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The circulation of enameled objects between France and China (mid-17th–mid-19th century): Technological, cultural, and diplomatic interactions

A research project

Bing Zhao

In October 2014, the Palace Museum of Beijing launched a project entitled “Research on History of Enamels in China” (2015-2020). This project aims to study the techniques used for enamelling all types of media (metal, glass and ceramic) and all decorative enamelling techniques (champlevé, cloisonné, or painted). In order to plan for sound research on foreign contributions to Chinese techniques, calls for collaboration have been issued to several European institutions.

The current project results thus from the conjunction between the innovative researches led by French academics in recent years and the very call for collaboration issued by the Palace Museum, Beijing. The initial period of collaboration was supported since 2016 by the Cai Yuanpei program (Campus France-Chinese Scholar Council). Since 2017, the program is granted by the INSHS of the CNRS as LIA (Laboratoire International Associé) for five years. This administrative and legal structure guarantees a broad and lasting collaboration among Chinese and French specialists, scholars and students from various fields (social sciences / art / natural

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” Bing Zhao, « The circulation of enameled objects between France and China (mid-17th–mid-19th century) », *Artefact*, 8, 2018, p. 183-189.

sciences) and several professional skills (research / training / museology).¹ French laboratories enrolled into the project are the UMR 8155 CRCAO “East Asian Civilisations Research Center” (the coordinator team), the UMR 8173 “China, Korea, Japan”, the EA337 ICT “Identités-Cultures-Territoires” (UPD), the UMR 5136 FRAMESPA “France, Amériques, Espagne – Sociétés, pouvoirs, acteurs”, the UMR 8233 MONARIS “From molecule to nano-objects: reactivity, interactions and spectroscopies”, the UPR 8011 CEMES “Center for the Development of Materials and Structural Studies”, the UMR 8560 “Centre Alexandre Koyré”. Other French members come from the UMR 8150 “Centre André Chastel”, the UMR 8247 C2MRF, the Bibliothèque nationale de France, the MNAAG-Guimet, the Musée du Château de Versailles, the Cité de la Céramique, Sèvres/Limoges, Musée Cognacq-Jay, le musée des arts décoratifs de Paris.

The project focuses on the circulation of painted enamel wares and their technology between France and China (mid-17th-mid-19th century). Here, “enamelled objects” include any object whose surface is wholly or partially covered with a vitreous material called enamel on all kinds of supports (metal, glass and ceramic). They include daily-life utensils, tools, lamps and furniture, religious items, scientific and optical instruments, various luxury items (clocks, watches, automata, boxes of various functions, portraits, ornaments) (**Fig. IV, colour plates**). Based on analysis of the double corpus of objects and archives, our goal is to take up two challenges: 1) to break with visual parallelism which solely relies on the stylistic features of objects to identify technical links; 2) to move beyond the predicament of choosing between the Eurocentric vision of diffusion derived from the Jesuits’ writings and the Sinocentric vision denying foreign input. To accomplish this, the project will undertake an unprecedented double cross-study, on the one hand a cross-study between objects, archives, and experimental physico-chemical data, and on the other hand a cross-study between Chinese and French archives.

Two sets of items from the Palace Museum (Beijing) collections constitute the core of the objects corpus: unique collection of Chinese painted enamels once highly valued and carefully preserved at the Manchu Court (1644-1911) and another collection, today poorly documented, of European enamelled objects. They constitute the object-references for the

1. For the website of the program, see: <https://trenamelfc.hypotheses.org>.

selection of objects in French museums both for stylistic, functional, societal approach study and for physico-chemical analyses. Objects are considered not as illustrations but rather as relevant material sources of analysis along with traditional archive sources. In fact, enamel is the prime example of an original Mediterranean and European technology whose practice was transferred along with objects eastwards as far as China. From the mid-17th century on, European enamelled objects were presented increasingly to Manchu emperors and mandarins of the Qing dynasty by European missionaries. Fascination with the painted enamels at the Qing Court was furthermore linked to the prestige of other European technology, for instance those of optical devices and scientific instruments, watch making and clock making. Chinese painted enamels appear to have been produced in Canton and in the Palace workshops from the end of the 17th century and the early 18th century.² At the same time various imitation productions started at the Palaces under European influence: glass, clocks, watches, scientific instruments. Chinese painted enamelwares were exported to Europe first as diplomatic presents in the 1720s, then as trade goods from the 1740s.³ From the second half of the 18th century to the early 20th century Chinese painted enamel occurred direct influences in France. Painted enamelwares were thus true global items. They offer an exceptional case through which to explore a hitherto little known scene of global trade what has been lay behind the cliché of an 18th century Europe enamoured with Chinese culture and techniques and where Chinese manufactured goods had become ubiquitous.

From the turn of the 18th century onwards, enamelled objects were called in China *falang* 珐瑯 or *falan* 珐藍, terms phonetically identical to “France” in the Chinese language.⁴ Both missionary correspondence and Chinese Palace archives bear witness to the crucial role played by France in the introduction of European glass and enamel techniques into the Qing Court, especially that of the group of French Jesuits who arrived

2. Hugh M. Moss, *By Imperial Command: An Introduction to Ch'ing Imperial Painted Enamels*, Hong Kong, Hibiya, 1976.

3. Jorge WELSH (ed.), *China of All Colours: Painted Enamels on Copper*, London/Lisbon, Jorge Welsh Research & Publishing, 2015.

4. Xiaodong XU, “Interaction of painted enamel technique between the imperial court and the locals during Kangxi and Yongzheng periods”, in the Palace Museum and the Max Planck Institute for the History of Science (eds), *Imperial Court and the Locals: Technological Interaction during 17th to 18th Centuries*, Beijing, Forbidden City Publication House, 2010, p. 277-335.

in Beijing in 1688. For instance, it was on the grounds of the French Church that the first glass workshop in Beijing was created in 1693.⁵ In Europe, “*chinoiseries*” have attracted interest. But stylistic parallels are no evidence of technological links between China and Europe; the latter are scarcely studied. Few studies have been devoted to enamel technology in China, and generally speaking research on foreign influence on Chinese culture and techniques are still rare. Precisely regarding the techniques of painted enamel, Taiwanese, American, French and British art historians have recently carried out pioneering studies, alongside a small number of chemical analyse. This innovative research remains largely confined to the narratives of the Jesuit missionaries and their contribution as transmitters of knowledge. This raises the question of effective practices when transfers were based on human mobility.⁶

Based exclusively on stylistic parallels between objects, research has emphasized a particular link between 18th century Chinese painted enamels and Limoges productions (**Fig. V, colour plates**).⁷ But, not every stylistic similarity necessarily signifies a technical transfer. Moreover, the technique of enamel is one of the most sophisticated elements among the so-called “firing arts” (ceramic, glassmaking, and enamelling). Technical constraints have made enamelled objects the products of advanced technology, characterized by specific skills. Several techniques fostered the production of similar visual aspects. Only the analysis of micro- and nano-structures makes it possible to differentiate know-how, and then possibly identify the place and date of production. These analyses would include chromatic analyses as well as the structural and elementary analyses of all the constituents of enamels, among them chromophores, pigments and the vitreous matrix.⁸ Due to the literati’s and dealers’ tradition, Chinese art study is still

5. Emily Byrne Curtis, “A Plan of the Emperor’s Glassworks”, *Arts Asiaticques*, vol. 56, 2001, p. 81-90.

6. David W. KINGERY and Pamela. B. VANDIVER, “The eighteenth-century change in technology and style from the Famille-Verte palette to the Famille-Rose Palette”, in David W. KINGERY (ed.), *Technology and Style*, vol. 2, Ceramics and Civilization Serie, Columbus, The American Ceramic Society, 1986, p. 363-381.

7. Chin-fei SHIH, *Radiant Luminance: The Painted Enamelware of the Qing Imperial Court*, Taipei, the National Palace Museum of Taipei, 2012; Véronique Notin, “L’émail peint : de Limoges à Pékin”, *Bulletin de la Société archéologique et historique du Limousin*, vol. CXXXX, 2012, p. 85-107.

8. Philippe Colomban, “Pottery, glass and enamelled artefacts: How to extract information on their manufacture technology, origin and age?”, *Analytical Archaeometry*, Cambridge, The Royal Society of Chemistry Publishing, 2012, p. 245-267.

largely confined to typo-chronological analysis and the study of making processes. In France, innovative work in the field of materials science has shown that sub-micrometric analysis provides unrivalled information on how objects have been produced, information which would have remained unknown due to the protection of manufacturing secrets and the traditions of oral transmission in an artisanal environment. Such analysis often offers new quantification tools for material, cultural, economic and social studies of technology. We thus expect that the multidisciplinary approach, the chemical characterisation, along with the art historian expertise and the crossover study of the Chinese and European objects will prove promising to renew the Chinese enamelling techniques study. Concretely, since 2017, preliminary analyses have been conducted by the MONARIS team on 17th-18th centuries Chinese enamelled porcelains, 18th century Limoges copper enamels and early soft-paste French porcelains to test the performance of the methods to be used. They demonstrate that the use of European arsenic-rich cobalt ores and of Naples yellow pyrochlore pigments provides evidence of the import of materials and know-how into China (**Fig. VI, colour plates**).⁹

The interdisciplinary approach for an in-depth study of the materiality and the social performance of global enamelled objects will be accompanied by continuous to and fro between objects and archives. The lasts consist of by themselves a cross-study between Chinese and French archives. Two systems set up by the Qing dynasty have produced more than 70,000 items of administrative records, all dated and registered. The first set, produced by the Neiwufu 內務府 (Imperial Household Department), includes memorials sent by various bureaus to the emperor to keep him informed of the daily administration of the country. The second corpus, produced by the Zaobanchu 造辦處 (Palace Board of Works), includes all documents relating to the production, the *huojidang* 活計檔 (inventories of works). Regarding French archives, we will explore four sets of materials: 1) public and private collections of missionary correspondence, in France, Italy and Portugal; 2) French notarial archives (such as probate inventories) and bankruptcies papers which often contain account books and

9. Philippe COLOMBAN, Yizheng ZHANG, Bing ZHAO, “Non-invasive Raman analyses of *huafalang* and related porcelain wares. Searching for evidence of innovative pigment technologies”, *Ceramics International*, vol. 43/15, 2017, p. 12079-12088: <http://dx.doi.org/10.1016/j.ceramint.2017.06.063>.

commercial correspondence, in Paris and in Limoges; 3) French institutional archives, including the royal household series, the royal manufactures archives and the Bureau du Commerce papers in the Archives Nationales, as well as the records of the Académie royale des sciences (Institut); and 4) official archives of ports (cargo listing, auctions archives, archives of the East Indian Company: those between 1689 and 1743 kept in Lorient and those between 1743 and the Revolution kept in Nantes). The primary goal of the systematic recourse to archival documents for the study of Franco–Chinese relations is to gather complementary information related to the circulation of enamelled objects, the artisans and the techniques between the two countries, in order to reconstitute the itinerary of enamelling objects and to reconstitute the individual trajectory of named artisans, or at least to reconstruct prosopographically the trajectory of some social groups of actors. Since 2016, the analysis of Chinese archives and of missionary correspondence by some of our project members has led to establish the list of European objects imported into China, which now includes some thirty types. These archival records also attest to the presence of religious objects (breviaries, reliquaries, candlesticks, cross-shaped pendants, etc.), that are absent from the museum collections (in Beijing and Taipei). In addition, they bear witness to the shipment to China of enamels from Alençon and Paris, probably from the workshop of Mr. Hubin (?-1702), enameller of the king Louis XIV.¹⁰

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Meanwhile, China and France offer two fundamentally different modes of technical thinking (both for the observation and description of technology, and for the categorization, publication, conservation, and circulation of written sources).¹¹ Thus, cross-study of archives produced in different historical and textual contexts poses methodological problems. These include in particular the categorization/classification of the archives, the time-scale (given to the different chronological reference between China and Europe), the contextualization of the writings (who by and for whom the archives were produced, what is recorded or is not and how it is recorded, and so on). The project is based on the assumption that East Asian archives and

10. For the quote of enamels from Alençon, see « Lettre de Bouvet à Madame de la Brière du 14 décembre 1685 », *Archives des missions étrangères de Paris*, n° V879.

11. Christian LAMOUREUX (ed.), special issue: *Travail et savoirs techniques dans la Chine pré-moderne*, *Revue de synthèse*, t. 131, 2010; Francesca BRAY, *Technology, Gender and History in Imperial China: Great Transformations Reconsidered*, New York, Routledge, 2013.

European archives possess an equal documentary value in the construction of a connected and symmetrical history of exchanges.¹² Classifying, comparing, criticizing, interpreting, and publishing these scattered elements taken from different categories of sources will be an important challenge in order to provide methodological issues regarding the exploitation of archives in the global history.

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12. Romain BERTRAND, *L'histoire à parts égales*, Paris, Seuil, 2011.