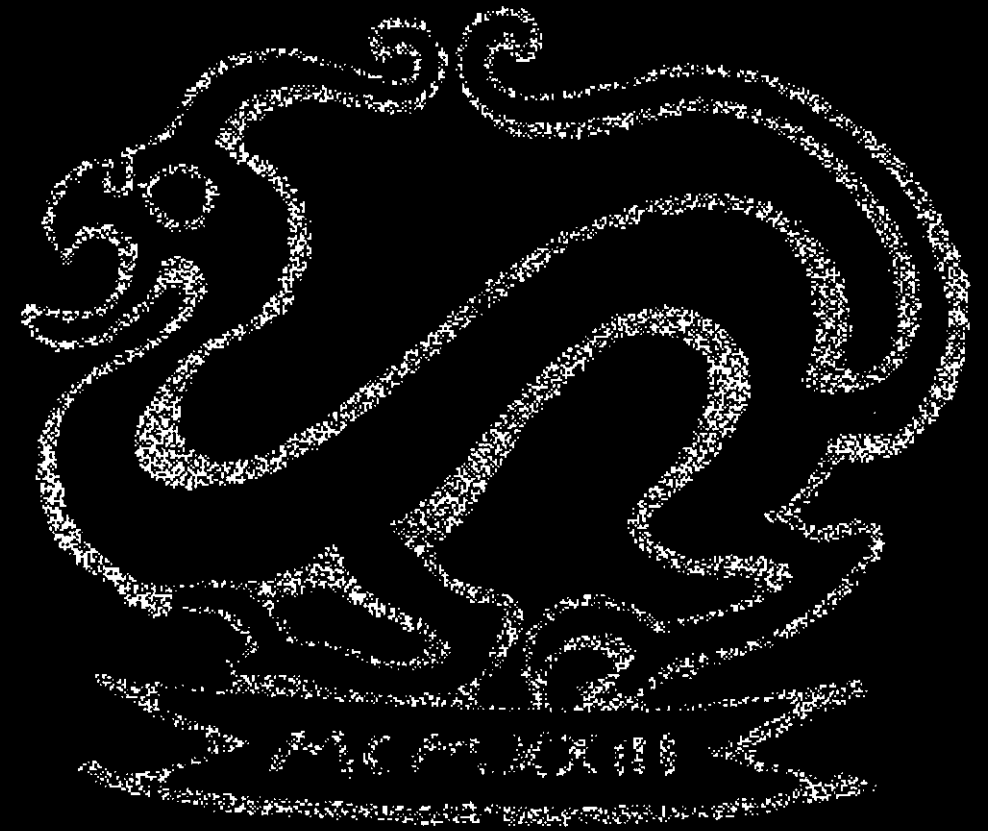


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## Shanghai's Zikawei Museum (1868–1952): Jesuit Contributions to the Study of Natural History in China

Over the last two decades, the role played by museums in the advancement of knowledge has received increasing recognition and attention from historians of science.<sup>1</sup> However, so far only a scant number of studies have paid attention to the importance of museums in the development of science in China. This article focuses on the Zikawei Museum 徐家匯博物院 in Shanghai;<sup>2</sup> its aim is to analyze the museum's contributions to natural history in late-Qing and Republican China, as well as to describe the parties involved in the development of this field.<sup>3</sup>

Although the museum, founded in 1868, has been overlooked for some decades, its importance was widely acknowledged in the early-

I WOULD like to thank Dr. Jen-der Lee for encouraging me to update this article for an English-speaking audience. Her feedback and support have been invaluable to me. Furthermore, I would like to express my appreciation to Devin Wu, Philip Gant, and especially to Lucy Gunn and Jonathan Spangler for assisting me in translating and editing this English version. Also, I would like to extend my thanks to the anonymous reviewers for *Asia Major* who provided interesting and insightful comments on the first version.

<sup>1</sup> See for example John V. Pickstone, *Ways of Knowing: A New History of Science, Technology, and Medicine* (Manchester: Manchester U.P., 2000); the articles compiled in "Focus: Museums and the History of Science," a special dossier in *Isis* 96 (2005); Samuel J. M. M. Alberti, "The Status of Museums: Authority, Identity, and Material Culture," in Davis N. Livingstone and Charles W. J. Withers, eds., *Geographies of Nineteenth-Century Science* (Chicago: U. Chicago P., 2011), pp. 51–72.

<sup>2</sup> Zikawei is spelled Xujiahui in Pinyin. The Chinese translation of the term museum, *bowuyuan* 博物院, can be traced back to Samuel Wells Williams' *An English and Chinese Vocabulary, in the Court Dialect* (Macao: Printed at the Office of the Chinese Repository, 1844). Scholar Wei Yuan 魏源, following Lin Zexu 林則徐, used the term *bowuguan* 博物館 in his 1843 *Haiguo tuzhi* 海國圖志. Despite the existence of these two terms, which appeared around the same time, various other terms and phonetic transliterations were also used by different authors during the following decades to describe the museums in the Western world and none of them was more prevalent than the others. The term *bowuyuan* seems to have prevailed roughly from the 1860s to the 1920s, since most of the museums established during this period used this term. However, from the 1930s onward, the term *bowuguan* became more common among newly established museums than the term *bowuyuan*.

<sup>3</sup> In this article, the Hanyu Pinyin system is used for the transliteration of Chinese words and names. However, for the official names of institutions established in the 1930s we have opted for the spelling used at the time.

twentieth century. In the 1930s, the then newly established Chinese Association of Museums 中國博物館協會 conducted a nationwide survey and identified it as China's first museum.<sup>4</sup> Tseng Chao-Yu 曾昭燏 (1909–1964), a renowned Chinese museologist who in the late 1930s wrote one of the first books on museum studies to be aimed at the Chinese public also listed this Jesuit-run institution as the nation's first.<sup>5</sup> *The China Journal*,<sup>6</sup> which reported extensively on all kinds of scientific activities in China and is regularly cited in Joseph Needham's multi-volume *Science and Civilisation in China*, considered the Zikawei Museum "not only the most outstanding of its kind but also the oldest in the Far East."<sup>7</sup>

The term "first museum in China" may cause controversy: some scholars argue that a collection of natural history artifacts established by British expatriates in Macao should be considered "the first museum in China" since it was set up in 1829, some years before the establishment of the Zikawei Museum.<sup>8</sup> Following a contemporary Chinese point of view, which often recognizes only Chinese-led enterprises and tends to overlook foreigners' endeavors, others consider the Nantong Museum founded by Zhang Jian 張謇 in 1905 to be China's first museum.<sup>9</sup> This article does not intend to argue which museum should be listed as the

<sup>4</sup> A related survey was conducted by the Museums Association of China 中國博物館協會, which was established in 1935. The results were published in *Zhongguo bowuguan yilan* 中國博物館一覽 (Beijing: Zhongguo Bowuguan Xiehui, 1936). For more on the objectives and establishment of this association, see the first issue of its journal: *Zhongguo bowuguan xiehui huibao* 中國博物館協會會報 1.1 (1935.9).

<sup>5</sup> Tseng Chao-Yu 曾昭燏, *Bowuguan* 博物館 (Chongqing: Zhengzhong shuju, 1943), p. 41. Tseng listed as the second modern museum in China the Shanghai Museum, founded by the North-China Branch of the Royal Asiatic Society in 1874.

<sup>6</sup> *The China Journal* was an English-language periodical published in Shanghai from 1923 to 1941. It was initially called *The China Journal of Science and Arts*. On its establishment, see an article by its founder Arthur de Carl Sowerby, "The China Journal," *The China Journal* 6.1 (1927), pp. 1–6.

<sup>7</sup> B. K., "Anniversary of the Heude Museum," *The China Journal* 30.5 (1939), p. 252.

<sup>8</sup> See Rogério Miguel Puga, "The First Museum in China: The British Museum of Macao (1829–1834) and Its Contribution to Nineteenth-Century British Natural Science," *Journal of the Royal Asiatic Society* 22 (2012), pp. 575–86. Puga indicates the existence of a so-called "British Museum in China" but does not provide information about the location, size, and exact content of this "museum." As such, I suspect it was a collection in an exhibition room or a "cabinet of natural history," rather than an entire museum housed in a designated building, or at least in a structure designed for that purpose.

<sup>9</sup> Counting Nantong Museum as the first museum in China is a common assumption among scholars in the field of museum studies; see, e.g., Zhongguo Buowuguan Xuehui 中國博物館學會, ed., *Huigu yu zhanwang: Zhongguo buowuguan fazhan bai nian* 回顧與展望, 中國博物館發展百年 (Beijing: Zijincheng chubanshe, 2005). Some Western scholars have also followed this view without questioning; see for example Lisa Claypool, "Zhang Jian and China's First Museum," *The Journal of Asian Studies* 64.3 (Aug. 2005), pp. 567–604, which briefly mentions Zikawei Museum but contains some factual errors.

"first," but rather lays the foundation for further studies, given that our current understanding about the Zikawei Museum is limited and scholarly work on the topic almost nonexistent.<sup>10</sup>

Before entering into a detailed analysis, it is necessary to expound what has been termed the "second period" of Jesuit presence in China, the period in which the Zikawei Museum was established.

The Society of Jesus was founded in Paris in 1534 and partially suppressed in 1773. In 1814, however, Pope Pius VII formally granted the order permission to restore its preaching activities. Subsequently, certain Chinese converts by Jesuits invited European Jesuits to resume work in China, and the first group of missionaries arrived somewhat later – in Jiangnan 江南 in 1842.<sup>11</sup> Because the Beijing diocese was by then already under the jurisdiction of the Congregation of the Mission, the Jesuits chose the area known as Zikawei 徐家匯 as the base for their missionary work in China,<sup>12</sup> with a view to branching out into other areas in the future. After certain Church reforms in 1856, the original Beijing and Nanjing dioceses were abolished and replaced with four apostolic vicariates. Among these, the newly founded Apostolic Vicariate of Jiangnan 江南代牧區, which encompassed an area now known as Jiangsu and Anhui provinces, and the Apostolic Vicariate of Southeastern Zhili 直隸東南代牧區 were placed under the supervision of the Jesuits. The former was run mainly by Jesuits from the ecclesiastical province of Paris, while Jesuits from the ecclesiastical province of Champagne headed the latter.

The history of the museum can be divided into two periods:<sup>13</sup> The first period started in 1868, when its founder Pierre Marie Heude

<sup>10</sup> The results of my research were first published in an article written in Chinese; see Li-Chuan Tai, "Cong Xujiahui Bowuyuan dao Zhendan Bowuyuan: Faguo Yesuhuishi zai jindai Zhongguo de ziran shi yanjiu huodong" 從徐家匯博物院到震旦博物院, 法國耶穌會士在近代中國的自然史研究活動, *Zhongyang yanjiuyuan lishi yan yanjiusuo jikan* 中央研究院歷史語言研究所集刊 (BIHP) 84.2 (2013), pp. 329–85. The content of the present English-language version has been updated since the publication of the original, Chinese version.

<sup>11</sup> For more information on the history of the Jesuit mission in Jiangnan, see Joseph de La Servière, *Histoire de la mission du Kiang-Nan: Jesuites de la province de France (Paris)* (Zikawei: Imprimerie de l'Orphelinat de T'ou-sè-wè, 1914).

<sup>12</sup> The origin of this place name can be traced back to the location of Xu Guangqi's 徐光啓 tomb as well as the region where his descendants lived. Xu Guangqi (1562–1633) was a Chinese scholar-bureaucrat during the Ming dynasty. He was one of the first Chinese scholars who converted to Catholicism and is generally considered one of the "Three pillars of Chinese Catholicism."

<sup>13</sup> See for example Jacques Flamet, "Le Musée Heude, ses fondateurs et ses richesses scientifiques," *Bulletin de l'Université l'Aurore*, 2d ser. 39 (1938–1939), pp. 46–50; Octave Piel, "Le 70e anniversaire du Musée Heude," *Bulletin de l'Université l'Aurore*, 2d ser. 39 (1938–1939), pp. 56–59.



(1836–1902) arrived in China, and ended in 1930 when it was merged with Zhendan University 震旦大學 (Aurora University). During this first period, the institution was known among expatriates as “Musée de Zikawei.” The second period started in 1930 and ended in 1952 when both the university and the museum were forced to cease operations by the new Chinese government, which carried out a thorough reorganization of higher education institutions across the country. During this second period, Heude’s successors relocated the museum to the campus of Aurora University, prompting the university to commission the construction of a building capable of housing the ever-increasing collection. During this time, the museum’s Chinese name was changed to Zhendan Museum 震旦博物院, while its French name became Musée Heude (Heude Museum) to commemorate its symbolic founder.

This chronology deserves some further explanation. When Heude first arrived in China in 1868, the local church enlisted him to enrich its initial collection of zoological specimens. However, the mere idea of creating a museum went undecided for some time. Therefore, this date should strictly speaking not be considered the Zikawei Museum’s founding year. It was not until August 11, 1872, when Adrien Languillat (1808–1878), the vicar apostolic of Jiangnan, officially ordered the establishment of a museum of natural history and assigned Heude to be in charge of this task, that the museum was officially listed as one of the Jesuits’ scientific projects in the Apostolic Vicariate of Jiangnan.

In 1872, titular bishop Languillat and father Agnello Della Corte (1819–1896), the then superior of the Jesuits in the Apostolic Vicariate of Jiangnan, decided to found a “Comité scientifique de Jiangnan” in the Zikawei area. The committee initially consisted of four working groups: The first group was tasked with running the observatory and scientific publishing and was headed by father Auguste Colombel (1833–1905); the second group was responsible for natural history research, with father Heude overseeing the museum and publishing its research findings; the third group, headed by father Aloys Pfister (1833–1891), who was also in charge of the Zikawei Library (Bibliotheca Zikawei), was responsible for research on China’s history and geography; and the fourth group handled the translation into Chinese of documents and materials required for both preaching and scientific projects and was initially headed by two Chinese clerics, brother Joseph Ma 馬建常 (1840–1939) and brother Matthias Ma 馬建忠 (1845–1900).<sup>14</sup>

<sup>14</sup> La Servière, *Histoire de la mission du Kiang-Nan*, vol. 2, p. 194. Joseph Ma and Matthias Ma left the Jesuit order in the mid-1870s to become prominent bureaucrats. Ma Jianchang 馬建常 is the original given name of the famous Jesuit priest Ma Xiangbo 馬相伯.

The four groups were set up concurrently but developed their tasks at varying speeds. Since the Society of Jesus was the sole sponsor, the initial budget only covered the construction of the observatory, which was completed in 1873. The construction of the museum building – located not far from the observatory, just south of the Jesuit headquarters – was delayed and finally completed in 1883. These institutions, together with the previously established the Zikawei Library (founded in 1847),<sup>15</sup> St. Ignatius High School (founded in 1850),<sup>16</sup> and Tushanwan Press 土山灣印書館 (founded in 1869), made the Zikawei area the cradle of scientific and humanities research in China during the second half of the nineteenth century.

The actual building was not completed until 1883, but Heude’s successors considered the year of his arrival in China (1868) to have been the year of the museum’s founding, in order to recognize his contributions. This view of the founding helped to spur the Zikawei Museum’s elaborate celebration of its seventieth anniversary in 1939. The chronology as maintained by the Jesuit fathers gives the impression that the plan to establish the museum had already been made when father Heude arrived in China and that its construction proceeded smoothly. Although this is not entirely accurate, all available sources show that in the first half of the twentieth century, it was already widely accepted that the Heude Museum was founded in 1868, while the significance of the years 1872 and 1883 was commonly neglected. With this nuance in mind, this article follows the conventional timeline to explain the Zikawei Museum’s more than eighty years in operation.

#### THE ZIKAWEI MUSEUM PERIOD (1868–1930)

During its first period, the Zikawei Museum’s initial goal appears to have been to increase Europeans’ understanding of Chinese natural history through a collection of botanical and zoological specimens. Three things are of particular significance: Father Heude’s efforts to collect and classify specimens, the training of local orphans in the skills required to become publication and illustration professionals, and collaboration with the Shanghai Museum (R.A.S).

<sup>15</sup> For more on this library, see Gail King, “The Xujiahui (Zikawei) Library of Shanghai,” *Libraries & Cultures* 32.4 (1997), pp. 456–69.

<sup>16</sup> For more on the history of this school, see Zhuang Xiaofeng 庄小鳳 and Ma Xueqiang 馬學強, ed., *Xixue dongjian di-yi xiao: cong Xuhui Gongxue dao Xuhui Zhongxue* 西學東漸第一校, 從徐匯公學到徐匯中學 (Shanghai: Shanghai cishu chubanshe, 2010).

*Father Heude's Collection and Study of Specimens*

Father Pierre Marie Heude was born in the Brittany region of France, and entered the Society of Jesus in 1856 at the age of twenty. He had been fond of biology since childhood, and after his entry into the Jesuit order he continued to study at the Muséum National d'Histoire Naturelle in Paris. He also studied the regular Jesuit curriculum, which included theology and philosophy. In 1867, vicar apostolic Languillat went back to France to recruit and encourage young Jesuits to go to China for preaching services, which convinced the thirty-one-year-old father Heude to make the journey.<sup>17</sup> According to his personal diaries and letters, father Heude left Marseille on November 19, 1867, and arrived in Shanghai on January 9, 1868, which marked the beginning of his more than thirty-one years in China.<sup>18</sup> Between 1869 and 1880, he conducted more than ten research trips in the Jiangnan region. During these trips, the primary goal was to collect fish, shellfish, and turtle specimens. Heude's passion for discovering new species brought him far beyond the boundaries of China: He fell ill in Hanoi in July 1900, and returned to Zikawei where he died on January 3, 1902. But from the mid-1880s, until that point, he had traveled through southeast and northeast Asia numerous times, augmenting the museum's collections with animal and plant specimens from Annam, Siam, the Malay Archipelago, Manchuria, Korea, Japan, and eastern Siberia. Later sources show that he walked over 250,000 km over the course of these years, to, among other things, discover 572 new species of mollusk.<sup>19</sup>

Based on his specimens, Heude published a series of ten booklets titled *Conchyliologie fluviatile de la province de Nanking et de la Chine centrale* between 1874 and 1885 in France, which were later compiled into a thickly bound volume. In it, he described 189 types of shellfish, 150 of which were previously unknown. His research findings were held in high esteem by his international peers and he became a prominent figure in this field.<sup>20</sup> Like many other French explorers, diplomats, and missionaries in China at the time, father Heude frequently donated specimens to the French Muséum National d'Histoire Naturelle for further examination and to add them to its permanent collection. In

<sup>17</sup> Frédéric Courtois, "Le P. Heude et le musée de Zi-ka-wei," *Mémoires concernant l'histoire naturelle de l'Empire chinois* 5.2 (1906), pp. 1-32, p. 3.

<sup>18</sup> Joseph Deherné, "Les débuts d'un naturaliste en Chine: Les premiers voyages du Père Heude, d'après son Journal et ses Lettres (1868-1875)," *Bulletin de l'Université l'Aurore*, 3d ser. 30 (1947), pp. 192-243.

<sup>19</sup> Flamet, "Le Musée Heude, ses fondateurs et ses richesses scientifiques," pp. 46-50.

<sup>20</sup> See for example Henri Fischer, "Le R. P. Heude, nécrologie," *Journal de conchyliologie* 52.4 (1904), pp. 372-76.

appreciation for his services, the museum awarded him the honorary title of "Correspondant du Muséum."

After a nearly seventeen-year stay in Asia, Heude returned to Europe at the end of 1884, where he remained until April 1885. In Europe, he witnessed the heated discussions surrounding the theory of evolution, of which he disapproved.<sup>21</sup> Upon his return to China, he continued to send specimens to France but with a new objective: He hoped to use his extensive collection of specimens from Asia to refute the new theory. Starting from the mid-1880s, he shifted the focus of his collection from shellfish to mammals and published his findings in the *Mémoires concernant l'Histoire naturelle de l'Empire chinois*, a publication that will be discussed in the following section.

His goal-oriented approach to specimen collection during this time was rather controversial. After unnecessarily renaming several species that had already been identified by others, he was labeled by some as being quite careless, and this criticism had a detrimental effect on his academic reputation. As he gradually stepped away from the more mainstream opinions of the professors at the Muséum National, scholars became reluctant to mention or cite his works in their publications. Slowly but surely, father Heude fell out of favor with the academic world. As a result, he was not as widely remembered in France after his death as some of his contemporaries and successors, such as father Armand David (1826-1900).<sup>22</sup> This latter French missionary from the Congregation of the Mission, who also spent many years collecting specimens in China, was more fortunate regarding his historical legacy. David collected many valuable specimens for French scientific institutions and clearly sided with the academic mainstream. He was therefore often praised by the professors at the Muséum National and frequently cited in their publications.<sup>23</sup>

In spite of the controversy surrounding his research, the importance of father Heude's contributions to the Zikawei Museum is beyond doubt.<sup>24</sup> During his lifetime, he was often portrayed as a leading

<sup>21</sup> Courtois, "Le P. Heude et le musée de Zi-ka-wei," p. 7.

<sup>22</sup> For more on Armand David, see Emmanuel Boutan, *Le nuage et la vitrine: Une vie de Monsieur David* (Bayonne: Editions Raymond Chabaud, 1993).

<sup>23</sup> For example, Henri Milne-Edwards and Alphonse Milne-Edwards often cited Armand David, see Henri Milne-Edwards and Alphonse Milne-Edwards, *Recherches pour servir à l'histoire naturelle des mammifères; comprenant des considérations sur la classification de ces animaux* (Paris: G. Masson, 1868-1874). Armand David also collaborated with Emile Oustalet, see Armand David and Emile Oustalet, *Les oiseaux de la Chine* (Paris: G. Masson, 1877).

<sup>24</sup> For a more recent evaluation of mammal specimens in his collection, see Anja Braun, Colin P. Groves, Peter Grubb, Yang Qi-Sen, and Xia Lin, "Catalogue of the Musée Heude



figure in natural history research in Asia, mainly due to his vast set of specimens and his donations to museums. Diligently acquiring, Heude rapidly expanded his collection during his time in Asia and quickly became well known among his peers. As early as 1873, Heude had begun exchanging work and ideas with other prominent scholars: The aforementioned father Armand David and British consul Robert Swinhoe (1836–1887), for example, both paid visits to his collections.<sup>25</sup>

The museum was keen to provide support to local researchers by allowing them to examine its specimens and was well known among Western naturalists residing in China. For example, in 1876, the honorary curator of the Shanghai Museum, J. P. Martin (?–1877), invited father Heude to help examine and classify mammal specimens.<sup>26</sup> Augustine Henry (1857–1930), a customs officer and prominent scholar of natural history within the British community in China, also sought Heude's advice regarding the identification of the gorals he had collected.<sup>27</sup> John David Dignes La Touche (1861–1935), a customs officer and well-known ornithologist who resided in Shanghai from 1907 to 1921, also frequently exchanged his ideas on the identification of birds with father Frédéric Courtois (1860–1928), father Heude's successor.<sup>28</sup>

After father Heude's passing in early 1902, his successors concentrated on classifying the museum's existing collection, while also systematically expanding it. During father Courtois' tenure from 1902 to 1928, the museum continued to enrich its collections, despite a chronic shortage of personnel. Since father Heude had already acquired many specimens of shellfish and mammals, father Courtois focused on plants and birds. Father Auguste Savio (1882–1935), who succeeded Courtois in 1928, further contributed to the collection of insect and bird specimens, including bird's nests and eggs, while father Octave Piel (1876–1945), Savio's successor, focused solely on the collection and study of insects. By virtue of these systematic efforts, the Zikawei Museum had

collection of Mammal Skulls," *Acta Zootaxonomica Sinica/Dongwu fenlei xuebao* 動物分類學報 (2001. 4), pp. 608–60.

<sup>25</sup> Dehergne, "Les débuts d'un naturaliste en Chine," p. 214. David visited in 1873, Swinhoe in 1874; see Emile V. Bretschneider, *History of European Botanical Discoveries in China*, vol. 2, p. 871.

<sup>26</sup> See J. P. Martin, "Curator's Report," *Journal of the North-China Branch of the Royal Asiatic Society* (1877), p. ix.

<sup>27</sup> Gorals are small, antelope-like animals. See E. Charles Nelson, "Charles Rathouis' Painting (1889) of Augustine Henry's Goral from the Yichang Gorges, China," *Archives of Natural History* 21.1 (1994), pp. 43–47.

<sup>28</sup> John David Dignes La Touche, *A Handbook of the Birds of Eastern China* (London: Taylor and Francis, 1925–1934), vol. 1, p. 3.

become a well-rounded institution by the time it moved to the grounds of Aurora University at the end of the 1920s. When the newly organized museum opened its doors to the public, it boasted more than 50,000 cataloged plant specimens, owing in large part to the efforts of father Courtois and father Henri Belval (1893–1949), who were responsible for the plant section.<sup>29</sup>

#### *Training of Publication and Illustration Professionals*

In addition to expanding the collection, the fathers were keen to engage with the scientific community through a publishing endeavor. Father Heude's first publications, the previously mentioned booklets on shellfish, were printed in France by Librairie F. Savy, a Parisian house that specialized in science books; the large number of illustrations were created on commission by French malacologist and naturalist Arnould Locard (1841–1904). The booklets were released to great acclaim and later reissued in a bound volume.

By the end of the 1870s, the fathers decided to publish their findings independently, instead of seeking publishers in France, and they moved the printing work to the Zikawei area to facilitate dissemination in China. In 1880, the first "cahier" of its new series, *Mémoires concernant l'Histoire naturelle de l'Empire chinois*, was printed on the grounds of Tushanwan Orphanage by a local printing factory, which later became known as Tushanwan Press. Between 1880 and 1920, a total of six volumes was published, comprising more than 200 detailed illustrations of animal and plant specimens that used stone lithography. To accomplish this, the fathers at the museum, led by father Charles Rathouis (1834–1890), trained young, local apprentices to render illustrations of the specimens.

Father Rathouis was born in Nantes, France, and joined the Jesuits in 1865. Before that, he had received medical training and taught natural history at a church school in Paris. In late 1877, he joined the fathers in the Zikawei area and became an indispensable assistant to father Heude. Because of his expertise in the use of microscope and scalpel, as well as his knowledge of scientific drawing techniques, he quickly became the chief illustrator of the Zikawei Museum's scientific

<sup>29</sup> Frédéric Courtois, "L'herbier de Zikawei: Herborisation dans le Kiangsou en 1918," *Mémoires concernant l'histoire naturelle de l'Empire chinois* 6.1 (1920), pp. 1–136; In this publication, Courtois identified and described 1,055 plants native to Jiangsu province. See also Henri Belval, *Contribution à la flore du Kiangsou* (Shanghai: Université de l'Aurore and Musée Heude, 1931); Henri Belval, ed., *Flore de la région montagneuse du Ngan-Hoei, énumération des plantes récoltées et déterminées par le P. Courtois au cours des années 1906–1922* (Shanghai: Université de l'Aurore and Musée Heude, 1933).

publications. All of the illustrations in volumes 1 and 2 of *Mémoires concernant l'Histoire naturelle de l'Empire chinois* were drawn by Rathouis (see figure 1 as an example). In the same period, he began to teach the children at Tushanwan Orphanage to draw and use stone lithography.<sup>30</sup> The contributions made by these young apprentices began to appear in the series from volume 3 onward; they either co-created the illustrations with father Charles Rathouis or worked independently. In the latter case, they signed the pictures with either their Romanized names or, in some cases, their Chinese names (see figures 2 and 3). After father

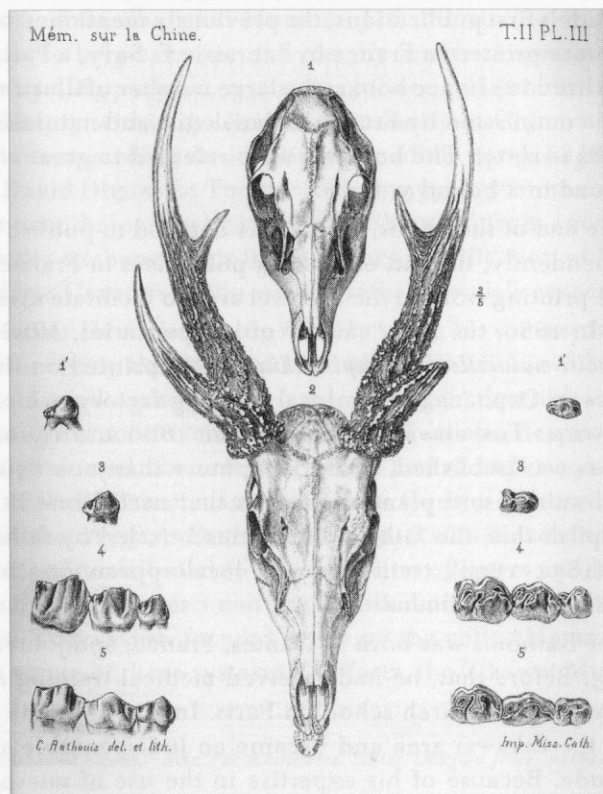


Figure 1. Lithographed Plate Produced by Father Charles Rathouis

Source: *Mémoires concernant l'histoire naturelle de l'Empire chinois*, vol. 2, pl. 3.

<sup>30</sup> Courtois, "Le P. Heude et le musée de Zi-ka-wei," p. 12.

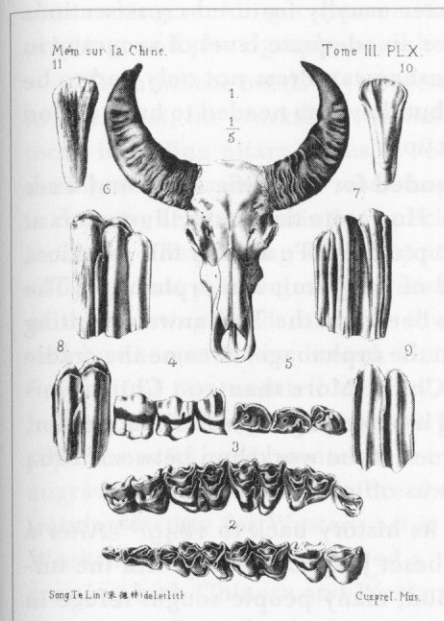


Figure 2. Lithographed Plate Produced by Song Te Lin

Source: *Mémoires concernant l'histoire naturelle de l'Empire chinois*, vol. 3, pl. 10.

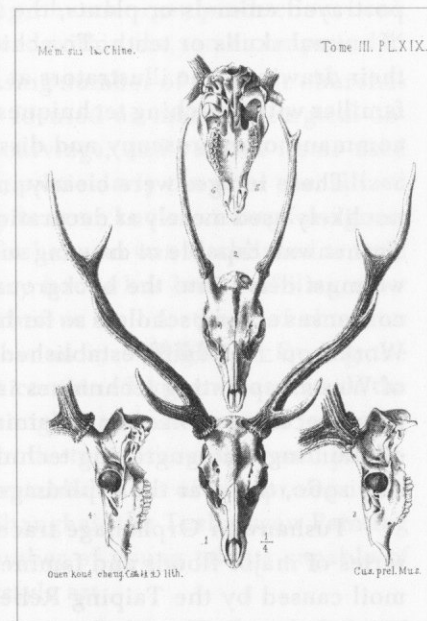


Figure 3. Lithographed Plate Produced by Ouen Koué Cheng

Source: *Mémoires concernant l'histoire naturelle de l'Empire chinois*, vol. 3, pl. 19.

Rathouis' passing in 1890, the young Chinese illustrators independently produced the majority of the series' drawings. The drawing technique employed was of the same high quality found in European natural-history publications. The scientific illustrations produced at Tushanwan differ markedly from works that blended Chinese and Western methods, such as Giuseppe Castiglione's paintings, Suzhou wood engravings, or Canton trade paintings, to name just a few well-known examples. Even the most popularly discussed drawings produced following East-West cultural exchanges in the field of natural history – the drawings that British amateur naturalist John Reeves (1774–1856) commissioned anonymous painters to produce<sup>31</sup> – differed significantly from the scientific drawings produced by Tushanwan Press. Whereas the former

<sup>31</sup> See Peter James Palmer Whitehead, "The Reeves Collection of Chinese Fish Drawings," *Bulletin of the British Museum (Natural History) Historical Series* 3:7 (1969), pp. 13–232; Fan Fa-Ti, *British Naturalists in Qing China: Science, Empire, and Cultural Encounter* (Cambridge, MA and London: Harvard U.P., 2004), especially chap. 2.



portrayed animals or plants, the latter usually featured cross-sections of animal skulls or teeth. To achieve an adequate level of accuracy in their drawings, the illustrators at Tushanwan Press not only had to be familiar with sketching techniques, but they also needed to have a good command of microscopy and dissection.

These images were clearly intended for scientific study and were not likely used merely as decoration. How were the young illustrators at Tushanwan capable of drawing such pictures? To answer this question, we must delve into the background of this Jesuit-run orphanage. The consensus among scholars so far has been that the Tushanwan Painting Workshop 土山灣畫館, established at the orphanage, became the cradle of Western painting techniques in China. More than 100 Chinese orphans received professional training in sketching, the use of watercolor, oil painting, and engraving techniques at the workshop between 1864 and 1960, the year the orphanage was officially closed.<sup>32</sup>

Tushanwan Orphanage traces its history back to 1849.<sup>33</sup> After a series of major floods and famines beset Jiangnan, along with the turmoil caused by the Taiping Rebellion, many people sought refuge in nearby regions. To aid these refugees, the Jesuits founded a shelter, welcoming believers and non-believers alike, and refugee orphans became the orphanage's first inhabitants. Partly due to the ever-increasing number of children in need of housing, the orphanage was forced to relocate several times within the Shanghai area. Finally, the Jesuits acquired a large piece of land at Tushanwan – the southernmost tip of Zikawei – and in late 1864 Tushanwan Orphanage officially opened its doors at this location.

To alleviate the orphanage's financial burden and ensure that the orphans would enter adult life equipped with some professional skills, the fathers not only provided basic education, but also set up workshops aimed at cultivating crafts. Some of these workshops had already been established during the orphanage's Caijiawan 蔡家灣 period in the 1850s, with the carving workshop and painting workshop being the first ones. After the orphanage relocated to Tushanwan, the number and scale grew, with ateliers specializing in leatherwork, carpentry,

<sup>32</sup> Wan Qingli 萬青力, *Bingsfei shuailuo de bai nian: shiji shiji Zhongguo huihua shi* 並非衰落的百年, 十九世紀中國繪畫史 (Taipei: Xiongshi, 2005), p. 180.

<sup>33</sup> See La Servière, *Histoire de la mission du Kiang-Nan* 2, pp. 274–79; idem, *L'Orphelinat de Tou-sè-wè, son histoire, son état présent* (Zi-ka-wei: Imprimerie de l'Orphelinat de Tou-sè-wè, 1914).

shoemaking, molding, coppersmithing, church organ production, book printing, and photography – all housed within the same compound.<sup>34</sup>

To fulfill the needs of the increasing number of Catholic churches in Shanghai, the workshops initially focused on making liturgical objects, including altars, icons, wood carvings, and various items used during daily masses. The workshops, particularly the ones specialized in drawing and book printing, quickly became known among foreigners in China. The printing workshop at Tushanwan was established around 1869, at first printing only missionary books but later fulfilling most of the printing needs of local churches as well as those of churches and businesses in the French Concession in Shanghai.<sup>35</sup> During the first half of the twentieth century, it continued to serve as one of the leading publishing enterprises in Shanghai and was known for being superior to its local counterparts in both stone lithography and photo-engraving techniques.<sup>36</sup> Before the establishment of any professional training facility for Western art in Shanghai, the Tushanwan Painting Workshop had already trained a number of young talents capable of creating both Chinese and Western style art.

Children at Tushanwan received training in pencil and charcoal drawing, as well as watercolor and oil painting, beginning their artistic education with imitation and working their way through different styles. Calendar (*yuefenpai* 月份牌) artist Xu Yong-Ching 徐咏青, Chinese Institute of Fine Arts founder Zhou Xiang 周湘, clay sculptor Zhang Chong-Ren 張充仁, and wood sculptor Xu Bao-Qing 徐寶慶 were among the workshop's most famous pupils.<sup>37</sup> Regarding the identities of the illustrators of the above-mentioned scientific diagrams, we still have very little knowledge.

With photography still in its infancy, illustrations of animals and plants played an important role in the production and dissemination of

<sup>34</sup> For pictures of these workshops, see Song Haojie 宋浩杰, ed., *Lishi shang de Xujiahui* 歷史上的徐家匯 (Shanghai: Shanghai wenhua chubanshe, 2005), pp. 100–27.

<sup>35</sup> See La Servière, *L'Orphelinat de Tou-sè-wè*, p. 37, as well as an article in *Shengjiao zazhi* 聖教雜誌 (*Revue Catholique*) published on the fiftieth anniversary of Tushanwan Press: "Tushanwan yinshuasuo wu xun jinjing zhisheng" 土山灣印刷所五旬金慶誌盛, *Shengjiao zazhi* 聖教雜誌 (1920.6), pp. 284–85.

<sup>36</sup> See Zou Zhenhuan 鄒振環, "Tushanwan yinshuguan yu Shanghai yinshua chuban wenhua de fazhan" 土山灣印書館與上海印刷出版文化的發展, *Anhui daxue xuebao* (*zhixue shehui kexue ban*) 安徽大學學報 (哲學社會科學版) (2010.3), pp. 1–14; Joachim Kurtz, "Messenger of the Sacred Heart: Li Wenyu (1840–1911) and the Jesuit Periodical Press in Late Qing Shanghai," in Cynthia Brokaw, ed., *From Woodblocks to the Internet: Chinese Publishing and Print Culture in Transition, circa 1800 to 2008* (Leiden and Boston: Brill, 2010), pp. 81–109.

<sup>37</sup> Wu Jialing 吳嘉陵, *Qingmo Minchu de huihua jiaoyu yu huajia* 清末民初的繪畫教育與畫家 (Taipei: Xiuwei zixun keji, 2006), pp. 92–93.