Medieval Lighthouses
Part 3 - Why Build A Lighthouse?

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The evidence for the existence of lights set to assist medieval navigators at sea is extremely scant. To us, it seems such an obvious thing to have done, given the great risks that sea-goers faced, yet during the entire period covered by this book, some 1,300 years, it seems that the idea, though established in ancient times, stubbornly resisted implementation - or did it?

In this chapter I shall present a logical examination of the conditions that existed around medieval seafaring activities and attempt to determine the likelihood that lights were shown, even though there is so little evidence to prove it. More discussion will be found in later chapters.

Objectives

The objectives of this chapter are:

1. To list the stakeholders in the establishment and use of navigational aids

2. To explain the importance of navigational aids to the different types of humans involved in sea travel.

3. To discover reasons why lights might be shown to ships and by whom.

4. To list the factors that might provide a motivation for the showing of a light to assist navigation.

People On The Sea

The diagram shown on p18 summarizes some typical purposes or reasons for humans to set out onto the sea in boats.[1] Some have already been discussed at length in Volume 1 of this series, as they were most relevant to the earliest times of human activity.[2] In this chapter I wish to apply my arguments to the Medieval Period when, despite all that had gone before, human civilization was somewhat chaotic and still quite primitive.

Fishers

Fishing is an obvious pursuit that applies to any period. The need to obtain food is paramount to all, and those living next to the sea have a certain advantage. During the medieval period in northern Europe the typical range of a fishing boat varied depending on factors such as its size, construction, and the navigational capabilities of the time. However, most medieval fishing boats were very basic, not designed for long-distance travel or extensive voyages.

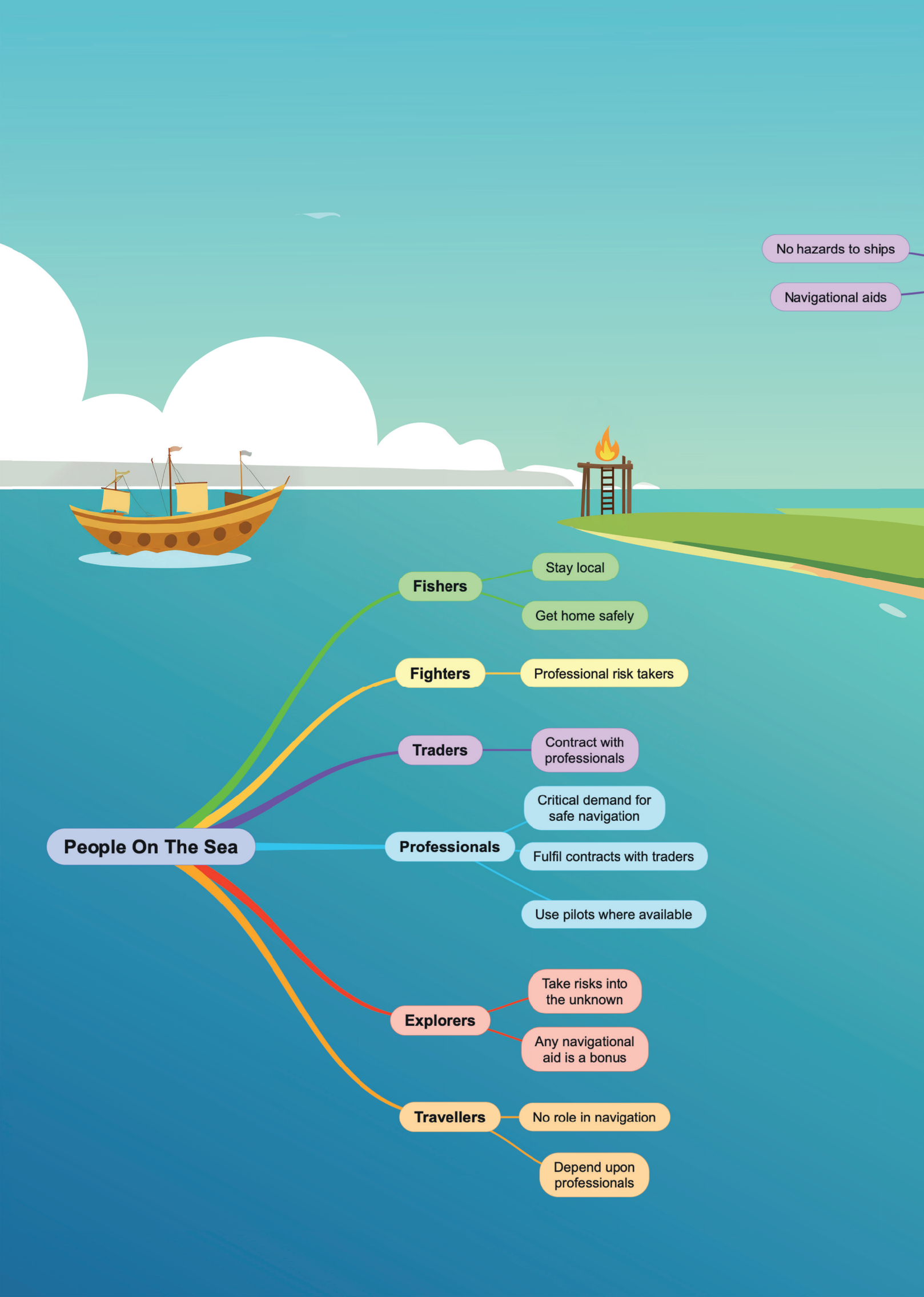
In general, medieval fishing boats were small, often built for coastal or near-shore fishing activities. These boats were usually propelled by oars and/or sails, and they were not equipped with navigation tools or technologies that would enable them to venture far from the coast. The range of a medieval fishing boat was therefore limited to coastal waters and nearby fishing grounds. Fishermen would typically stay within sight of land or within a relatively short distance from the shore, where they could fish for local species and return to port the same day. Fishing at night was generally less common.

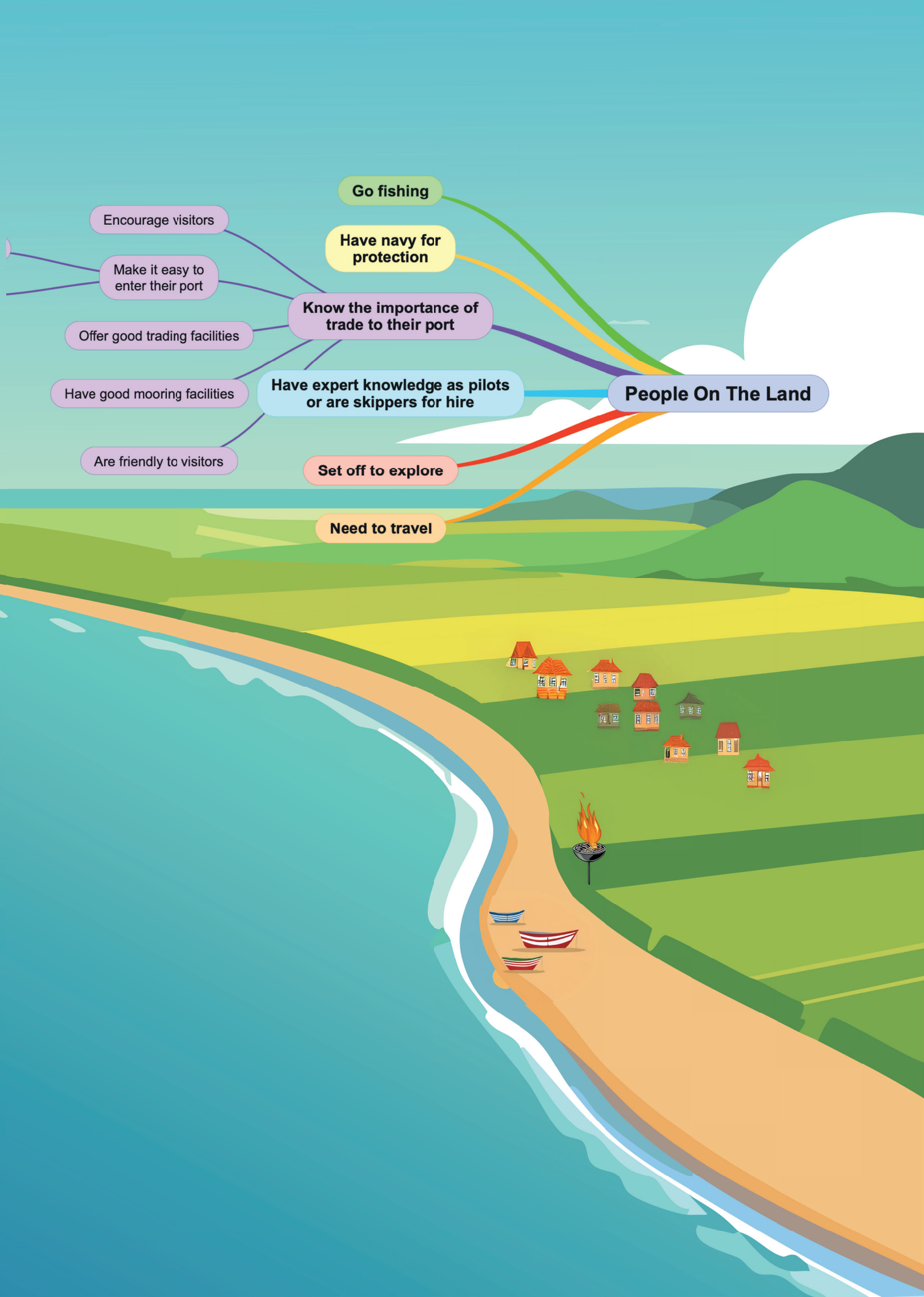
While some larger vessels might have been capable of traveling slightly farther from shore, medieval navigation techniques and equipment were rudimentary compared to later periods, making long-distance voyages risky and challenging.

Overall, the typical range of a medieval fishing boat in northern Europe would have been relatively modest. We can summarize this activity as generally not requiring the help of lights shown from ashore, except in the later cases when boats sailed further afield. Further discussion of this occurs below.

Explorers

In times when little was known about the geography of the world, there were individuals who took upon themselves the great risks of exploration of unknown waters. Besides the risks there were great rewards, and this is best exemplified by the growth of Imperialism from around the 14th


No hazards to ships
Navigational aids
Fishers
Stay local
Get home safely
Fighters
Professional risk takers
Traders
Contract with professionals
People On The Sea
Professionals
Critical demand for safe navigation
Fulfil contracts with traders
Use pilots where available
Explorers
Take risks into the unknown
Any navigational aid is a bonus
Travellers
No role in navigation
Depend upon professionals


People On The Land
Go fishing
Have navy for protection
Know the importance of trade to their port
Encourage visitors
Make it easy to enter their port
Offer good trading facilities
Have good mooring facilities
Are friendly to visitors
Have expert knowledge as pilots or are skippers for hire
Set off to explore
Need to travel

century onward, primarily conducted by explorers from Scandinavia (notably, the Vikings during the 7th - 11th centuries), Portugal, Spain, France, the Netherlands and Great Britain. The key point here is that explorers entering uncharted waters did not expect to be assisted by navigational aids such as sea lights and we might expect little demand for them from these sailors.

Travellers

Under this heading I am considering those humans who were mostly making single journeys. In Volume 1 I discussed at length the dispersal of people identifiable as 'Greek' and, to a lesser degree, 'Phoenician', who migrated widely around the Mediterranean.

Migration was (and is today) a controversial activity since it involves the need to find land in another place on which to settle and subsist. In earliest times, before the establishment of countries and borders with which we are familiar today, many lands were largely uninhabited and ownership could be claimed once a presence had been established.

Migration was endemic across Europe throughout the times of interest here. Of course, much of it was by land, but it was especially significant in cases where islands were involved, as was the case for the British Isles whose history was very much carved out by seemingly interminable fighting between Celts[3], Romans, Angles[4], Saxons[5], Jutes[6] and Vikings[7].

Of course, travellers on the sea - even those who may be making the return journey - are generally interested only in safe arrival at their destination. They place their lives in the hands of the 'professionals' who captain the ship; they are not interested or knowledgeable about navigation.

Fighters

It is clear that exploration and travel go hand-in-hand and that the processes of migration, and most specifically, Imperialism are inevitably linked to violence. Sadly, from today's perspective, despite the existence of the United Nations and the recognition of international boundaries by law, little has changed since the dawn of time. The medieval period discussed throughout this book is entirely consumed with randomized periods of war and peace. Disputes in one part of the world were often localized and peace could easily be prevalent in one area whilst bitter war was raging in another. The possible invasion of an enemy from the sea was an overwhelming reason NOT to show any kind of light that might be of assistance. It suffices to say here that this may have been the single greatest reason why the widespread principle of lighting our coasts took so long to develop.

Traders

The growth of civilization implies increased levels of co-operation between, at first, individuals, and later, groups of people. From hunter gatherers, who exist by foraging and supporting only their immediate families, people improved their circumstances by exchanging things they possess with others who want them. By this simple expedient people acquire more of the items they need to improve daily life. As Society grows larger, an increasing number of 'goods' are exchanged over increasing geographic distances.

Some groups have easy access to certain types of goods because of where they live. Thus people who live by the sea might exchange fish in return for cereals and other crops with people who live inland and grow them. Trade has been conducted since the beginning of human time and can probably be associated with - or resulted in - the invention of money. Clearly, as the desire to trade increased - itself an opportunity to create a role of merchant or trader within Society - so did the need to travel across greater distances to obtain rarer commodities.

Later in the Middle Ages, Europeans were driven to the far east in the search for spices and other exotic goods. And in the times considered here, most of that travel was conducted on water, whether by the extensive river systems across Europe, or by sea across the North and Baltic waters.

Though the merchants and traders themselves were not navigators, the value of their cargoes was great and there was a strong incentive to ensure their safe transit. We shall see in later pages how this mercantile influence affected the setting up and showing of sea lights, and was probably the single biggest motivation, maybe even greater than the saving of life itself.

Professionals

At a certain point in history, as progress in travel by sea took place, the formal occupation of 'navigator' came into existence. I use this word here in the context of a ship captain who was in charge of his vessel, responsible for everything and everyone on board, and generally the arbiter in determining the direction of travel. Though he may have had a junior to actually steer the boat, or a more senior employee to do the more difficult navigational calculations, it was the skipper's overall responsibility, and even today he is the law itself when he is afloat. Whatever the purpose of his journey - and it probably involved any or all of the above - he was the 'professional' who spent much of his entire life, learning everything he needed to know. His job was to ferry people and goods to wherever they wished to go. Whether for peaceful or aggressive purposes was not really his concern, as long as he got paid. He may have owned his own boat, or commanded it at the direction of a businessman owner. But as a professional, he was the expert who would always wish to receive the benefits offered by lights shown from ashore. It seems obvious that he would have wished for a light, but even if he thought of it, it was someone ashore who would have to provide it.

People On The Land

The perspective of people on the land is different from that for people on the sea and is much more likely to determine whether a light is provided locally for navigational purposes or merely as a warning.

There is some mirroring, however. Clearly, fishermen have a home port and in medieval times would not have strayed far from home. They would seek safe return during daylight and, if night fishing had been involved, he would have been out in fair weather and perhaps have been assisted with a light in a window shown by a family member.

Medieval times are well known for political instability and a port could have been a base for a fighting force intended to protect local inhabitants.[8] Whilst this was certainly the case during antiquity, the Dark Ages were a time of fundamental insecurity and disorganization so organized protection was rare. Since we consider fighting forces as more likely to accept risk, it seems unlikely that any lighted aids were initiated by these people. In particular, those with enemies are not likely to advertise their presence to foes by showing their location with lights. Likewise, explorers, whilst obviously grateful for any navigational assistance that might be available, were in essence risk takers, they would not anticipate lights shown from ashore. Simple travellers too were entirely in the hands of their professional mariners. The latter were probably the most likely influencers and, whilst not being the actual providers of lights, would have been lobbyists of those with the power and resources to do so.

Local navigators, if not acting as pilots, would have been contractors to those seeking trade or travel and it was in their interests to make their work as safe as possible. Meanwhile, a trader based in a port had much motivation for ensuring that visiting ships could enter the port as safely and as easily as possible. And with their primary motive as traders the buying and selling of goods to their own advantage, local traders would have been the most likely people to establish navigational aids in their home port. Having said that, there were many things to consider, as we shall list next.

What's Involved In Providing A Light?

The graphic on p18 shows the numerous factors that must be considered in the provision of a lighted aid to navigation. Probably the most significant element is motivation: "What's in it for me?"

Our current understanding of this subject is that the idea of providing a light for money as a business plan did not arise until the late Middle Ages and is discussed elsewhere in this book (see p285).

If we remove the profit element from the equation, we are left only with the altruistic motive, and it is here that my primary thesis resides. Again, if we set aside the obvious concern for the safety of our family and friends, caring about the welfare of others has been part of human culture since very early times. Philosophers like Confucius, Aristotle, and later Enlightenment thinkers emphasized the importance of such virtuous behavior. Many religious traditions, such as Christianity, Islam, Hinduism, and Buddhism, promote compassion, charity, and the protection of others as core values.

Above: Considerations to be made in the process of establishing a navigational light.

One notable aspect of this argument is that it seems to have been the Christian religion that mostly adopted the showing of lights at night. We shall examine this in a following chapter (see p84).

Where the safety of friends and family is concerned, this is more of a human cultural motive than a religious one, but those involved in the setting of lights would almost always have come from amongst the ordinary members of a community without the resources to do more than show a light from a window. We are left, therefore with the situation in which members of Christian societies show lights from their homes or, more likely, their places of worship.

The concept of providing any light of greater efficiency than a simple lantern or candle shown from a window involves a deliberate act to design and engineer some kind of installation, and in these very early times of widespread poverty by today's standards, would have been beyond the resources of ordinary citizens. This leaves only those men with above average finance and authority who would possess the appropriate wherewithal to negotiate with the landowner, allocate funds, decide on the most suitable method and employ men appropriately. Perhaps it was the assumed degree of complexity in times of very simple cultural development that proved too great a barrier to implement. And, in the final analysis remained the troubling issues of the possible assistance provided to enemies or pirates.

The Desire For Safety At Sea

From the above discussion, we see that those who would most benefit from the setting up of lights to assist night-time navigation were the professional navigators and the merchants. Fishermen would be supporters of any proposals, but might not necessarily initiate them. Military men with ambitions abroad were unlikely to seek better navigational aids in the form of lights that might show their enemies where their own front door was located.

Ship captains, though they were in good social standing with excellent career prospects, were not rich men, relying as they did on clients to hire their services. I would argue therefore that, though they would be expected to lobby strongly for any improvements to safety at sea, they did not have the wherewithal to make it happen. Perhaps they could bring their influence to bear?

The one group of people with both the motivation and the resources consisted of merchants and traders who were building their businesses and could make significant profits.[9] They could also lose their entire business should a ship full of precious cargo be lost. They were not necessarily concerned with the safety of seamen who were expendable, but the tons of goods for which they had made enormous investments and that would either make them or break them. These men would become the movers and shakers in the business of improvements to navigation and it is amongst their ranks that I shall look carefully for signs of early lightstructures.

Fighting Forces

The first organized European naval fighting force, apart from the Vikings, is widely considered to be the Byzantine navy. It was a highly organized and powerful maritime force that played a critical role in the defense and expansion of the Byzantine Empire from its establishment in the 4th century CE. The Byzantine navy was a professional, state-supported force with a structured hierarchy. It included warships (dromons) designed for speed, maneuverability, and combat. The navy was essential for defending Constantinople, controlling trade routes in the Mediterranean, and projecting power across the empire's maritime borders.

The Byzantine navy laid the foundation for organized naval warfare in Europe. It influenced later European maritime powers, including the Venetians, Genoese, and others during the Middle Ages. The evidence for these sea-goers to establish aids to navigation is extremely slender and we must wait until the final part of medieval times when imperialist forces were starting to establish foreign bases that we will be able to identify the setting up of navigational lights. However, they may have played a role in continuing the showing of lights previously set up by their ancestors from Roman times, especially in North Africa and the Levant.

Medieval Traders

It is clear that there was extensive crossing of the English Channel and the southern North Sea during the Dark Ages. Whether these sea trips were assisted by any form of lighted navigational aids remains unknown, as there is no known reference to navigational lights or lighthouses during this period. We are also in doubt about the survival of the lights established by the Romans and might assume that they were casualties of the descent into chaos already discussed.

The British are perhaps more famous in history for the dominance of their navy and the strength in battle of their army than they are for being traders. Yes, at the height of the industrial revolution, after building up a massive industrial base through her lead in the technologies of coal and steel, she became one of the world's foremost manufacturers of general goods and therefore established successful trade networks for their export. However, during the period under discussion, the people of the British Isles were engaged in a long, perhaps even desperate struggle, to forge the identity that would lead them to later success. Apart from everything associated with the farming of sheep, which dominated the British economy for centuries, the establishment of prosperous trading practices was not amongst their top priorities. We might feel there is a greater chance of finding early medieval lights on the continent of Europe than in the British Isles. I shall write in more detail below about this, and it is thanks to the work of Friederich-Karl Zemke[10] and his unique study of early lightstructures that I have been able to build upon this little-known part of pharology. His recognition of a chain of fire-lights along the coast of Frisia - the modern Frisian islands of the Netherlands - although identified in the 15th century, clearly indicates a tradition for the use of lights by people who were already merchants and professional mariners in earlier centuries. In the absence of any other confirmatory evidence, I am going to assume for the purposes of this essay, using the reasoning I have just outlined, that Frisian people were amongst the very first to establish lighted aids to navigation after the decline of the Roman Empire. I accept that there is no proof, and perhaps there may never be. However, the conditions prevailing at the time were entirely appropriate.

Above: A photograph showing 'The Bridge' in Plymouth Sound whereby four poles (two red to port and two green to starboard when sailing inwards) bearing lights are used to mark the safe channel avoiding a hazard. It is not possible to establish when such practices were established or how widespread they became without access to detailed navigational records, few and far between in medieval times, when they would have been called 'pole beacons.'

Methods And Practices

I have already indicated how difficult it is to be certain about this period of lighthouse history. Some of the details are straightforward common sense and, because they were part of ordinary daily life for many people, they were considered of little importance and were not recorded. I have tried in my writings to present as much as possible about the way things were done. Some of the difficulty relates to whether work done concerned a lighthouse or not. What is a lighthouse after all? When is a structure not a lighthouse? I have spent many years wrestling with this question and have tried elsewhere to present my conclusions based upon a large amount of logic and a small amount of subjective decision-making.

Most readers would feel comfortable with identifying a lighthouse until they come to a structure that seems to defy their own definition. The image shows four navigational aids that bear lights. Some would insist on calling these structures lighthouses. I disagree. To me these are lightstructures. In the past, it appears that they were called pole beacons, but were almost never written about.

I shall write no more on the subject here,[11] except to point out that there was much more use of lights to aid navigation in the medieval period than we can ever be sure about. For example, Nash records[12] that maps drawn for the waters of the Wash in 1693 by Greenville Collins show eight pole beacons and eight buoys leading into Lynn and four buoys and twelve pole beacons leading into Boston Deeps.

It is an unfortunate truth that a great deal of detail has been lost from these medieval times. Such detail could easily be missed and has almost never been discussed in other books of pharology. It is clear that a lighthouse is an expensive item and when narrow, winding, shallow channels approach havens and ports, a simpler and cheaper option is essential.

It is hardly surprising that concerned individuals would arrange for fixed and floating markers to be set marking these channels. Simple enough for daytime navigation, but at night, was it a practical option? Of course, the main difficulty in the medieval period was the creation of a reliable light that needed a keeper to be in constant attendance.

We shall later meet instances where a single candle in a makeshift lantern was considered appropriate to light a lighthouse so we should readily accept that there were many poorly recorded instances of lights being mounted on poles and buoys. They had to be lit manually at dusk by a boatman, keeper or other harbour employee, according to the local traditions. This was not an activity that fell within the remit of the higher standard of lighthouse provision.

I discuss the lighting methods elsewhere (see p39). Suffice to say that coal fires were out of the question here and that it was almost always a candle-lantern or small oil lamp that provided the light.

Early versions (pre-18th century) often used simple iron-framed lanterns with multiple candles or oil lamps. In the 18th and 19th centuries, better optical devices (like reflectors or lenses) started appearing, increasing visibility — even on relatively humble pole beacons. There are records of such lights being mounted in baskets, cages, or lantern housings on top of poles.

In smaller ports or creeks, a designated boatman or lightkeeper would be responsible for rowing out, lighting the beacon, and extinguishing it at dawn. In larger or better-funded harbors, there may have been a regular staff or paid harbor officials for this duty.

The Thames Estuary, the Humber, and East Anglian ports like King's Lynn or Boston often employed pole beacons. Some 18th-century nautical charts mark these poles with notes like "beacon with lantern, lighted nightly."

Notes

1 I do not include Leisure, which I have concluded is a purpose only recently discovered.

2 Trethewey, Ancient Lighthouses, Chapter 2.

3 Most people consider that people loosely identified by the name Celts, lived in Britain before (and also during) the Roman occupation.

4 The Angles were one of the Germanic tribes that migrated to Britain during the early medieval period, around the 5th and 6th centuries AD. Together with the Saxons and Jutes, they were among the peoples collectively known as the Anglo-Saxons. The Angles originated from the region of modern-day Schleswig-Holstein in northern Germany and Denmark. They played a significant role in the formation of the Kingdom of England, contributing to the establishment of Anglo-Saxon culture and language in Britain. The name "England" itself derives from the Old English word "Englaland," meaning "land of the Angles."

5 The Saxons were another Germanic tribe who, like the Angles, migrated to Britain during the early medieval period, primarily in the 5th and 6th centuries AD. They originated from the regions of modern-day northern Germany, including Saxony, Lower Saxony, and Westphalia, as well as parts of the Netherlands. The Saxons, along with the Angles and Jutes, contributed to the establishment of Anglo-Saxon culture and language in Britain, and their presence played a crucial role in shaping the early medieval history of the British Isles.

6 Whilst there is a great temptation to associate the Jutes of Kent as having originated in Jutland in Denmark, the great English historian Sir Frank Stanton believed this to be misleading and preferred to conclude that the Jutes of Kent originated from the mouth of the Rhine in Germany. This settlement is considered to have occurred in the early six century.

7 Teaching of history in schools has often downplayed the extent to which Britain (and Ireland) came under Viking control. Even the revolution that occurred when England was conquered by William I of Normandy is not sufficiently associated with his lineage from Viking times.

8 The idea of a 'navy' is vague and, although large forces of ships had been assembled in ancient times, there are few occasions during this period when it could be said that a fighting force consisted of more than a small number of ships gathered together in an *ad hoc* manner.

9 The obvious plan for entrepreneurs to start a business in which they would erect and maintain lights in return for a toll on passing ships did not emerge until late medieval times.

10 I wish once again to acknowledge the work of Zemke whom I sadly never met. Working in the German language, his studies have failed to make significant impact in the English speaking world and it is only recently that I have begun to appreciate the impact of his research. His books have inspired me in more ways than are immediately obvious after I was fortunate enough to acquire them early on in my work on pharology.

11 Once again, I refer readers to my paper, What Is A Lighthouse? https://www.pharology.eu/whatisalighthouse/W_index.html

12 Naish, p44.