Medieval Lighthouses
Part 5 - The Dark Ages

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Above: When navigators were lucky to see a candle in a window ...?

Exit Romans, Stage Right

During the four solid centuries of Roman occupation of Britain, the 'first nation' population of Britons became used to a very basic standard of living, not necessarily in terms of wealth and creature comforts but by the fact that they could, on the whole, survive in a reasonable atmosphere of peace and security. Those who were most resistant to the Roman rule of law were pushed to the edges of Britain where the more rugged terrain proved to be so difficult for the Romans to subdue the inhabitants that they left them alone. Ironically, that might have been a blessing in disguise for those who were displaced probably became far better sea-going people as a result.

Meanwhile, the gentle slopes and lowlands of central and southern Britain were well managed for a long time as a small part of a Roman Empire that stretched as far as the River Rhine, the Red Sea and Persian Gulf in the east, and north Africa in the south (see p45). The development of infrastructure for which the Romans were famed spread throughout the network of Imperial Provinces with Britannica[1] certainly not neglected.

But all was not well. In the early 3rd century Rome was suffering a series of major barbarian invasions from Saxons of Germany living east of the Rhine. There was also trouble from the Franks and the Alamanni[2] also on the Rhine, and from Goths on the lower Danube. Goths were involved in a constant struggle with the empire of the Sassanids that lasted until the 6th century, during which there was a seemingly endless succession of periods of war and peace. By the fourth century the Empire might have continued to expand relentlessly except for this growing resistance that could neither be ignored nor eliminated.

Those in charge of the day-to-day running of the Empire were becoming increasingly pressurized from a number of quarters, and as the unrest grew, so did the number of different tribes who recognized weaknesses in the Roman leviathan. In the British Islands, as well as the ever-present rebellious Celts who lived around the fringes and were identified mostly as Picts and Scots (amongst others), British history has traditionally recognized Angles, Saxons and Jutes as forming an ever-growing number of raiding parties. Later, that aggression was replaced by the violence of the Vikings, as we shall see in due course.

Above: The Roman Empire at the height of its power in 117 CE. By the time of the Dark Ages, the amount of green on the map had diminished significantly, as well as some of the pink.

This increasing instability on *Insula Britannica* was exacerbated by the Romans having to withdraw vital troops from Britain so as to increase their forces on the Rhine, a move that obviously left the British garrisons weaker and the native Britons more exposed to the infamous acts of rape, pillage and plunder from a seemingly never-ending stream of marauding invaders. It proved to be an unstoppable force in the long-run.

Recent analysis concludes that the fall of Roman Britain was quite fast and took place around 410 CE; the generally agreed date for the fall of Rome itself was 476.[3] The greatest part of the Dark Ages that followed were about regression rather than progression. We shall examine some of the indicators that mark the degree of civilization in a given Society. Genuine stability in Britain was not regained on a national basis until the 10th century.[4]

The changes taking place in Britain were just a symptom of a more general malaise that caused the Roman Empire to decline. Whether it actually fell, or simply morphed into the Christian Church is a subject for debate elsewhere; the subject of debate here is the many roles played by the main protagonists in this drama that may or may not have resulted in the showing of lighted aids to navigation. At this point, that target seems a long way down the rabbit hole.

Objectives

The objectives of this chapter are:

1. To examine the political and social conditions of the post-Roman period in Europe, the Middle East and North Africa from 400-1000 CE

2. To spotlight the activities of those who spent time engaged in sea travel.

3. To consider the availability of lighted aids to navigation at a time when history was poorly documented.

4. To compare and contrast navigational strategies of Christian and Muslim mariners.

The Early Medieval Period

The term 'Dark Ages' refers historically to the period in European history between the fall of the Western Roman Empire and the beginning of the Renaissance.[5]

It would be natural for someone with a poor knowledge of history to ask why these centuries were called the Dark Ages. Put simply, they were a time of regression of civilization, a time of less peace and more war, measured in the number of violent deaths per annum.[6] In this book I shall refer to the Dark Ages as being the four centuries spanning the period from around the 5th century to the 9th century at which point, for my convenience, I shall be firmly in the medieval period.[7] However, for a variety of reasons, the two centuries that follow show little improvement in terms of a measure of the degree of civilization reached by a given Society or culture, and so this chapter will embrace the 5th to 11th centuries to a certain degree.

The term 'Dark Ages' originally emerged during the Renaissance, when scholars looked back on this period as one of decline in intellectual and cultural achievement compared to the intellectual classical civilizations that preceded it. Modern historians tend to avoid using the term 'Dark Ages' because it is seen as overly simplistic and dismissive of the complex developments that occurred during this time, including the preservation and transmission of knowledge by monasteries and the emergence of new cultural, political, and economic structures. Nevertheless, at the most fundamental level, all three of these associations are entirely relevant here and will be discussed in this chapter.

The 'darkness' had several connotations. Firstly, it referred to a lack of written records and historical documentation, but it also referred to an undoubted decline in learning, art, and culture. Mathematics, astronomy and philosophy so prized by the Greeks (and we should remember, by the way, that these were the people who invented the lighthouse) faded into the gloom of unrest. In so many ways, humanity had been set back many centuries; these were truly dark times. From the point of view of this book, however, and with more than a hint of irony, the Dark Ages refers to a period in which we might consider there to have been no lights for navigators. The truth of this last point is considered here.

The Fog Of Time

As must now be obvious, our study is in a part of history where there is a vanishingly small amount of data. Academic rigour would be a desirable target, but is effectively unachievable is these circumstances, especially in an area of interest that most people would consider of minor importance. Rather than abandon our objectives, I intend to use logical argument based upon what we do know about customs and practices in these times and accept that my discussion may sometimes venture into speculation. So be it. This book shall therefore be a statement of our current knowledge with some arguments for debate about the actual story. Let us begin with a well-known part of history.

One important point that should always be borne in mind is that history generally takes place on a much slower timescale than we feel intuitively. It is easy and dangerously misleading to think that events followed quickly, one on the other. After an initial reconnaissance by Julius Caesar in 55 BCE eighty-eight years elapsed before a full-scale Roman invasion of Britain by Caligula took place in 43 CE. In volume 1 we studied the way that Romans used lights to assist navigation and readers should look therein for full details. The greatest efforts by far were at the departure and arrival halls on either side of the English Channel, and it was supposedly the emperor Caligula himself who ordered the construction of the very first substantial lightstructures in western Europe.[8] Needless to say, the invasion was met with resistance from the locals who, despite occasional successes, fought the kind of overwhelming forces they could not ultimately beat.

At the time of the invasion the dominant tribe in southeastern Britain were the Catuvellauni led by King Caractacus and his brother Togodumnus. from their capital called Camulodunum - Colchester today. After an initial battle with the locals in the region of the Kentish river Medway, Togodumnus was killed, but Caractacus escaped. The victorious Romans moved on from here to take Colchester for their own capital. Clearly it was necessary to cross the River Thames and they made sure to establish a secure camp at a convenient crossing point where the Tower of London exists today. This later became an important trading post when hostilities finally ceased and the success of this location in every sense led to the growth of London into the city with which we are familiar.

It is not appropriate for this book to attempt a complete history of Europe, or even of the British Islands, yet it seems flippant to dismiss centuries of history as being unimportant to our story. Therefore a short summary would appear to be necessary so as to consider how geopolitics determines the presence or absence of lighthouses. Taking the history of early Britain into consideration can be used to help us understand some of these principles that are surely applicable elsewhere.

Colchester had been chosen by the native Britons for their capital for good reasons: it was defensible with a good location on high ground; it was close to the sea and on the banks of a significant river; indeed, there was a group of rivers that drained the south of East Anglia, making water-borne transport simple. Having eliminated the opposition, the Romans put a great deal of work into making Colchester into their own capital. However, after a rare but significant defeat there by the British queen Boudica, they retreated to London in 60-61 CE where a new capital was established called Londinium.

At this time, the Romans had not yet constructed their lights at Dover or anywhere else in Britain and we have no suggestion of evidence to the contrary. There is archaeological evidence that docks were built in Colchester to assist the arrival and departure of the many craft that would have been necessary for the successful functioning of a capital city. There are reports of the possibility of Roman and (later) Anglo-Saxon quays at several sites such as Hythe quay, Wivenhoe and Rowhedge on the River Colne. Fingringoe and Old Heath are also reported as possible points of access to the waterways in the Colchester area.[9]

The Possibilities For Lights

Surely, we can be certain that water-borne transport was not restricted to the hours of daylight? Take yourself back to those times in old Colchester when it was at the height of activity. Logic tells us it would be ridiculous to assume that fires were not used to assist ships arriving or departing these quays and docks in darkness. Perhaps such activities were so normal that they did not need to be remarked upon and therefore did not appear in the historical record?

For light in the darkness we fall back (not literally, of course) onto the inescapable fire. Lanterns, flaming torches and other small fires on poles ...

Who was responsible for setting them in place?

Who was charged with ensuring they did not burn out?

Was this all so trivial and ordinary that no-one found it worthy of note?

Perhaps ensuring that the docks were well lit at night was as commonplace to the ancient Britons as replacing a broken wheel on a chariot. Perhaps these arguments are so obvious that you might question why it is even necessary to state them.

Our difficulty is that we are looking for lighthouses and in this sense we are faced with the question of what is a lighthouse? At what point do we ignore the lantern, the torch and the elevated fire in a basket or brazier and say that we now have a lighthouse?

I have previously written at great length about this dilemma.[10] My definition of a lighthouse is:

A fully or partially enclosed built structure bearing a light that is used as a navigational aid, and that is capable of admitting at least one person to operate or maintain the light entirely from within.

It broadens to state that any unenclosed light is a lightstructure.[11] Definitions are rarely perfect and this one is no exception. It certainly lacks a little clarity for these times when significant fires could not be enclosed in a structure but rather burned on top of it. In such cases I have called them historical lighthouses to distinguish them from those we expect to see today. The key element of the definition is that it was deliberately set in place for use as a navigational aid.

However, if we now build upon this definition we would not nominate these minor quayside lights as lighthouses. For us to accept the presence of a lighthouse we are looking for a structure of a certain size and design that accommodates at least one human. There will be much discussion in the pages that follow as to how these designs developed further but let us feel pleased for the moment that we have made some progress.

Let us delve a little deeper into the activities of people two thousand years ago. We can imagine a busy quayside with lots of human activity loading and unloading boats and moving goods and people

around, either on the boats or on the quayside. Such lights as are present are hardly for navigation except in assisting the boats to find the quays as they approach in darkness.

Whether the lights are randomly placed, moveable or in fixed positions cannot be defined without specific knowledge, and over longer periods they would have been moved about as the activities changed. None of this activity represents the existence of a lighthouse in any way.

Our arguments change slightly when we think about how lights may have been used along the river that led to the docks and quays. The twists and turns of the waterways and the variable locations of mudbanks represent the very obstacles that lie in the path of the boats and so the placement of lights along the shoreline is very much what we are looking for. However, there is a need for resources to be acquired in places where there may be no resident humans.

For a navigational light to be set up on a riverbank requires the presence of humans, first to set it up, and second to maintain it. And is the location of such importance to warrant the effort? We are not suggesting here that the grounding of a ship on a mudbank along a gentle river course is anything more than an inconvenience. In this respect, we might conclude that for a navigational light to be set up on an inland waterway, there must have been a significant objective such as the cost of loss or the volume of traffic. (There would surely be no point in doing so if there was not a large number of passing ships at night.)

It is probable that at some point in the past, crude navigational aids were set up along the banks of major rivers such as the Rhine or the Elbe, but only to the extent that there was (a) sufficient risk (b) enough traffic.

There has been much debate about the possibility of a lighthouse at the quays of Londinium, a location called Shadwell that is close to the Tower of London.[12] If indeed that were the case, at the very place where the river has considerably narrowed on a significant bend, it could hardly have performed a crucial role other than to welcome mariners and their passengers to the capital. Any evidence of other lit navigational aids along the entrance and banks of the Thames was discussed in volume 1 and is slight.

It is easy for us to believe that night represents total darkness when mariners would not be able to see river banks, but over small distances minimal moonlight is sufficient to perceive the usual geographical features. Furthermore, the use of pilots with deep local knowledge would have been commonly used and they would further benefit from the casual lights from centres of populations and fortifications.

The presence of a specific navigational light along river courses that required human presence must surely have been rare indeed and that is the reason why we have so little knowledge.

There are instances at certain Roman ports where piers and jetties were built to improve the facilities of the haven or port, and that these were often completed by the building of a lighthouse on the end of a jetty or mole. All of these examples in volume 1 relate to ports where a large amount of development and construction took place, increasing its significance and economic and military benefit. This work will find very few similar examples relevant to the medieval period.

The catalogue of ancient lights presented in volume 1 provides plenty of data that indicates how mariners in classical times used these means to improve their navigation and we saw that the Romans were especially experienced in the installation of harbour lights. Yet these sites were only those that had attracted sufficient attention to be noteworthy or to have been discovered in archaeological investigations.

Logic directs us to conclude that there was sufficient mass in the structure for it to have been so noticeable to mariners that it was specifically incorporated into their sailing directions - those memorized or written instructions for how to safely enter ports and rivers (see p36).

Logic requires us to conclude a certain permanency to a structure at a specific location and this is not consistent with casually placed lanterns, torches or even braziers.

It would be ludicrous to think that the Dark Ages passed without the benefit of lightstructures of any kind, but it may be that the permanency and size of those lightstructures that existed was limited by a great diminution in the society's degree of civilization, rendering it insufficiently noteworthy to include in mariners' sailing directions.

The Stink of Decay

So, in 410, the Romans formally ended their agreement to defend Britannia and withdrew their forces to Europe. No longer could they afford the forces necessary to protect Britannia. After appealing for help from the Roman Emperor Honorius in 410, the Britons were refused assistance and, in their Dark Age Brexit, had to make their own arrangements for defence.

Struggles between various Romano-British parties weakened the resistance of Britannia as a whole and probably made it more susceptible to Saxon control. The residue of Roman Britain tried to resist the inflow of immigrants over the final decades of the fifth century, but eventually lost the battle. Cities which had been a symbol of Roman civilization gradually declined.

Compared to the Classical Period that preceded it, the Dark Age was, well, dark because Greeks and Romans were literate and well educated compared to those who succeeded them. Literacy and education as a measure of fine civilization was insufficient to prevent their terminal decline, a fact that could be well remembered today. The number of surviving written histories of this time are very scarce indeed. It is very easy to dismiss centuries of unwritten history with a few bare lines of supposition. Indeed, this was the case in British history until comparatively recent decades.[13]

As in so many things (today's Internet springs to mind) with good comes also bad. Our ancestors from the classical period not only advanced our understanding of science and philosophy, developed successful political structures and beautiful centres of learning, but they showed the world new ways in which to exert force and gain power over others.

So, by the fifth century, the fine balance that had kept the more peaceful aspects of humanity to the fore, now swung towards violence. The result was the fracture of a stabilized Western world into many smaller, competing, xenophobic factions. Racism and ethnic cleansing were ideas that thrived. It was a bad time for many people, including navigators.

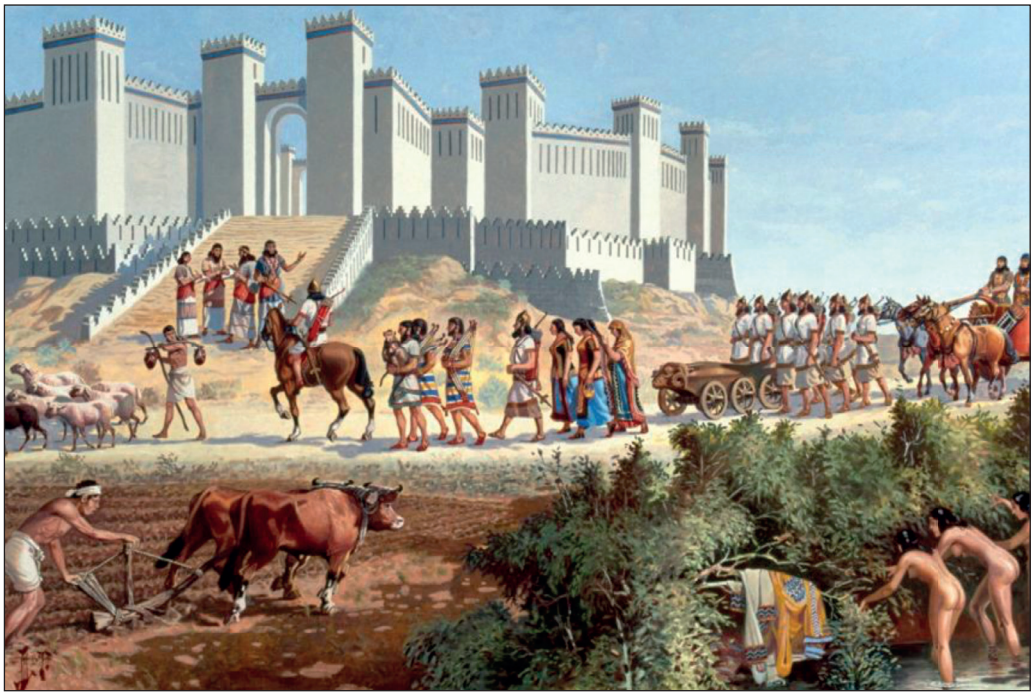
The situation in Britain was one that probably parallels other 20th century revolutions whereby an autocratic regime, once overturned, leaves behind a power vacuum.[14] Citizens struggle to maintain the *status quo* that they have grown used to, whilst power-hungry individuals engage in random and chaotic attempts to dominate increasingly larger areas. Thus began a brutal period of history as various factions fought one another for supremacy.[15]

The Romans, through initial use of force, had succeeded in creating a unified, stable system. These peoples, now without the usual government, did not attempt to destroy the infrastructure that had evolved, but used it for their own ends. They formed the first proto-British towns along Roman principles located at strategic positions in the lowlands south of the Pennines, but excluding Devon and Cornwall. The Romans had created a well maintained network of roads to join their main centres of habitation, although in the farthest extremities of our island such as Devon and Cornwall, Wales, Scotland and Ireland, the inhabitants lived beyond Roman control in their traditional settlements and autonomous tribes.

Once the Romans had withdrawn from Britain, the remaining inhabitants did not have the wherewithal to keep the fabric of Roman civilization in the state that was both desirable and necessary, and everything fell into decay. Towns were left largely deserted with pockets of habitation amongst crumbling buildings. Roads that once joined Exeter with Carlisle could no longer be travelled with ease; the concept of a well-defined road system had gone.[16]

The four centuries after the Roman withdrawal can best be described as a period of constant churn. No sooner would one small enclave of the island develop a measure of stability than it would be subjected to a savage attack that would either leave it stronger or subservient to those with more power.[17] It was a power struggle by no means unique to England, but nevertheless, one that had a profound impact upon all who lived there. It was the creation of this power vacuum that made space for new waves of immigrants to arrive on our shores and to settle.

Obviously, the greatest numbers at first were Saxons, arriving from where the sea crossing was shortest, across the English Channel to Kent in the southeast. It had begun during the Roman presence but the pressure continued to grow as each decade passed. Those already here were often driven back in the wake of the arrivals, but many seemed able to integrate and so enable new combinations of DNA and cultures to develop into what would become England, though it took more than five hundred years to achieve it.



A Measure of Civilization

In modern terms, we might try to create a measure of the health of a civilization by examining the following factors.

Literacy and education levels
Urbanization rate
Technological complexity (e.g., materials, tools, infrastructure, agriculture)
Political stability (conflict frequency, rule of law)
Economic integration (trade volume, currency usage)
Cultural output (books, art, architecture)

All of these factors can be seen to take place during the period of the Dark Ages. The arguments I make in favour of the adoption of lights to assist navigators make most sense in a period of political stability when trade and transport took place without significant external interference. There is little sense in establishing the kinds of features just discussed if there is a constant risk of attack that would destroy these structures. So, as my arguments were laid out in an earlier section, I assumed a relatively peaceful backdrop to the diorama. But we are well aware that during the period of Roman occupation an increasing amount of attacks from various sources took place, many of which would have come from the sea since that was the main method of travel.

We cannot say with any confidence that the Roman lighthouses at Dover and Boulogne were used for lights after the Romans departed. Such lights would have required the provision of significant resources and without the Roman management organization in place, the lights would almost certainly have been allowed to lapse. Likewise there is certainly no data whatsoever that lighthouses or lightstructures were used at this point in history anywhere else outside of Roman control. In a sense, this is a crude measure of civilization. After a long period of building a civilization, a network of Roman lighthouses resulted. Perhaps the world would have to wait for many more centuries until a similarly organized political structure emerged to give birth to lighthouses for a second time?

The Dark Ages were times of societal upheaval when killing and maiming in the struggles for power became so commonplace that the idea of saving lives of sailors was reduced to an insignificance. It is my own thesis that it was not until Christianity began to spread through populations that the deep principle of 'Love Thy Neighbour' gained acceptance. In the pages that follow I shall describe in detail how adherents to Christian morals began to demonstrate the value of lights to aid mariners and others sailing in dangerous waters. Part of the reasoning involves consideration of the many political groups that replaced the Romans. Why did they not realize the significance of lightstructures and lighthouses in their activities? There must be good reasons for that.

Above: A political and ethnic snapshot of Europe in 600 CE. With no consensus regarding coherent government, the centre of power was to be found in the far right of the map at Byzantium.

The Re-Making Of Europe

According to Roberts, the Dark Ages lasted approximately until the year 1000. The whole of Europe was thrown into the melting pots and loyalties, principles and traditional practices were liquefied. It was hardly a time for building lighthouses and refining the safety margins of sea travel.

During these six centuries many countries of Europe were also left in disarray, constantly subjected to the political ambitions of the different power brokers. The focus of knowledge and culture rested far away from centres of European habitation in places like Byzantium (Istanbul) and any semblance of civilization left by the Romans had been significantly downgraded. It took centuries to rebuild and form a coherent Western civilization called Europe. Whether it could ever be described as stable is arguable.

So, the fifth and sixth centuries encapsulated an extensive reorganization of political structures. A number of barbarian kingdoms came into existence as various groups established their own states on former Roman territory. For example, the Visigoths took control of most of Spain and southern Gaul; the Franks gained northern Gaul under Clovis, who created a dynasty of Merovingian kings by successfully uniting the Frankish tribes, but after whose death there followed fragmentation and the formation of Neustria; much of Roman Gaul had become the realms of Aquitaine and Burgundy, whilst Austrasia was the eastern part of the Frankish Kingdom during the 6th–8th centuries, existing alongside Neustria and Burgundy. It played a crucial role in early medieval European history, particularly as the power base of the Carolingians. Ostrogoths took power in Italy under Theodoric the Great, while for a time - until the rise of Islam, Vandals occupied North Africa. And England was chosen by

Above: Charlemagne was one of the greatest European kings.

Saxons as a good place for some R&R, away from the upheavals of the continent. Only the Celts, of whom we shall read more later, remained largely unaffected on the extreme western periphery of the continent; Ireland (Hibernia) - despite some minor local conflicts - seemed to be enjoying a period of relative calm, until the arrival of the Vikings.

With Byzantium now so remote, the focus of civilization moved away from the Mediterranean and became centred on the Rhine Valley. France and Germany began to emerge out of the Rhine heartland and the origins of the medieval West can be found in the Frankish heritage. A measure of stability ensued as successful warriors became landowners and life became focused on the soil rather than the battlefield, initiating a transition to feudalism.

As paganism was replaced by a new form of theism, a central core of stability came out of Christendom, providing a realistic way of more peaceful life in contrast to the anarchy of barbarism. The structures of state became dependent upon individuals strong enough to rule as kings, their origins apparently derived from Merovingian rulers.

Then in the early 7th century, the spread of Islam became the next wave of cultural change that would continue to the present day. We will never know why humans with the desire for love and peace need to fight each other for supremacy. The pressures exerted from both sides of the divide turned into wars that seem inexplicable to us and were another reason why the development of lighthouses that would have helped both communities was so much retarded.

The first major pressure on Europe from Islam came in the early 8th century following the rapid expansion of the Umayyad Caliphate, but this was strongly resisted by Charles Martel who turned the Arabs back in 732 and who supported Saint Boniface in his evangelization of Germany. Then in 751, Martel's son, Pepin, effectively displaced the Merovingians to become a new Frankish king and initiated the Carolingian dynasty. His anointing by the Pope proved to be the formation of a powerful alliance between church and state. The Church gained leverage over the Lombards in Rome and in 756 the Pope was able to establish real power for the papacy with an independent rule which lasted for over 1000 years as it drew power back from Constantinople (Byzantium had changed its name) towards Rome. This liaison between the papacy and the monarchy provided immense strength throughout much of the second millennium.

Pepin's eldest son was Charlemagne who was crowned emperor in 800 and who became the greatest Carolingian king. Not only did he provide the military strength to maintain control over his empire but he also combined respect for Christianity with art and learning, and all the other attributes of civilised humans. Charlemagne waged a long campaign against the European Saxons (the Saxon Wars, 772–804 CE) forcing them to convert to Christianity and integrating them into the Frankish realm. But Europe was far from stable as a new wave of attacks by sea peoples from the north arose. By the year 1000 the waves of Norse invasions had come to an end, and Christianity had reached most of the extremities of the land mass, way beyond the original Roman boundaries. But major conflicts with Muslim ideology lay ahead.

Post-Roman Italy

When we think of how well the Roman network of lighthouses was set up at the start of the fifth century, it would be very surprising indeed to think that nothing was left in the Dark Ages that followed.

A brief summary of the political history of the land we today call Italy is as follows.

1. At the fall of the Western Roman Empire (476 CE) Odoacer, a Germanic general, deposed Romulus Augustulus. Italy became a kingdom ruled by Germanic kings, nominally under the Eastern Roman (Byzantine) emperor.

2. The Ostrogothic Kingdom existed from 493–553. Theodoric the Great ruled a largely stable kingdom. He maintained Roman administration, law, and cities, but the Gothic Wars of 535–554 saw the Byzantines devastate much of the peninsula, including Rome.

3. The Byzantine Exarchate of Ravenna dominated from 554–751. Justinian's campaigns re-established imperial authority in parts of Italy that was divided into: (a) the Exarchate of Ravenna (central/northern Adriatic coast, including Ravenna, parts of Emilia-Romagna, Venice area); (b) Southern Italy and Sicily, being intermittently Byzantine-controlled. There were constant wars with Lombards who invaded northern and central Italy from 568 onwards.

4. The Lombard Kingdom then took control from 568–774. They occupied much of northern and central Italy, creating duchies such as Spoleto and Benevento. Rome and the Byzantine duchy of Venice remained outside Lombard control. Frequent warfare led to a fragmented political map with many small duchies, city-states, and monastic territories.

5. A Carolingian Intervention took place in 774 when Charlemagne, king of the Franks, conquered the Lombard kingdom, taking the title "King of the Lombards." Northern and central Italy became part of the Frankish Empire; southern Italy largely remained Byzantine or Lombard (Benevento). Gradually, the Papacy gained increased independence and political authority which set the stage for the Papal States.

6. However, the 9th–10th centuries represent the Italian "Dark Ages" when Italy fragmented into small duchies, principalities, and city-states. Saracen raids affected coastal towns in Sicily, southern Italy, Liguria, and Tuscany).

However, Byzantine influence persisted in southern Italy and Sicily, especially Naples, Bari, and Calabria. Monastic centres such as at Montecassino, and Pomposa became economic and cultural hubs.

7. By the 11th and 12th centuries we find the rise of Normans in southern Italy and Sicily. Calabria, Apulia and Sicily were consolidated under the Kingdom of Sicily and King Roger II, 1130. Northern and central Italy saw continued growth of communes and city-states such as Milan, Florence, Pisa, Genoa, Venice. Papal authority expanded also, often clashing with Holy Roman Emperors. Meanwhile, Italian ports like Venice, Genoa, Amalfi, and Pisa grew in wealth and maritime power.

So, in summary, Italy went first from a unified Roman province to a patchwork of Lombard, Byzantine, and Frankish territories, and then gradually toward communes and kingdoms. Southern Italy and Sicily stayed partly Byzantine until the Normans. Northern and central Italy saw the rise of city-states and communes, setting the stage for the commercial and maritime expansion of the High Middle Ages.

We have seen how elsewhere in Europe the continuing political instabilities created sustained periods of conflict and change, and there is no doubt that these conditions run in opposition to those in which merchants and traders consolidate the growth of economic activity that is not spent on armies and munitions but on the elements of infrastructure. Clearly armies fought wars with the help of ports and harbours but the provision of navigational lights is well down the list of priorities. No, we are far more likely to find harbour lights - even in their crudest forms - during times of peace and commercial activity.

Our study might be expected to include a high proportion of those sites already instituted as part of the Roman network. At other locations where there was no infrastructure in the form of castles, towers, forts or quays such as the Romans had built we might expect the lights to be the simplest possible - even as inadequate as a fire on a beach. However, in those locations already benefiting from Roman constructions we might expect the provision of lights, even on a temporary or irregular basis, to be commonplace. Unfortunately, the historical record does not provide support for this theory and we are obliged to fall back on the supposition that they were considered too unimportant to document.

Above: The Tor Boacciana is more of a medieval structure than a Roman one, having - like the Dover Pharos - originally served the Tiber and Rome and then been rebuilt substantially but still with a focus on provision of a light.

Above: The Torre di Caligo was also an original Roman lightstructure that later served one of the many waterways of Venice.

The Roman Legacy

It is a great pity that so few of the Roman lighthouses have survived. The best examples are the Torre d'Hercules at La Coruña (see p14) and the Pharos at Dover, UK (see p9) although both have been significantly modified. The Tour d'Ordre could have survived but did not. In Italy, despite the many archaeological sites that remain, the number of lighthouses is vanishingly small.

The Tor Boacciana is to the west of the excavated area at Ostia, near the ancient Tiber mouth. It can be found near the modern bridge (Ponte della Scafa) that crosses the Tiber, leading to Fiumicino airport. The lower part was built in the Trajanic period (brick stamps suggest a date of c. 112), and the building was probably a small lighthouse or beacon. The name Boacciana comes from the Bovazzani-family, who owned the land near the tower in the twelfth century. The upper part was built around the 12th century, based on the identification of the building with the "beautiful but solitary tower" described by Richard the Lionheart upon his landing on the Ostia coast during his expedition for the Third Crusade, which occurred in the final years of the century. It was partially restored in 1406 by order of Pope Innocent VII and again in 1420 by order of Martin V; It was then used as a papal customs house starting in 1562, replacing the castle of Julius II due to a flood that altered the course of the Tiber. The tower retained this function until 1568, when the customs house was moved to Tor San Michele, much closer to the coastline.

The Torre di Caligo stood at the mouth of the Canale di Caligo, which in the Middle Ages was the main outlet of the Piave River into the Adriatic. Today, that point lies near Cavallino-Treporti, about halfway between Jesolo and the Punta Sabbioni headland at the northern edge of the Venetian lagoon. Remains are still found just west of Jesolo. It marked the "Bocca di Piave Vecchia" (the old Piave mouth), which was a major access route inland before the river shifted south. Medieval documents from the 11th–13th c. call it Burris de Pave or Turris de Equilo (Jesolo Tower), linking it with the town of Equilo/Jesolo, once an important early medieval lagoon settlement.

Beyond Rome

In this section we will consider how the Roman system survived beyond the homeland. During the late Roman Empire of the third and fourth centuries, North Africa was a wealthy and well-integrated region of the Empire, with major provincial capitals at Carthage, Alexandria and Leptis Magna, and a dense network of ports and maritime trade. However, the division of the Empire from 285 under Diocletian created eastern and western halves. North Africa was part of the Western Empire, but Alexandria remained under the East. When the Western Empire collapsed in the fifth century because of the Vandal invasions of 429–534, many ports were sacked, civic infrastructure was expropriated and trade disrupted. This effectively removed the benefits of showing lights on anything other than an extremely random basis.

In the east, however, the old Roman Empire was now effectively under the control of the emperor in Byzantium, notably through Justinian I (533–548) who reasserted control over parts of North Africa. Key ports like Carthage, Apollonia and Hippo Regius were rebuilt or fortified, and maritime control was reinforced. However, many smaller ports had already declined due to silting, depopulation, or reduced trade and were left undeveloped. So, major ports survived, maintained by imperial authorities, for both military and commercial purposes, whilst secondary ports often reverted to local use for fishing, minor coastal trade, or seasonal anchorage. The maintenance of any formal navigation lights became limited to strategically important locations and less important harbours either relied on informal fires or were abandoned. Overall, the "Roman maritime system" contracted but did not disappear entirely, with a core of continuity centered on Byzantine administrative and military priorities.

In North Africa, Leptis Magna and the other Roman-era harbours along the Libyan coast such as Sabratha and Apollonia were significant in Antiquity but went through a sharp decline after the 5th–6th centuries. However, at large ports like Alexandria, Ostia, Portus and Leptis Magna it is likely that fires or oil lamps in elevated structures were used to mark harbour entrances. These were municipal or imperial works and they required steady maintenance, fuel supply, and a functioning civic authority. Leptis Magna was a major trading hub under Septimius Severus (2nd–3rd c.), but by the Vandal conquest in 455 CE its importance was already waning. Byzantine reoccupation under Justinian (mid-6th c.) briefly revived the city, but its harbour had begun to silt up. After the Arab conquest around 643, the city declined rapidly, the port became unusable, and the population shifted inland. This makes it likely that, despite having a good lighthouse when Rome was flourishing, a formal navigation light did not continue much beyond the early Byzantine presence.

Above: The Roman lighthouse at Leptis Magna might have been a survivor into medieval times if the port itself had not silted badly, reducing its importance. It seems not to have survived far into these Dark Ages.

Carthage was still important through the Byzantine period, so lights may have persisted longer there, and at Apollonia there was a Byzantine naval base that had greater continuity and might have retained a beacon or tower light into the 6th–7th centuries. At Alexandria, however, such was the influence and authority of the Pharos that it remained in operation well into the tenth century under Islamic management. When the Roman period ended, in regions where trade and naval patrols continued because of Byzantine coastal strongholds, then later Islamic ports, harbour lights had practical value and probably persisted. But in places like Leptis Magna, where the harbour itself failed and the city depopulated, the incentive to keep up a light would vanish quickly. We must conclude that smaller-scale navigation aids such as fires lit on promontories might still have been used by local sailors and fishermen.

Above: An artist's impression of the fine port created by Herod at Caesarea Palestinae or Caesarea Maritima. The lighthouse, known as Drusion, was modelled on the Alexandrian Pharos. However, all that remains of the harbour and lighthouse today is an underwater archaeological site.

A story similar to that just outlined for Africa almost certainly applies to the Levant and the near east. We can be confident that there was continuity of lights where they were already instituted at the major harbours such as Caesarea, Tyre, Sidon, Berytus, Laodicea and Seleucia Pieria. These were maintained under Byzantine authority. At smaller ports like Joppa, Tartus, Aradus and Cilician river ports, modest beacon fires are plausible whilst monumental lighthouses are unlikely. Where there were strategic or military benefits coastal lighthouses or beacons were maintained because these were waypoints for trade and naval patrols, as with the North African pattern and elevated headlands, islands, or river mouths were ideal for local beacon fires even without formal lighthouse towers.

The name of Caesarea occurs at several sites, but the most significant is in present day Israel and was once called Caesarea Palestina or Maritima. Vann published a detailed study[18] of the archaeological remains which are now submerged in the harbour, but there seems little doubt that there was at least one important lighthouse here at the harbour entrance and that replaced another established lighthouse called Straton's tower closer to the shore on the southern side.

In view of the great significance given to it by its creator, Herod, who ordered a design similar to the great pharos of Alexandria, it is likely that this lighthouse continued well beyond the Byzantine period and into the centuries of Islamic control. The somewhat frustrating element of our history here is that so little has been documented about the subject and that such a large element is speculation - although based on fair reasoning.

The competition between Christianity and Islam created so much upheaval that great damage resulted to the well-established Roman structures. In the absence of firmly established history, we conclude that, whilst the more successful ports and harbours continued to use lights into the 7th and 8th centuries, the overall effect was one of a successive reduction in numbers of lights. It was not because the Islamic mariners had no use for lights, but rather the simple military necessity of making it harder for the enemy.

Indeed, once stability was achieved in a given Muslim-controlled land there is evidence that lights were, to some extent, introduced to those sites of most benefit but rarely formalized and almost entirely undocumented - the Alexandrian Pharos being the main exception.

On the other hand, we shall find in some cases how the Crusades that spanned 1095-1291 caused some lights to become important markers for navigators bringing their warrior cargoes to unfamiliar shores and may have added momentum to the growing use of lighthouses generally from the 12th c. onwards.

The Contribution of Islam

Muslim ideology did not directly call for the building of lighthouses. But neither did Christianity. The difference is that in my opinion the Christian ethic did contribute to the showing of lights for navigational assistance whilst the Muslim ideology did not. Let us examine the evidence.

It could be argued that the Islamic world of the Middle Ages contributed indirectly to lighthouse construction and related maritime infrastructure through support for navigation and science. Islam places value on knowledge, especially in the service of understanding the world and God's creation. This encouraged astronomy, geometry and geography, each a critical field for navigation. It played a big role in the improvement of maps and the understanding of coastlines. And it provided the environment for developments to nautical instruments like the astrolabe (see p29).

It is entirely reasonable to suggest that ports in southern Spain, North Africa, and the Eastern Mediterranean may have included beacon towers or similar aids to navigation. There is much ambiguity residing in this subject, so here I intend to address this perplexing question:

Were lights purposefully displayed from Islamic towers as navigational aids, or were lights shown only for signalling, ceremonial or religious reasons, with any maritime benefit being incidental?

This is a complex and under-explored question. The history we currently accept contains no clear, unambiguous record from the medieval Islamic world that describes a tower explicitly and deliberately showing a light for the primary purpose of guiding ships as a lighthouse would in the Greco-Roman or later European sense. This is a somewhat unexpected result because stone towers play such important roles throughout Muslim society. A visitor to a Muslim country is immediately aware of its affinity with stone towers. Could it be that towers became such an implicit part of the culture that writers saw no reason to explain them or present detailed descriptions of them? My own opinion is that this is not the case.

I consulted a number of Arab sources in my researches for Volume 1. Descriptions from Arab geographers or travellers like al-Muqaddasī or Ibn Jubayr sometimes mention lights on towers

Above: The Ribat of Monastir in Tunisia. But was it ever a lightstructure?

or coastlines, but they do not write about their purpose. Towers might be illuminated during festivals or for aesthetic/religious reasons - to mark Ramadan, say, which could incidentally - if next to the coast - assist navigation.

The Islamic world played a crucial role in preserving and transmitting Greco-Roman knowledge, including engineering and architectural principles from Roman builders. This indirectly influenced later European medieval lighthouse efforts, especially after knowledge passed through Islamic Spain or Sicily to Latin Europe. It preserved and adapted ancient knowledge, including architectural forms like towers and beacons. So, in the very broadest civilizational sense, the Islamic world did contribute to the conditions and knowledge that supported lighthouse development, especially during the so-called "Golden Age" of Islam (8th–13th centuries).But where is the evidence of lighthouses in Islamic culture? We cannot deny that after the Islamic conquest of Alexandria in the 7th century the Pharos continued to function. Though damaged by earthquakes, it was still used into the 12th–13th centuries and later, Saladin and the Mamluks maintained it.[19] The Pharos continued to operate under Muslim rulers for centuries, who

Above: The Ribat of Sousse is 18 km west of Monastir. Could it have been a lighthouse? I believe not.

maintained or re-purposed it. But the Pharos was always a special case.

Many Muslim rulers sponsored the building of coastal towers, beacons, and ports for both trade and defence. They were not built as lighthouses but looked like them and were in fact signal towers with fires or lanterns at night. In that sense we would best describe them as faux[20] lighthouses. Perhaps following the Roman model, Islamists built fortified structures known as Ribats. There were towers that were almost certainly used as watch towers and for Roman-style signalling. The Ribat of Monastir[21] in Tunisia was built c796 CE and is a fortified coastal monastery whose watchtower is in this category.[22] It is just 18 km east of a similar ribat in Sousse, a distance that clearly allows one to be seen from the other. This pattern of combining religious and defensive roles appears in many Mediterranean ribats. We simply do not know how much lights were shown from these towers for navigational purposes - if at all.

An article about the Islamic naval history of the Aghlabids cites major works by Ibrahim Ali Tarkhan and others, highlighting Islamic naval power and coastal strategy in the Mediterranean from the 8th–13th centuries.[23] These studies document networks of ribats, military convoys, and trading posts, emphasising coastal defence and maritime operations. They detail signal systems, but make no claim that any tower's lighting was intended especially for navigation.

In coastal studies of the Maghreb and of Aghlabid architecture, the authors note features like the cylindrical watchtower at Sousse described as "most likely intended as a lighthouse."[24] However, this is based on architectural inference, not explicit documentary evidence of lighthouses or navigational lighting. Arabic naval histories do not define these towers as lighthouses, but rather as defensive structures with multipurpose uses.

In 2023-4, volumes covering Mediterranean Islamic ports, Black Sea hubs, and coastal relations were published that focused on Islamic trade networks, political dynamics, and cultural interaction but not coastal navigational aids.[25] They examine port infrastructure, but still lack any explicit mention of purpose-built navigational lights.

Minarets are an important feature of Islamic culture with deep religious significance. They often look much like the modern idea of a lighthouse but are to be found everywhere, not just in coastal locations. There is no question that minarets were inspired by the lighthouse of Alexandria. Indeed, the Arabic term for minaret, *manāra/manār,* originally meant "lighthouse" or "lamp-stand."[26] The German historian who made one of the most detailed studies of the Pharos also devoted a large portion of his work to a study of the minaret.[27] Yet there is no direct confirmation that minarets were ever intended to be lighthouses. My conclusion is that there is no evidence for the deliberate building of lighthouses in the Islamic culture.

Christianity Arrives In Europe

The network of Roman lighthouses was possibly more about the furtherance of commerce than it was about saving lives. As the Roman Empire went into decline the very existence of the Empire became paramount and the Romans were less able to maintain an efficient network of navigational aids. This role increasingly fell upon those with an interest in humanity and the saving of lives. It was a role adopted by people of the Christian faith, which, over time, was assimilated into Roman society. Indeed the management of the society that succeeded the pagan Romans was Christian in nature. And so it is necessary for us to examine the development of Christianity and the way its principles were adopted in the pre-existing Roman infrastructures. Once established, the Roman civilization was far from proscriptive, indeed it was generally accommodating to all faiths. It is paradoxical that Christians met gruesome deaths in the arenas, but at first, and somewhat at the whim of the reigning emperor, Romans generally tolerated Christianity as long as it did not interfere with the day-to-day workings of government.

Jesus and his disciples were from the beginning drawn from within the Jewish community, but it was the desire of Christians to spread the faith to the wider world and those they called Gentiles that presented difficulties within the Jewish faith. These difficulties of reconciling the day-to-day practices of Jews and Gentiles led to an irreconcilable difference between the two which resulted in the separation of Christianity from Judaism.

> *"All the major cities of the Empire were located on or near the sea, and the most vital lines of communication lay by sea. Ideas goods and technology all moved easily upon its waters. Restrictions on travel were almost unknown and merchants and traders could make a good journey from the Euphrates to the Thames without crossing a border or being asked to show a passport. Never before had so many different peoples enjoyed such a measure of security and freedom of movement. As Rome conquered the world, it made the world welcome."*[28]

In the first century after Christ the leadership of the church fell to the disciples and their immediate associates. However in the second century it became the norm for a single person called Bishop to act as a leader in each locality. By the beginning of the second century there was a single office, that of Bishop. During the course of the second century the principle of one bishop for a city gradually took hold and by the end of the century had become almost universal. Bishops were no ordinary priests, they were leaders responsible for many aspects of their religion. They began to assume real power and exerted significant influence upon their communities.

Above: A memorial erected in Kent in 1884 to mark the place where St Augustine preached his first sermon to the English in 595

From around 600 onwards, the gradual conversion from pagan to Christian was the next formative process that had a major impact on our lands. Geographically speaking, the roads, rivers, locations of settlements remained the same, changing only in size mostly. Names evolved over time, but in ways that were mostly built on the original (Celtic) root with some modification that reflected the changing times and populations. However, one thing that probably changed little was the position of boundary lines. Once defined, ancient boundaries remained the same. Thus, the Christianisation of the land simply meant that under Christian government, parish and county boundaries were defined in the same places that had been decided in the earliest times.

The introduction of Christianity to the British Islands is generally associated with disciples of Christ such as St Patrick and St Columba, whose task was to convert the local inhabitants from paganism to the monotheistic religion that had spread in the first instance from

Jerusalem and then to Rome once it had been accepted by the Roman Emperor Constantine in the early 4th century. The first known Christian centres were to be found in late second century Britain, and several Romano-British bishops were established by the time of legalization of Christianity by Constantine, around 313 CE whilst the Roman presence in Britannica was still strong.

The name to reckon with in Cornwall (and Devon too) is St Petroc who would have a profound influence on both counties. Petroc (d. 564) was Celtic through and through and is thought to have been the son of a Welsh King. He was educated in Ireland but came to Cornwall in the mid-6th century where he spread the word of Christ from a number of centres throughout both Devon and Cornwall, notably, Padstow and Bodmin. He travelled to Rome and returned to Cornwall where he founded a monastery at Petroc Stow. This is just one example of the way Christianity arrived upon our shores, thanks to people such as St. Augustine and other emissaries of Rome.[29]

The first churches and bishops began to appear in the 3rd and 4th centuries but these small nuclei were occasionally snubbed out by stronger pagan forces that were in constant competition. St Germanus is reported to have founded a religious site at St Germans in Cornwall in 430. It is not hard to see how this occurred, for any mission arriving by sea could have navigated up river to a beautiful, tranquil location such as the site next to the River Tiddy. In any case, a monastery is known to have been located here.[30]

After an initial wave of conversions of the ruling classes, Christianity waxed and waned through the sixth, seventh and eighth centuries during the battles for political supremacy fought by the waves of immigrants. However, one obvious change was the establishment of monasteries that were each associated with their own inspirational leader. These monasteries became incorporated into diocese under bishops nominated by the Pope.

Each monastery had its own family of farms to support it and the boundaries of the farms were generally based upon the original Celtic boundaries. The monasteries themselves had boundaries that, in the Christian political system became parishes. The parishes, in turn, became dioceses within the oversight of the bishop whose base was the cathedral and focus of the town.

The concept of monasteries begins with the desire of the first Christians to retreat into a place of solitude where they could fast, pray and meditate, contemplating their spiritual role in the world. Once they had achieved a measure of understanding, they might emerge to spread the word of God or else might simply continue their isolation indefinitely. This concept of solitude and contemplation, with just sufficient worldly possessions to enable the continuation of their lives encapsulated their objectives. Often it was life in a remote place, as far away as possible from worldly pleasures that was most sought after. In contrast to some others, Benedict in 535 founded a popular form of monasticism in that he did not consider that it was necessary for monks to undergo undue suffering.

The solitary life was developed into one in which communities of like-minded people (men living separately from women) came together to share a set of buildings constructed around a central point of worship - the church. The need for monasteries to be associated to farms is obvious and so we find the religious community in the charge of an Abbott that becomes the focal point for small settlements of local inhabitants who rely on the monastery for their spiritual and social guidance. It is thus easy to see how parishes came into existence.In a political sense, the parish was part of an area of land called the hundred and the hundred was part of the county. Generally, the county had a capital, or county town which accommodated the cathedral and its bishop and all its hundreds and parishes.

Often monasteries owned the land, but after the Norman conquest, the new King William I took ownership of all of the land of England and Wales and distributed it amongst his own nobility, many of whom were, of course, French. The lands were of widely varying sizes and became bargaining chips throughout the centuries that followed. Sometimes, estates were simply bought and sold, but they could also be acquired and lost in a host of other ways, usually with the authority of the King.

Celtic Christians in Gaul built the first monastery under St Martin in 360 at a location close to Poitiers. and the earliest missions to take Celtic Christianity to Britain were led from here and began in Ireland. By the 5th century, isolated monastic enclaves were springing up on remote islands off the coast of Western Ireland. It is here in Ireland that we find the first stories of lights being used to assist mariners.

Celts

I wish now to turn our attention to the Celts, who had been driven to the fringes of the continent where, simply for practical reasons based upon physical geography, the lands were incompatible with the strengths of Roman hegemony and allowed them to continue their ancient traditions and ways of life.

In the 6th century BCE, there had been a mention in Greek literature of a people called Keltoi. The lands they were supposed to inhabit extended from the Upper Danube regions of southern Germany to the far western lands of Iberia (Spain and Portugal). For a time when populations generally consisted of comparatively small tribes, this is an extraordinarily large area.[31] The people we call Celts were not a single race, but groups of people of similar cultures (see p63).[32]

As centuries progressed, people sharing these Celtic values were frequently forced to relocate as a result of the many battles that took place for dominance over the riches of Western Europe, not least of which were won by Roman forces during their thousand years of dominance.

'Celts' is a much-used term to describe people of ancient descent who refused Roman authority and were capable of withstanding the pressures of empire.[33] They played a very great role in the history of the British Islands and may have, in a sense and without premeditation, sown the seeds of lighthouses into our culture by their early acceptance of Christianity. I shall explore this idea more thoroughly in the pages that follow.

Celts were a good 'Sea People.' We could say that it went with the territory. There is evidence that throughout the period from 500 BCE onwards, Celtic people were in regular contact across sea routes of the eastern Atlantic, joining southern Spain, Portugal, Brittany, Cornwall, Wales, Scotland and Ireland in a great informal network of social, political and business activities. They had probably interacted with Phoenicians in classical times and may have absorbed some of their sailing practices.

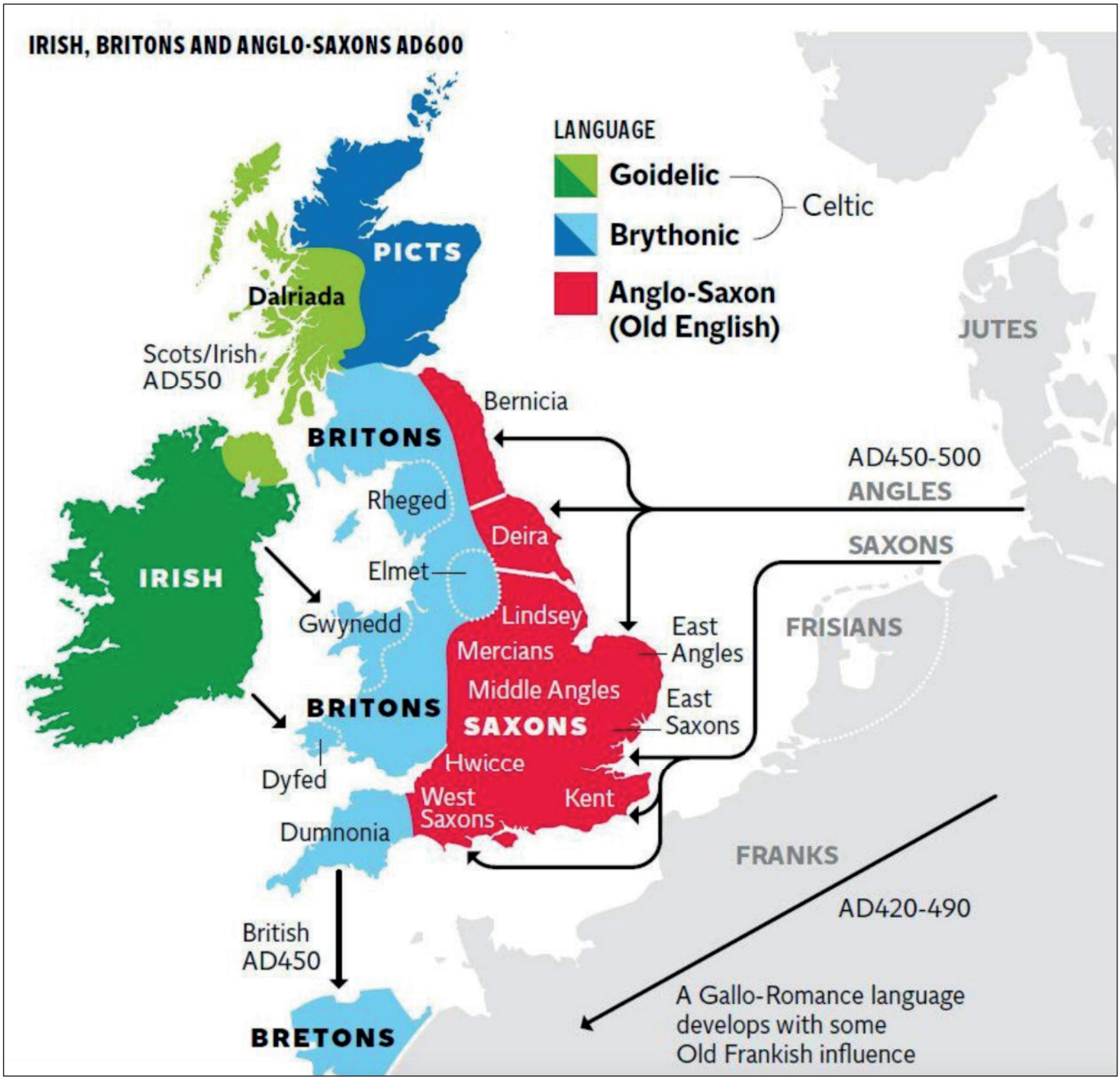
Those of us who are interested in the history of where we live soon become aware that there is so much we still do not know about places that are so familiar to us today. History books are filled with 'facts', all of them (hopefully) verified in some way. This is traditionally achieved by searching old books and documents, extracting relevant snippets of information and then assembling them into a coherent package that we call a history.

One big problem is that with few exceptions it was only the names of those belonging to the ruling classes who were recorded. Ordinary people were almost never mentioned. History, then, by the methods of the 19th century was almost always reduced to a list of facts. However, it may often lack the deeper level of understanding that is being sought in the enlightened times in which we live now.

Robb[34] is one author who refused to accept this dearth of understanding of his environment. His clever analysis of patterns of land has enabled him to add a whole new depth of understanding of the Celts, a people with almost no written history. The modern tool of satellite imagery has been priceless in giving us all access to the kind of data that was previously unobtainable. Comparison of these views of our lands with those of high quality maps and basic on-the-ground inspections have enabled authors like Robb to present stunning new descriptions of the ways ancient people set up the political, social and geographic structures that we are so familiar with. Place names, roads, boundaries of farms, parishes, counties and even countries are the result of decisions and events that took place over many centuries. We may understand this on the larger scale where our country is concerned, but what about the smaller communities we inhabit?

In such distant times, it is hardly surprising to realise that these were people with pagan beliefs. They worshipped many gods and routinely performed religious activities with both animal and human sacrifices that would seem barbaric to us. They were warlike, and in many ways primitive. Yet there is remarkable evidence that they had a great understanding of the heavens and the ways that the surface of the earth moved in relation to the stars and, in particular, the Sun, which was their most important God. Celts had their own 'upper' class of priests who, in the days before written records, were the repository of this accumulated knowledge passed down through the generations. Robb explains in detail how this was used to set out a remarkable system of roads and boundaries that have formed the basis for much of the distribution of land ever since.

It has generally been thought that the Romans were responsible for some of our heritage. Indeed,



Above: A map showing the distribution of ethnicities within the British Islands in 600 CE. All those considered to be not Saxon (red) are part of the Celtic tradition and within the group of Celts we find four different groups based upon their location and language. Notice the overlap of Scots and Irish in the Goedelic-speaking Dalriada group. Also the links between Dumnonia and Brittany.

this is partly true, but from Robb's work we see how the Romans took over the system set out by the Celts who had already lived there for centuries and who had adapted it for their own purposes. The full description of this story cannot be reproduced here. However, we should merely translate this knowledge to our own locality and look for examples of its effects on us.

The Roman occupation did not have a big impact on Devon and Cornwall, for example, so we can assume that the system of land we see today is Celtic in origin. We need to look for clues in the names and layouts of our physical geographical landscape. After the Romans left, Cornwall continued in its Celtic ways, although a certain amount of Roman influence remained because of the advantages it brought to standards of living. Things like water supplies, and building methods for houses and roads for example. Cornwall was finally subjugated and made part of Wessex in 838 CE.

Above: A map showing the Heptarchy of Anglo-Saxon kingdoms that formed in England by around 600 CE. Notice that the remaining green areas (not France) were essentially Celtic, as has already been discussed (see p63).

The Early Structure of England

I hope you will bear with me as I appear to dwell upon British history rather than Europe's, which will hopefully receive its due in later pages. My purpose at this point is to concentrate on the geopolitical changes that, according to my thesis, stimulated the introduction of new lights for navigation, a concept that had been lost in the fifth century. The arguments take a little time to develop.

Saxons first became a problem for the Roman Empire in the third century CE as part of broader pressure on Rome's frontiers. Their activities intensified over time, particularly through raiding and piracy along the coasts of Roman-controlled Gaul and Britain.

The continuing troubles with Danish raiding parties in the southeast corner of England caused the Romans to build ten fortifications, mostly in existing port locations that were obviously vulnerable. The date is uncertain but Mothersole considers that the defensive strategy was under way between 311 and 367.[35] The first of the ten forts were built around 300 at Reculver, Richborough, Dover and Lympne. Volume 1 has already noted that the first three of these had substantial lighthouses in their grounds.[36]

The arrival of the first Saxons in the UK is blamed upon an ancient King called Vortigern who, suffering regular invasions from Picts and Scots, received no help after an appeal to Emperor Honorius in 410. Supposedly, he invited a small army of Saxons to come to his aid as a kind of mercenary force, and unwittingly set the scene for their continued settlement in England.

Three ships arrived in Kent in 449 according to Gildas from whose reports Bede further developed the history. They were followed by Angles, Jutes and more Saxons who found the Romano-Britons easily manageable. So the latter retreated and the land left behind became Saxon.

Current analysis suggests that far from a powerful sudden invasion, what is more likely is that the Saxons (maybe only a few tens of thousands) brought their culture with them and the local inhabitants (perhaps as many as two million) accepted it as their own.

The new settlements gradually either displaced or assimilated the native Britons, leading to the formation of early medieval English culture. Saxons were pagan at first but over time they were later converted to Christianity.

Within the space of two centuries, a group of seven Anglo-Saxon kingdoms emerged in England known as the Heptarchy. They were:

1. Kent (c. 450s) - Founded by the Jutes,[37] possibly under Hengist and Horsa, legendary leaders invited by the British ruler Vortigern. The first known king was Æthelberht (reigned ca. 590–616), who converted to Christianity.

2. Sussex (c. 477) - Established by the South Saxons, led by Ælle, the first recorded Anglo-Saxon king. This was one of the smaller and less powerful kingdoms.

3. Essex (c. 500) - Founded by the East Saxons. The kingdom played a minor role compared to its neighbours.

4. Wessex (c. 519) - Established by the West Saxons, under Cerdic. It became one of the most powerful kingdoms, eventually uniting all seven regions into England.

5. East Anglia (c. 520s) - Founded by the Angles, it was divided into North Folk (Norfolk) and South Folk (Suffolk). King Rædwald (early

Above Left: One of the great archaeological discoveries was the find in 1939 of an Anglo-Saxon ship in excellent condition on the coast of Suffolk, England at a place called Sutton Hoo, near Woodbridge on the River Deben. Above Right: An accurate replica of the ship is being built by a team of volunteers working for a registered charity in a dedicated building called the Long Shed in Woodbridge Suffolk.

7th century) was a significant ruler, linked to the Sutton Hoo burial.

6. Northumbria (c. 604) - Formed by the unification of Bernicia and Deira, two earlier kingdoms. It became a dominant power in the 7th century, under kings like Edwin and Oswald.

7. Mercia (c. 600s) - Established in central England by the Angles. Mercia became dominant under Offa (r. 757–796), famous for Offa's Dyke, a western boundary with Wales and in some ways similar to Hadrian's Wall, though far less effective.

These seven early kingdoms bear names that have regional resonance in England today. They competed for power, with dominance shifting between Northumbria, Mercia, and Wessex. Over time, Wessex emerged as the strongest and united England in the 9th–10th centuries under the rule of Alfred the Great (871–899) and his descendants.

We shall shortly see that Alfred is traditionally held in high regard by the English, but Alfred was never able to fully unify England to include the Danelaw (see p66).

The first king to unify the Heptarchy (the seven Anglo-Saxon kingdoms of England) was Æthelstan, who reigned from 924 to 939 AD. He is considered the first King of England because he successfully consolidated control over all the Anglo-Saxon and Viking-held territories, bringing together Wessex, Mercia, Northumbria, East Anglia, Kent, Sussex, and Essex under his rule.

The Sutton Hoo Discovery

In 1939 an Anglo-Saxon ship was discovered at Sutton Hoo, just across the river from Woodbridge in Suffolk. It was 27 m (90 feet) in length. After so many centuries not much remained of it, but the imprint of a ship in the sand was astounding. Historians concluded that a dead nobleman had been buried within the ship in a mound, and the bonus was that there remained a great quantity of treasure alongside him.

Soon after 500, several Anglo Saxon kingdoms had formed in south and east England, east Angles being one.[38] The founder of this dynasty is thought to have been Wuffa (571-578) who made the Wuffingas dynasty, based at Rendlesham. In 731 Bede wrote that there were several Anglo Saxon kings who reigned over all of the Saxon regions, and, with more than one, it was natural for there to be a senior king. A Bretwalda was the name given to this king of kings and recent thinking is that the Sutton Hoo burial was for a Bretwalda called Raedwald who died c624. The rich variety of finds by archaeologists in the southern Suffolk region, have led researchers to wonder if there was much more harbour and port activity in the area than has so far been known. The coastal sites around Ipswich may well have acted as ports for the import and export of valuable goods between England and the Netherlands, as well as Dorestad on the Rhine.

Alfred the Great of England

At the close of the ninth century, the lands that were still subject to significant political churn were subject to another partial invasion - from the Vikings from Denmark. The result was the formation of a large part of northern and eastern 'England' becoming a polity[39] called Danelaw. It was established following the Treaty of Wedmore in 878 CE between the Viking leader Guthrum and King Alfred the Great of Wessex. The treaty set boundaries between Anglo-Saxon-controlled territory and Viking-ruled lands. The boundaries shifted over time, but it generally encompassed the following areas:

1. East Anglia: This region, located in the eastern part of England, was one of the earliest areas to come under Danish control. It included present-day Norfolk, Suffolk, and parts of Cambridgeshire.

2. Northumbria: The northern part of England, including present-day Northumberland, Durham, and Yorkshire, was heavily affected by Viking raids and settlements. Much of this region fell under the Danelaw, with York (Jorvik) serving as a major Viking stronghold.

3. Mercia: Parts of the Midlands, including Nottinghamshire, Derbyshire, and Lincolnshire, were also included in the Danelaw. This area had strategic importance due to its river networks and access to trade routes.

4. East Midlands: Some parts of the East Midlands, such as Leicestershire and Bedfordshire, were also influenced by Danish settlement and law.

Clearly, the Viking incursion pushed back the inhabitants of Saxon and Celtic ethnicities and gradually took over more and more lands. Eventually, the Danelaw existed alongside areas that remained under Anglo-Saxon control, particularly the kingdom of Wessex in the southwest. The boundary between the Danelaw and Anglo-Saxon territories was not always fixed and could shift depending on the balance of power between the Anglo-Saxons and the Vikings.

The Danelaw eventually came to an end with the unification of England under the Wessex dynasty and the gradual assimilation of the Danish settlers into Anglo-Saxon society. There was a strong Scandinavian influence in place names (e.g., "-by" endings like Derby, Grimsby) and legal terms. Major Viking centres were at York (Jórvík), Lincoln, Leicester, Nottingham and Derby. Over time, the

Above: England c866 at the time of Alfred.[39]

Danelaw was gradually reclaimed by the Anglo-Saxons, especially under King Edward the Elder and Æthelstan, culminating in the full unification of England in 954 CE when the last Viking ruler, Eric Bloodaxe, was expelled from York.

As these encroachments increased in significance, Alfred emerged as a King of Wessex to become one of the most influential kings of England from 871 to 899 CE, even though the period of Alfred's reign was mostly taken up with a battle for supremacy over these Viking invaders. After successfully navigating his forces through a period of weakness, when the invaders had established a stronghold in Chippenham, it was in 878 that Alfred finally overcame them at the battle of Edington.

We note that during these times. The inhabitants had no conception of a unified island government. There were so many factions spread throughout Britain that it remained a dream for a King, if he dreamed it at all. Even in Alfred's time, he had to accept that there would be large tracts of island Britain they were beyond his control.

In the latter part of his reign Alfred focused his energies on the education of his subjects, which

Above: Alfred the Great's Anglo-Saxons watch Viking ships approach the shores of England in the painting "How the Danes Came Up the Channel a Thousand Years Ago: Off Peveril Ridge, Swanage, AD 877" by Herbert Arthur Bone (1853-1931).[40]

had suffered very badly because of the Viking invasions. But Alfred was a scholar as well as a warrior with a great interest in advancing literacy as a way of extending the power and influence of the kingdom and the effectiveness of government. Alfred set an example by translating a number of books from Latin into English and arranging for copies to be distributed around his kingdom. It is for his great successes and noble aspirations that Alfred is referred to as Alfred the Great.

At various points during his reign, Alfred negotiated treaties and alliances with Viking leaders and Danish warlords. These agreements often involved territorial concessions and payments of tribute (danegeld) to buy temporary peace.

But Alfred also fought numerous battles against the Vikings and Danes, both defensively to protect Wessex and offensively to push back against their advances. For example, at the Battle of Edington he defeated the Viking leader Guthrum and forced him to accept Christianity and peace terms. Some Vikings and Danes settled peacefully in England, contributing to the blending of Anglo-Saxon and Norse cultures.

Alfred's efforts laid the foundation for the eventual unification of England under the Wessex dynasty and the consolidation of Anglo-Saxon power. His reign is often remembered as a pivotal period in English history, marking the transition from the Dark Ages to the Medieval period.

Alfred the Great is often credited with being the first English king to establish a navy because of his significant efforts in organizing and developing a defensive fleet of ships, a mix of longships (similar to those used by the Vikings) and smaller vessels suited for coastal patrols and defense. While naval warfare and maritime activities were not new to the Anglo-Saxons, Alfred's navy was notable for its scale, organization, and strategic importance during his reign. He recognized the importance of naval power particularly as the Vikings often used their superior naval skills to launch surprise raids along coastal areas and navigable rivers. He established a system of coastal defenses, including a network of fortified burhs (towns) strategically located along rivers and coastlines. These burhs were equipped with ships and manned by trained crews to provide early warning and defense against Viking incursions.

Above: This typical landscape found in the Outer Hebrides on the fringes of the north Atlantic Ocean can be extremely difficult to walk on. People living in these lands become expert at sea travel.

What Makes A 'Sea People'?

Imagine that you are part of a family in primitive times. Your essential requirements for survival are food and water, and to find them you need to explore the land in your vicinity; but your only means of travel is on foot. Early peoples inhabiting 'gentle' landscapes in temperate climates were able to travel extensively on foot until they reached water obstacles whereupon, over time, they developed the ability, not just to cross them, but to travel on them. This is currently thought to have occurred from around 7,000 BCE.

Horses were first domesticated for riding purposes around 4,000 to 3,500 BCE, primarily in Central Asia, and of course it took much longer for them to be brought to Europe. Meanwhile, wheels used on carts were thought to have emerged in Mesopotamia around 3,200 BCE. So it seems clear that water-borne travel was the first important advance in transport after humans first began to walk. I have previously discussed this situation at length in volume 1.[41]

Most of us take it for granted that travel on land was easy and it certainly was when the terrain was favourable, but we should consider all of the types of land in which early peoples lived. The great variation in landforms demanded that some peoples found it essential to travel on water in order to survive. This was especially true in the kinds of land in some parts of the world such as can be found on the fringes of the north Atlantic Ocean. If we ignore the mountainous landscapes as obvious terrains that are extremely difficult to travel across, let us focus on moorland which can be comparatively flat, rather than mountainous, and ought to be foot-friendly but is often not. Moorland typically features peaty soil, which is characterized by high organic matter content formed from partially decayed plant material, often in waterlogged conditions. Peaty soils are usually acidic, have low fertility, and can retain moisture well. They support unique vegetation, such as heathers and grasses, adapted to these specific conditions. The combination of poor drainage and the accumulation of organic matter makes moorland soils distinct. There are many places that are entirely unsuitable for walking; horses would break their legs on such land and wheeled transport is only possible after significant geo-landscaping. The Romans were masters at road building and unsurpassed until modern times, yet even they did not approach here where water-borne travel was the only practical mode of transport.

The image shows rough moorland that contains countless potholes and scattered boulders. Some of it is marshland and deep bog. The unpredictability of a traveller's footfall makes any journey fraught with dangerous hazards. This situation prevailed across millennia and, as late as the 17th century, the Scottish McCleod family lived on Skye and the Outer Hebrides with virtually no roads across their estate, access to all parts being by water. Given these kinds of extreme conditions in which to live it is hardly surprising that we find periods of history in which 'Sea Peoples' dominated some parts of the world.

Above: This map of Frisia in 716 CE is a good indicator of how the people inhabiting land that is greatly influenced by the presence of water became expert in all aspects of maritime activity. Simplified for impact, it cannot show the enormous number of small islands, lakes, rivers and lagoons.

Frisians

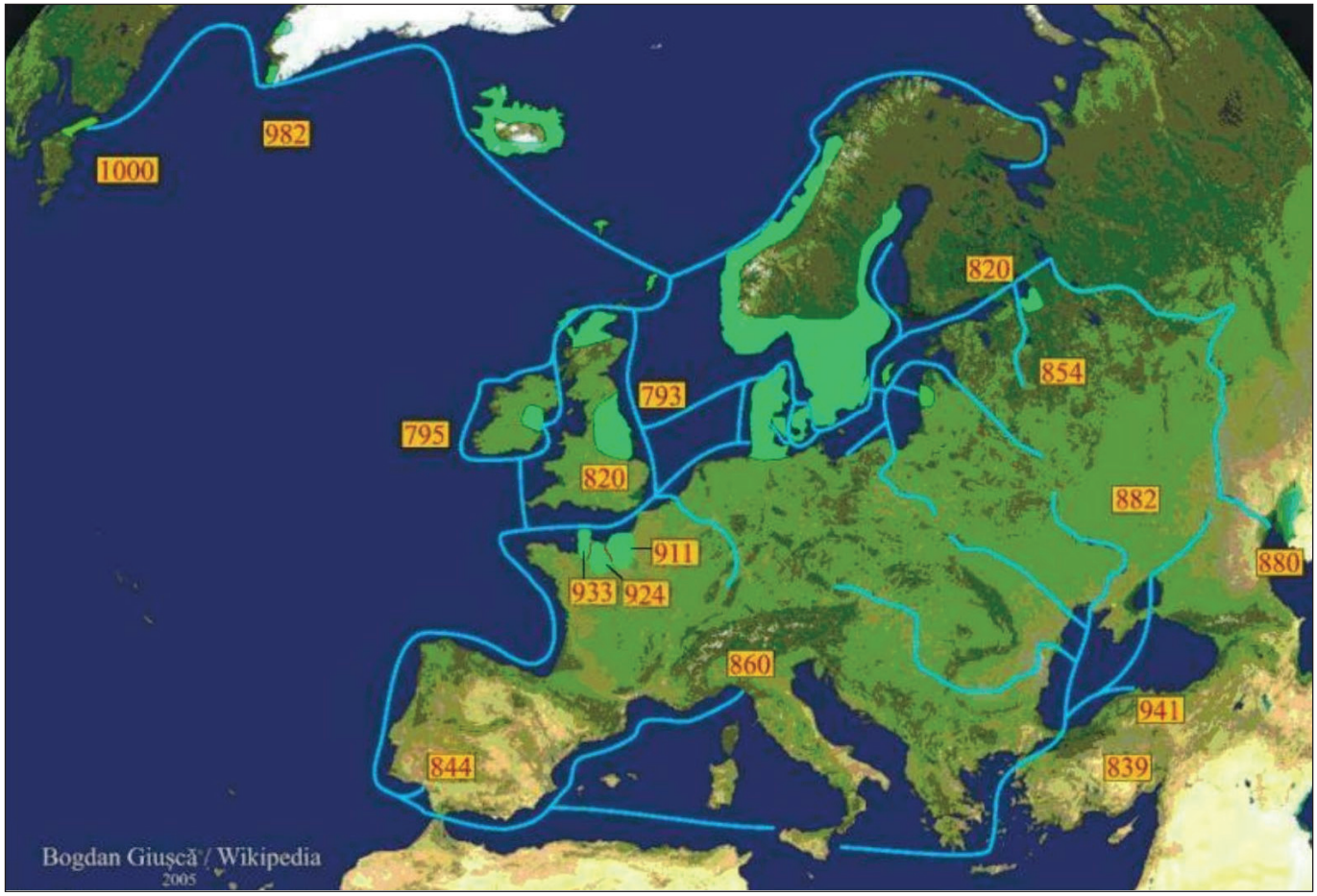
The writer called Procopius of Caesarea wrote in the sixth century of Britain being composed of three races, namely Angiloi, Frissones and Britons, each ruled by its own king.[42] Thanks again to Bede, we know that the name Frisian means merchant.[43] Frisians were essentially a sea people too. Their lands were not inhospitable, as we saw was the case for the Celts on the Atlantic fringes. In this case, the land was flat and agricultural, but comprised of a complicated array of waterways, marshes and lowlands that eventually became the Netherlands. There were no hills but most journeys of significance had to be made by boats. Not surprisingly the Frisians became masters of the sea and came to control routes in the North Sea from Denmark to Norway and Sweden and the east coast of England, and distant sea ways from as far as the northern Gulf of Finland to the shores of Russia at St Petersburg in the east, to the straits of Dover and beyond. Indeed Pye points out that from 600 to 800, virtually all traded goods reaching Norway and Sweden got there from the trading centres of Frisia.[44] Their flat-bottomed craft easily came ashore on sandy beaches where instant markets were created and successfully transacted before the incoming tide easily re-floated the boats once more. The boat designs in use had to take account of waters that were frequently shallow and so a flat bottom design was always the best.

Living by trading they adopted money that had fallen into disuse amongst others who relied upon barter and exchange. The use of money created the concept of value and so the Frisians helped to developed the practices of trade more than any others in Northern Europe. At the centre of this activity was the Rhine, one of the great rivers that allowed the passage of large quantities of goods of all kinds to and from the hinterlands of the northwest. Great new barges were in constant movement up and down this immense waterway, which even allowed ultimate access to the Mediterranean by crossing to the southward-flowing river Rhône.[45] Throughout history, there have been various means of transportation for travelling between them. In ancient times, people would have used methods such as walking, horseback riding, or possibly even early forms of boats or rafts to traverse the distance between these two rivers. Later on, with the development of trade routes and infrastructure, roads and waterways were established to facilitate easier travel and trade between different regions, including those along the Rhine and Rhône rivers.

By 800 the old Frisians were "enthusiastic pagans" who were converted to Christianity within the Frankish region during the time when Charlemagne was rebuilding his empire.[46]

Pirates were frequently to be found between 400 and 800 because road travel was so bad and so slow that people would always choose sea over road for their method of travel. Pirates knew there would always be rich pickings at sea, with little resistance from organised forces of law.[47]

A Frisian Guild at Sigtuna in the 11th century is known to have put up memorials to members who had passed away. Guilds had been found necessary as a way for merchants to co-operate and further their businesses. Frisians settled widely across their regions of influence as they grew richer. Slowly, the Frisians had to give way to the Franks who squeezed them by force. In 734 Charles the Hammer took Frisia for the Franks.[48] Then by the mid 800s the Vikings became the dominant force.



Above: Map showing the Viking Voyages and known dates. Locations of significant Viking settlements are show in bright green.

Vikings

Although this chapter has been focused on the Dark Ages and the period up to the ninth century, it is necessary to add this section as a bridge across the ninth and tenth and into the 11th century, for we cannot omit the important contributions made by people from the north.

Few people would argue with the statement that the Vikings were a sea people who played a very significant role in defining the evolution of western Europe. In Old Norse, "víkingr" meant a person who engaged in raiding or piracy by sea, and so the word "víking" referred to the act of going on an overseas expedition or raid. We might conclude that their very name was a description of an adventurous people with sea travel at their core.

Today, perhaps we might think that Danes were from Denmark and Vikings from Norway, but that is too simplistic.[49] Danes were not Vikings, and Vikings were not Danes, but they were often confused with each other by those who spent more time defending themselves than communicating with them. To call them Norsemen (Northmen) was rather more accurate, for their lands were sparsely populated regions in the far north where the summer days were as long as the winter nights. Scandinavia is a name we might use today, but it did not exist in those times and neither, of course, did Norway, Sweden and Denmark exist as independent nations.

The description of them as pagans or heathens was accurate at first. The word pagan was first applied around the 4th century by Christians who believed in one god (monotheism) to people who believed in many gods (polytheism). Inevitably, it became a derogatory term intended to be associated with people who were inferior. A synonymous word was heathen.

Norse is a term used to describe the language they spoke, itself made up of a number of dialects, and from Norse other languages emerged in the lands occupied by the Norsemen - Danish, Swedish, Norwegian, Faroese and Icelandic. It is generally true to say that Vikings were explorers who came from the far north coastal regions of what is now Norway and that they first set to sail on the open

sea from around 700. For these people, to behave as explorers constantly in search of new lands seemed to be a racial characteristic, and to be unafraid of the unknown was part of that. Their hard environments led them to be mobile people with little desire to settle in one place. They were always restless. Unfortunately for some, violence seemed to be a convenient adjunct, certainly at first. And along with that went an extraordinary understanding of seamanship and navigation.

Nothing they knew about the world hindered them from exploring it to the full. Haywood wrote that "No previous Europeans had ever seen so much of the world as the Vikings did." [50] It seems that this culture had been invested with the need to travel by sea because of being resident in some of the harshest landscapes on Earth. The needs for survival of this tribe could only be met by extensive exploration in the search for more accommodating landscapes. It was a motivation that led to extraordinary risk-taking.

> *"Life for most Viking Age Scandinavians involved hard work on the land, constant insecurity and an early death in their 30s or 40s. For those Scandinavians who chose to become Vikings in the literal sense of the word, that is a pirate or a plunderer, or who set out on voyages of trade or colonisation, life could be shorter still. All faced the very real prospect of drowning at sea as their fragile ships foundered in a storm or were smashed to matchwood against a rocky shore ... For every Viking warrior who went home with a sack of silver or ... newly conquered land, there must have been at least another who was hacked to pieces on a battlefield or died of disease in an unsanitary winter camp. Vikings clearly were willing to take incredible risks in the quest to acquire land, treasure and fame. This daring and enterprising society was underpinned by a world-view which actively discouraged the avoidance of risk.*[51]

The Viking Age is considered to have begun with a violent raid on the monastery at Lindisfarne in 793 CE after having established bases in Orkney and Shetland. Other raids were spread across Britain, Ireland, and Frankia, targeting coastal settlements and churches. Typically, they established winter bases, allowing for more sustained campaigns.

For about a century, there was a period of settlement and expansion during the 850s–950s when Vikings began settling in northern England (forming the Danelaw), Ireland (founding Dublin, Waterford, and Limerick), and northern France (Normandy). Two notable events were large-scale invasions, such as the Great Heathen Army (865 CE) in England and the establishment of Rollo's Norman Duchy (911 CE) in France. However, as is common with so many other such political changes, a period of decline eventually took over from 950s–1066, assisted by a defeat by King Æthelstan in 937 CE, at the Battle of Brunanburh). Although King Cnut (1016–1035) briefly ruled England, Denmark, and Norway, the Viking Age is often considered to have ended at the Battle of Stamford Bridge in 1066. when Harald Hardrada was defeated.

The irony is that the ultimate conquest of England was achieved by Normans who had themselves evolved out of the Viking people who had previously settled in Normandy. There they had gradually become assimilated into Frankish culture, but had become distinct from their Scandinavian ancestors in several important ways.

In 911 CE, the Viking leader Rollo was granted land by the Frankish King Charles the Simple and in exchange Rollo agreed to convert to Christianity and to protect the kingdom from further Viking raids. This marked the beginning of the Duchy of Normandy. From 10th–11th centuries, the Norse settlers adopted the French language and Frankish customs. They intermarried with the local population.

As they adopted the feudal culture, their Viking longships were replaced by Frankish feudal warfare, including heavy cavalry and castle building. All of this was introduced into England when William the Conqueror (a descendant of Rollo), invaded and conquered England. The Normans later expanded into southern Italy, Sicily, and the Crusader states, fighting as feudal lords and knights, rather than as simple raiders.

Thus, in ethnic terms, Norman Vikings were of Norse origin, but heavily mixed with the local Frankish population. They became French-speaking feudal lords with Christian values, abandoning the old Norse pagan traditions replacing raiding warfare with organized feudal armies and castles. They evolved into something new—a powerful medieval warrior class that shaped Europe in a different way.

Above: The larger war-oriented longships, often referred to as Great Ships or "drekar," were the most fearsome of all Viking ships, capable of carrying anywhere between 60 to 120 warriors.[60]

The Great Navigators

In Classical times, the scale of the Earth and distances of travel had been determined by Eratosthenes (276-194 BCE) who measured the circumference of the Earth and, as a result:

> *"... though later sailors may have forgotten it, Greek sailors knew they would not fall off the edge of the world."*[52]

Somehow, the Vikings knew it too! Or perhaps they were simply so adventurous that they thought they should find out for themselves...

Vikings thought there must be land over the horizon and they were competent navigators, even without the aid of the magnetic compass which had still not arrived in Northern Europe. Vikings had their own compass, a kind of sundial that allowed them to determine the directions of sail. It would be reasonable to compare the Vikings with the ancient Greeks who established settlements all around the Mediterranean and Black Seas. Likewise the voyages of the Vikings took them to every corner of northern Europe not just the coastal areas, but venturing deep into the hinterlands by means of the great river systems.

Archaeology has proved that, besides open sea exploration, Vikings made dangerous journeys deep into Russia along the great rivers of Eastern Europe, probably looking for sources of wealth since they had little to trade for the commodities they needed. Their northern lands were poor and infertile and farming was not profitable enough. The harsh environments they inhabited had led them to be tough and warlike and by the early 800s they knew their way down most of the inland waterways to places where they could plunder or trade.

It is reported in the sagas that it was settlers from Greenland (who by then had become Christians) who, under Leif Erikson, set out to explore lands to the west in the 11th century. They apparently arrived at a place called *L'Anse aux Meadows*[53] on the north shore of Newfoundland and established a settlement there. Later, they expanded their footprint to include both Newfoundland and the Gulf of Saint Lawrence as far as northeastern New Brunswick. They called it Vinland.[54]

Vikings gradually established themselves in Ireland during the 8th century with a capital at Dublin. They never formally had a nation or a capital city, but Dublin was the closest they got to it. There, their land had been stolen from others who constantly wanted it back.[55] Their leader soon claimed to have authority over all of the Irish Vikings and later, all of the British Vikings. They showed

very little respect for those of other cultures, least of all Christians with whom they seemed to be constantly at war. Thus out of Dublin they were constantly organizing raids over short and long distances where they would attack communities and pay no regard to the sanctity of Christian territory. Churches would be attacked, refugees killed in large numbers and women taken captive. Valuable items were looted and villages burnt to the ground. It is hardly surprising that there was little incentive for locals to invest great energy and resources into development of their communities for the regularity with which they came under attack removed all incentive. All of the islands around Ireland and Scotland were attacked. Where there were hermits and monasteries, these were attacked too. Perhaps a few settlers were left behind, but the Vikings seemed never to desire permanency.

Amongst the violence there were periods of co-operation with locals. No doubt the locals were glad of the opportunity to enjoy periods of peace with the aggressors whom they could not expel from their lands. There are reports of intermarriage between the daughters of local leaders and Viking kings, showing a measure of goodwill.

In 866 the Viking raiders attacked the site where York would later exist. Since the days of the Roman occupation there had been a settlement here, capable of manufacturing a variety of metal tools and weapons, but the Dark Ages had seen the workshops fall into disrepair. It was a resettlement by Vikings that re-established the metal works in the town they called Jorvik.[56]

It seems that York finally grew into a medieval city as a result of a combination of Norse and Angle efforts. The River system was a great asset and good reason for the access to York which is located on the River Ouse which flows to Hull and thence to the Humber estuary.

A Viking called Ohthere met King Alfred (r. 871-899) and the occasion was recorded. Alfred learned a lot about this Viking King who lived in the far north and knew about Orkney, Shetland, the Faroes and Ireland. Some of his people were already living in Iceland. He was a true explorer who had sailed as far north as was humanly possible in those times. They viewed the world in different values, were content to use humans like commodities as slaves or for ransom. There was a great market for slaves everywhere.

In 871, a Norse King in Dublin went on a raid across the Irish Sea and brought back several thousand Pict, Angles and Britons as captives.[57] Viking power in Ireland was finally beaten at the battle of Tara in 980; however, they were not entirely driven out for by now they had settled and intermixed with native Irish. Their cultural presence was absorbed into the local ways of life. This, of course, happened everywhere, for the Vikings had spread themselves far and wide across Northern Europe, and even further to Byzantium and the shores of the Caspian Sea, Bulgaria and Jerusalem.

According to Wood,[58] until the Viking invasions of the 860s and 870s, England was divided into several kingdoms, of which Offa's Murcia was one. These kingdoms crystallised gradually out of the various settlements of the Anglo-Saxon races in Britain after the fall of Rome.

Racially diverse though these kingdoms were, there was a tradition from early on of rule by an overlord, a bretwalda - a word originally meaning wide ruler, but which came by Offa's time to mean Britain ruler. The bretwalda was a king to whom all the Kings were subject; they paid him tribute, attended his court, obtained his permission for their grants of land in their own territory, and fought under his leadership in war. This overlordship was held by Kings of Sussex, Wessex, Kent and East Anglia for short periods between the late fifth and the early seventh century, and it has been argued that the greatest of all Anglo-Saxon archaeological discoveries, the Sutton Hoo treasure ship is the burial of the east Anglian bretwalda Raedwald

An Irish monk of the 9th century is thought to have been a geographer who investigated the early Irish presence of monks in Iceland 860 and the Faroes in about 825. Their settlements never seemed to be permanent, lasting perhaps from 3 to 10 years before they moved on. Vikings, it seems, always moved on.

Their warrior status in history and their skills as seamen are well known, but there is never an instance where they are recorded as desirous of building or of using lighthouses. They almost certainly used lighthouses where they were available. Sailing in the vicinity of a lighthouse Viking navigators would certainly have known of their existence and of what the light was signalling. But there is no known occasion when the Vikings themselves established a lighthouse.

Religious Ethics

The idea that a light should be kept every night so that a reliable aid to navigation could assist any passing ship is a step beyond what must have been in the minds of shore dwellers. Philosophers and theologians might debate the precise motivations behind such acts, but common sense tells us that at its root must surely be a sense of compassion for one's fellow human. The Christian parable of the Good Samaritan springs to mind as we accept that there are plenty of people who would be minded to look after only themselves and their immediate family, but to go to the trouble of offering a light to assist mariners of whom you have no knowledge and have certainly never met is a calling accepted only by a certain kind of individual.

In these turbulent centuries it would be natural to conclude that the display of a light could act as clear indication of a certain level of civilization and therefore an invitation to be attacked. This must have been a major factor in delaying progress towards safer navigation.[61] It is without doubt that this principle had been at play since ancient times, and so today's concept that lights must be shown at least through every hour of darkness is of recent introduction.[62] We must resist the temptation to think that, even if lights were shown, it was a commitment for uninterrupted light during the hours of darkness. Even if they were shown in these early times, we must believe that they were intermittent and unreliable.

Aside from the arguments associated with the conduct of military operations that benefit in times of peace, but pose risks in time of war, it is clear that the display of lights at night for mariners is vocational and accords with the Christian ethic. In that regard, we can surely ascribe growth in such activities with the parallel spread of Christianity across Europe. But what about elsewhere in the world?

It would be easy to criticize a proposal that the use of sea lights was somehow particularly associated only with Christian ethics rather than those of any of the world's other major religions. However, the fact remains that there is no evidence that this method of saving life at sea ever became part of these cultures until after it had become adopted in Western culture. It is a fact that western imperialism included the building of most of the world's lighthouses outside Europe, a topic reserved for later study in volume 3. So there was at least one benefit of colonialism.

Many scholars argue that the most successful medieval navigators were the Arab and Islamic scholars, sailors, and traders, yet, as I discussed earlier, it seems to have been done in the absence of formal lighted navigational aids.

Monks and Missionaries

My discussion of the reasons for people to be on the sea (see p18) neglected to include monks and other Christian emissaries. My arguments place them amongst the groups of travellers. They may also have been in the group of explorers. Perhaps they were too small in number to consider, but even if they had no direct interest in navigation, they most certainly had great concern for the sanctity of human life which the merchants and their money probably did not.

Irish people told tales of extraordinary sea voyages (immrama) in which monks and hermits sailed about looking for new havens of peace and solitude. Thus it was men with a religious outlook who did more exploration in these centuries of the Dark Ages. Christianity had given them a mission. These disciples of Jesus were to be found in some of the wildest places on Earth, often at the fringes of civilization where, perhaps, they thought the inhabitants were in greatest need of spiritual help. Sometimes it was simply a matter of finding a place to land after a dreadful voyage brought about by the wrath of God.

There are many stories of these missionaries from Rome coming ashore on the periphery of the British Islands where, perhaps grateful to have been spared, they set up religious communities. The outer reaches of both Ireland and Scotland are particularly well known for this. St Cuthbert, for example, lived in the far northeast of England on the island of Lindisfarne. It is said that the monastery on the remote Scottish island of Iona was founded in 563 by the monk Columba, also known as Colm Cille, who sailed there from Ireland to live the monastic life. Monks wrote about their lives spent in these islands of the north. By the time Vikings began to settle in Iceland around 870, monks from Ireland were already living there.

In the Middle Ages, there were several orders of monks present in Britain, each with its own distinct rules, traditions, and contributions to religious life and society. Some of the most prominent orders of monks in Britain during this period included:

Benedictines

The Benedictine Order was one of the earliest and most widespread monastic orders in Britain. Founded by Saint Benedict of Nursia in the 6th century, Benedictine monasteries followed the Rule which emphasized communal living, prayer, work, and obedience. Benedictine monasteries played a significant role in medieval society, serving as centers of learning, agriculture, and hospitality.

Augustinians

The Augustinian Order focused on a combination of communal life, prayer, and pastoral ministry. Augustinian houses in Britain often served as collegiate churches or cathedrals and the order played a significant role in the administration of parishes and the education of clergy.

Cistercians

The Cistercian Order was founded in France in the 11th century as a reform movement within the Benedictine tradition. Cistercian monasteries, known for their strict adherence to simplicity, manual labor, and self-sufficiency, spread rapidly throughout Europe, including Britain. They were particularly known for their emphasis on agricultural productivity and the development of innovative farming techniques.

Carthusians

The Carthusian Order, founded by Saint Bruno in the 11th century, was known for its emphasis on solitary contemplation and silence. Carthusian monks lived in individual cells within a monastic community, spending much of their time in prayer, meditation, and manual labor. The order established a few monasteries in Britain, including the famous Charterhouse in London.

Franciscans and Dominicans

The mendicant orders of Franciscans (Order of Friars Minor) and Dominicans (Order of Preachers) were founded in the 13th century. Unlike traditional monastic orders, mendicant friars lived in poverty, traveling and preaching in urban areas. They played significant roles in education, preaching, and pastoral care in medieval Britain.

These are just a few examples of the diverse array of monastic orders that existed in Britain during the Middle Ages. Each order had its own distinctive charm and contributed in various ways to the religious, cultural, and social life of medieval society.

We note that the earliest of these orders to arrive were the Benedictines and the Augustinians and it is to these men that we should look for any signs of activity in assisting navigation.[63]

Literacy and Law

Almost all notes made during the Dark Ages were penned by religious scribes, for these men were the focus of all scholarship. Without the benefit of printing, the work was long and laborious. The necessary skills were transferred from one to another by word of mouth. It took time, and there was plenty to spare in the cloisters after matins.

It could be thought that the acts of reading and writing arrived with St Patrick's arrival in Ireland, some time during the fifth century. After all, it was Christians who carried the word of the Lord with them, as well as other sacred texts and laws they needed to define their religion. It became entrusted to monks to make the copies of the books of the gospel, Bibles and other works of learning, one of whom was Bede.[64]

According to Yeo, when Patrick arrived the Irish already had the skills of reading and writing. On his way to convert the Frisians, St Boniface asked for a beautiful copy of the Bible to take with him because he wanted to impress the heathens. Missionaries who needed books to further their work had to send out to the 'publishers' - perhaps the nearest monastery, where they could obtain a copy of whatever they needed.

It was the eighth century when the interest in books at last became significant, and by the ninth the idea of libraries was well established. These were not necessarily only Christian in content but collections of pagan works too. As Pye wrote, "books moved."[65] With libraries established, books were frequently borrowed by those who could read them, but numbers of such fortunate people remained low.

In the absence of Roman government, settlements of the Dark Ages fell back to the use of trial by ritual to deal with law-breakers. Crimes committed by individuals were assessed using barbaric practices involving exposure of the accused to all manner of horrific torture. Innocence or guilt depended upon the results of the test.[66] Even early Christian communities resorted to rituals, often involving whether a human bound by hand and foot could survive being dropped into deep water. After all, it was God who should decide upon guilt or innocence!

The reason for such brutal practices was simple: there was no written law to be followed. Common practice was the only method available and that could be agreed upon amongst a body of people.[67] The writing of laws fell to clerics and priests who were able to set them down on paper, and for centuries it was the job of the monasteries to keep records of the laws as they changed. Eventually, those clerics who were sufficiently specialized to manage the books of law became the first lawyers, involved at the outset in the investigation and judgment of crimes.

The development of the law and government by it began in the extremities of the British Islands - Ireland, Wales and Scotland where the early Christian monasteries were situated. The re-evaluation of the old Roman Law was carried out by the Church of Rome. The church took what had become the local law left over from the Roman Empire and used it as the foundation for its own law and for the civil law. It was the ambitious Charlemagne who encouraged the dissemination of the new law throughout his empire. Sometimes it would reach places that were not ready to accept it with residents preferring to retain their own local laws.

Thus, the law - rooted in Christianity - slowly disseminated throughout Europe by means of its emissaries, but it took a long time, and for many decades law remained locally determined and enforced, varying from place to place, as it still does today in the states of the USA.

There were different kinds of law: church law, canon law, private law and public law. Gradually the church exerted more and more influence over the law. By about 1150 there were a few scholars of law teaching in a very few law schools, but there was no law profession as such.[68]

By 1230 universities had begun to appear and the profession of lawyer had been established. The oldest universities were at Bologna (1088), Oxford (1096), Salamanca (1164) and Cambridge (1209).[69]

As communities became larger and the inter-relationships became more entwined for both commercial and personal business, the law became increasingly important for the determination of disputes.

As the amounts of traded and shipped goods increased, so did values reach levels beyond the reach of individual traders and this encouraged shared ownerships. Laws were needed here too. Documents were used to make records so as to assist in proof of ownership or of qualification. And thus arose the art of forgery...

The Significance of Fire

I have placed emphasis upon the role of Christian men and their objective of saving mankind as strong contenders for using lights that, when shown from waterside locations, have been found useful to navigators. Perhaps it would have been better to refer to 'Men of God' because in my study of ancient lighthouses I gave detailed arguments that the earliest lighthouses were associated with the Greeks who, in their respect for their (non-Christian) gods, paid tribute at religious sites before and after making perilous sea journeys. Such sites would inevitably have been used as aids to navigation by mariners. However, during the Dark Ages there is far more evidence of lights being shown by Christians than by pagans. Hence there is a large subject for discussion in the next chapter under the heading of Ecclesiastical Lights.

Details of their methods of worship are not relevant here, but it should be obvious that there has always been an association of religion with fire which was then the only method of creating light.

Fire is a sign of:

Purification

Fire has long been seen as a purifying force. Just as fire can cleanse and purify physical objects by burning away impurities, it is believed to have a similar effect on the soul. In many spiritual traditions, the act of communion with God involves purifying oneself of sin and worldly attachments, and fire symbolizes this purification process.

Transformation

Fire has the power to transform matter from one state to another. This transformative quality is often seen as a metaphor for spiritual transformation or enlightenment. Through communion with God, believers seek to undergo a transformation of the soul, moving from a state of spiritual darkness to one of enlightenment and closeness to the divine.

Divine Presence

In many religious texts and traditions, God is associated with fire as a symbol of His presence. For example, in the Hebrew Bible, God appears to Moses in the form of a burning bush, symbolizing His presence and power. Similarly, in the New Testament, the Holy Spirit is depicted as descending upon the disciples in the form of tongues of fire on the day of Pentecost. Fire is thus seen as a tangible manifestation of the divine presence.

Sacrifice

Fire has historically been used in religious rituals as a means of offering sacrifices to God. The act of burning sacrifices symbolizes the giving of oneself completely to God and surrendering one's ego and desires. In this way, fire becomes a symbol of devotion and surrender to the divine will.

Symbol of Life

Fire is also associated with life and vitality. Just as fire provides warmth and sustenance, communion with God is believed to nourish the soul and give spiritual life. Fire thus symbolizes the life-giving and transformative power of God's presence.

Overall, then, the association of fire and burning with communion with God reflects a deep human desire for purification, transformation, and connection with the divine. Through rituals involving fire, believers seek to symbolically experience these spiritual realities and draw closer to the divine presence. However, the basic Christian principles made it almost inevitable that his disciples would, whilst living next to the sea, endeavour to assist those who sailed upon it. I conclude therefore that wherever communities of religious people sprang up or even just simple individuals, hermits in retreat, there was a strong likelihood of them making light by means of fire. And although candles in the windows of wives showed the way home to their fishermen husbands, these ecclesiastical lights were much more effective. Notes were made ...

Typical methods of making light in the Dark Ages:
Top Left: A simple fire.[71]
Top Right: A candle lantern hung in a visible position.[72]
Bottom Right: A flaming torch on a high pole.[73]

Light? What Light?

To set up a lit navigational aid required planning and resources for these were the Dark Ages. At first it would be just you and a friend, or perhaps your wife. She would be left behind when you went to sea on the understanding that she would set a fire and keep it burning, every night, whatever the situation that prevailed, until you got back. That was a tall order.

Simple fishermen did not need to go far. Maybe they did not need to be out at night but could make their plentiful catches near to home and in daylight. But what about when they went further afield?

Maybe an older man, retired after years of hard work fishing, would set the fire for the younger men, his group of local villagers, keeping them safe while they were away. The fires were not lit all the time just occasionally at first when the boats were out. But this was the beginning of a co-operative, a pooling of resources to help the community.

Fishing has always been a vital part of human activities, and as long as it remains local can be performed without navigational aids. On that basis, it can be argued that fishing was not the main driving force towards the development of lights for mariners.

And how would you make the light? A candle was hardly sufficient and might burn away or blow out.[70] A fire needed supplies of fuel. Were there plentiful supplies of wood available locally? Coal was available only in a small number of locations and was expensive to buy. Oil for burning was also a commodity beyond the scope of simple folk to obtain or purchase. Resources that were suitable for burning were hard to come by.

Despite all of these reservations, we must assume that a limited number of fires were set to aid ships specifically known to be at sea and seeking to return. Does that make them lighthouses?

The Conundrum

An important part of this book is to provide as much detail as possible about the sites of lights during these centuries, but the continual problem I have been faced with is lack of confirmation for my searches. Here's an example.

One of the most obvious sites to consider is Dover, site of one of the very few remaining Roman lighthouses (see p9). There is no doubt of the significance of Portus Dubris as a portal to the British Isles over two thousand years.[74] With dedicated structures for lights on the high ground nearby, the heirs to the Roman legacy could have continued to provide lights for arriving ships. Yet there is not a single shred of evidence that this was done.

The use of lights within the port itself is also an entirely unrecorded activity. The Romans had already shown how infrastructure could be added to locations to support marine traffic. (They did not do so here, but we shall see later how this was done at a great many other ports, especially in the Mediterranean region.) There could have been no secrecy about this benefit for, with white-bearded sailors having travelled the Seven Seas, the word would have spread easily about facilities lacking in some ports but available in others. During later centuries, the authorities at Dover tried hard over a protracted period to construct a series of jetties and other buildings that would enhance and support the port traffic, a story that is well recorded, but with no mention of provision of lights.

In an extensive history of Dover, Lyon[75] reports in great detail how the town went about its business with regard to its membership of the Cinque Ports.[76] One aspect of this was the creation of an organization called the Trinity House of Dover (see p135) whose function was to manage the extensive operations of pilots, not just in Dover, but other local ports too. (This subject was called loadsmanage.) Covering several hundred years, Lyon records the many developments in the legal arrangements and daily practices of these men charged with ensuring the safe passage of ships of all kinds. However, there is not a single reference to the use of lights in any of the ports, nor is there any hint of the possible management of, or allocation of resources to, possible harbour lights. The obvious conclusion is that there were no lights, yet are we to believe that a busy port such as Dover operated at night in darkness?

And what of the Pharos? The eastern Roman lighthouse had been built within a Roman fortified site overlooking the town. Over centuries, it was regularly expanded until it became one of the most important and strategic castles in England. During all this time, the Pharos had not been destroyed to provide space for new works, but instead it had been occasionally modified, first by the addition of a Christian church alongside and then by alterations to the tower itself to enable its use as a bell tower.

Once again, Lyon records in much detail the history of the castle across many centuries, together the many comings and goings of VIPs transiting the area. He reports in much detail aspects of the management of the castle estate, its supplies and finances, yet again there is no indication of human or materiel supplies and finances for maintaining a light in the Pharos.

In summary, the conundrum with which we are faced is why, in the face of so much activity in the port, is there no record of the provision of a light to assist the great number of ships passing through?

The great Victorian detective Sherlock Holmes might have argued about the truth remaining once all other possibilities had been eliminated, but it is not that simple. This chapter is called the Dark Ages with good cause, but was the port of Dover truly dark at night. Did the many skilled pilots not work at night? Lyon reports how, for a time, these men rode the waves continuously, waiting for their turn to pick up an approaching ship and lead it safely into port, so it was surely the case that pilots worked all hours. It is hard to imagine that ships approaching Dover from a distance did so with no sign of light ashore. I conclude that fire was so commonplace - just as human labour, horses, carts and beer could be found everywhere, that it was simply not recorded. Just as the building of stables or brew-houses went unrecorded, so did the brazier kept burning at night on the quayside. The decrepit Phari up on the hills were insignificant compared to the extensive torches used to keep the great castle usable at night. I prefer to imagine those pilots steering their ships towards Dover with the eastern heights ablaze with light. Then, as they approached the port, their familiarity with its layout enabled them to pick up the location of quayside braziers where they could tie up safely and hand the vessel back to its captain. I do not believe that either Pharos was employed to any degree of significance after the Romans departed. But the port was lit.

Final Remarks

The correlation of Christian activity by those who were most likely to have received education and the showing of lights for the benefit of mariners is a bonus for our study because it has resulted in the identification by scholars and historians through the ages of many locations where it probably took place, even if only spasmodically.

The next chapter will tell how the construction of churches with tall towers, spires and other high points above those of any other local building would become the perfect location to exhibit a light. The structures themselves were clearly visible and identifiable from a distance, and when a light was shown from a high point on the structure it was likely not to be obstructed by trees, as might be the case for lights at lower levels.

Of course, it is most unlikely that we are talking of fires in such locations, but those responsible for making the decision to exhibit lights were generally in positions whereby lamps burning oils were more attainable.[59]

So what might we conclude about the reasons why there appears to be little or no use of sea lights during this long period? The pace of technological change was indeed generally slow. Lacking the scientific knowledge that contributes to technology, advancements were gradual and localized, driven by practical needs and limited by factors such as availability of resources, societal structures and cultural attitudes. Innovation tended to occur within specific trades or crafts rather than across broader sectors, and knowledge was often passed down through apprenticeships or within family lineages. Additionally, the spread of new technologies was constrained by factors like limited communication and transportation networks, as well as by social and economic barriers. However, it is important to note that while the pace of change may have been slower compared to later periods, the middle ages still saw significant advancements in various arenas such as agriculture, architecture, and warfare. Innovations like the heavy plough, windmills, Gothic architecture, and advancements in metallurgy had profound impacts on medieval society and laid the ground for further developments in the centuries that followed.

But the setting of sea lights was not in the hands of the mariners; there was not enough co-operation in society to make it feasible. The showing of candle-light was generally of poor assistance and the setting of bigger lights was impractical, requiring large amounts of fuel and human resources. It would take much longer to make progress in this domain.

Conclusions

1. In the absence of evidence to the contrary, it cannot be assumed that there were no lighted aids to navigation in the period loosely known as the Dark Ages.

2. The only method of creating light during the Dark Ages was by the burning of wood, fossil fuel or other organic material.

3. From today's perspective it seems that an ancient seafarer, knowing he might be at sea at night, would have wanted a light to guide him home.

4. Later indications of a network of lights along the southern North Sea suggest a tradition of providing beacons amongst at least some of those who were more expert in the business of seafaring.

5. In most post-Roman lands lighthouses were gradually abandoned, replaced by an informal system of fire lights, some appearing in medieval records, but many not.

Notes

1 The name Britain derives from the Roman name Britannica, and we must adhere to this name as representative of the peoples left behind after the Roman departure. The point at which the land becomes England and the people therefore become English, must not be confused with these early British inhabitants. It was the complicated mixture of ethnic backgrounds that resulted from centuries of conflict by immigrants with local inhabitants that eventually lead to any identifiable nation called England. We note that Wales and Scotland and Ireland at this Point are outside the area of consideration and essentially leading an isolated existence based upon pagan traditions.

2 The name Alamanni looks familiar and it should be for the French word for Germany is, of course, Alemagne!

3 Morris, Marc: The Anglo-Saxons pp9-42. The 'fall of Rome' was actually a complicated process and took place over time rather than is a single event.

4 Even so, there were plenty of violent periods to come, notably the Norman conquest of 1066.

5 Renaissance literally, a rebirth, is considered to be the period around the 15th and 16th centuries when humanity attempted to recover the spirit of classical learning and wisdom.

6 The Dark Ages have also been called the Early Middle Ages. The Middle Ages have been defined as 600-1500 (Cambridge Dictionary), or 476-1500 (Collins Dictionary), the time between the Roman Period and the re-birth of culture with the Renaissance. Medieval: medium aevum meaning middle age. The Dark Ages were adopted as meaning cruel, uncivilised or primitive.

7 For the purposes of this trilogy of books about lighthouses I have defined three periods: Ancient times those years up to 400 CE; Medieval times the years from 400 to 1700; Industrial times post 1700.

8 I am trying to be true to my own definition of a lighthouse, but in these ancient cases where there were significantly large fires, it seems appropriate to refer to them, as do so many others, as lighthouses. The Pharos at Alexandria was indeed a genuine lighthouse, whilst the two phari at Dover and Boulogne were strictly not.

9 https://catuk.org/colchester-and-the-thames-estuary/

10 What Is A Lighthouse? A simple question but not an obvious answer. https://www.pharology.eu/What_Is_A_Lighthouse.pdf See also https://www.pharology.eu/whatisalighthouse/W_index.html

11 Obviously, my definition is written with reference to the English language.

12 See Milne and Lakin. There is no firm evidence in the history books and only a small amount of archaeological evidence in such a heavily built-up area.

13 I hope the reader will forgive this rather Anglo-centric account, for the full discussion of wider European history is surely beyond the capacity of many authors. However, it is hoped that this will serve to illustrate the broader aspects of these great changes to western civilization.

14 We think of countries like Iraq, Libya and Afghanistan as we read this.

15 The king often regarded as ruling over a unified Britain is King Æthelstan, who ruled from 924 to 939 AD. He was the first king to be recognized as the king of all England, including the previously separate kingdoms of Wessex, Mercia, and Northumbria. Æthelstan's reign marked a significant milestone in the consolidation of Anglo-Saxon England.

16 Ironically, the lands of the far southwest were probably affected least since they had never been subjected to Roman engineering. However, by the 9th century, Devon and Cornwall had finally been absorbed into the kingdom of Wessex that by then included Dorset, Hampshire, Wiltshire and Berkshire. Cornwall itself remained independent until the mid-9th century and its language did not die out until the 18th century.

17 The brilliant book by Graham Robb, The Ancient Paths (see the bibliography), shows how little roads, boundaries and borders have changed since ancient times. Routes once created continue to exist because of convenience and constant use. Boundaries and borders are generally set up by the first settlers based upon obvious geographical features and, even when land ownership changes, the boundaries and borders do not.

18 Vann, Robert L.: The Drusion - A Candidate for Herod's lighthouse at Caesarea Maritima. The International Journal of Nautical Archaeology (1991), vol 20, 123-139.

19 The detailed history is given in Volume 1.

20 I here suggest that this term - faux lighthouse - is a good way to describe a structure that looked like it might have been a lighthouse and that perhaps showed a light for non-navigational reasons, and that, by accident, became useful to mariners.

21 https://en.wikipedia.org/wiki/Ribat_of_Monastir?utm_source=chatgpt.com "Ribat of Monastir."

22 The Ribat at Sousse is in visual sight of Monastir and in the location where, in Volume 1, I suggested that there was about a 50% probability that the Romans built a lighthouse there.

23 alukah.net.

24 Georges Marçais and Jonathan Bloom. https://en.wikipedia.org/wiki/Ribat_of_Sousse.

25 Bibliotheca Alexandrina Center for Islamic Civilization Studies. See: cp.alukah.net

Also: https://en.wikipedia.org/wiki/Aghlabid_architecture "Aghlabid architecture"

Also https://www.bibalex.org/IslamicCivilization/ar/Publication/ListAll.aspx "The Center for Islamic Civilization Studies".

26 https://en.wikipedia.org/wiki/Minaret "Minaret - Wikipedia"

27 Thiersch, Chapter 5ff.

28 Wilken, p7.

29 Wikipedia: History of Christianity in Britain.

30 Conan was made bishop here as a result of the settlement of Cornwall to Wessex under Æthelstan. The church was built in 923 for Conan's inauguration and was the seat of the Bishops of Cornwall, until the see was moved to Crediton in 1042.

31 Robb, p3.

32 Robb, p5.

33 "Goidelic" refers to one of the two main branches of the Celtic language family, specifically the Gaelic or "Q-Celtic" branch. It includes Irish (Gaeilge), Scottish Gaelic (Gàidhlig), and Manx (Gaelg). The term contrasts with Brythonic (or Brittonic), the other major Celtic branch, which includes Welsh, Breton, and Cornish. The word "Goidelic" itself comes from Old Irish Goídel (Gael), which refers to the Gaelic-speaking Celts. Historically, the Goidelic Celts were primarily based in Ireland and later spread to Scotland and the Isle of Man.

34 Robb, Ancient Paths.

35 Mothersole, p3.

36 Mothersole, p6 and Trethewey's Ancient Lighthouses.

37 From Jutland in Denmark.

38 It is known as East Anglia today.

39 A polity is a name given to a group of people living under an identifiable political structure.

40 https://warfarehistorynetwork.com/article/alfred-the-great-scholar-strategist-swordsman/

41 Trethewey, Ken Ancient Lighthouses Chapter 2.

42 It seems appropriate to interpret his naming of Frissones as Frisians.

43 According to Wikipedia, the Frisians are an ethnic group indigenous to the coastal regions of the Netherlands, north-western Germany and southern Denmark, and during the Early Middle Ages in the north-western coastal zone of Flanders, Belgium. They inhabit an area known as Frisia and are concentrated in the Dutch provinces of Friesland and Groningen and, in Germany, East Frisia and North Frisia (which was a part of Denmark until 1864).

44 Pye, p32.

45 The shortest geographical route between the Rhine and the Rhône is through the Belfort Gap (also called the Burgundy Gate). This natural pass in eastern France, between the Vosges Mountains and the Jura Mountains, is the lowest point on the watershed between the two river basins. The Belfort Gap (near the city of Belfort, France) provides the shortest overland connection between the Rhine (via the Ill River, a tributary of the Rhine) and the Rhône (via the Doubs and Saône Rivers). This route has historically been significant for trade and transportation, as it offers a relatively easy crossing between the two river systems.

46 Pye, p31

47 This was one of the factors behind the formation of the Hanseatic League, indeed of Guilds in general.

48 Pye, p71.

49 The original sources of Viking history come from a variety of materials, including: (i) Sagas and Eddas: The Icelandic Sagas are prose narratives that recount the lives of legendary heroes, events, and early Norse history. Notable examples include the "Saga of the Volsungs" and the "Saga of Erik the Red." The Poetic Edda and Prose Edda are collections of Old Norse poetry and stories that include myths, legends, and heroic tales. (ii) Chronicles and Annals: Medieval chronicles, like the "Anglo-Saxon Chronicle," provide accounts of Viking raids and settlements from the perspective of those who encountered them. (iii) Archaeological Evidence: Excavations of Viking sites, such as burial mounds, settlements, and trading posts, reveal insights into their daily life, culture, and technology. (iv) Runestones: Inscribed stones that often commemorate events or individuals and provide information about Viking society and their beliefs. (v) Historical Accounts: Writings by contemporary scholars and historians,

such as Alfred the Great, who documented Viking invasions, and later historians like Adam of Bremen. These sources collectively contribute to our understanding of the Viking Age, its culture, and its impact on Europe and beyond. The first recorded Viking raid on England occurred in 793 AD when Vikings attacked the monastery at Lindisfarne, off the northeast coast of England. This event marked the beginning of the Viking Age in England, which lasted for several centuries and involved repeated invasions, settlements, and conflicts between the Vikings and the Anglo-Saxons. The terms "Vikings" and "Danes" are often used interchangeably in historical contexts, but there are some distinctions to be made. "Vikings" is a broader term that refers to Norse seafarers from Scandinavia who engaged in raids, trade, exploration, and colonization during the Viking Age, which roughly spanned from the late 8th to the mid-11th century. Vikings came from different regions of Scandinavia, including present-day Denmark, Norway, and Sweden. "Danes" specifically refers to people from Denmark. During the Viking Age, the Danes were one of the major Norse groups involved in raids and settlements in England and other parts of Europe. They were particularly active in the Danelaw region of England, which was under Danish control for a significant period. So, while all Danes were Vikings, not all Vikings were Danes. The term "Danish Vikings" is often used to specifically refer to those Vikings originating from Denmark. In the context of invasions of England, both Vikings and Danes were involved, with the Danes being a prominent group among the Norse invaders.

50 Haywood, pxv.

51 Haywood, p1.

52 Obregon p13

53 Clearly a modern name: I don't think the Vikings spoke French at this time!

54 Wiki: Vinland, 181028. Also: Pye, p114-5

55 Pye p106.

56 Pye p104.

57 Pye, p78

58 Wood, p83.

59 Oils obtained from petroleum were not in use until centuries later. These were mostly derived from whales, fish oils or vegetable sources. See p224.

60 https://viking.style/what-is-the-biggest-viking-ship/

61 During the Second World War, lighthouses were generally extinguished unless specifically ordered to show lights for a passing friendly flotilla.

62 Indeed, since the later part of the 20th century, many of the lights that have been retained in the traditional role of lighthouses have been shown 24/7, a situation made possible by automation and the introduction of low power LED light sources that have extreme durability combined with adequate and reliable power supplies.

63 Clearly, there were many centres of faith in the British Islands and it is only those immediately next to the sea that might be relevant.

64 Bede (also known as The Venerable Bede, c. 673–735 AD) was an Anglo-Saxon monk, historian, and scholar, best known for writing the Ecclesiastical History of the English People (Historia Ecclesiastica Gentis Anglorum), completed in 731 AD.

65 Pye, p65.

66 Pye, p143-9.

67 Even today we are tried by a jury of our peers.

68 Pye, p152.

69 A man called Gratian was a teacher of theology at the monastery of Saints Nabor and Felix and in 1150 wrote what is regarded as the first textbook of cannon law.

70 There are in fact many recorded cases of candles being used in this way.

71 https://balticguide.ee/en/today-is-the-night-of-ancient-fires-bonfires-will-burn-on-the-shores-of-the-baltic-sea/

72 https://kr.pinterest.com/pin/7670261861523115/

73 https://balihai.com/posts/kauai-north-shore-the-spectacular-fire-throwing-ceremony/

74 Of course, there were two Roman lighthouses, one on the east high ground that still exists and one on the west that was demolished as part of the expansion of much later fortifications.

75 Lyon, John: The History of the Town and Port of Dover and of Dover Castle, with a short account of the Cinque Ports. In Two volumes: Volume 1 - 1813; Volume 2 -1814.

76 The Cinque Ports ("five ports" in Norman French) were a confederation of coastal towns in Kent and Sussex, originally: Hastings, New Romney, Hythe, Dover, and Sandwich. Their importance came from their strategic position facing the English Channel. Before England had a permanent navy, the Crown relied on these towns to provide ships and crews for defence and transport. In return, the ports were granted special privileges (such as tax exemptions, self-governance, and trading rights).