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Editorial

True to our commitment and the desire of your Board of Directors to actively contribute to democratic debates, we reached out to all candidates in the recent municipal elections to learn about their plans for the Musée de la Compagnie des Indes. Their unanimous response, filled with rich proposals, deeply heartened us.

These exchanges have been compiled in a special issue of *La Plume de l'Orient*, which has been widely praised for this unprecedented initiative. If further proof are needed, it shows that the influence of our Museum transcends divisions and unites an entire community.

We extend our gratitude to the candidates who kindly responded to our request and our congratulations to Mr. Fabrice Loher on his re-election. As the newly re-elected Mayor of Lorient, his response serves as a roadmap for the museum in the years ahead.

This momentum has not slowed our collaboration with the Museum. We are proud to have contributed, through a cash advance, to the acquisition of a historic VOC chest from an antiques dealer in Norfolk (United Kingdom). Special thanks to the Lorient Customs Service, whose support was invaluable in navigating the complexities of import procedures from an ex-European Union country.

Next step: our Annual General Meeting, which will be held at the end of the month in the Arsenal Hall of the Citadelle, kindly provided to us free of charge by the Musée national de la Marine, to whom we express our gratitude.

At the same time, we are launching a call for applications to join our Board of Directors.

As a reminder, in accordance with our bylaws, it is possible to co-opt new members during the term.

Without the dedication of our board members, our association would not be able to fulfil its mission with the same rigor.

Wishing you a summer rich in discoveries,

The Board of Directors

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Lacquerware from Lorient to Canton: A Shared Heritage

Lorène Dideron
Head of Audience Engagement
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Compagnie des Indes

In November 2025, several works from the Musée de la Compagnie des Indes left Port-Louis for an extraordinary journey to Canton. Three centuries after their creation, these export objects returned to their land of origin, bearing witness to a renewed dialogue between cultures. A look back at an exceptional scientific, logistical and human adventure.

It is 4:00 AM on Wednesday, November 19, 2025. In the dim light of a specialised art storage warehouse in the Paris region, six massive crates await their departure. Inside are five major sets from the collections of the Musée de la Compagnie des Indes, bound for Canton. Brigitte Nicolas, the museum's director and curator and Stéphane Cariou, the collections registrar, are already on site. Soon, they will accompany them on a long journey, ensuring the safety of this exceptional heritage at every step.

Three centuries after leaving China in the holds of the Compagnie des Indes ships, these export lacquerwares are preparing to return, for the duration of an exhibition, to their city of origin. The Guangdong Museum will showcase them from 27 November 2025 to 17 May 2026, in an exhibition titled "A Shared Cultural Treasure: Canton-made Export Lacquerware in the Qing Dynasty".

A title that says it all: a "Shared Cultural Treasure." For the museum, as for the works themselves, the adventure is extraordinary.

An Invitation from Canton

The loan request from the Guangdong Museum arrived several months earlier: five sets of Chinese lacquerware objects were requested to illustrate the production intended for export during the Qing Dynasty. A powerful symbol: these works, imported directly from Canton in the 17th and 18th centuries, are returning there for the first time in nearly three hundred years.

The Guangdong Museum initially wanted to borrow more objects, but at the same time, the Musée de la Compagnie des Indes was preparing its exhibition *From Carp to Hake*, which required several newly acquired pieces. Compromises had to be made: five major sets were ultimately selected.

This invitation is no coincidence. For several years, the museum has pursued an ambitious acquisition policy in the field of export lacquerware. This policy has been made possible thanks to the dynamic acquisition efforts funded by the city and supported by the French State, the Brittany region and the Morbihan department—not to mention, of course, the Friends of the Museum Association. Today, the museum holds 23 pieces, forming a coherent and recognised collection.

More specifically, the collections include 56 inventory numbers featuring Chinese lacquerware, distributed among: Fans, Boxes and cases (for tea, wigs, sewing, games, etc.), Folding screens. An automaton and its case, a slope desk, a chair, two trays (*cabaret de vernis*), a table dressing case, a frame, a cabinet with hunting scene decorations, a Coromandel lacquer chest.

Foreign researchers, such as Xia Ling Lu—now a curator at the University of Hong Kong Museum, who came to study these collections as part of her doctoral thesis before pursuing an academic career in Asia—have helped bring attention to this collection.

Iconic Works

The loan includes, most notably, the monumental "Screen of the Immortals", dating from the reign of Kangxi (1662–1722). Its impressive dimensions (nearly six metres long) required preliminary work: the complete dismantling of the permanent exhibition room known as the *"Magots Room."* Now empty, the room awaits a new scenography.

Another highlight: the "Cabaret de vernis", a rare set combining a black and gold lacque tray with a

complete armorial porcelain service—19 pieces that bear witness to the 18th-century tea ritual.

The slope desk, which is a masterpiece of marquetry in relief lacquer, the "Screen of the Dutch", and a spectacular nested compartment box complete the final selection.

A remarkable fact: among all the works featured in the Canton exhibition, the pieces from the Musée de la Compagnie des Indes are the only ones dating from the 18th century. They are among the major works in both the exhibition and its catalog.

Behind the Scenes: Preparing for Departure

Lending a work of art means accepting that it will travel. But before the big departure, weeks—sometimes months—of preparation are required.

In the offices, the teams are hard at work: contract negotiations, insurance arrangements, scientific exchanges and the drafting of catalogue entries. Brigitte Nicolas is also preparing several scholarly contributions for the publication. Among other tasks, it was necessary to establish a contract guaranteeing the safety and preservation of the artworks from the moment they were taken into the museum's care until their return. The museum benefited from the invaluable assistance of colleagues from the Palace of Versailles, who have greater experience in negotiating loans with museums in mainland China. In the end, a 25-page bilingual contract, in Chinese and French, was signed by the Mayor of Lorient.

The next phase involves condition reporting. Each of the five groups of objects is meticulously examined prior to departure. In total, this represents 92 inventory entries and as many individual objects. Stéphane Cariou checks each one individually before supervising their packing by a specialised fine-art transport company and their onward transport to Paris.

On the morning of departure, in a secure facility at Paris Charles de Gaulle Airport, preparations unfold in rapid succession before the crates are transferred to the tarmac, under the vigilant supervision of Brigitte Nicolas and Stéphane Cariou. Customs formalities are completed, security checks carried out—including inspection by an explosive's detection dog—security seals applied and the crates palletised. They are then shrink-wrapped, strapped and loaded onto the aircraft. Before the artworks—and their accompanying couriers—can board, the pilot must first certify the stability of the cargo.

In Guangzhou: Between Precision and Emotion

Upon arrival, one stage follows another: customs clearance at the airport, transfer to the museum and finally a 48-hour acclimatisation period, with the crates kept closed to allow the objects to adjust gradually to their new environment.

The next steps involve opening the crates, conducting detailed condition checks and installing the artworks in the exhibition galleries.

The teams come together around the objects, carefully verifying every detail before signing the condition reports. A sense of relief begins to set in. French and Chinese professionals work side by side throughout the process, including curator and exhibition co-curator Lili Fang Bai and her teams. Nothing is left to chance.

The reception is exceptional. The Guangdong Museum impresses with its sheer size and the resources dedicated to the project. The exhibition spans a considerable area, significantly larger than the galleries of the Lorient Museum.

The opening ceremony was attended by nearly 300 guests and local authorities. Brigitte Nicolas was the sole representative of the lending institutions invited to give an official address, a clear indication of the high regard in which she and the museum are held.

Guangdong Museum

The following day, Brigitte Nicolas gave a lecture on export lacquerware before a large and predominantly young audience. The ensuing discussions were lively and enriching. Research conducted in Lorient, particularly in archival collections, shed light on aspects of the history of export lacquerware that remain relatively unknown, even in China.

The value of this cross-cultural and scholarly dialogue became fully apparent, attracting strong interest from the curators of the Guangdong Museum, who are now considering a visit to Port-Louis to continue and deepen these exchanges.

Recognition and New Opportunities

This international undertaking confirms the relevance of the museum's curatorial and research strategy. From modest beginnings—the first lacquered object entered the collections in 2010, in the form of a mechanical mandarin automaton—the museum has patiently developed a specialised collection that now enjoys significant recognition.

The curators of the Guangdong Museum have expressed their wish to see the exhibition travel to Lorient by 2027, undertaking to cover the costs of packing and transport. Although the limited exhibition space available in Lorient presents significant challenges, the proposal nonetheless creates valuable opportunities for further international cooperation and exchange. Recent discussions have reinforced this positive dynamic, with the Chinese teams making clear their commitment to developing the project in close partnership with the museum.

In May, Gwenc'hlan Broudic, Assistant Curator, will accompany the artworks on their journey back from China to Brittany. Like the outward voyage, this return promises its own share of challenges and discoveries, for both the objects and the teams entrusted with their care.

This cultural adventure reminds us that museum collections are far more than exhibits behind glass. They are the enduring custodians of shared histories, cultural encounters, and remarkable skills and craftsmanship, surviving the passage of time to tell stories that continue to resonate today. What better way to illustrate the history embodied by the museum's collections than a journey of several months between Europe and China—the very route traced by the exchanges they were created to bear witness to?

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A Few Characteristics of the French East India Company in the Canton Trade

Susan E. Schopp,
Independent researcher, PhD in History from the University of Macau, and crew member of *Friendship of Salem*.

A new sea route

In mid-October 1740, onlookers at the port of Whampoa watched in astonishment as a three-masted square-rigger flying a French ensign came into view. It was too late in the season for such vessels to follow the usual route northward through the South China Sea to the Pearl River Delta; the southwest monsoon had ended, and with it the favorable winds that enabled sailing vessels to make the passage. But here, undeniably, was *Jason,* arriving under the command of Captain Alain Dordelin (father). How had she done it?

Instead of sailing up the coast of Vietnam, then past Hainan Island and approaching the Pearl River Delta from the southwest, *Jason* had taken a different route. After reaching Pulo Sapata, an island off the south-central coast of Vietnam, she pursued an easterly course across the South China Sea toward the Philippines. She sailed northward up the Philippine coast and then changed course again to make her way back across the South China Sea. The suggestion of the new route is credited to *Jason*'s supercargo, Joseph Julien Duvelaër, who had previously made several voyages between Canton and Manila in the service of the French East India Company.[1]

[1] British Library, London, China Factory Records, IOR G/12/48, p. 40.

Portrait de Joseph Julien Duvelaër, comte du Lude
Oil on canvas, France, 18th century
Donation from the city of Vitré to the Musée de la Compagnie des Indes – D VIT 2011.23.1
Photo : G. Broudic – Musée de la Compagnie des Indes –

Jason's discovery of a route that was previously unknown to Europeans is just one example of a number of ways in which the French distinguished themselves during the era of the Canton Trade (c. 1700–1842).

In the global expansion of trade that occurred during the eighteenth century, China played a vital role as the source of goods and commodities that were avidly sought after by Western traders and consumers alike. France, which was then one of the two most important Western world powers, was a key participant in this trade, and together with the Dutch and the English, was home to one of the three major East India companies.

Yet whether it concerns company or free trade, the French have often been relegated to the sidelines, especially when there has been a tendency to assume a single model, namely, that of the English and to judge the other companies—the Danish, Dutch, French, Imperial, Ostend, Prussian and Swedish—by how well they did, or didn't, measure up.

But as more recent scholarship shows, this "one size fits all" approach results in a very skewed perception of the trade that prevents us from properly understanding it. It also leads to overlooking features that distinguished one East India company from another.

This article looks at some of the elements that characterised the French company, especially as they relate to the Canton trade.

It's often said that the Canton trade, also called the "Canton System," dates from 1757, when Canton was officially designated as the sole port through which, with the exception of Russia, European trade with China was to be conducted. But this edict merely formalised what had already existed for approximately half a century.

Direct maritime trade between China and Europe became possible in the mid-1680s, the result, in part, of the lifting of the last of a long series of sea bans by the emperor in 1684. By around 1700, it was increasingly apparent that in contrast to other ports such as Chusan and Amoy, Canton offered a number of advantages to both the Chinese authorities and international traders that other ports did not. Its location on a river, about 120 km upriver from Macau, facilitated control of the movement of ships and people. It was already a major port in South China and offered essential connections to inland sources of goods and supplies. A sheltered anchorage deep

enough to accommodate Western vessels was situated just 20 km downriver at Whampoa. And Cantonese authorities had over a century and a half of experience dealing with Europeans: the Portuguese at Macau.

Although the French company was created more than half a century after the English (1600) and the Dutch (Verenigde Oostindische Compagnie or "VOC") (1602) East India companies, the French came early to the Canton trade: *Amphitrite,* the ship that inaugurated their participation, arrived at Whampoa in 1698, ten months before the English (1699) and 31 years before the Dutch (1729)[2].

Contributions to hydrography

European knowledge of sea routes to Asia advanced considerably during the eighteenth century, in no small part thanks to contributions by hydrographer and French East India Company ship captain Jean-Baptiste d'Après de Mannevillette (1707–1780). His experience at sea began early: he made the first of multiple voyages to Asia at the age of 12, when he accompanied his father, who was commanding the ship *Solide,* to India.

Often considered the first Frenchman to use an octant, he published *Le nouveau quartier anglais, ou description et usage d´un nouvel instrument pour observer la Latitude sur Mer* [*The new Davis quadrant, or description and use of a new instrument for observing latitude at sea*] in 1739.

Eight years later, the first edition of his *Neptune oriental, ou routier général des côtes des Indes orientales et de la Chine* [*Neptune oriental, or marine atlas of the coasts of the East Indies and China*], appeared and quickly became the authoritative source; a revised and expanded edition would appear in 1775. In the meantime, his *Mémoire sur la navigation de France aux Indes* [*On navigating from France to the East Indies*] was published in 1765 and 1768, the latter containing additional information provided by the Scottish hydrographer Alexander Dalrymple; it was translated into English the following year[3].

Voyages to China

Between 1698 and 1792, the last year that a ship belonging to the French East India Company was sent to China, French vessels made 177 voyages from Europe to Canton[4]. In the era of the first Company, the provisioning and fitting out of ships was the responsibility of the private companies to which the Company ceded its monopoly on trade with China.

This changed, however, in 1719 with John Law's System and the creation of the second Company, which exercised its monopoly in its entirety. During the brief period of the System and the decade that followed its collapse, the Company used ships that it bought from different shipyards in France, England, or in Hamburg. Then, in 1731, it began to build its own vessels in Lorient.

Beginning in the 1730s, the dominant tonnage of ships destined for China increased steadily over the four decades that followed. Tonnage is a measure of capacity; it is not to be confused with displacement,

[2] The first commercial British voyage to China occurred in 1637, when the Weddell expedition, organised by the Courteen Association (and not the English East India Company) called at Macau and Canton. In the 1670s and 1680s, the English East India Company sent ships to Taiwan and Amoy (Xiamen). Beginning in 1624, the Dutch traded with China for several decades via Taiwan and later via Batavia (Jakarta).

[3] British Library, London: IOR/L/MAR/C/896. *Directions for navigating from the Channel to the East Indies, translated from Mons. d´Après de Mannevillette´s Mémoire sur la Navigation de France aux Indes, illustrated with a chart and plans*, London, 1769

[4] For a list of all the documented voyages made by French vessels to China, whether from Europe or from within Asia ("country" trade), during the era of the Canton trade, see Susan E. Schopp, *Sino-French Trade at Canton, 1698–1842,* Hong Kong, 2020, Appendix 1

FRENCH VOYAGES FROM EUROPE TO CHINA, 1698–1842

DATE	SHIPOWNER	TOTAL NUMBER OF VOYAGES	RANGE OF TONNAGE	DOMINANT TONNAGE	TONNAGE UNKNOWN
1698–1699	Private	1	500 tons	500 tons: 1 voyage	
1700–1709	Private	9	200–500 tons	250 tons: 2 voyages	1 voyage
1710–1719	Private	17	120–450 tons	350 tons: 5 voyages	1 voyage
1720–1729	French East India Co.	9	300–650 tons	550 tons: 3 voyages	
1730–1739	French East India Co.	16	500–650 tons	600 tons: 10 voyages	
1740–1749	French East India Co.	21	550–900 tons	700 tons: 9 voyages	
1750–1759	French East India Co.	20	311–1,000 tons	900 tons: 7 voyages	
1760–1769	French East India Co.	22	650–900 tons	900 tons: 20 voyages	
1770–1779	Private	37	200–1,300 tons	900 tons: 16 voyages	3 voyages
1780–1785 1786–1789	Private French East India Co.	12 2 + 4*	300–1,200 tons 550–1,000 tons	Private: 600, 800, & 1,200 tons: 2 voyages each. French East India Co.: 800 tons: 2 voyages	Private: 4 voyages
1790–1799	French East India Co. Private	3 4	500–900 tons Unknown	500 tons: 2 voyages	4 voyages
1800–1809	Private	2	600 tons	600 tons: 1 voyage	1 voyage
1810–1819	Private	1	700 tons	700 tons: 1 voyage	
1820–1829	Private	7	370–700 tons		5 voyages
1830–1839	Private	43**	177–280 tons (Incomplete)	Incomplete	34 voyages
1840–1842	Private	10**	322–399 tons (Incomplete)	Incomplete	9 voyages

* Between 1786 and 1789, two of the six voyages organised by the Company were made by a ship that the King's Counsel of State had transferred to the Company in May 1785. The four other voyages were made by vessels that the Company freighted from a private owner

** The total number of voyages indicated for the years 1830–1842 might include several "country" voyages, because only 20 of the 53 ports of departure have been identified. If this is the case, two of the departures attributed to 1840 may have taken place in 1839. The tonnage of most of the ships concerned remains to be determined.

which is the weight of water that would fill the volume displaced by a floating vessel and is equivalent to the weight of the latter. Prior to 1729, only five of the 36 departing from the Hexagon were made by ships rated at greater than 500 tons, and the largest, at 650 tons, made only one voyage.

In contrast, between 1760 and 1769, 20 of the 22 voyages were made by ships rated at 900 tons. In 1765, the Company's Shipbuilding Council adopted this tonnage for ships sent from France to China.

During the period of free trade from 1770 to 1785, the number of voyages increased significantly and ships could have a capacity of as much as 1300 tons. After the creation of the third Company (also known as "Calonne's Company") in 1785, the number of voyages decreased.

Five years later, the Canton and East India trade became free, open to all French nationals, and once again, there was a considerable range of tonnages.

There were various reasons for the increase in tonnage: in particular, port fees at Canton and the nature of the cargo. Port fees were determined during a ceremony that took place soon after a ship arrived at Whampoa and were calculated using the length and breadth of the ship as their basis. As François Froger observed in his account of the first voyage of *Amphitrite* (1698–1700), "The Chinese measure the foreign vessels in coudées, multiplying the length of the deck by its breadth." And the greater the tonnage, the smaller the percentage of the total value of the vessel's cargo that the port fee represented.

As a result, port fees favoured larger over smaller vessels.[5] Captain Pierre Blancard (1741–1826) noted in speaking of the country trade—and his observation also applies to vessels coming from Europe—"Ships ranging from 250 to 1,000 tons can be used. The former can trade in the Indian seas, but they must not go to China, where they would pay duties as high as if they were of the largest capacity."[6]

But there was also the nature of the export cargo. With the notable exception of porcelain, these goods were typically light in weight but took up a disproportionate amount of space. In other words, they were far bulkier than they were heavy, a fact that posed a challenge both to stowing them and to the stability and safety of the ship. As shipbuilder Antoine Groignard (1727-1799) noted in explaining the proper way to stow goods for the homeward voyage from China, "To properly stow cargo on this same vessel coming from China, where the goods take up proportionately more space than they weigh, one cannot be too careful not to lose ground; to this end, the Chinese make tea chests of different sizes and shapes relative to the curvature of the sides of the vessel; and after placing in the bottom of the ship the necessary amount of iron ballast, stone and chests of porcelain to compensate for the lack of weight of the tea and to create a loft or platform high enough to prevent water or moisture from reaching the tea, the entire hold of the ship is filled with several rows of tea chests of appropriate heights and shapes, from the bulkhead of the bread room and magazine to the bulkhead of the water hold, which is reduced in size as much as possible."[7] When cargo overflowed the hold, the excess was stowed elsewhere in the ship.

Most of the goods were transported in chests, whose dimensions varied depending on their contents. Charles de Constant (1762–1835), who was employed by the French East India Company in Canton from 1789 to 1793, observed that for the French, the chests in which porcelain was packed measured 11 French inches high, 39 inches long and 26 inches wide (or 29.77 x 105.57 x 70.38 cm). Those which contained dinner services were slightly higher: they had to accommodate the large plates that were

[5] For further details, see Paul A. Van Dyke, *The Canton Trade,* Hong Kong, 2005, 2007, pp. 105–106.

[6] Blancard, Pierre, *Manuel du commerce des Indes orientales et de la Chine*, Paris, 1806, p. 479.

[7] Groignard, Antoine, "Mémoire sur l'arrimage des vaisseaux" in Bourdé de Villehuet, Jacques, *Principes fondamentaux de l'arrimage des vaisseaux*, Paris, 1814, p. 51.

slightly more than 14 inches (37.89 cm) in diameter, and which were stacked vertically.[8]

The tea chests, however, presented a much wider variety of dimensions because of the number of different types of tea: Bohea, Hyson, Hyson Skin, Congou, etc. Pierre Blancard noted that a large chest of Bohea, for example, measured 32 inches 3 lines long, 28 inches 1 line wide and 22 inches high and a half-chest, 32 inches 3 lines long, 15 inches 1 line wide and 22 inches high. In contrast, a chest of Hyson was only 16 inches 9 lines long and wide and 20 inches high.[9]

Model of a ship returning from China, based on plans of the *Massiac*, after A. Groignard (shipbuilder); Jean Delouche (modeler), 1976.
Photo: G. Broudic. Musée de la Compagnie des Indes, Ville de Lorient.

The chests of tea constituted the greatest part of the cargo, as the 900-ton ship *Villevault* (Captain Joseph Bouvet), which departed China in January 1766, demonstrates. Of the 4,561 chests of goods stowed on board, 4,319 were chests of tea. Among the 242 remaining, 161 contained porcelain and the rest, lacquer, rhubarb, nankeens, borax, silk fabrics and wallpaper. Not stowed in chests but filling in space along the sides of the ship were sapan wood, rattans in bundles and China root (Smilax China).[10]

A French model to emulate

In the eighteenth century, Paris was the cultural capital of Europe. This influence extended to Canton, where it was seen especially in the emulation of the renovations carried out by the French in 1767 to the hong that they were renting from the hong merchant Tinqua (not to be confused with the artist Tingqua [Guan Lianchang, 1809–1870]).

At the time, Canton was still a fortified city and its commercial sector was situated just outside the city walls on the southwest. It was there that European traders lived and worked in buildings that they rented from the hong merchants.[11] Called *hong* (行) in Cantonese and *hang* in Mandarin, they served their owners as warehouses and business premises. When they were rented to the traders, they also provided office space and accommodations for themselves and for the Chinese cooks and servants whom they employed. In both cases, the French called them

[8] Constant, Charles de & Louis Dermigny, *Les Mémoires de Charles de Constant,* Paris, 1964, p. 240. Charles de Constant was posted three times in Canton, in 1779-1782, 1783-1786, and 1789-1793, but was employed by the French only during the latter (1789–1793). • 1 French inch (Ancien Régime) = 2.707 cm = 1.06 US inches.

[9] Blancard, Pierre, *Manuel du commerce des Indes orientales et de la Chine*, p. 466. • 1 line [*ligne*] = 2.25 mm = 0.09 US in.

[10] [1]. Archives nationales d'outre-mer (ANOM), Aix-en-Provence: COL C.1.10, p. 150, "Chargement du V'au et où Chaque chose Sont [sic] Placée," in the journal of Joseph Bouvet, captain of the French East India Company ship *Villevault* (1765–1766). See also Cordier, Henri, *Le voyage à la Chine au XVIIIe siècle*, Paris, 1913, pp. 30-32.

[11] The hongs (factories) also housed the Western ship captains and crew members when they had occasion to go from Whampoa to Canton.

hangs or *hams* and sometimes, but only in reference to those that were rented by the Westerners, *factoreries* [factories], from the word *facteur* [factor], signifying "business agent."

The hong was a familiar form of Cantonese vernacular architecture. But it wasn't a single building; it was a series of several buildings, or "blocks," that were laid out on a longitudinal axis and were separated one from another by an open space, or courtyard. Each block typically had two stories.

In the first half century or so of the Canton trade, the hongs rented by the Europeans were Chinese in their features and layout, and were not yet the row of increasingly Westernised structures that are depicted in export paintings of the 1760s and later

In 1767, the French renovated the hong and the changes were immediately apparent. The alterations to the exterior of the ground floor were modest, but included the addition of a pediment over the doorway. On the upper story, however, the previously plain porch now acquired a distinctly European look: an arcade composed of seven arched openings flanked by eight engaged Ionic columns and a railing with balusters.[12]

Almost immediately the French became a model to emulate. The Swedes, who were renting the hong next to that of the French on the east, carried out renovations in 1768–1769 and their new façade incorporated an almost identical vocabulary and placement of motifs.

Chinese artist, *Canton: The Western Factories*, c. 1773. Martyn Gregory Gallery, London. Courtesy of Martyn Gregory Gallery.

In 1750, the French began to rent a hong that belonged, as noted above, to the hong merchant Tinqua. The ground-floor façade of the block facing the river – which the Westerners considered to be the front of the hong – was punctuated by a centrally placed door that was flanked on each side by narrow windows. On the upper floor, a railed porch extended across the façade. Open to the river but covered by a roof, it allowed air to flow into the building and therefore provided for natural ventilation. At the same time, the roof lessened the amount of direct sunlight entering the building and offered protection from rain—important considerations in the climate of Guangzhou.

By 1773, a third hong bore a similar façade. By 1789, this number had increased to five, and by 1799, to eight. Even after the French moved to a hong a little further west in 1783, the one that they renovated in 1767 was often still referred to as "the French hong."

In conclusion, although the French East India Company was created more than half a century after the English and Dutch companies, the French were among the first to take part in the Canton trade. During the 18th century, their influence on this trade was measured not only in economic terms, but also manifested itself in scientific and cultural contributions, as advances in hydrography and the

[12] For further details, see Schopp, *Sino-French Trade at Canton, 1698-1842*.

emulation of the renovations that they carried out to their hong in 1767 testify.

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Reflections on the Tonnage Measurement of Historical Ships

Jean-Yves Le Lan
Historian
President of the Pays de Plœmeur
History Committee

Understanding Historical Ship Tonnage Measurement

From Antiquity onward, maritime civilisations such as the Greeks, Romans, and Phoenicians estimated the size and carrying capacity of ships in terms of the number of casks—large wooden barrels—of cargo they could transport. However, these measurements were empirical rather than standardised.

In medieval ports, tonnage measurement was used to calculate port fees and customs duties. These measurements were not standardised and varied considerably from one port to another.

Standardisation began in England in the seventeenth century, when the country was a leading maritime and commercial power. In 1625, the first attempts were made to establish a standardised method for assessing a vessel's carrying capacity, expressed in tons burthen. This was known as "tonnage for customs", referring to a ship's capacity to carry a certain number of wines tuns (large casks used for transporting wine).

The word "jauge" comes from Old French *jauge*, itself derived from the Frankish *galga* ("measuring rod"). It is therefore associated with the idea of precise measurement, which explains its growing importance in an increasingly rational and regulatory age such as the seventeenth century.

During this period, maritime trade expanded rapidly with the great voyages of exploration and the growth of colonial commerce. Measuring a ship's carrying capacity became essential. Taxes on goods and transportation capacity were often based on tonnage measurement. As a result, efforts were made to establish common standards and regulations in order to facilitate trade.

In 1849, the Moorsom System was introduced, marking a major turning point in the measurement of ship tonnage. The Royal Navy and the British authorities adopted a standardised system developed by George Moorsom. This method established a way of calculating both Gross Register Tonnage (GRT) and Net Register Tonnage (NRT)—the latter representing the usable cargo-carrying volume of a vessel, excluding the space occupied by machinery, crew's quarters, and other non-revenue-earning areas.

Unlike earlier methods, which were based primarily on a ship's carrying capacity expressed in casks or tons of cargo, the Moorsom System measured the vessel's internal volume. During the nineteenth century, this system was widely adopted internationally and became the foundation of modern tonnage measurement practices.

Modern tonnage regulations were established in 1969 by the International Maritime Organisation (IMO) at its International Convention on Tonnage Measurement of Ships. This convention gradually replaced earlier systems, including the Moorsom System, by introducing the concepts of:

- Gross Tonnage (GT)

- Net Tonnage (NT)

These measurements are based on mathematical formulas that take into account the vessel's overall internal volume rather than its weight or the actual cargo carried. The Convention provided a uniform international standard for measuring ships, thereby facilitating maritime administration, safety regulations, port fees and commercial operations worldwide.

Distinguishing Tonnage Measurement from Tonnage

In maritime history and archival records, the terms "tonnage measurement" and "tonnage" are often used interchangeably, although they designate fundamentally different concepts: one relates to volume, the other to weight.

Maritime "tonnage measurement" does not measure a ship's weight; rather, it measures its internal volume. It is used to assess a vessel's spatial capacity—that is, the amount of enclosed space available on board, particularly for the carriage of cargo or passengers.

Tonnage, in the strict sense, is a measure of mass or load capacity. It refers to the actual weight (or weight-carrying capacity) of a ship, expressed in metric tonnes (1 tonne = 1,000 kilograms).

There are several forms of tonnage, depending on what is being measured, notably displacement tonnage and deadweight tonnage (DWT). Displacement tonnage is the weight of the water displaced by a ship and is therefore equal to the vessel's total weight (hull, cargo, fuel, crew, provisions and all other contents). Expressed in tonnes, it is a true measure of mass.

Deadweight tonnage (DWT), by contrast, represents the maximum weight of cargo, fuel, provisions, passengers and crew that a vessel can carry in addition to its own empty weight (lightweight). It is therefore a measure of a ship's carrying capacity in terms of weight rather than volume.

In summary: tonnage measurement indicates how much space a vessel contains; tonnage indicates how much weight it can carry; displacement indicates how much the vessel actually weighs.

Ship Tonnage Measurement in the Archives

Throughout this article, the terms *burthen*, *port* and *jauge* are treated as equivalent historical measures of carrying capacity.

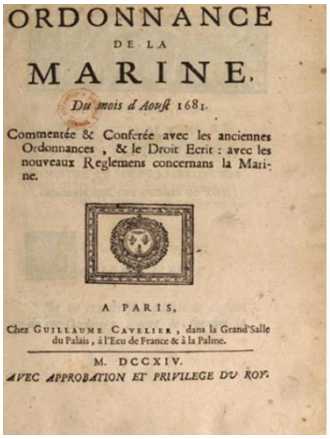
For historians and genealogists working with historical maritime archives, ships are often characterised by a figure expressed in tons burthen (*tonneaux* in the original French usage). What does this figure represent and what exactly is this unit?
In archival documents, this figure generally represents a ship's burthen, referred to in French records as its *jauge*. It is also sometimes simply called "tonnage". In such cases, all three terms denote a theoretical measure of a vessel's cargo-carrying capacity—that is, the volume available for transporting goods on a given ship.

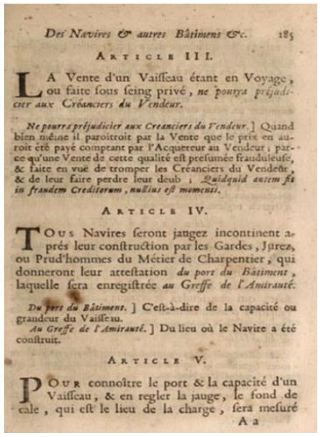
A ship's displacement, by contrast, is only rarely recorded in archival documents. When it is absent, the recorded tonnage should generally be understood as a measure of carrying capacity rather than the vessel's actual weight.

Since ships were primarily employed for the transport of goods, their carrying capacity was of great interest to all those involved in maritime commerce: financiers, shipowners, vessel operators and merchants. This characteristic was determined using relatively simple formulas, which varied from one country to another. Moreover, even within the same country such as France, methods and formulas evolved over time. As a result, it is very difficult to make meaningful comparisons between ships from different nations and periods, since the figures recorded often reflect different measurement systems and standards.

Evolution of Ship Tonnage Measurement Methods

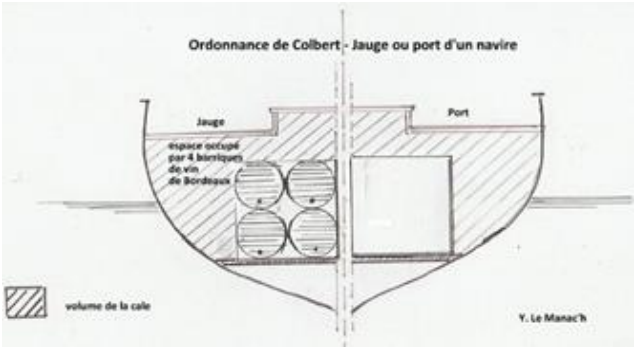
In France, before the reorganisation of the navy initiated by Jean-Baptiste Colbert in 1681, each region used its own non-decimal system of measurement. Tonnage measurement methods varied from one port to another—and even from one surveyor to another—and generally lacked scientific rigor and standardisation.


ORDONNANCE
DE LA
MARINE,
Du mois d'Aoust 1681.
Commentée & Conferée avec les anciennes Ordonnances, & le Droit Ecrit : avec les nouveaux Reglemens concernans la Marine.
A PARIS,
Chez GUILLAUME CAVELIER, dans la Grand'Salle du Palais, à l'Ecu de France & à la Palme.
M. DCCXIV.
AVEC APPROBATION ET PRIVILEGE DU ROY.


Des Navires & autres Bâtimens &c. 185
ARTICLE III.
LA Vente d'un Vaisseau étant en Voyage, ou faite sous seing privé, ne pourra préjudicier aux Créanciers du Vendeur.
Ne pourra préjudicier aux Créanciers du Vendeur.] Quand bien même il paroîtroit par la Vente que le prix en auroit été payé comptant par l'Acquereur au Vendeur; parce qu'une Vente de cette qualité est présumée frauduleuse, & faite en vuë de tromper les Créanciers du Vendeur, & de leur faire perdre leur deub; Quidquid autem fit in fraudem Creditorum, nullius est momenti.
ARTICLE IV.
TOUS Navires seront jaugez incontinent après leur construction par les Gardes, Jurez, ou Prud'hommes du Métier de Charpentier, qui donneront leur attestation du port du Bâtiment, laquelle sera enregistrée au Greffe de l'Amirauté.
Du port du Bâtiment.] C'est-à-dire de la capacité ou grandeur du Vaisseau.
Au Greffe de l'Amirauté.] Du lieu où le Navire a été construit.
ARTICLE V.
POUR connoître le port & la capacité d'un Vaisseau, & en regler la jauge, le fond de cale, qui est le lieu de la charge, sera mesuré
A a

Under the Ordinance of 1681, a ship's registered capacity (*port or jauge*) was expressed in tonneaux, with one ton defined as forty-two cubic feet (equivalent to the volume of four Bordeaux wine barrels).

Using the French foot (*pied*) of 0.3248 metres, the volume of one cubic foot is 0.0342647 cubic metres. Accordingly, one ton (*tonneau*) in metric units corresponds to: 42 × 0.0342647 = 1.4391 m³, which is generally rounded up to 1.44 cubic metres.



According to the historian Pierre Chaunu, in Spain a vessel's carrying capacity was expressed in toneladas. The value of the *tonelada* varied according to both period and location.
In 1552, an ordinance defined the *tonelada* as approximately 1.4 cubic metres. Later, in 1590, a royal decree (*cédula real*) established its value at 2.612 cubic metres, a standard that remained in use throughout the seventeenth century.

In England, at the time of the French Ordinance of 1681, the freight ton represented approximately 1.131 cubic metres.

This unit served as a measure of a vessel's carrying capacity and differed significantly from the French *tonneau*, illustrating the difficulties involved in comparing ship tonnage measurements across different countries and periods.

As we have seen, the figures recorded in historical documents represent a theoretical cargo capacity. We will now examine the formulas used in France, at different periods, to calculate a ship's burthen (*port*) or tonnage measurement (*jauge*).

The underlying principle was to base the calculation on dimensions that could be easily measured on the vessel, namely the following:

- Length (L): the distance from stern to bow measured along the deck;
- Beam (B): the vessel's maximum external width, measured at deck level;
- Depth (D): the distance between the underside of the deck and the top of the keel, measured internally.

During the eighteenth century, the cargo hold was assumed to represent 42% of the rectangular volume defined by the vessel's principal dimensions. These dimensions were measured in feet (*pieds*) and inches (*pouces*), with 1 inch = 1/12 of a foot.

The ship's burthen (*port*) or tonnage measurement (*jauge*), expressed in tons burthen (*tonneaux*), was therefore calculated as:

$$L \times B \times D \times 0.420 \div 42 = L \times B \times D \times 0.01$$

which simplifies to:

L × B × D ÷ 100

During the French Republic, the coefficient of 420 thousandths was revised to 446 thousandths. As a result, the formula for calculating a ship's burthen (*port*) or tonnage measurement (*jauge*) became:

L × B × D × 0.446 ÷ 42=L x B x D x 0.010619

which simplifies to:

L × B × D ÷ 94.17

In 1837, the old units of measurement were replaced by the metric system. The actual value that should have appeared in the denominator of the formula was 3.228. However, following objections from French shipowners, who argued that they would be placed at a disadvantage compared with their British counterparts, the denominator was set at 3.8 instead. The vessel's dimensions were henceforth measured in metres, giving the following formula:

L x B x D ÷ 3.8

In 1849, the method was revised so that the volume occupied by the steam engine and its machinery was deducted from the volume of the rectangular parallelepiped used in the calculation. At the same time, any enclosed spaces located above the deck and used for the carriage of cargo or passengers were added to the measured volume.

This modification was intended to provide a more accurate assessment of a vessel's actual commercial carrying capacity by excluding spaces unavailable for cargo and including revenue-generating spaces situated above deck.

Total Internal Volume ÷ 3.8

In 1872, the value of the ton (*tonneau*) was changed. It was aligned with the English unit, whereby one ton was defined as 100 English cubic feet. Using the English foot of 0.3048 metres, one cubic foot corresponds to 0.02831 m³. Consequently, 100 cubic feet equals approximately 2.83 m³.

The adoption of the British rules led to the following formula for calculating a ship's tonnage measurement, with dimensions expressed in metres and the ton (*tonneau*) valued at 2.83 m³:

Total Internal Volume ÷ 2.83

A review of the various formulas quickly reveals that the methods of calculation evolved over time. As a result, it can be difficult to compare ships from different periods solely on the basis of their burthen (*port*) or tonnage measurement (*jauge*). It is therefore always useful to compare their actual dimensions as well.

In the eighteenth century, for vessels belonging to the French East India Company, the ship's tonnage measurement was recorded in the crew muster rolls and calculated by the vessel's master shipwrights. During the following century, for ships engaged in coastal trade or fishing, calculations of burthen or tonnage measurement were carried out by the Customs Administration and the results were entered on a document known as the Register or Certificate of French Registry (*Registre ou Soumission de francisation*).

Using archival records and these original documents, we will examine four vessels from different periods and recalculate the recorded tonnage measurement for each vessel.

Examples of Tonnage Measurement Calculations

For a selection of vessels, we will use the dimensions found in archival records to calculate their tonnage measurement using the formula applicable to the period in question. We have chosen four vessels representing different types and eras: a fluty belonging to the French East India Company, a coasting vessel from Plœmeur and two shallops, one from Port-Louis and the other from Quimper.

The *Massiac*: A Ship of the French East India Company

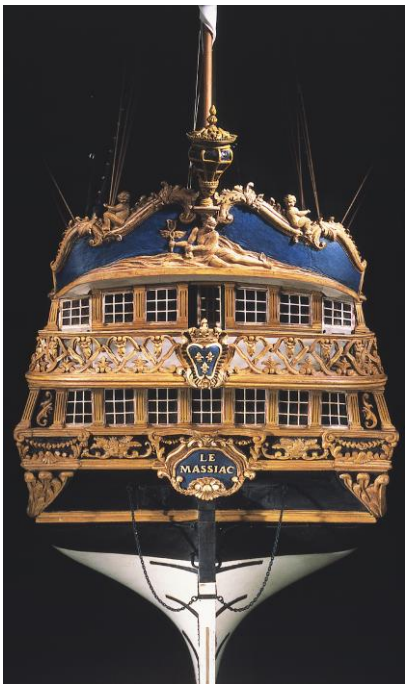
Built at Lorient in 1758, this fluty, which was rated at 900 tons, had the following dimensions, according to an article by Jean Boudriot:

- Overall length, from stem to sternpost: 47.77 metres (147.07 feet);
- Beam at the widest point (midship beam measured outside the frames): 12.35 metres (37.93 feet);
- Depth of hold beneath the beam: 5.20 metres (16.00 feet).

The applicable formula: L × B × D ÷100
Inserting the vessel's dimensions into the formula gives:

147.07 x 37.93 x 16.00 ÷ 100 = 892.54 tons

The calculated tonnage measurement of the Massiac was therefore 892.54 tons, a figure very close to its recorded rating of 900 tons. This small difference can be attributed to the rounding up of the dimensions or to minor variations in the measurements used by contemporary shipwrights.



The richly decorated stern of the *Massiac*, featuring, beneath the stern lantern, Mercury, the god of commerce and travel, holding a purse in his hand. Below Mercury appears the royal crown above an azure shield bearing three golden fleurs-de-lis, while the ship's name is displayed in gold letters on an azure cartouche. - Musée de la Compagnie des Indes, Ville de Lorient.

ANNÉE 1760.
DEPARTEMENT DU PORT-LOUIS
Le Vaisseau Massiac
ARMEMENT.
No. 12. Fo.
ROLLE de l'Equipage du port de 900 tonneaux, armé de 24 canons, apartenant à armé par pour aller dont l'Equipage est engagé au mois, & doit recevoir les sommes marquées au présent Rolle, pour mois d'avances, qui doivent courir du jour de

Heading of the *Massiac*'s crew muster roll at the time of fitting out. Service historique de la Défense, Lorient, 2 P 10-IV-6. Photograph by Jean-Yves Le Lan.

The *Père de Famille*, a Coasting Vessel

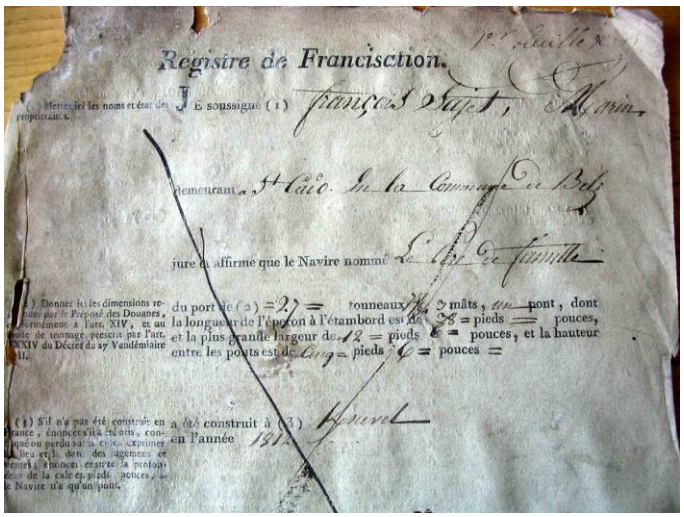
According to its certificate of registry (*acte de francisation*), the *Père de Famille* was a vessel built in 1812 at Kernével, Plœmeur, with a recorded tonnage measurement of 27.74 tons. Its dimensions were recorded as follows:

- Length: 38 feet;
- Beam: 12 feet 6 inches;
- Depth of hold: 5 feet 6 inches.

The applicable formula is therefore:

L x B x D ÷ 94.17

This gives **38 x 12.5 x 5.5 ÷ 94.17 = 27.74** tons.


Registre de Francisction.
Je soussigné (1) François Dujet,
demeurant à St Caio. In la Commune de Belz
jure & affirme que le Navire nommé Le Père de famille
du port de (2) 27 tonneaux, 2 mâts, un pont, dont la longueur de l'éperon à l'étambord est de 38 pieds pouces, et la plus grande largeur de 12 pieds 6 pouces, et la hauteur entre les ponts est de 5 pieds 6 pouces
a été construit à (3) Kernevel
en l'année 1812.

Certificate of Registry (*Registre de francisation*) of the *Père de Famille*.—Morbihan Departmental Archives, P 448.

The *Polowski*, a Small Coastal Craft

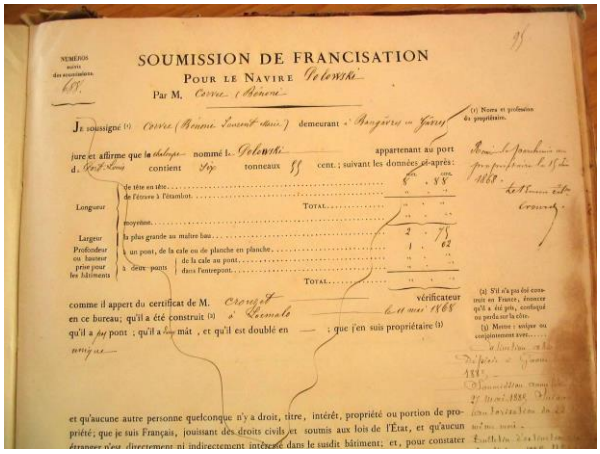
According to its certificate of registry (*soumission de francisation*), the *Polowski* was a shallop built in 1868 at Locmalo, Port-Louis, with a registered tonnage measurement of 6.55 tons.
Its recorded dimensions were:

- Length: 8.88 metres;
- Beam: 2.75 metres;
- Depth of hold: 1.02 metres.

The applicable formula is therefore:

- L x B x D ÷ 3.8

This gives **8.88 x 2.75 x 1.02÷3.8 = 6.55 tons**.


SOUMISSION DE FRANCISATION
POUR LE NAVIRE Polowski
Par M. Corvez (Henri)

Certificate of Registry (*Registre de soumission de francisation*) of the *Polowski*.—Morbihan Departmental Archives, P 465, no. 688.

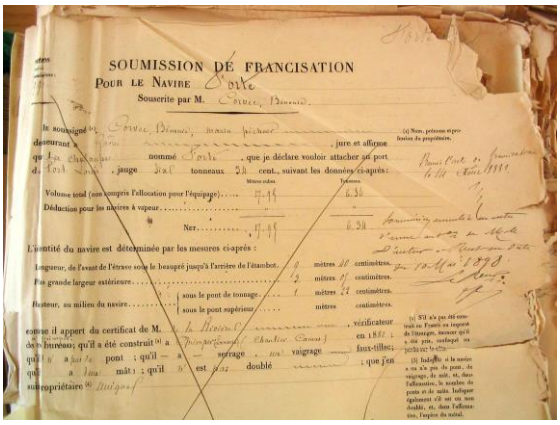
The *Forte*, a Coastal Shallop

According to its certificate of registry (*soumission de francisation*), the *Forte* was a shallop built in 1891 at Locmaria, Quimper, with a registered tonnage measurement of 6.34 tons.
Its recorded dimensions were:

- Length: 9.40 metres;
- Beam: 3.05 metres;
- Depth of hold: 1.22 metres.

With a measured internal volume of 17.95 m³ after the statutory deductions, the applicable formula is therefore:

Tonnage Measurement ÷ 2.83
This gives **17.95 ÷ 2.83 = 6.34** tons.


SOUMISSION DE FRANCISATION
POUR LE NAVIRE Forte
Souscrite par M. Corvez (Henri)

Certificate of Registry (*Registre de soumission de francisation*) of the *Forte*. Morbihan Departmental Archives, P 466, no. 996.

Conclusions

For these four vessels, different terms were used in the archival records to describe their carrying capacity. The records refer to a vessel being "of a burthen of" (*du port de*) in the cases of the *Massiac* and the *Père de Famille*, "contains" (*contient*) for the *Polowski* and "tonnage measurement" (*jauge*) for the *Forte*.

Despite these differences in terminology, all three expressions refer to the same concept: a theoretical measure of the vessel's carrying capacity, expressed in tons (*tonneaux*) and calculated according to the rules in force at the time.

For the *Massiac*, the calculated capacity derived from the dimensions provided by Jean Boudriot is very close to the figure recorded in the crew rolls: 892 tons calculated versus 900 tons recorded. This small discrepancy demonstrates both the reliability of the historical dimensions and the consistency of the eighteenth-century method of calculation.

An analysis of the results for the other vessels shows that the *Forte*, although larger in its dimensions than the *Polowski*, has a lower recorded tonnage measurement. However, it should be borne in mind that the value assigned to the ton (*tonneau*) had changed between the periods in which these two

vessels were measured. Consequently, a direct comparison of their recorded tonnage figures can be misleading.

If the *Forte* were calculated using the same formula as the *Polowski*, its tonnage measurement would be:
9.40×3.05×1.22 ÷ 3.8=9.20 tons
This figure is higher than its recorded 6.34 tons, and also higher than the 6.55 tons recorded for the *Polowski*.

This observation illustrates how difficult it can be to compare tonnage measurements calculated under different systems and at different periods.

These reflections have helped to develop a more precise understanding of how the carrying capacity of historical ships was calculated. In archival records, the terms most commonly used to designate this figure are burthen (*port*) and tonnage measurement (*jauge*). The frequently used term "tonnage" can be misleading, as it may be interpreted in the modern sense of a vessel's displacement.

The unit employed was, of course, the ton (*tonneau*), although care must be taken to account for the change in its value introduced in 1872.

According to Paul Gilles, there is an approximate coefficient of 1.5 between the displacement and the burthen (*port*) of a wooden sailing vessel. Applying this ratio to the *Père de Famille* yields a displacement of more than 41 tons for a vessel with a recorded capacity of 27.74 tons.

This example further illustrates the importance of distinguishing between burthen (a measure of carrying capacity) and displacement (a measure of actual weight) when interpreting historical maritime records.

To compare French vessels from different periods, it is therefore advisable to recalculate all recorded capacities (*port or jauges*) using a single, consistent formula. Only then can meaningful comparisons be made between ships whose capacities were originally calculated under different measurement systems.

Such comparisons become even more complex when dealing with vessels from different countries, since both the units of measurement and the methods of calculation varied considerably according to nation and period. Consequently, historical tonnage figures must always be interpreted within their specific technical and historical context.

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Association News

New Year's Dinner

We gathered at the **K5 restaurant** in the presence of our curator, Brigitte Nicolas.

The event provided an opportunity to learn about the projects currently underway at the Museum, while also sharing a moving moment during the recitation of ancient Indian poems.

Study Trip to Nantes

The trip included a tour of the historic city centre and an exploration of the rich and diverse collections of the Musée Dobrée. Eclectic and often surprising,

these collections span 500,000 years of history across five continents.

Participants also discovered the former shipowners' districts, whose merchants and trading houses contributed greatly to the prosperity of Nantes during the era of the East India companies.

Study Trip to Rennes

In the Footsteps of an Enlightened Mind of the Eighteenth Century.

At the Musée des Beaux-Arts de Rennes, we were introduced to the cabinet of curiosities of Christophe-Paul de Robien, who served as *président à mortier* of the Parliament of Brittany from 1724 to 1756.

An initial exhibition space immerses visitors in his collection of paintings inspired by the Flemish school. As this friend of Georges-Louis Leclerc, Comte de Buffon, himself remarked, his cabinet brought together "all the rarities" of nature. It also invites visitors on an ethnographic journey through time—from Antiquity onward—and across the world through objects created by non-European peoples.

After a convivial lunch, our tour continued to the museum space housed in the former Capuchin convent, before moving on to the remains of the Robien family's town house. The visit concluded in the magnificent restored chambers of the Parlement de Bretagne, the political heart of Rennes in the eighteenth century. A city where the fortunes of the elite were derived more from the land than from the sea.

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