

Medieval Lighthouses

Part 2 - The Oldest Lighthouse

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Above: The Pharos at Dover, built around the 2nd c. CE is a candidate for the oldest existing lighthouse.

Introduction

Pharologists are frequently asked, *What is the oldest lighthouse?* The answer is, of course, difficult to answer without further qualification. Different people might argue over the definition of a lighthouse, for example.¹ Others might be asking about the first lighthouse that was ever built. A third group might be asking for the oldest lighthouse they can see right now. All of these questions have been dealt with in detail in another publication.² The chapter that follows is an overview of the subject for the casual reader and will set the scene for the rest of this book.

Objectives

The Objectives of this chapter are:

To present an overview of the current state of knowledge of the oldest lighthouse sites having their origins prior to the medieval period.

Ancient Lighthouses

Most commonly the answer given to questions about the oldest lighthouse has been the Pharos at Alexandria, the magnificent structure built around 280 BCE (see p316).³ Its existence has never been questioned, but its structure as

portrayed in the early literature varied considerably. In truth, the structure changed over the course of the 1600 years in which it existed, mostly because of damage suffered during several major earthquakes and whether it showed light from its fires every night of those 1600 years is very doubtful. Its role in the ancient Hellenistic culture was complex, and included its use for military and political purposes, but its function as a lighthouse is also beyond doubt. The question as to whether such a great engineering achievement could have been built without a precedent is more difficult to answer. Nothing even close to it in size had been constructed before the Pharos.

There is good evidence to believe that Greeks were using small fire-bearing stone structures for navigational purposes in the early third and fourth centuries BCE. The marking of sacred sites with fire - often on headlands and other high locations visible from the sea - was a vital part of ancient Greek culture.⁴ A light marking the tomb of Achilles at Sigeum in the Hellespont has frequently been proposed. Its location at the entrance to the strategic route between the Mediterranean and Black Seas would have created a vital navigational aid as long ago as the twelfth or thirteenth centuries BCE. This could have inspired ideas of lighthouses, even if its form was inconsistent with our traditional designs.

In later centuries (though still prior to the building of the Alexandrian Pharos) Greeks seem to



ABOVE LEFT: The popular candidate for the oldest lighthouse is the Pharos of Alexandria. It was built around 280 BCE and survived in various forms for about 1600 years. No trace of it exists today, although some parts of its structure have been recovered from the surrounding seabed.

ABOVE RIGHT: A structure that does still exist and seems to have been inspired by the Pharos is this stone tower at Taposiris Magna in the north Egyptian landscape. Its origins are unknown.

have been using small stone towers with fires on top to indicate the approaches to ports in the Aegean. Thus, however the idea was actually conceived, the Greeks can legitimately claim to have inspired an aid to navigation that has been of great value to mariners right up to the present day.

But what of other cultures? I should say right away that there is no evidence at present that lighthouses were used by Chinese mariners or those in other parts of Asia. Arab seamen are regarded as having great competence in ancient times, but with no known reference to the use of lighthouses (see p262).

Phoenicians were expert navigators, but from what we know about them, their efforts were expended in gaining the maximum understanding of natural phenomena - sun, moon stars, seasons, tides, winds, weather conditions etc, rather than by engineering artificial aids to navigation.⁵ Like the Greeks, there is evidence that the Phoenician culture also employed fire in sacred locations which, as we have seen, would act as *de facto* beacons for mariners at night. Historians have speculated over

many decades that Phoenician temples at Cadiz were early lighthouses. Indeed, the Phoenician reputation as long-distance explorers in north Atlantic waters resulted in the theory that they established a beacon at La Coruña in northwest Spain in times before the Roman structure was built (see p14).

Here, we are familiar with a magnificent structure often called the Tower of Hercules, which is today, without doubt, the oldest working lighthouse in existence. The location is of utmost significance to all shipping in transit between the Mediterranean and Northern Europe and so from the earliest times must surely have been the site of a navigational aid in one form or another. This leads inevitably to the conclusion that those mariners who first used the waters adjacent to La Coruña - whether Phoenician or Roman - surely established some kind of beacon there. Even if we discount the Phoenicians as having achieved it, the Romans surely did so. The presence of Roman remains on the site of the Tower of Hercules and forming a significant part of its internal structure indicates with a good degree of certainty

that they established a lighthouse at this location. The structure was much later converted into the one we see there today, and the similarity with the structure of the Alexandrian Pharos is especially noteworthy.

The Romans were certainly the first to establish networks of lighthouses, intent as they were on maximizing the efficiency of seaborne capacity for both commercial and military purposes, but we can be confident that they did not build the first lit aid to navigation, neither did they invent the form of lighthouse we are familiar with today. However, we should award the Romans much credit for recognition of the lighthouse as an artificial construct that is of great assistance to mariners.⁶

The Pharos At *Portus Dubris*

Across the Channel from Calais and Boulogne in France, at a location in England where there is today a very busy ferryport, Roman invaders chose to make a new base on a new territory, a camp they called *Dubris* - modern Dover. One of Britain's oldest known ports, the land of its Celtic inhabitants had been called *Dubra*, meaning 'the waters'. The geography was rather different from what we see today, for the location of *Dubra* was at a point on the mouth of a navigable river called Dour where the English shoreline dips down from the tall chalk cliffs on either side. Over time the mouth silted up and was built upon.

Britain had been previously inspected by scouting legionaries under the command of Julius Caesar who crossed the English Channel from *Gesoriacum* (Boulogne) in the year 55 BCE. Now it was time for a solid expansion of the Empire into this Celtic land and to establish a firm link across the sea to mainland Europe. In 38 CE, Caligula had tried and failed to cross but there was no turning back for troops who followed the orders of Emperor Claudius in 43/44 CE. Current ideas regarding the invasion include the possibility that Roman forces landed not only at Dover, but also farther west along the south coast of England at Portchester in Hampshire, as well as at Richborough in the eastern corner of Kent. Nevertheless, a permanent garrison was constructed at *Dubris* and two lighthouses were built on the high ground to the east and west to mark the entrance through Britain's new gateway.

The existing eastern lighthouse at Dover is commonly known as the Dover Pharos. This



ABOVE: The only hard evidence so far produced for a lighthouse in existence before the Pharos of Alexandria:

TOP: A stone tower on Thasos, Greece.

CENTRE: The tower sits on a mound of rubble.

BOTTOM: An artist's impression of the tower when used as a lighthouse, with diameter approximately 2 to 3 m and height 1.5 to 2 m.



ABOVE: The ancient Pharos at Dover - just to the left of the church, right of centre.

BELOW LEFT: The Pharos from the south. Note the arched windows and doors.

BELOW RIGHT: The Pharos from its northern approach.





ABOVE: The magnificent and unique Roman Pharos on the left, adjacent to the Saxon church of St. Mary in Castro, itself dating from around 1000 CE.

BELOW LEFT: The internal structure is in fine condition.

BELOW RIGHT: The entrance to the Pharos on the south side.





ABOVE: The Pharos and Saxon church inside Dover Castle, viewed from the north from the Keep of the Castle and overlooking Dover harbour.

wonderful, unique building is probably the best surviving example of a Roman lighthouse and a strong candidate for the oldest lighthouse in existence. For centuries it has received little attention and archaeological investigation. Situated in the grounds of Dover Castle, it is of little interest to visitors compared with the impressive medieval fortifications that surround it.

Two comprehensive studies from the early 20th c. have filled a gaping hole in our knowledge.^{7 8} Of these, the second by Wheeler is a vital publication of the details of construction. Externally the tower is octagonal, with sides of 15 ft (4.6 m) length, but internally it is 13 ft 10 ins (4.2 m) square. The existing height is 62 ft (19 m), of which the top 19 ft (5.8 m) are medieval, leaving some 43 ft (13 m) of original Roman stonework.

The walls rise perpendicularly and holes in the masonry indicate the presence of wooden floors. At the base, the walls are nearly 12 ft (3.65 m) thick, and diminish to 3 ft 9 ins (1.1 m) at the top. In common with similar Roman constructions, especially the *Tour d'Ordre*, the floor area progressively diminishes towards the top, stepping inwards at intervals by around 30 cm. The effect is to make the tower look telescopic. External eroded and crumbling masonry has been periodically tackled

for reshape and repair but has changed the form of the tower. Almost certainly, it had a design similar to the *Tour d'Ordre* (see p316) with multiple stages up the exterior reducing the width by about 1 ft (30 cm) at each level. This suggests an original height of about 80 feet (24 m).

Wheeler believes there were probably eight stages and a parapet above the final floor or roof. Each floor had four arched windows and access to each floor was undoubtedly by wooden ladders. Both tiles and brick were used in the construction. Construction is from flint rubble bonded with double courses of tiles at regular intervals and faced with tufa ashlar.

The windows and doors are arched and are decorated by the alternate use of tufa and tile to achieve a multi-coloured effect. The tiles are of the same pinkish material found in the fort of the *Classis Britannica* and it seems reasonable to suppose that they were built at broadly similar dates. The early phase of the fort has been dated to around 130-150 CE. This may indicate that the oft-quoted date of the Pharos as being around 44 CE is too early. Clearly, the construction of the lighthouses



ABOVE: The Dover castle known as the Western Redoubt houses the small remains of the western Roman pharos. Sadly, it has been closed to the public.

post-dated the invasion and may have occurred much later as the city was being improved from its initial build.

The western lighthouse is even less well-known, undoubtedly because it is now largely invisible on the surface. Curiously, there was a time in the 16th and 17th centuries when it attracted more attention than its sibling because, from the sea, it stood out in the landscape more clearly because the eastern tower had been rendered less obvious by the heavy fortifications in which it had become absorbed.

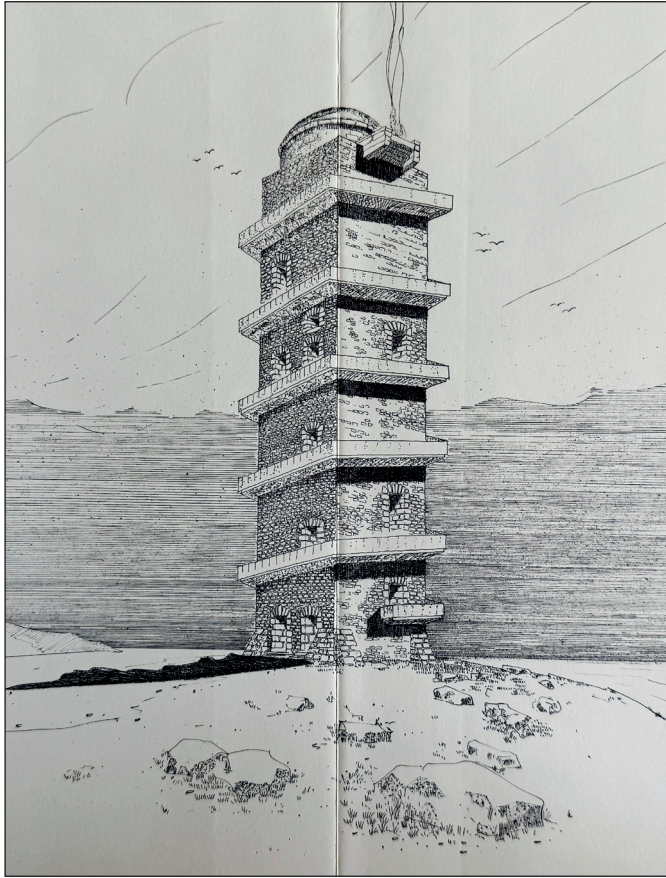
Unfortunately, the western tower received little or no protection over the centuries, whereupon various decay processes caused it to be almost eliminated from the landscape. Remains of the foundations do still exist, identifiable as the Bredenstone situated inside the Western Redoubt, which has recently been closed to the public. Careful local examination shows another octagonal structure with the same dimensions in plan. It is therefore natural to conclude that the two lighthouses were built to the same design.

It has often been suggested that there was an architectural relationship between the Dover towers and the *Tour d'Ordre*, and in many ways this remains a matter for debate since so little precise information exists. Certainly, cursory inspection of

the images we have and the diminishing octagonal cross-section with height does indicate a similarity.

One could further comment that the designs have diverged from the typical Roman format for a harbour lighthouse. There could be a number of reasons for this. Here, at the extreme edge of the Roman empire, there may have been new ideas in play from a different school of architecture. Hague speculates that the lighting of a fire atop the towers must have been done on a fire-proof platform, perhaps having stone slabs laid on the wooden floor of the lantern level. Fuel for the fire may have been lifted by means of some kind of crane to the level below the lantern, but the length of its jib must have been long enough to accommodate the projecting base. It would also have been necessary to move the crane around the tower to deal with the different wind conditions and the smoke coming from the fire.⁹

Debate continues about how long the Pharos continued to be used as a lighthouse. This is discussed further below (see p79). Suffice to say here that I believe it was not lit long after Roman times and, as the fort surrounding it was expanded, there was no need for resources to be used to light it since the fort would have been clearly visible from the sea at night.



ABOVE LEFT: The tower in its original form of the Roman period.



ABOVE RIGHT: An 18th century illustration.

The Tower of Hercules

There are many names that have been given to this lighthouse, the *Torre de Hercules*, probably as a result of the very dramatic location.¹⁰ The region in the far northwest corner of Spain was once thought by Romans to be the end of the world and it was consequently called Finisterra.¹¹ The ruggedness of the coastline and the ferocity of the Atlantic Ocean have been the cause of innumerable shipwrecks so another name has been the Coast of Death. The location at a highly strategic place on the western continent had almost certainly been first identified by the Phoenicians who would have used a fire beacon to enable its identification from the sea. The Romans, of course, did sail beyond this point to northern Europe, but they established a base at this strategic location and called it *Julio Briga* or *Brigantium*. Probably under Emperor Trajan (98-117) and pre-dating the Dover Pharos, they also built one of their finest lighthouses on the highest point of land, 50 m above sea level at a place today called La Coruña, so the lighthouse was known in previous centuries as *Farum Brigantium*. The original tower of 34 m (112 ft) height has stood there ever since,

although it was strengthened and raised by 21 m (69 ft) in 1791-4 when a fourth storey was added to the three Roman levels. From the perspective of this book, the structure is considered an ancient lighthouse and is a contender to be the world's oldest lighthouse, but its extensive 18th c. re-modelling disguises its true origins. It is claimed that the tower has been in continuous use since its construction.¹² We must take that remarkable statement at face value for that singular achievement covers a great many centuries, beating the Pharos of Alexandria which suffered from violent attacks by men and earthquakes. An academic study of the lighthouse reports that a handwritten entry on a map drawn in 1086 by Burgo de Osma identifies it as *Faro von Gallecia*.¹³ There are indeed other instances where a much simplified image of the lighthouse appears throughout the medieval period, but that is not proof of it actually being lit. However, logic possibly gives the likelihood of a light being shown here even with some years of darkness, as better than 50%. Certainly no statements have been found that the light was NOT lit at any point. The final form shown on the facing page was not created until a major redevelopment in 1788.¹⁴

*The Tower of Hercules at La Coruña
in northwest Spain in 2004*



Conclusions

So what is the answer to the original question that asks for the identity of the world's oldest lighthouse? Much of this discussion has already taken place in detail in Volume 1. However, as an opening salvo for a deep study of medieval lighthouses it is important to outline the basics of the starting position. We will constantly find that considerations of this kind find us trapped inside semantics.

In my opinion, open fires on elevated platforms are not lighthouses, although they are light structures and lighted aids to navigation. Since it is almost impossible to make any definition fit every circumstance, I must concede that in these ancient cases, the definition may not always work. I believe the problem can be solved by applying the term 'historic lighthouse.'

Further discussion will be made in later chapters about the function of the light. In particular, does a light necessarily become a navigational aid when it was originally not intended to be one? The fact that mariners make use of lights to assist in their navigation does not make it a historic lighthouse if it was originally not intended to be so. We shall see how this especially applies to Ecclesiastical lights and in the Dark Ages (see p44).

There is no doubt that the Pharos of Alexandria was the oldest and first lighthouse in a form that we recognise today. Sadly, it no longer exists.

There is growing evidence that lights were shown on purpose-built stone structures in the time of Ancient Greece and prior to the building of the Pharos but no consensus exists to take precedence over the Alexandrian structure.

The Pharos at Dover is a candidate for the oldest lighthouse that still exists and retains a fair proportion and representation of its original form.

The Torre de Hercules is a contender for the oldest lighthouse. It still exists, although its much modified structure might disqualify it in some eyes.

Notes

1 Trethewey, K. R.: What is a Lighthouse? https://pharology.eu/whatisalighthouse/W_index.html

2 Trethewey, K. R.: Ancient Lighthouses, Jazz-Fusion Books (2018). ISBN: 9780992657369. www.ancientlighthouses.co.uk

3 Trethewey, K. R.: Chapter 5, The Pharos of Alexandria; In: Ancient Lighthouses (2018).

4 Trethewey, K. R.: Chapter 3, Early Greek Aids to Navigation; In: Ancient Lighthouses (2018).

5 Trethewey, K. R.: Chapter 4 - Phoenicians; In: Ancient Lighthouses (2018).

6 Trethewey, K. R.: Chapter 6, Lighthouses After the Pharos; In: Ancient Lighthouses (2018).

7 Mothersole, Jessie: The Saxon Shore. The Bodley Head (1924).

8 Wheeler, R. E. M.: The Roman Lighthouses at Dover. Archaeological Journal Vol. 86 (1929) 1:, pp29-46. <https://doi.org/10.5284/1018054>; www.archaeologydataservice.ac.uk.

9 Hague, Douglas B.; Rosemary Christie: Lighthouses, Their Architecture, History and Archaeology. Gomer Press (1975). ISBN: 850883245. p65-6.

10 This lighthouse has been discussed in more detail in Volume 1 and will not be expanded here. We are not certain that it played a significant role as a lighthouse in the medieval period until it was renovated in the 18th century.

11 We should not confuse this Finisterra with the French region of Finistère - essentially Brittany - where the land ends again! In England, the land ends at Lands End in Cornwall, which pretty much also translates as Finisterra!

12 https://en.wikipedia.org/wiki/Tower_of_Hercules

13 Hutter, plate 21.

14 The original Roman core was encased in a Neoclassical façade, giving it a more uniform and symmetrical look. This helped protect the Roman structure but also obscured many Roman architectural features. A new fourth level was added on top, making the tower 57 meters high (from the original 34 meters). This new lantern chamber allowed for a more powerful optical beacon using lenses. Interior modifications were carried out such that, while the Roman spiral ramp was retained, modifications were made to improve accessibility and functionality. Some interior stairs and platforms were added to accommodate lighthouse equipment. A modern lantern with reflectors and oil lamps replaced the ancient open fire system. The lighting system has since been updated several times.