

The maritime cartography of the Sicily-Malta Channel

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Introduction

This report presents the results of a research project aimed at searching for and documenting nautical charts and other maritime related maps covering the Sicily-Malta channel.¹¹⁶ Searches were made in collections held in a number of Maltese repositories, both public and private. Public repositories included the National Library of Malta, the National Archives and the Malta Maritime Museum in Vittoriosa. Furthermore, various online archives, including that of the National Maritime Museum in Greenwich, UK were also explored. All relevant maps were photographed, catalogued and presented on data cards in both hard and soft copies. It is envisaged that a number of benefits will stem from the results of this project. These include: 1. A greater awareness among researchers in both Sicily and Malta of the various maps held in the different repositories; and 2. A better understanding of the maritime cartography of the Sicily-Malta Channel through time.

Cartography and Hydrography

*Map: 'a drawing or other representation of the earth's surface or a part of it made on a flat surface, showing the distribution of physical or geographical features'.*¹¹⁷

Since prehistory, human beings have expressed a degree of spatial consciousness. Tangible evidence of such expressions includes rock paintings, depictions on stones and on jars. Although one may not perceive these pictures as maps in the modern sense, a thorough study and classification of these maps led Delano Smith to conclude that 'there is [...] clear evidence in the prehistoric art of Europe that maps – permanent graphic images epitomizing the spatial distribution of objects and events – were being made as early as the Upper Paleolithic.'¹¹⁸ This impulse to describe one's surroundings in a variety of pictorial forms is therefore datable to over ten thousand years ago.

A detailed description of how such pictorial depictions evolved through time (to become what we refer to today as maps) goes beyond the scope of this report. Nonetheless, it is important to note that over the centuries, just as the maps themselves changed, the reasons for the representation of space in a visual manner have also evolved.

¹¹⁶ The results of the project are presented on separate data sheets.

¹¹⁷ Oxford English Dictionary

¹¹⁸ Delano Smith, C. (1987) Cartography in the Prehistoric Period in the Old World: Europe, the Middle East, and North Africa in the Prehistoric Period in Harley, J. B. and David Woodward, editors *The History of Cartography, Volume 1: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean* (Chicago University Press): 54-102.

Such reasons included the need to delineate political boundaries, to illustrate the topographic features in a territory as well as to place ancient remains within modern urban spaces.¹¹⁹ However, in Medieval Europe, the use of a map as a means of guidance to move from place to another on land was not widespread.¹²⁰ In the next section, I shall proceed to illustrate how this was in marked contrast to the situation at sea.

Maps and Seafaring

Knowing where to go and how to get there are two essential aspects of any journey. This is more so when undertaking a journey by sea which would involve the crossing of large open featureless spaces. In ancient times, seafarers used a variety of methods to 'navigate' across such spaces including the use of stars and the sun, the clouds, birds,¹²¹ change in the colour of the sea and the presence of vegetation on the surface of the sea. Furthermore, it is certain that some ancient mariners utilized the stars for navigation when sailing at night and out of sight of land.¹²² When in sight of the coast, ancient seafarers were highly aware of a coastal landscape made up of a series of features, both natural and human-made. Tall cliffs and/or high hills and mountains provided essential landmarks whereas human features included lighthouses, tombs and even temples.¹²³ Knowledge of such features enabled ancient seafarers to recognize where they were. One can therefore infer that the mapping of maritime spaces may trace its roots back to this cognitive knowledge of seafarers.

The earliest surviving copies of maps specifically produced to aid seafarers date to the high Middle Ages and are known as portulan charts which are described by Campbell as 'the most geographically accurate maps of their time'.¹²⁴ The earliest versions were produced by the Venetians and Genoese on vellum.¹²⁵ At first glance, portulan charts look like traditional maps. However, upon closer examination one notices that on the one hand coastal features are prominent, whereas inland areas are unnaturally bare. Furthermore, rhumb lines protrude from compass roses and extend across the charts. Late medieval seafarers also had access to rutters, written sailing instructions with detailed descriptions of the landscape as seen from out at sea.¹²⁶ By combining the visual aid (map) with the

¹¹⁹ Buisseret, D. (2003) *The Mapmakers' Quest – Depicting New Worlds in Renaissance Europe* (Oxford University Press): 26.

¹²⁰ Harvey, P.D.A. (1987) Local and Regional Cartography in Medieval Europe in Harley, J. B. and David Woodward, editors *The History of Cartography, Volume 1: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean* (Chicago University Press): 464-501 -464.

¹²¹ Hornell, J. (1946) The role of birds in early navigation in *Antiquity* 20.79: 142-9.

¹²² Aubet, M.A. (1996) *The Phoenicians and the West: Politics, Colonies and Trade*, (New York): 168. For a detailed description of celestial navigation by Carthaginian seafarers see Medas, S. (2001) *La marineria cartaginese. Le navi, gli uomini, la navigazione* (Carlo Delfino Editore): 242-257.

¹²³ See Semple, E.C. (1927) The Templated Promontories of the Ancient Mediterranean *Geographical Review* 17.3: 353-386.

¹²⁴ Campbell, T. (1987) Portolan Charts from the Late Thirteenth Century to 1500 in Harley, J. B. and David Woodward, editors *The History of Cartography, Volume 1: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean* (Chicago University Press): 371-463: 445.

¹²⁵ Kemp, P. (1988) *The Oxford Companion to Ships and the Sea* (Oxford University Press): 157.

¹²⁶ See Motzo B.R. (1947) *Il Compasso da Navigare, Opera italiana della metà del secolo XIII*. (Annali della facoltà di lettere e filosofia dell'Università di Cagliari, VII).

cognitive aid (rutter) the medieval mariner was able to undertake more informed sea journeys.

The main content of portulan charts was to remain unchanged until the advent of hydrography, the formal and scientific method of surveying the sea, coastlines and contours of the seabed. Although the use of instruments such as the quadrant and sextant contributed to more accurate charts as early as the first decades of the seventeenth century, formal hydrographic departments, such as those of France and Britain, were set up much later in 1720 and 1795 respectively.¹²⁷

As a result of hydrographic surveys, representations of soundings and information on seabed topography increase thus making the 'maritime map' more complete. In modern times, these maps are referred to as nautical charts and these include accurate data that are systematically updated. Such charts are accompanied by modern pilot books which contain information on landfalls, approaches to harbours as well as details on the harbours themselves. These pilot books are not unlike the abovementioned rutters from the medieval period.

Today, all nautical charts are available on a single memory card, which contains hydrographic information of the entire world and is updatable via the internet.

Geographical Setting

As this present study covers a maritime space that is situated between the islands of Malta and Sicily I shall now proceed with a brief description of the area and its oceanographic conditions. The modern *Mediterranean Pilot* describes this stretch of sea as the Malta Channel¹²⁸ which 'separates the group [Maltese Islands] from the east end of the south coast of Sicilia [sic], and is about 45 miles wide. The depths are less than 200 m and it is free from off-lying dangerous shoals.'¹²⁹

Wind and Sea Conditions

The prevailing winds in the area of study are those which blow from westerly and north-westerly directions. In the Sicily-Malta channel both the north-westerly and the north-easterly winds cause heavy seas and disturbed conditions may persist for several days between October and April.¹³⁰ Of particular note for the coastal waters off Malta is the large north-easterly swell that persists for up to two days after gales from the same direction have subsided. In both winter and summer, the main currents in the Malta Channel flow from the north west to south east in the direction of North Cyrenaica.¹³¹ This current flows steadily at a rate of .50 to .75 of a knot but in winter west-north west gales can increase the speed of the current to 2 knots. Furthermore, strong easterly winds in spring and summer can temporarily reverse the flow of the main current.

¹²⁷ Kemp (1998): 411.

¹²⁸ For the purpose of continuity I will continue to refer to this area as the Sicily-Malta Channel.

¹²⁹ Admiralty Sailing Directions (1978) *Mediterranean Pilot Volume I* (United Kingdom Hydrographic Office): 180.

¹³⁰ *Ibid.*, 13.

¹³¹ *Ibid.*, 13.

Historical Background to the Siculo-Maltese Connection

The Siculo-Maltese Connection dates back to the earliest stages of Malta's prehistory. Indeed, archaeological evidence confirms that the first settlers who reached Malta's shores originated from Sicily.¹³² The presence of obsidian in the archaeological record of Malta points to a system of exchange that involved the crossing of the Sicily-Malta channel. This connection continued to develop after the dawn of recorded history when both islands were integrated into the commercial network of the Phoenician, and later Carthaginian, civilizations. The advent of Roman rule in Malta in 218 B.C. saw the island incorporated into the Sicilian province.¹³³ During this period, both islands were ruled by a *propraetor* who governed on behalf of the Roman Senate and the succession of emperors that emerged later on.

During the late Byzantine period, Malta and Sicily were connected through the prolonged war brought about by the Arab invasion of Sicily. Dalli has recently suggested that in the very early stages of the Arab conquest of Sicily (878-902) the Maltese Islands were used by Byzantine forces to relieve their comrades in Sicily.¹³⁴ After the fall of Malta in 870 it could well be that the island was repopulated by Arabs arriving from Sicily who brought with their language, culture and traditions.

During the later Middle Ages, the bond between the two territories was further entrenched. Following the arrival of the Normans in the central Mediterranean, the islands found themselves sharing the same political, cultural and commercial fates. Both Malta and Sicily found themselves within the spheres of influence of the Normans, the Angevins and finally, the Aragonese. This common succession of rulers shared by the two islands created both political and commercial ties that continued to exist beyond the arrival of the Order of St John in 1530. The continuing bond between Malta and Sicily was clearly manifested during the Great Siege of 1565 when a large Ottoman force besieged the Order of St John and Malta's inhabitants. It was a force sent from Sicily (led by its Viceroy Don Garcia) which brought victory to the besieged.¹³⁵

During the Order's rule, Malta depended heavily on tax free imports from Sicily. By this time, the import-export transactions that Maltese merchants conducted were almost entirely linked with Sicilian markets. Throughout the Hospitallers' reign, the Maltese islands remained reliant on the importation of most essential staple goods from Sicily. Efforts by the Order to decrease Malta's dependence on Sicilian markets proved only partially successful.

Normal trade connections between Malta and Sicily were disrupted by the outbreak of the 'French Wars' (1792-1802, 1803-1815.), especially when the Republican armies of France penetrated into the Kingdom of Naples. Nonetheless, commercial activity was still present until Napoleon defeated the Third Coalition in 1805, a development which led to the loss of the Neapolitan kingdom's independence. This turn of events led to the

¹³² Trump D. H. (2002) *Malta - Prehistory and Temples*, (Midsea Books): 24

¹³³ Bonanno, A. (2005) *Malta - Phoenician, Punic, and Roman*, (Midsea Books): 123

¹³⁴ Dalli, C. (2007) *Malta - The Medieval Millennium* (Midsea Books): 48.

¹³⁵ Spiteri, S. (2005) *The Great Siege Knights vs Turks mdxv* (Malta): 501.

integration of its territories into the Continental Blockade the following year. As Malta had become a British protectorate in 1800 and was thus considered an enemy of the French nation, the blockade would greatly enhance the commercial links between Malta and Sicily, albeit in a clandestine manner. During this conflict, British merchants became a common sight in the Harbour area as they found the island to be a secure port of call as they fled from their old settlements on mainland Italy that had been engulfed by warfare. The outbreak of plague in Malta in 1813 greatly disturbed the commercial ties that had developed between Malta and Sicily.

Following the end of the plague and the defeat of Napoleon in Italy, commercial links between the two islands were gradually re-built. In spite of this, the relationship between the two would never be as strong as it had been in the previous centuries as the Maltese islands were now integrated into the commercial network of the British Empire. This state of affairs stimulated commercial links with other British territories and dependencies, drawing many Maltese merchants away from Sicilian ports.

As the Mediterranean markets started to settle back into their normal routine, it became evident to the British authorities that the Maltese economy could not survive in the new economic reality that existed in the first half of the nineteenth century. After a period of laissez-faire economic policies, the British government engaged themselves in heavy investments to modernise Malta's economic infrastructure, especially that of the Harbour Area which had degraded during the previous two decades.¹³⁶ However, despite the decline of commercial shipping, heavy use of Malta's harbours by vessels of the Royal Navy ensured the continuity of maritime traffic in and around Malta and hence the Sicily Channel. This increased activity brought about new, state of the art charts such as those done by Smyth in the 1820s and Spratt in the 1860s.

The Crimean War (1854-6) would provide relief for Malta's economy as the increased presence of military supply vessels in the island's harbour provided an ample amount of patrons looking for smuggled merchandise.¹³⁷ The resulting period of prosperity was short-lived because the end of the war brought about an economic slump which was only ended over a decade later. Malta experienced a sustained economic boom that started in 1869, when the Suez Canal was opened through a joint Anglo-French venture. This event immediately yielded great benefits for the local market, a state of prosperity which would last until the late 1880s. The main thrust of the economy was the setting up of a coaling station in Malta where vessels could stop to replenish their fuel supplies. Goods originating from India were unloaded in Maltese harbours and transhipped elsewhere in the Mediterranean including numerous Sicilian ports.

Although increased fuel efficiency brought about the decline of this activity, the new geo-political scenario in the Mediterranean brought about with the rise of Italian naval power, meant that the British invested heavily in Malta's naval and military infrastructure. In the late eighteenth and early nineteenth century, the Sicily-Malta channel evolved into a stretch of sea where the two naval powers could face each other

¹³⁶.Blouet B (1997), *The Story of Malta*, (Malta): 163.

¹³⁷ Ibid., 164

thus making strategic role more important than ever. This situation did in fact materialize during WORLD WAR II when the Sicily-Malta channel was the theatre of war between the Axis powers based in Sicily and the British powers based on Malta. Italian and German forces attacked British shipping attempting to supply Malta with much needed ammunition, foodstuffs and fuel. Likewise, British forces used Malta as a base from which they could attack Axis shipping travelling between Sicily and Libya.

Today, the Sicily-Malta Channel is a busy shipping route with commercial vessels sailing from Suez to Gibraltar (or vice versa) and vessels sailing from the Adriatic to ports in the south of France or Spain. Furthermore, a series of freeports including those Malta (at Marsaxlokk) and in southern Italy (at Gioia Taoro) ensure that numerous vessels continue to use this historically important channel.

The Mapping of the Sicily-Malta Channel through time

Given that the earliest maritime cartography covers the Mediterranean region, the Malta-Sicily Channel was often depicted at the centre of these medieval maps. One such example is the late fifteenth century portulan map by Jacopo Bertran (**Slide 1**) which shows the channel more or less in the centre of the chart. Besides a number of rhumb lines running across the channel in a variety of directions, the channel is, as is characteristic of contemporary charts, devoid of any navigational details such as soundings. The harbours of Malta are given prominence and are drawn disproportionately larger to the rest of the islands. On the other hand, a portulan of the central Mediterranean from a late fifteenth century *Isolario* (or island book) by Bartolomeo Sonetti clearly illustrates markings in the form of crosses on the approaches to Capo Passero, possibly indicating the *Isola delle Correnti*. Malta's south eastern approaches are also marked by such crosses which coincide with the Munxar reefs which are the main navigational hazards extant in the area.

During the course of the sixteenth century, the style and overall detail of the nautical side of portulan charts do not change dramatically. The Sicily-Malta Channel as depicted in a map of the central Mediterranean from an Atlas by Angelo de Conte Freducci is very similar in detail to that by Sonetti. Small islands, such as *Isola delle Correnti* and Manoel Island in Marsamxett harbour (Malta) are now marked in red but navigational hazards are still marked with black crosses. During the mid-sixteenth century, it is interesting to note that the Sicily-Malta channel was sometimes included in representations of the both the central and eastern Mediterranean as in the case in the Atlas of Joan Martines. Later in the sixteenth century, a map by Dutch explorer Willem Barentsz points to a break away from the earlier styles of nautical cartography. Although still devoid of hydrographic detail, the representations of Sicily and the Maltese Islands are more realistic than in earlier charts. Details such as the navigational hazard of Munxar reef are retained whereas others, such as the salt pans at Mellieha Bay are added. The inclusion of views on the upper part of the chart facilitates the recognition of some of the main ports in the area. Finally, this map also differs from its predecessors in the details depicted in the open sea, including the representation of contemporary ships and also sea monsters. This cartographic style was to be repeated and possibly copied throughout the seventeenth century by some cartographers based in the Mediterranean. The chart by Ambrosin of

1620 includes the sea monsters, contemporary vessels as well as the four views of major ports as depicted by Barentsz.

Not all portulan maps datable to the sixteenth century break away from the late medieval format and style. Charts such as that by Joan Oliva clearly illustrate the continuity of the aforementioned style. However, a cartographic feature particular to Malta and which does develop in the late sixteenth and early seventeenth century is that of the island's colouration. In earlier portulan charts, Malta was sometimes highlighted in gold (see detail of map by Bartolommeo Sonetti on **Slide 4**). In the latter years of the sixteenth century, possibly due to the expanding fame of the Order of St John after the victory in 1565, Malta is occasionally depicted in the colours of the Order: a white cross on a red background (see detail of map by Francisco Oliva on **Slide 25**).

In the latter half of the seventeenth century, the Malta-Sicily Channel is included in the map of the central Mediterranean included in the maritime atlas by Francesco Maria Levante. Besides 25 maps, this volume includes a series of sailing directions, therefore combining the visual aid (map) with the descriptive (rutter). A number of such atlases were produced which varied in detail and in purpose. Of particular note is the *Nuovo Specchio di naviganti* by Girolamo Agostino which is devoid of written descriptions but consist of detailed maps of most of the major harbours of the Mediterranean. The inclusion of soundings (in *braccia*) for so many (and varied) locations is of major interest to the history of Mediterranean maritime cartography, mainly because of their inclusion in a single document.

The inclusion of soundings on Mediterranean charts can be traced back to the middle of the seventeenth century when Anthoni Jacobsz included the depths around Tabarca (in Tunisia) within a map of the central Mediterranean. The inclusion of soundings did not become common practice as is attested in the chart of John Seller (published in 1657) which is devoid of any such data. Soundings for the main port of Malta are included as an inset in a map of the central Mediterranean by Joahannes van Keulen, published in 1682 (**Slide 31**).

In 1720, the French established a Hydrographer's Department and it is therefore not surprising that some of the most notable advances made in the field of maritime cartography can be traced back to eighteenth century French cartographers such as Joseph Roux (**Slide 35**). His atlas of the Mediterranean, published in 1764, contains a chart of the central Mediterranean with some of the earliest representation of offshore soundings. The main concentration of soundings is between North Africa and Lampedusa but there are also limited readings present in the Sicily-Malta Channel. The 'vertical' configuration of this chart is also innovative setting a standard for the representation of the area that survives until the present day. One such example of such a 'vertical representation' is by the *Deposito Hidrografico* of Spain published in 1802 (**Slide 36**). Besides the modern orientation and inclusion of the recently conceived longitudinal coordinate system, this map contains soundings for parts of the Adriatic Sea but not for the Sicily-Malta Channel.

The establishment of British bases in Gibraltar and Malta enabled the British to maintain a substantial naval presence in the Mediterranean. It is therefore not surprising that in the first half of the nineteenth century, the British undertook intensive hydrographic surveys around and even beyond their bases. Of note for our area of study is the work of Royal Navy hydrographer W.H. Smyth who worked from Sicily after the Napoleonic wars during the first decades of the nineteenth century. He produced two important works; one written description of the Mediterranean entitled *The Mediterranean: A Memoir, Physical, Historical and Nautical* (London, 1854) and the other being the *Hydrography of Sicily and its Islands* (London, 1824) (see **Slide 39**). The continued presence of the British in Malta ensured that the area around the islands was continually surveyed by subsequent English hydrographers such as Captains Graves and Spratt who continually worked in the middle and latter half of the nineteenth century. Over the next 100 years, the works of Smyth, Graves and Spratt formed the platform upon which Admiralty charts of the Mediterranean were based.

In the course of the nineteenth century a number of other ‘maritime maps’, albeit not nautical charts per se, were issued. Such maps included depictions of maritime routes for steamers (**Slide 43**), postal vessels as well as the voyages of particular personalities such as those of Admiral Penrose published in 1820 (**Slides 37 and 38**).

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