自行發展。一八三八至一八四零年間，先後有四個代牧區成立。

中國籍及外籍的在俗教士 (後者由傳信部委派) 肩負起大部份牧民工作，但同時在中

apostolic vicariates were set up.

Besides Chinese and European secular priests (the latter sent by Propaganda Fide), who carried most of the responsibility for the pastoral work, there were several orders and missionary societies present in China: Franciscans, Dominicans, Lazarists and the Paris Foreign Missions Society. Between 1836 and 1840, the Lazarists assigned ten priests to work in the difficult China mission.<sup>2</sup>

### *Jesuits Invited to Return to China*

Influential Catholics in Beijing, having learned that the Society of Jesus had been reconstituted (1814), wrote to the Jesuit Superior General and to Pope Gregory XVI in 1832 and 1833 asking that the Jesuits return to their old missions.<sup>3</sup> Before leaving Rome for China, Mgr. De Besi had received assurances from his personal friend, Father Roothan, Superior General of the Jesuit Order, that Jesuit missionaries would soon be assigned to China.

Due to the complicated political situation existing in China at the time, De Besi, before being ordained bishop in 1841, worked as a simple missionary in the vicariate apostolic of Huguang. With his consecra-

國服務的修會團體尚有：方濟會、道明會、遣使會及巴黎外方傳教會。一八三六至一八四零年間，遣使會派遣了十位教士到中國不同的傳教區工作。（註二）

### **耶穌會應邀重返中國**

北京有影響力的天主教徒聽聞耶穌會經已（於一八一四年）重組，遂於一八三二年致函耶穌會總會長及教宗額我略十四世，要求派遣耶穌會士回到他們舊日的傳教區。（註三）羅類思主教離開羅馬遠赴中國之前，已得到他的好友耶穌會總會長羅勛神父的保證，耶穌會士將於不久之後被派往中國。

由於當時中國的政局複雜，羅主教於一八四一年獲祝聖之前，只是擔任湖廣代牧區傳教士的工作。祝聖後，他出任山東代牧，兼且代理江南及上海一大片牧境。羅類思深信有必要重振利瑪竇所建立的科學傳統，他從歐洲帶來大量物理學及天文學器材，以便日後設立天文台。

首批三位奉派到中國的耶穌會士均是法國人，他們於一八四一年到達澳門，一八四二年到達上海。他們所用的中文名字，都是繼承十七世紀的偉大傳教先驅之名。（註四）

tion, he became vicar apostolic of Shandong and administrator of a large area including Jiangnan and Shanghai. Convinced of the importance of reviving the scientific tradition initiated by Matteo Ricci, De Besi had brought along from Europe several instruments used in physics and astronomy for a future observatory.

The first three Jesuit priests assigned to China, Gotteland, Esteve and Brueyre, were French; they arrived in Macao in 1841. When they arrived in Shanghai in 1842, they were given Chinese names reminiscent of their great confreres of the XVII century.<sup>4</sup>

### *The Needs of the Church*

Eighteen-forty-two marked the end of the first Opium War and the signing of the Treaty of Nanking. That year also marked the arrival of the first French and British consuls. In 1843, Shanghai harbour was opened for international trade. The revival of missionary activity in Shanghai and in other places had no relation whatsoever to Western military adventurism in China at the time. The activities of the Western powers only complicated the Church's situation and brought about results detrimental to the Gospel.

Pastoral needs were para-

### 教會的需要

鴉片戰爭使一八四二年蒙上陰影。戰後中英雙方於同年簽訂「南京條約」，自始英、法兩國的使節到來中國。一八四三年，上海開放為國際商港。在當時上海及中國各地教會活動的復甦，本來與西方軍事侵略絲毫無關。但這些事情卻使教會的情況變得複雜，而帶來的結果又有損於福音精神。天主教團體裡外受困。

牧民需要始終是最主要的問題。羅勛神父從羅馬致函給在中國的耶穌會傳教士，示意他們以培育本地神職人員為優先工作。科學工作則一俟情況許可便立即進行。（註五）南格祿神父（Gotteland）與總會長的看法一致，他在一八四六年憶述說，「當我們在上海安頓後，我很希望建一座小小的天文台。（註六）他們到華後五年，在距離上海市中心八公里的徐家匯建立會院，並在徐光啓墓旁築了一座小聖堂。」

（註七）

羅主教任命利神父（Brueyre）負責開辦修院，艾神父（Esteve）則主持浦東的教務。科學工作要到三十年之後才開始。（註八）

mount. Writing from Rome to his missionaries, Fr. Roothan recommended that the formation of local clergy be given priority. Scientific work was to be initiated as soon as circumstances permitted.<sup>5</sup> Fr. Gotteland, who shared the General's view, wrote back at the end of 1846, "Once we are well established in Shanghai, I want to build a little observatory."<sup>6</sup> Five years after their arrival in China, the Jesuits established themselves in the village of Xujiahui, eight km. from the centre of Shanghai, and built their chapel next to the tomb of Dr. Paul Xu.<sup>7</sup>

Bishop de Besi asked Fr. Brueyre to start the seminary and assigned Fr. Esteve to the Pudong district. Scientific endeavors began only about 30 years later.<sup>8</sup>

### *Scientific Project Initiated*

In 1872, a consultation, under the chairmanship of the new vicar apostolic, Bishop Languillat, was held in Xujiahui. This meeting resulted in the formation of the Scientific Committee of Jiangnan. The Committee was divided into four sections: the first would be responsible for the meteorological museum and for scientific publications; the second would develop projects of natural history and eventually set up a

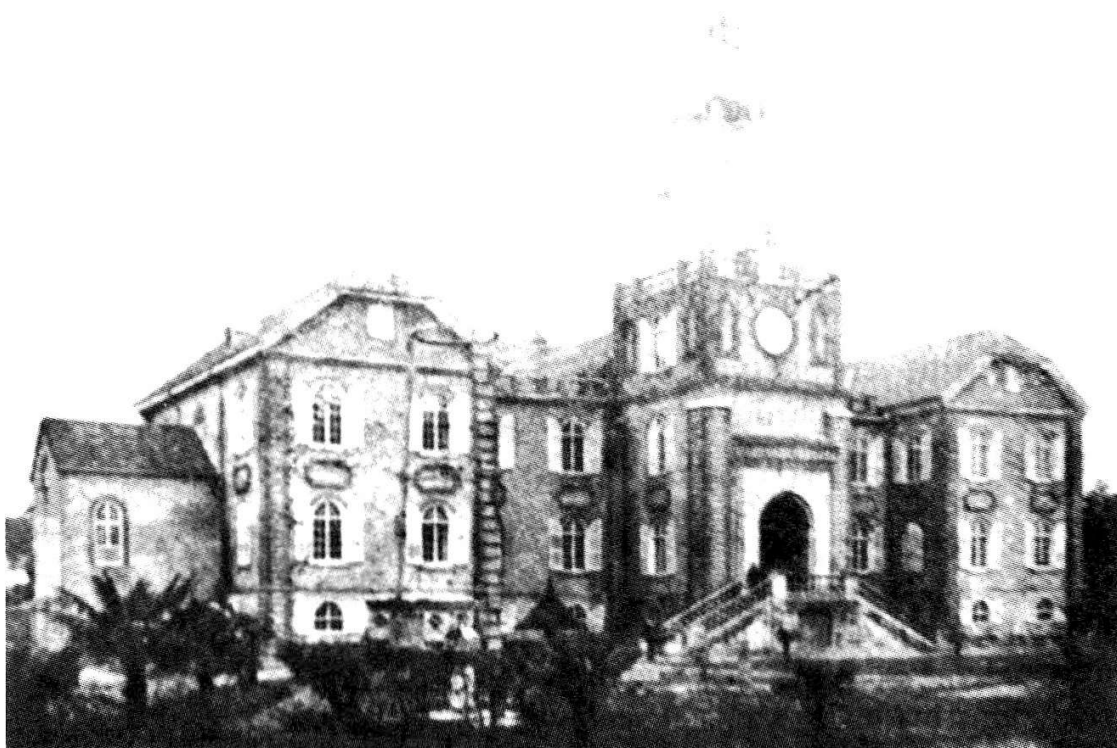
### 科學工作的開創

一八七二年，新任代牧郎懷仁主教（Languillat）在徐家匯召開了諮詢會議，議決成立「江南科學委員會」。委員會分四個小組，第一個小組負責星象博物館及科學出版工作；第二組研究自然科學史，並由韓伯祿神父（Heude）主持一個博物館；（註九）第三組專責中國歷史及地理工作；而第四組專為中文出版物預備科學及宗教材料。（註十）

### 耶穌會士建立徐家匯天文台

建立一所星象天文台的責任，落在高隆伯神父（August Colombel）身上。當另一位法籍星象學家德希芬神父（Dechevrens）於一八七二年到達後，天文台的建築工程於是展開，但地點並非原定的南京，而是在徐家匯。（註十一）耶穌會之所以決定重振科學研究工作，是為了繼承隨利瑪竇來華的第一代耶穌會士的步伐。（註十二）

一八七五年七月三十一日，一場可怖的颱風把上海市吹得顛七倒八。德神父查究颱風的起因，並應上海市國際商會的邀請，成立並領導一項特別的資訊服務，為駛經上海的輪船



一九零一年建成的天文台主樓。

The main building of the Observatory built in 1901.

museum under the responsibility of Fr. Heude;<sup>9</sup> the third would concentrate on the history and geography of China and the fourth would prepare scientific and religious materials in Chinese for publication.<sup>10</sup>

### *Jesuits Set up Xujiahui Observatory*

The responsibility to start a meteorological observatory, "worthy of the Company" (of Jesus) was given to Fr. August Colombel. When Fr. Dechevrens, another French scholar specifically trained in meteorology, arrived in 1972; the con-

提供氣象資料。自此以後，徐家匯天文台為鄰近海域的安全作出了特別的貢獻。後來，天文台又增設地震組及天象組。天象組後來遷往離市中心四十公里的佘山山巔。（註十三）

自一八八二年起，徐家匯天文台每天多次將氣象數據經電報送往港口當局。一八八四年，天文台研製成報時訊號系統，為港口內所有船隻提供準確的時間。一八九八年，海關當局採納了這個報時系統，為中國沿岸所有航站提供類似服務。一九一四年，借助無線電的成功，徐家匯天文台每天為海面所有船隻發放兩次時報及

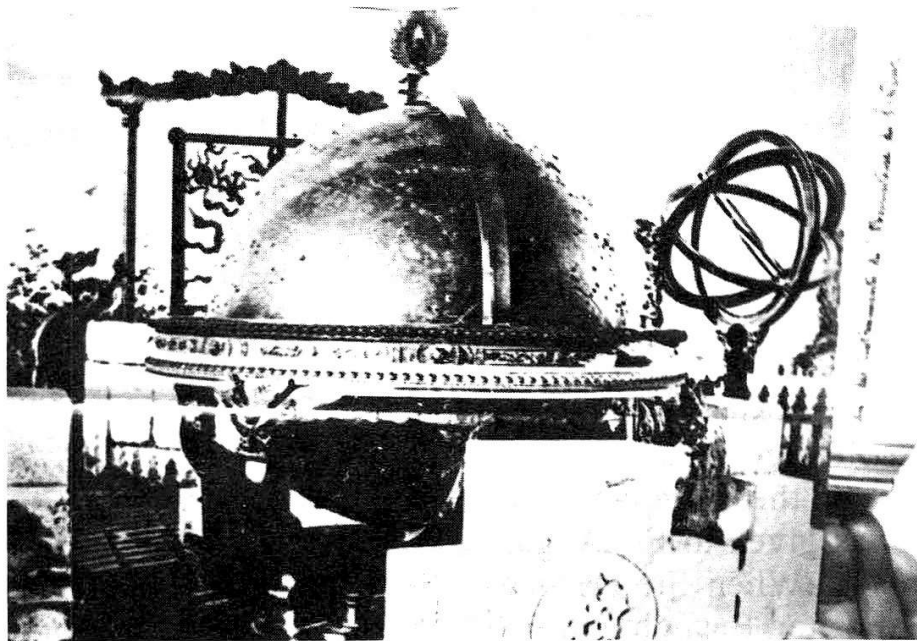


struction was started not in Nanjing, as originally planned, but in Xujiahui.<sup>11</sup> The decision to resume the scientific mission in Shanghai was due to the experience of the first generation of scholarly Jesuits who followed in the footsteps of Matteo Ricci.<sup>12</sup>

After the terrible typhoon of 31 July 1875 which devastated so much of Shanghai, Fr. Dechevrens, who had tracked the typhoon's course, was asked by the International Chamber of Commerce of Shanghai to set up and head a special service to relay information to ships at sea. Thereafter, the Xujiahui Observatory developed an important service designated to insure greater safety in sea travel. A

氣象報告，而特別颱風報告則多至每天四次。一九一九年，為研究更精細測量地球座標的國際組織，選定了徐家匯天文台為全球三個主要標準點之一。另外兩個分別位於北非的阿爾及爾和美國的三藩市。（註十四）

一九二二年，著名學家兼科學家般納（Brunhes）到訪徐家匯天文台時，對剛剛加入天文台科學組的年青意大利籍耶穌會士龍神父（Fr. Ernest Gherzi）留下深刻的印象。他形容龍神父充滿「真正學者的氣質」，「眼神流露出自信及安詳」。



徐家匯天文台所用過的儀器。

Ancient instruments used in the Xujiahui Observatory.

seismological as well as an astronomical section were soon added to the observatory. The latter was later moved to a more convenient location on Sheshan Hill, some forty km. from the city.<sup>13</sup>

From 1882 on, the meteorological bulletins of the Xujiahui Observatory were relayed by telegraph several times a day to the port authority. In 1884, the Observatory developed a time signaling system making the exact time available to all ships in the harbor. In 1898, this time signaling system was adopted by the Customs Authority for all sea stations along the China

coast. In 1914, with the development of the wireless telegraph, the time signal and the meteorological bulletins, issued by the Xujiahui Observatory were relayed twice a day to all the ships at sea and special typhoon bulletins were issued four times a day. In 1919, the international bureau responsible for determining more precisely the geographical coordinates on the globe, chose the Xujiahui Observatory as one of three main reference points. The others were Algiers in North Africa and San Francisco in America.<sup>14</sup>



在匯師小學舊址上所建起的高達十二層的氣象大樓，右側高樓為建國賓館。

The 12 storey Weather Bureau building was constructed on the old location of the elementary school. The tall building on the right is the Jianguo Hotel.

*Fr. Ernest Gherzi, Observatory Director, 1930-1949*

While visiting the Xujiahui Observatory in 1922, Mr. Brunhes, noted scholar and scientist, was impressed by a young Italian missionary, Fr. Ernest Gherzi, S.J., who had just joined the Observatory's scientific team. He described him as having the "temperament of a true scholar" with "eyes spreading confidence and serenity."<sup>15</sup>

Fr. Gherzi (1886-1973) was professor of physics at Aurora University and directed the Xujiahui Observatory from 1930 to 1949. He became famous in the Far East for his competence in tracking the course of typhoons thus providing protection against their devastating effects. In May 1949, while he was attending a meteorological congress in Manila, Shanghai came under Communist control. Unable to return to Xujiahui, Fr. Gherzi worked for five years at the Macao Observatory, then went to the Montreal Observatory operated by the Jesuits, where he worked until the end of his long career. Throughout his life he made significant contributions to many scientific international commissions and finally was named a member of the Pontifical Academy of Sciences.

In an interview given in

**龍神父，一九三零至四九年間的天文台台長**

龍神父是震旦大學的物理系教授，並自一九三零至四九年間領導徐家匯天文台。他以擅於追蹤颱風軌跡而名聞遠東，因而大大減輕風災的破壞。一九四九年五月，他在馬尼拉出席一項氣象學會議之際，共產黨政府接掌了上海。由於不能返回徐家匯，龍神父於是在澳門天文台工作；五年之後，再赴蒙特利爾耶穌會所辦的天文台服務直至退休為止。終其一生，他為多個國際科學委員會貢獻良多，最後並獲得提名進入宗座科學院。（註十五）

龍神父於一九六六年一次訪問中表示，他在遠東的三十五年服務之中，約追蹤了一千個颱風或熱帶風暴。雖然其中影響上海的約有一百個左右，每年平均二至三個，但並沒有造成重大災害。他又說，徐家匯天文台與中國政府的氣象組織緊密合作，政府為天文台提供了不少價值高昂的儀器，也撥贈常務開支。自一九三五年起，船務公司同意支付其中一半費用。耶穌會為天文台工作則不支薪酬。談及徐家匯天文台時，他很惋惜未有天文台的新消息。他說他據聞天文台的儀器被移走，而該建築物又給



1966, Fr. Gherzi mentioned that during his 35 years of service in the Far East, he had tracked some 1,000 typhoons and tropical storms. In the same interview he mentioned that the Xujiahui Observatory cooperated closely with the meteorological organs of the Chinese government, which contributed to the cost of the instruments and to the general expenses. From 1935 on, shipping companies agreed to pay half of these costs. The Jesuits offered their services free. When asked in 1966 about the Xujiahui Meteorological Observatory, Fr. Gherzi said he heard that the instruments had been moved away and the building taken over for a telecommunication centre for the Air Force of the People's Republic of China.<sup>16</sup> At the time, the forces of the Cultural Revolution were gathering momentum. Fr. Gherzi did not live long enough to experience the beginning of a period of greater cooperation between the New China and the outside world, many aspects of which concerned the scientific and cultural fields. Like the Jesuits who laboured in China before him Fr. Gherzi believed that only the integration of culture and science can provide China with the base to build a "spiritual civilization" which is both modern and comprehensive.

中國空軍佔用作電訊中心。

(註十六) 當時，文革的風暴正起。龍神父並未有機會親睹中國與外界重新大事合作，包括在科學及文化方面的交流。不過，龍神父及他今日的同會弟兄，與過往四百多年前的先驅一樣，深信透過文化與科學，能與致力發展「現代化」的中國社會找到共通點，一同建樹全球的「精神文明」。

[註釋見四十八頁]



氣象局大門入口處，左面是新建的氣象招待所。

The main entrance of the Weather Bureau. (Left) The newly constructed hostel of the Bureau.

## Endnotes

1. Huc, M. l'Abbé, *Christianity in China, Tartary and Thibet*, II, London 1857, p. 311. (The original French edition *Le Christianisme en Chine, en Tartarie et au Thibet* was published that same year in Paris).
2. Latourette, K.S., *A History of Christian Missions in China*, London 1929 (repr. Taipei, 1973), p. 232.
3. cf. de La Servière, op. cit., p. 33 ff. The full text of the letters is given at the end of the volume, p. 359 ff.
4. Fr. Gotteland, the superior, received the name NAN, that was the name of Fr. Verbiest (Nan Huairen); Fr. Estève the name AI, the same as Fr. Aleni (Ai Rulue) and Fr. Brueyre the name LI, as Fr. Ricci (Li Matou): cf. de La Servière, op. cit., p. 53.
5. "These means are, it's true, not primary, but I feel the necessity not to neglect them": de La Servière, op. cit., p. 52.
6. *ibid.* p. 59.
7. cf. de La Servière, J., *Histoire de la Mission du Kiangnan*, I (1840-1856), (Zi-ka-wei, n.d.), p. 113.
8. op. cit., II (1856-1878), p. 192 ff.
9. Fr. Pierre Heude, S.J., (1836-1902), had engaged in scientific exploration since his arrival in Shanghai in 1868. His collections became the "Heude Museum" which was later annexed to Aurora University in Shanghai. cf., Piel, O., "Le 70me Anniversaire du Musée Heude", in *Bulletin de l'Université Aurore*, 1938-39, p. 8-46.
10. Fr. Aloys Pfister was responsible for the history section. He compiled the classic volumes: *Notices Biographiques et Bibliographiques sur les Jesuites de l'ancienne mission de Chine 1552-1773*, (Shanghai, 1932). The well known collection of "Variétés Sinologiques" was also part of this section.
11. de La Servière, op. cit., p. 194 f. - Father Dechevrens kept the record of his observations from 1872 without interruption, and published over 20 scientific papers.
12. "The memory of the very great services rendered to the cause of the Gospel in the Celestial Empire through the ancient Beijing observatory, the hope of inspiring respect and confidence of the Chinese scholars through science and to win them to Jesus Christ, the desire to render our ministry more acceptable to the many Europeans, mostly Protestants, who come in growing numbers to Shanghai, the need not to let the unbelievers have the monopoly of natural sciences, which are often daringly misused to cheat ignorant people, such were the thoughts. . ." *ibid.* p. 196.
13. J. Brunhes, "Les travaux des Jesuits a l'Observatoire de Zi-Ka-Wei", (in *Review d'Histoire des Missions*, I (1924), pp. 26-38). This scientist, who was familiar with the Xujiahui Observatory, recalls that in 1924 the Jesuits were running some forty astronomical and meteorological observatories around the world.
14. Brunhes, J., loc. cit., p. 30 ff. - Mr. Brunhes, quoting from the 1923 records of the General Chamber of Commerce of Hong Kong, mentions a request made to the colonial government to have the forecasts of the Xujiahui Observatory made public and expanded for the safety of the Hong Kong harbour and for the general benefit. That followed the disastrous typhoon of 3 August, 1922 which claimed some 60,000 victims in the Swatow area, along the Guangdong coast. *ibid.*, p. 36.
15. *ibid.*, p. 33, f.
16. In: *Missioni*, Milan, 1965, April, p. 51. ff