Chapter 10
The Manila Galleons in Perspective. Notes on the History and Archaeology of the Transpacific Trade

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Abstract From 1565 to 1815, a commercial route known as the Manila Galleon connected the coasts of New Spain, in western Latin America, with the Philippine Islands under the control of the Spanish Crown. Galleons annually transported silver from the Americas to Manila, which was exchanged for Asian merchandise that was transported to the Americas. Recent studies about the Manila Galleon route are not only addressing economic and socio-cultural topics related to the transpacific trade, but a series of works referencing archaeological sources and material culture are also becoming significant. Therefore, remains of shipwrecks and Chinese porcelain are becoming as important as archival documents to write the history of the Manila galleons. This chapter offers some notes on the historiography and the archaeology of the Manila galleons. Then, it proposes common lines of research with the main aim, not to provide answers, but to propose a dialogue between historical and archaeological studies addressing the Manila galleons.

1 Introduction

The land is everywhere well shaded by trees of different kinds, and there are fruit trees which beautify it all the year round, both along the shore and inland, on the plains and in the mountains […] *For this reason there is plenty of wood which is cut, sawn up, and then dragged to the rivers along which it is brought down. This wood is suitable for houses and buildings as well as for constructing large or small boats. There are in addition many stout, straight trees which are also light and pliant and can be used for making masts for ships or galleons. Thus, any sort of vessel may be fit with a mast made from a single trunk from one of these trees, without there being any need for splicing or fishing; or to make them up from different pieces. For the hulls of the ships, for keels, futtock- and top-timbers, and any other kinds of futtocks, breasthooks, puercas, transoms, llaves and rudders, all sorts of good timber can be*

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found easily. There is also good planking of quite suitable timber for the sides, decks, and upper works (de Morga 1972).

The author of these words is Antonio the Morga, who was assistant of the Spanish governor of the Philippines and judge (*oidor*) of Manila's courthouse (*Real Audiencia*) from 1594 to 1609. *The land* which De Morga refers to is the Philippine Islands. De Morga, who sent reports on the political and military state of the Philippines to the Spanish authorities of New Spain in the Americas, and to the king himself, noticed the presence of many varieties of wood that he considered suitable for building galleons and other ships.

From 1565 to 1815, a fleet made of two–four galleons and several minor vessels annually made a return trip from Acapulco to Manila crossing the Pacific Ocean. Although the Spaniards set foot on the Philippine Islands for the first time in 1521, when the archipelago was still known as the West Islands (*islas de Poniente*). In 1565–1571 they conquered the main island of the archipelago—Luzon—and established a permanent route across the ocean. In 1565, the expedition from New Spain to the Philippines headed by Miguel López de Legazpi and Andrés de Urdaneta found the Kuroshio current, which allowed the Spaniards to return to the Americas across the Pacific. In 1571, Spanish conquerors founded Manila in the mouth of the Pasig River and established a permanent commercial route between Manila and the western coast of New Spain, which was known as the Manila Galleon route (*galeón de Manila*) or the ship from China (*nao de China*). The Philippines was institutionally integrated into the viceroyalty of New Spain as a General Captaincy, which had their own governor and a courthouse, but was politically dependent upon the viceroy of New Spain. In 1593, the Spanish Crown regulated the commercial traffic of the Manila galleons. Several royal orders limited the annual round trip to two 300-ton galleons with a load capacity of 500,000 *pesos* in the journey from Acapulco to Manila and merchandise valued up to 250,000 *pesos* from Manila to Acapulco. Until the eighteenth century, the monarchy did not increase the permission allowed to transport silver and merchandise. Nonetheless, smuggling and contraband were common in the ports of Manila and Acapulco, like in other parts of the Spanish empire (Lytle Schurtz et al. 1992; Yuste López 1998).

The Manila Galleon route ended up transforming the economy of the Philippines and expanding global trade. The annual arrival of large quantities of American silver to exchange for Asian merchandise—above all Chinese silk and porcelain—alongside the monetization of part of the Philippine economy and the Spanish settlement of Manila, New Spanish and above all Chinese traders laid the foundations of long-term economic and sociocultural changes in Asia and the Americas. Transpacific trade became, alongside the Cape route trade via Africa and the Indian Ocean, the most important source of specie for China. Furthermore, the arrival of large quantities of Chinese silk and porcelain in the Americas transformed the taste and material culture of broad sectors of the colonial American population.

Literature on the Manila galleons is abundant since the early twentieth century. Topics including the role of silver in global trade, the organization of economies of scale around the Manila galleons, and the integration of Chinese silk into the fashion of Creole elites in the Americas, have all been at the center of historians'

concerns. Furthermore, recent studies about the Manila Galleon route have not only addressed economic and sociocultural topics related to the transpacific trade, but also a body of research referencing archaeological sources and material culture is also becoming significant. Remains of shipwrecks and Chinese porcelain are becoming as important as archival documents to write the history of the Manila galleons. Archaeologists are using sources and approaches different from those of the historians in analyzing the Manila galleons. Because the research questions and fieldwork methods driving archaeologists are not the same as those of historians, it is worth attempting to build bridges between historical and archaeological studies of the Manila galleons. New questions and thus, a renewed knowledge of the Manila Galleon route could be born from the combination of archival, historical, and archaeological analyses. This chapter offers some notes on the historiography and the archaeology of the Manila galleons. Then, it proposes common lines of research, aiming not to give answers, but to propose a dialogue between historical and archaeological studies of the Manila galleons.

2 Historiography of the Manila Galleons

During the early modern era, Europeans made impositions of many types—political, economic, religious, social, artistic, etc.—and built connections between different civilizations of the world. The Manila galleons built one of those connections. This section offers a brief review of the main historiographical contributions to the history of the Manila galleons, while identifying existing lacunas and possible future research lines.

Several authors have written state-of-the-art of the Manila galleons in the last 20 years (Pérez Herrero 1989; García de los Arcos 1997; Elizalde Pérez-Grueso 2002). The following pages take those state-of-the-art into account and fill their most notable gaps, which are mostly recent contributions.

María Fernando García de los Arcos has pointed out that the most known historical works about the Manila galleons address trade (García de los Arcos 1997). Among the most significant books about the Manila Galleon route, there are synthetic works which offer an overview of the topic and were written before the so-called crisis of the old historiographical paradigms in the 1980s and early 1990s. Five of them are remarkable. Firstly, the most known is the classic *The Manila Galleon* by William L. Schurtz (Lytle Schurtz et al. 1992), which provided a before and after in the studies of the Manila galleons and had a decisive influence on later works. This was the first work that integrated a study on the main components of the transpacific trade—organization of journeys, merchandise, routes of the galleons, piracy, institutional and juridical aspects of trade, and so forth. Secondly, *Les Philippines et le Pacifique des Ibériques* by Pierre Chaunu (1966) is also remarkable, as it updated Schurtz's approach and framed the history of the Manila galleons within a more scientific and quantitative perspective, even though some of Chaunu's data were criticized later. Thirdly, *The Spanish Lake* by O. H. K. Spate (Spate 1979)

is also significant. It not only deals with the economic and commercial dimension of the galleons, but also with the political and diplomatic history of the route. Fourthly, in the mid-1980s Carmen Yuste López, whose works on the Manila galleons are an inescapable reference, published her thesis, which was an update of the knowledge on the Manila galleons so far (Yuste López 1984). Fifthly, it is worth mentioning the works by María Lourdes Díaz-Trechuelo, who since the 1960s has worked on several aspects of the transpacific route from trade through urbanism and the architecture of Manila to the economy of the Philippines in the eighteenth century (Díaz-Trechuelo 1965, 1980).

There are several edited works of scientific and cultural encounters about the history of the Manila Galleons. In most of them the influence of cultural perspectives dominated the historical narratives of the Manila Galleon route. In light of this dominant perspective, it is worth mentioning the 1971 monograph in the series *Revista Artes de México* (number 171) devoted to the Manila galleons and the proceedings of topical conferences organized in Mexico City in 1989 (Barrón and Rodríguez-Ponga 1992). Other scientific and cultural encounters which resulted in the publication of works were *Extremo Oriente Ibérico. Investigaciones históricas: Metodología y Estado de la Cuestión*, which took place in 1988 at CSIC (Spain), and the First Mexican–Philippine Cultural Conference, which took place in Mexico City in 1996 (de Solano et al. 1990). Other edited volumes are *El Galeón del Pacífico* (Benítez et al. 1992) and the exhibition catalogue that took place at the *Hospital de los Venerables* of Seville, the Franz Mayer Museum of Mexico City and the Historical Museum of Acapulco in 2000. Alongside beautiful illustrations of Asian merchandise, that catalogue collects research papers on the Indies trade, the trade of the Philippines with Southeast Asia, the regulation of the Manila Galleon route, and the establishment of a direct commercial route between Manila and Spain in the eighteenth century (Araneta-Cruz et al. 1997).

Last but not least, it is worth stressing the importance of those works that have approached the history of the Manila galleons and the transpacific trade from recent historiographical trends. Among these contributions are the works by María Dolores Elizalde Pérez–Grueso, Carmen Yuste López, Salvador Bernabéu Albert, Carlos Martínez Shaw, Mariano Ardash Bonialian, and José Luis Gasch–Tomás. Elizalde Pérez–Grueso, whose expertise deals with the history of the Philippines, has coordinated an edited volume in which most scholars address the colonial impact of Spaniards in the Philippines from the sixteenth to the nineteenth centuries (Elizalde Pérez-Grueso 2002). Yuste López (2007) has largely worked on the commercial relations between the Philippines and New Spain during the early modern era. Her most recent work is an outstanding study of the trade of Mexican merchants in the Philippines via the Manila galleons during the eighteenth century. Bernabéu Albert and Martínez Shaw (Bernabéu Albert and Martínez Shaw 2013) have edited two volumes that gather the most recent contributions to the history of the Manila galleons, among which the combination of institutional, economic, and cultural perspectives has broken the traditional, rigid boundaries of the Manila galleons' historiography. The works by Ardash Bonialian (Ardash Bonialian 2012) and Gasch-Tomás (2014, 2019) have approached the history of the Manila galleons

from a perspective which goes beyond the 'national' histories of the Philippines, Mexico, and Spain, by taking a global approach to their accounts.

The reference to the main works addressing the history of the Manila galleons provides a basis from which to dive more deeply into the content of the galleons' historiography. Given the geo-historical conditions of the transpacific route, the Manila galleons must be understood in a global framework of supply—trade—demand of Asian goods and American silver. The Manila galleons were a channel of exchange of Asian merchandise for American silver, which connected Asia, particularly China, with the Americas and other areas of the Atlantic World, as some of the Asian merchandise was re-exported from New Spain to Europe via the Atlantic. Taking this scheme as a reference, it is worth pointing out the main issues that have been at the center of historians' analyses.

The discovery and conquest of the Philippines is one of the most common subjects of historians studying the history of the Manila galleons. Apart from the classic literature, which generally emphasizes the agency of "great" conquerors, missionaries, and pious works (García-Abasolo 1982; Boxer 1984), there have also been works addressing the agency of the conquered during and after the conquest of the Philippines (Phelan 2012). From these newer approaches, it becomes clear that the expansion of Iberians, and later Dutch and English in Southeast Asia, converted Manila into an *entrepôt* in which the Chinese—so-called *sangleyes* by Spaniards and Portuguese—played an essential role in the history of the Manila Galleon trade alongside Spanish and American Creole missionaries and merchants (Clossey 2006). Furthermore, there are works that highlight the maritime dynamics existing in Southeast Asia before the arrival of Europeans, instead of the role of Europeans in the making of the history of Southeast Asia in the sixteenth and seventeenth centuries (Hamashita 2013). Following in a more traditional vein is the literature that addresses the history of piracy in the area around the Philippines and in the greater Pacific, which have mostly focused on English and Dutch piracy (Martínez del Río de Redo 1971).

There is much published information about the Philippine trade in the early modern era. To the east of the Philippines, Manila kept commercial contact with China for silk, porcelain, fans, and jewelry, among other products; Japan for folding screens and furniture; Indonesia for pepper, clove, and nutmeg; Siam for the resin, benzoin, used in incense and perfume; Burma for amphorae; Ceylon for cinnamon; India for cotton fabrics; and Persia for carpets. Chinese, Portuguese, and Dutch ships were the main conduits through which goods were transported and arrived at the port of Manila, often illegally, from other Asian markets. The institutional organization that articulated the loading and unloading of merchandise coming from other Asian ports to Manila and then shipped to New Spain is also well known (Lytle Schurtz et al. 1992), although there are no monographs on such important institutions as the Distribution Committee (*Junta de Repartimiento*) and the Valuation Committee (*Junta de Tasación*) of trade. When traveling eastward, the Manila galleons needed from 4 to 6 months to cross the Pacific to reach New Spain. Although the galleons could stop over at the Maluku Islands and the port of San Blas, in north-western New Spain (Pinzón Ríos 2014), the arrival port at the

Americas was Acapulco. The harbor movement and organization of Acapulco's annual commercial fair has been recently studied in relation to contraband and smuggling (Sales Colín 1997; Gasch-Tomás 2015).

One of the most important issues related to the Manila Galleon trade, which has been recently addressed by economic historians, is that of silver as the *raison d'être* of transpacific trade. Alongside the role of the Chinese fiscal system's demand for silver, which was one of the most important driving forces of global trade in the early modern era (Von Glahn 1996), historians are studying the importation of silver in Asia across the Pacific Ocean by relating, on the one hand, the unfavorable trade balance of Europe and the Americas with respect to China, and, on the other, the role of silver in economic, social, demographic, and ecological connections during the rise of global economy from the sixteenth century onward (Flynn and Giraldez 1995).

What happened with the Asian merchandise transported by the Manila galleons after it arrived in Acapulco? Since the 1980s, many historians have worked on the history of consumption and demand from an economic or cultural (or both) perspective. Some of the main transformations during the transition from the early modern to the modern era in the Atlantic World, such as the expansion of labor markets and the monetization of the economy, were related to changes in demand. The import of extra European goods, among them Chinese silk and porcelain, played a fundamental role in those changes. Recent studies have discovered that Asian goods, especially Chinese silk and porcelain, transformed the taste and fashion of American Creoles (Armella de Aspe 1992; Ardash Bonialian 2012, 2014), and additionally, that the Americas became a pioneer space in the Atlantic world for the commoditization of these goods (Gasch-Tomás 2014, 2019; Krahe 2016).

Furthermore, among the most recent and path-breaking studies are those who are dealing with the construction of the galleons which made the journey across the Pacific Ocean. Most of the Manila galleons were built in the Philippines, especially at the port of Manila–Cavite. In fact, shipbuilding became the most important industry in the early modern Philippines. Merchants, financers, colonial institutions, and large numbers of indigenous workers depended upon this activity. Contemporary sources to the time in which the galleons sailed suggest two main reasons why shipbuilding of the Manila galleons was a more productive enterprise than shipbuilding of Atlantic fleets. The first reason has to do with the exploitation of Philippine labor, which strengthened the Manila shipyards in relation to those in the Iberian Basque Country, where the main Iberian shipyards were located. The second reason has to do with the quality of wood exploited from tree species in the Philippines. According to various historical documents and contemporary botanical research, the varieties of Philippine timber—*tanguile*, *maria*, *guijo*, *lauan*, and *banaba*—were superior for shipbuilding because they were more durable and more abundant than what was available in Europe, which was mostly oak and pine (Peterson 2014; Wing 2015).

Studies of the Manila galleons are far from being exhausted. Given the trajectory of recent historiography, which has changed course to implement a global perspective, recent works point to an increasing interest in the combination of sources written in different languages—Spanish, Chinese, Japanese—which more and more

experts are able to read. The result is the production of studies that better gauge the actual trans-"national" character of many early modern historical processes, of which the Manila galleons are one of the clearest example (Tremml-Werner 2015).

3 Archaeology of the Manila Galleons

Unfortunately, the archaeological studies of the Manila galleons have not developed as much as their histories. Apart from the few excavated underwater sites and several studies of the material culture transported in the galleons, especially Chinese porcelain and to a lesser extent Chinese silk and Japanese furniture, experts have undertaken few archaeological researches of the Manila galleons.

Roberto Junco is a notable exception and one of the pioneers of the Manila galleons archaeology. The following pages are partly based on his research and contributions.

So far, there are six Manila galleons' sites which have been intervened (Junco 2010):

A. *San Agustín*. This ship wrecked in Drakes Bay, California, in 1595. It has not been excavated, but a collection of porcelain carried by the ship has been studied.
B. *Nuestra Señora de la Concepción*. This galleon, which sank in 1638, was located by treasure hunters. Ceramic containers, a collection of gold objects, and a silver coin are among the found objects.
C. *Santa Margarita*. The ship wrecked in 1601 in the Mariana Islands. Although the company IOTA Partners intervened the site and recovered pieces of ivory, porcelain, and gemstones, there is no published information about the intervention.
D. *Nuestra Señora del Pilar*. This galleon wrecked in the island of Guam in 1690. It was found and intervened by treasure hunters, who supposedly have only found 36 silver coins.
E. *San Diego*. This galleon sank off near Manila in 1600. Many objects have been recovered from this wreck—porcelain, sword guards, a crucifix, an astrolabe, a compass, and gold rings.
F. Beewax galleon in Oregon. This late seventeenth- or early eighteenth-century galleon, which wrecked near present day Nehalem, Oregon, has been excavated by the Service of Natural Resources in Washington State. Wax blocks and porcelain are the main objects recovered.
G. The Manila galleon in Baja California. This late sixteenth-century wreck located in the Pacific coast of Baja California has been excavated by National Institute of Anthropology and History (*Instituto Nacional de Antropología e Historia*) of Mexico. Among the objects recovered, there were coins, blocks of wax, and porcelain.

As already mentioned, a part of the goods transported by the Manila galleons did not end up in American territories but were re-exported to Europe in Atlantic fleets.

It is worth pointing out other ships, which were not Manila galleons, give information about the Manila Galleon route because they carried Asian merchandise which came from Manila. Among them, there are the *Golden Hind*, which had been commanded by Francis Drake, who attacked several Manila galleons in the Pacific and sank off the Drake's Bay in 1579; the *Witte Leeuw*, which was a Dutch ship that sank off near St. Helena, in the Atlantic Ocean, in 1613, and had Chinese porcelain among its merchandise; the *Nuestra Señora de Atocha*, which wrecked near Florida in 1622 and also carried Chinese porcelain; the *Nuestra Señora de la Limpia y Pura Concepción*, which got lost in Santo Domingo in 1622 and carried Kraak porcelain; the *San José y las Ánimas*, which sank off the Florida Keys in 1715 with Chinese porcelain from the Kanxi period; and the *Hatcher junk*, a Chinese junk that got lost in the 1640s in the South China Sea (Kuwayama 1997).

Apart from the galleons in Oregon and Baja California, which have been not historically identified yet, the rest of sites have not been archeologically intervened by professional teams with scientific methods.

The most significant production center of export ceramic in China was located in Jingdezhen—southeast of China—since the eleventh century. Later, in times of the Ch'ing dynasty, the emperors established in Jingdezhen an "imperial factory," which developed driven by the demand of the imperial court, Chinese noble elites, and, over time, the elites of Asian empires from Safavid Persia, Siam, and Japan. Chinese artisan not only decorated ceramics with typically Chinese motifs, which influenced the taste of other elites of the world, but also adapted decoration to the taste of foreign elites (Finlay 1998; Gerritsen 2012). An essential technological change took place when Chinese craftsmen were able to increase the temperature when firing ceramics, to the extent of producing porcelain. By adding kaolin's aluminium oxide, they could fire ceramic at 1300 °C. At that temperature, kaolin and ceramic melt and vitrify, which results in a new, whiter and stronger product—porcelain. Another innovation consisted in decorating potteries with blue coming from cobalt oxide, which applied to the object along with a non-color glazing and fired at high temperature, created a sort of discontinuity between white and blue. The result was one of the most global products so far, which circulated across markets of Asia, Europe and, from 1565 onwards, the Americas. In fact, Manila and the Manila galleons became essential conduits through which Chinese porcelain reached elites' houses from Mexico City, Lima, and Havana, among other big American cities (Canepa 2012).

Blue and white porcelain was the most common earthenware carried by the Manila galleons, but it was not the only type. There were also *blanc de Chine* ("white from China"), which was a ceramic whose only decoration was the white of pottery's surface and had a great reception in New Spain during the seventeenth century; *famille vert* or "green family," in which green dominated and was very successful in the Americas and Europe in the last third of the eighteenth century; Chinese *imari*, whose decoration was made of non-glazed blue and several enameled colors; and *famille rose* or "pink family," whose pink color came from the pigment known as purple of Cassius, which became common in Chinese production of porcelain during the eighteenth century. Ceramics and porcelains of these types

decorated and contained such perishables as chocolate, wine, fruits, and spices, among others, in the houses of the richest of colonial Latin America (Curiel 2007; Bonta de la Pezuela 2008). The impact of Chinese ceramic and porcelain in New Spain was such that a notable industry of Chinese-like ceramic developed in the Americas, being Puebla de los Ángeles, in New Spain, the main imitation center of Chinese earthenware (Casanovas 2007).

Chinese ceramic and porcelain transported by the Manila galleons across the Pacific Ocean have been found in different areas of New Spain. Land archaeological sites and shipwrecks are the most important sources of Chinese porcelains and ceramics for recent and current archaeological studies. Archaeologists have identified Chinese porcelain in several sites at Puebla de los Ángeles and Mexico City, which are dated in the seventeenth and eighteenth centuries. In Puebla de los Ángeles, the most notable archaeological area where archaeologists have found, dated, registered, and analyzed Chinese porcelain and Chinese-like ceramics, is the so-called Potters' Quarter, which was articulated by dozens of pottery workshops (Lister and Lister 1984; Kuwayama 1997). In Mexico City, the presence of Chinese porcelain have been identified in several archaeological sites of the City (Nebot García 1970; Fournier García 1990). Moreover, there are many other archaeological places of present-day Mexico from which experts have recovered porcelain and ceramic produced in China, which shows the extent to which Acapulco and Mexico City were redistribution centers of these goods to other areas of the viceroyalty of New Spain, and how strong the demand for these products was. Among those places, are Huejotzingo, Cuernavaca, Otumba Valley, Oaxaca, Mérida, Veracruz, Michoacán, Pátzcuaro, Zacatecas, Rio Chiquito in Guerrero, Santa Fe in New Mexico, USA, and Antigua Guatemala, Guatemala (Junco and Fournier 2008). Regarding the underwater recoveries from sunken galleons, the abovementioned shipwrecks, most especially those at the Drake's Bay, are a source of Chinese porcelain bottles, jars, cups, bowls, plates, jugs, and vases, whose study has allowed creating typologies of Chinese porcelains' decoration (Kuwayama 1997). Last, it is worth pointing out that Chinese porcelain took part of royal collections of European Crowns' courts, which served as spreading space of the taste for the Manila galleons' products (Alfonso Mola and Martínez Shaw 2003).

4 Collaboration Between Historians and Archaeologists: The Future of the Manila Galleons

Junco has proposed some research lines in which the archaeology of the Manila galleons might go forward. Among them, there is the investigation of the shipbuilding of Manila galleons, research on the life on board using material culture, and comparative analysis of materials found in shipwrecks and in land archaeological sites (Junco 2010). I am proposing some lines in which the combination of historical and archaeological work might push forward our knowledge of the Manila galleons.

The first way to put in dialogue the work of historians and archaeologists lies in the possibility to come up questions which are of the interest for both fieldworks. The history of shipbuilding is actually the most effective way in which archaeologists and historians might work. Recently, interdisciplinary works which combine history and underwater archaeology dealing with shipbuilding in the early modern era have been developed by ForSEAdiscovery. ForSEAdiscovery is the first international research project financed by the European Union which addresses early modern shipbuilding. Alongside coping with the supply of timber resources for Iberian shipbuilding from the sixteenth to eighteenth centuries, the researchers of ForSEAdiscovery have integrated archaeological, archival, and dendrochronological methods to shed light on early modern shipbuilding techniques in Spain and Portugal (Crespo Solana 2016). The combination of archival sources and archaeological excavations might also result in studies of shipbuilding techniques of the Manila galleons. A comparison between the information of shipbuilding techniques and wood species—for instance, that of treatises and reports such as that of the captain Sebastián Pineda (1619), in which he collected the most important varieties of Philippine timber apt to shipbuilding—and timber samples taken from shipwreck sites, whose geographic origins and properties can be analyzed, could be a priority research line and shed much light on the history of shipbuilding in Manila.

Another research line between archaeologists and historians who study the Manila Galleon route might deepen the work already done in such shipwrecks as that of the Manila galleon in Baja California. In the case of this shipwreck, the combination of maritime history, the history of trade, and underwater archaeology has allowed to propose the galleon *San Felipe*, which sank off in 1576, as the most plausible hypothesis to historically identify this wreck (von der Porten 2010). Further interdisciplinary work between experts on early modern shipbuilding, historians of the transpacific trade, and wood scientist able to detect the geographic origin of timber, might be a great leap forward in the knowledge of the commercial route that for more than 200 years connected Asia and the Americas.

Connected to the previous line, another line of work dealing with the Manila galleons could benefit from advances in new technologies. Recently, approaches based on a geographically integrated perspective, which takes into account changes in spatiotemporal variables, are allowing connecting local and global historical dynamics into the same framework (Owens 2007). These approaches are mostly making use of such tools as geographic information systems (GIS). The application of GIS not only to the geo-localization of sunken galleons but also to the geo-localization—and changes in that geo-localization—of such essential factors in shipbuilding as wood species and the geographic origin of shipbuilders and labor, as well as to the origin of the material culture found in sites, may shed light on how spatiotemporal factors influenced the historical dynamics associated to the Manila galleons.

Historians and archaeologists, especially from Europe and Mexico, have started to collaborate in the studying shipbuilding of Atlantic fleets and galleons by using approaches, methods, and techniques from different fields. Unfortunately, historical and archaeological studies that integrate shipbuilding and trade in the Pacific and the Atlantic Oceans have rarely been undertaken. Similar collaborations might open

lines of comparison between shipbuilding techniques, technical applications, and the gap between the original projected plans and the actual construction of galleons in the Atlantic and in the Pacific. This surely would contribute to offer a more complete picture of the political economy and the relative use of natural resources in the Spanish Empire. Studies that compare shipbuilding, the durability of materials and the management of labor, wood, and other basic shipbuilding materials, would allow further inferences about the economic history and the history of technology in the pre-industrial world. However, this task only could be carried out by developing spaces of collaboration between specialists of different areas of expertise and, given the vastness of the early modern Spanish empire, from different countries.

Finally, archaeologists and historians concerned with the main product transported by the Manila galleons—Chinese porcelain—have come up similar questions. If robust interdisciplinary work were conducted, the conclusions reached so far might go beyond the boundaries of the two disciplines—archaeology and history. One of the main contributions might be reached regarding one of the questions which have not been clarified yet, neither from archaeological nor from historical researches. This question is the extent of the spread of purchase and use of Chinese porcelain among the populations of the Americas—in other words, the extent to which sectors who did not belong to the colonial elites, i.e., such sectors as indigenous and *mestizo* (mixed-race) populations, purchased Chinese porcelain in colonial Latin America. A positive answer to this question might shed much light on the transformations of the supposedly rigid race and social hierarchy of the colonial Americas during the early modern era. Urban archaeological studies in New Spain, which have registered Chinese porcelain, might help to determine the extent to which earthenware and porcelain from the Manila galleons were present in quarters and city areas where indigenous and *mestizos*, of which historical sources are scarce, lived.

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