

A three-masted ship depiction from 1409

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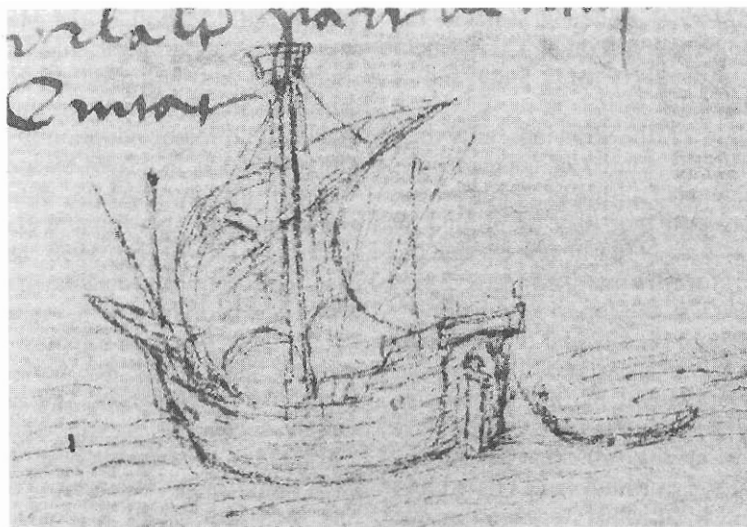


Figure 1. A depiction of a three-masted ship, dated 1409, from *Llibre de les Ordinaciones de l'Administrador de les Places*, folio 67R.

The introduction of the full-rigged sailing vessel marked an important stage in the evolution of ship design and the culmination of a construction revolution which began with the widespread adoption of the pintle-and-gudgeon rudder at the start of the 14th century. The combination of the pintle-and-gudgeon, the mizzen mast and the foremast provided the necessary control for the large vessels which were increasingly coming into use at the beginning of the 15th century. However, the question of exactly when the three-masted ship appeared has remained debatable because until now there has been no depiction which has been securely dated, apart from a seal of Louis de Bourbon dated 1466.

There has been evidence in the form of ship representations on Islamic ceramics from southern Spain suggesting that the full-rigged

ship developed before this time. A *zafa* with a *nao* on it has been excavated at the Alcazar of Malaga which clearly depicts a three-masted vessel. This large bowl conforms to Islamic art from the Nazari period and has been dated between the last quarter of the 14th and the end of the first quarter of the 15th century. A similar *zafa* dated to the same time interval is located in the Victoria and Albert Museum in London and is also thought to have come from Malaga (Landström, 1961: 96). While these bowls suggest that the foremast may have been introduced by the start of the 15th century, the imprecise dates for the bowls have not allowed the introduction of the foremast to be placed definitively to a time any earlier than the second quarter of the 15th century.

However, a small ink drawing in the *Llibre de les Ordinaciones de l'Administrador de les Places*

(reference #307, V-6) located at the Municipal Archive of Barcelona, may allow us to definitively date a depiction of a full-rigged ship to the year 1409 (Fig. 1). The *Llibre de les Ordinacions* is a compilation of ordinances for Barcelona beginning in 1378 and ending in 1517. For the entries in the book between 1378 and 1444 there are accompanying ink drawings which point to specific parts of the text and reflect the content of the ordinance. The ship in Fig. 1 is drawn in relation to text covering the importation of foreign wine by sea and the import duties to be assessed on it. This particular ordinance is dated 10 May 1409 and is located on folio 67R.

The exact date of the drawings and their origins has been the source of some debate. Because of the detailed nature of the drawings, it has been suggested that they were done by Jaume Vergós II after 1476 when he became the City Administrator (Duran i Sanpere, 1975: 196–199). Vergós was the son of a painter who had worked for both the city and the Crown of Aragon and it has been argued that only an artist, or someone taught by one, could have made these drawings. However, there are several problems arising from this hypothesis. First, several of the drawings have related and contemporary text attached to them in the margins and thus were definitely made at the same time. It is known that while Vergós could read, by his own confession he could not write. Furthermore, if Vergós was the author of these sketches, there remains to be explained why the drawings ceased at 1444. The break after the 1444 entries is distinct in that both the type of ink used and the style of writing change. Moreover, the ink used for the drawings matches that of the text to which it is associated in both pigment and hue. A close examination of the drawings also reveals that they lack the fineness of proportion with regards to human appendages one would expect from an artist of the stature of Vergós.

Based on the above, there can be little doubt that the drawings were made at virtually the same time as the text and that the representation of a three-masted ship dates to the year 1409. Considering the fact that artwork usually lags behind the actual date for the introduction of a particular technology, it is quite probable that the foremast was introduced as early as the end of the 14th century. This apparently early date for the introduction of the three-masted ship should not be all that surprising. The widespread adoption in the Mediterranean of the pintle-and-gudgeon rudder, the square-rigged sail and the introduction of the vertical sternpost at the start of the 14th century was quickly followed by adoption of the mizen mast around 1350 as indicated by a drawing on the Venetian map by Pizigani, dated 1366, and a graffito at the Palau Reial at Barcelona, dated to around 1360 (Mott, 1990: 16–18; in press). Mediterranean shipwrights had long been accustomed to ships with multiple masts and the next step to add a foremast to balance out the sail plan could not have been a great conceptual leap for them. Ship size was already rapidly increasing by the end of the 14th century and this increase in tonnage would have required the addition of the foremast at this time adequately to control these larger vessels. The introduction of the foremast by the start of the 15th century would parallel the steady increase in ship tonnage during this period, while a later date would create a significant hiatus between the introduction of larger vessels and the adoption of the means to handle them adequately.

The drawing of a full-rigged ship, dated to 1409, shows that the steady increase in ship tonnage which occurred towards the end of the 14th century was paralleled by the introduction of new technologies for handling them and that all of the design elements essential for launching the Age of Exploration were present by the opening of the 15th century.

References

- Duran i Sanpere, A., 1975, *Barcelona i La seva Història: L'Art i La Cultura*. Barcelona.
 Landström, B., 1961, *The Ship*. New York.
 Mott, L. V., 1990, Medieval ship graffito in the Palau Reial Major at Barcelona. *Mariner's Mirror*, 76.1: 13–22.
 Mott, L. V., (in press), *The Development of the Rudder: A Technological Tale. (Studies in Nautical Archaeology 3)*. College Station, Texas: Institute of Nautical Archaeology.