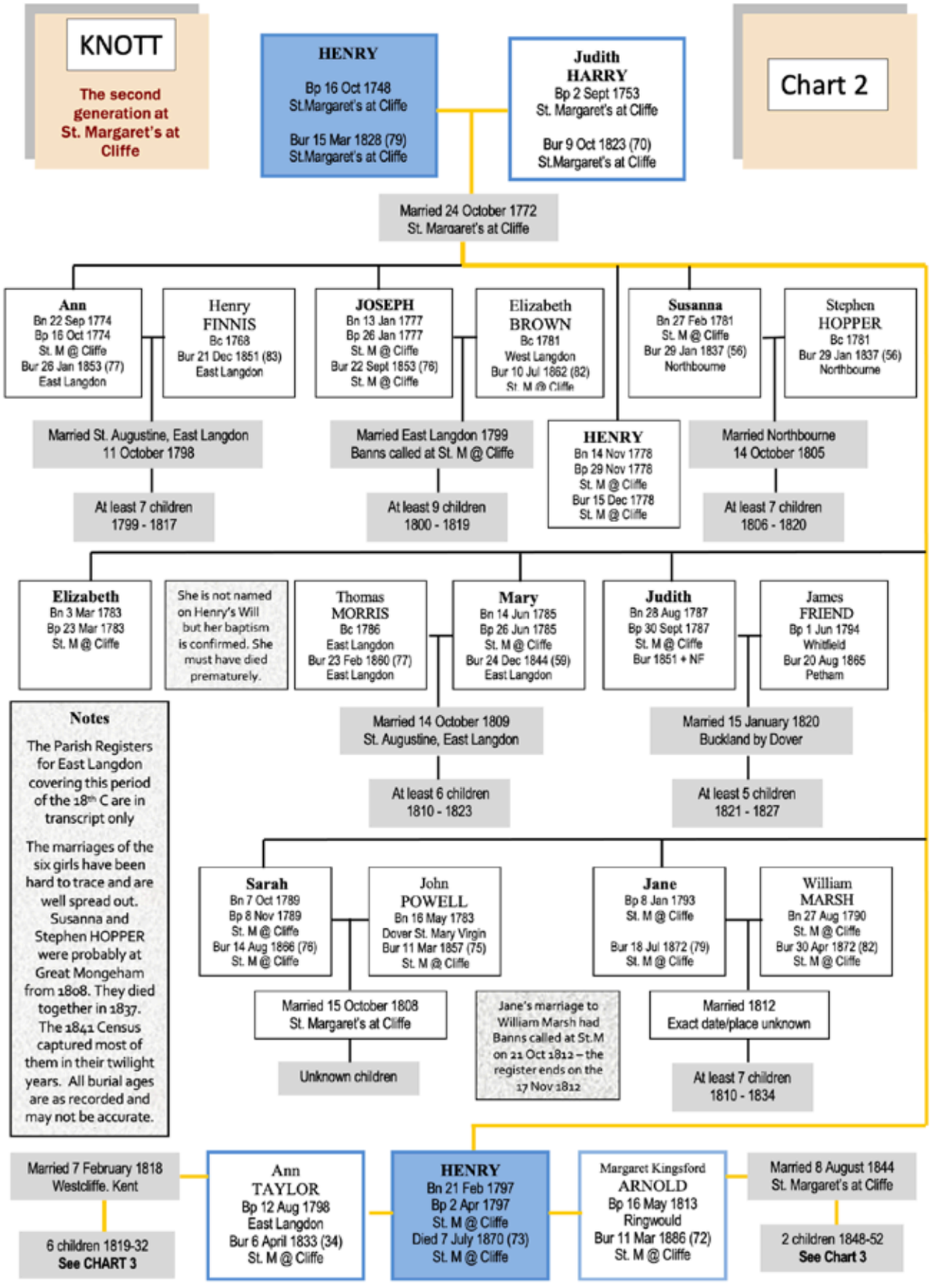


Above: The family tree of the second generation of Knott light keepers at South Foreland. Henry (1748-1828) handed the baton to the third generation in the person of his son, Henry Junior (1797-1870). Unfortunately, some of this data is uncertain due to the lack of detail in early registers and duplication of forenames.

Henry & Judith

Extracted from: Light On The Forelands by Ken & Clifford Trethewey, Jazz-Fusion Books (2022)

Second Half Of The 18th Century

The second generation of Knott lighthouse keepers; Lighthouse technology advances and the Forelands are lit with oil fires.

Henry - The Next Generation

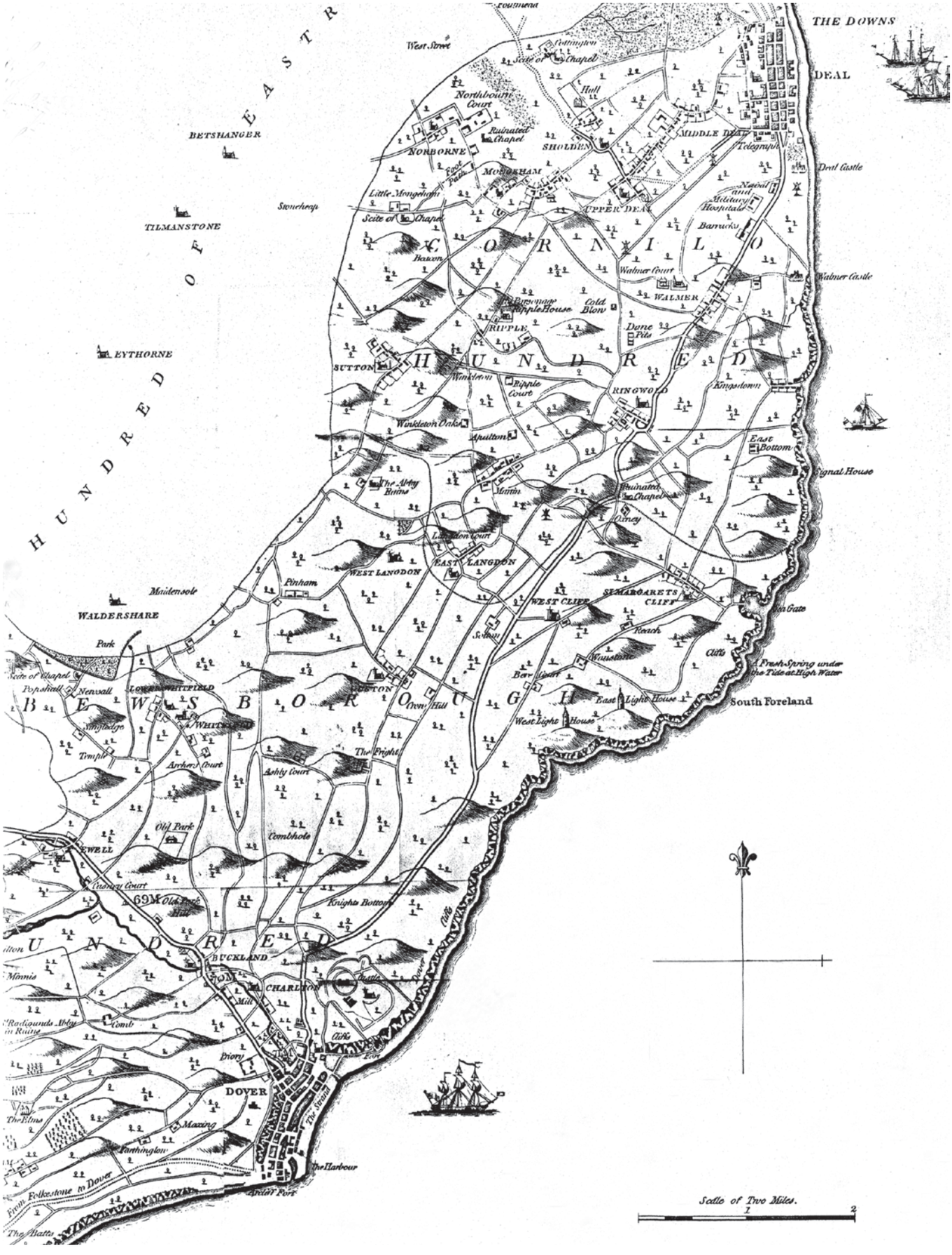
As owners of the South Foreland Light, the Greenwich Hospital trustees had made no allowance for an assistant keeper. William would have to soldier on until he could work no longer. Retirement was not word anyone recognised in the 18th century. Yet young Henry was now in need of a job and there wasn't a large choice in such a small community. In later years the trade of a carpenter crept into the family record, and it may have traced its origin back to Henry. It was a useful trade in a small community, but I have no way of knowing the occupational composition of the parish in the mid 1700s.

A family story suggests that Henry became an apprentice shipwright and worked in Chatham Dockyard on HMS *Victory*, but that is most improbable, for the simple reason that every apprentice had a Master and in this period there was no such thing as an 'institutional master' as Chatham's Royal Dockyard would have been. It is an enticing story as the timing is coincident. The *Victory* was launched by floating her out of No.2 Dock on the 7th May 1765 when Henry would have been 19 years old and a very experienced apprentice. However, to be realistic rather than fanciful, there were carpenters, boat builders and shipwrights aplenty in both Dover and Deal, but apprenticeships were not cheap.

In 1710, Stamp Duty was imposed on every apprentice indenture that lasted for a hundred years and it is curious to note that there was a Master Carpenter at Minster on the Isle of Sheppey, close to Sheerness and Chatham, named Henry Knott. He took five apprentices between 1718 and 1749 each paying 10 guineas for the privilege. In return he offered instruction with board and lodging for a fixed term which seems to have been six years,

The Parish Registers of St. Margaret's at Cliffe show that young Henry Knott was in the village on Saturday 24th October 1772, for that was the date on which he married Judith Harry, a girl who had been born and brought up in the parish. If Henry was to be his father's assistant on the South Foreland light, then this was the time when it was needed most. His father was about 65 years of age, but any help that Henry had to offer would have been purely voluntary. At least he would be able to ease the burden on his father and learn something of the idiosyncrasies of a brazier fire.

The entry in the register written by the Vicar, John Marsh, suggests a very elderly man in failing



ABOVE: This is a most interesting early - possibly 18th century - map of the southeast corner of Kent, clearly showing the South Foreland lighthouses. Again we note the unusual designation of the lighthouses as West and East.

health. His handwriting and tidiness had never been good, but Henry and Judith's marriage entry is a disgrace, and the vicar's demise came in the following September when he was buried in his own churchyard on the 5th of that month. It was his fortieth year of ministry in the parish. However, the scrawl on the page does not detract from something that had not been seen before – Henry Knott's signature in his own handwriting, and not to be outshone by her new husband, Judith's signature is next to his. How they both learned to write is something of a mystery as there was no formal school of any kind in the parish until 1847.

It was not long before the children began to arrive, beginning with a daughter Anne in 1774. She was followed by a son Joseph early in 1777 and then at the end of 1778 they had another son baptised Henry. Sadly he lived barely a month. Thirty one days after his birth, he was being buried in the churchyard of St. Margaret's, just ten days before Christmas Day 1778. The decade had begun with a joyful occasion, but had ended on a sombre note.

In 1776 and again in 1780 the inevitability of death visited the door of the Knott's household, but the registers are such that it is impossible to differentiate one death from another when the person's age is not recorded. When William could no longer manage his duties is impossible to say, but on the day following Christmas Day 1776 a William Knott was buried. Was this the son about whom nothing is known or was this the father – the original Knott keeper of the South Foreland Light?

In the spring of 1780 the event was repeated when a second William Knott was buried on Saturday 13th May and if there is no record of his age then there is certainly no death certificate to suggest a cause of death. If there had been it would have had little resemblance to the medical knowledge of today. We are unable to gain any sense of his health in his last years, although it is believed that William's sister, Susanna Knott, remained unmarried and stayed at home as housekeeper to her parents. William was gone and that was all there was to it. The officiating Minister was not even obliged to record his age, so William's date of birth remains a mystery.

Finally, the responsibility for the South Foreland light had passed to Henry, and as the family stood around the graveside in that familiar churchyard at St. Margaret's, I wonder what thoughts were going through Henry Knott's mind. If he had learnt the trade of a carpenter then it would have given him some satisfaction to see his father laid in a coffin made by his own hand.

Advancing Technology - Ideas That Revolutionized Lights In The 18th and 19th Centuries.

Today, lighthouses in England, Wales and the Channel Islands are associated with Trinity House, but we have already noted that in the early days the dedication of that august body - strong in some humanitarian aspects - was less passionate about lighthouses. Stevenson opined that their attitude was difficult to assess:

"Judging by its actions and not by its protestations, the determination of the Corporation to erect lighthouses had never been strong: before 1806, whenever possible, it had passed on to lessees the duty of erecting them." [1]

The ineffectiveness of lights that were still mostly provided by candles or coal fires remained the biggest stumbling block to progress. By 1777, William Hutchinson, Master of the Port of Liverpool, had publicly highlighted how difficult it was to ensure that a coal fire light could be a useful aid to navigation. He wrote:

"It is well known from reason as well as experience, that open coal fire lights, exposed to all winds and weathers, cannot be made to burn and show a constant steady blaze to be seen at a sufficient distance with any certainty, for in storms of wind, when lights are most wanted, these open fires are made to burn furiously, and very soon away, so as to melt the very ironwork about the grate [2], and in cold weather, when it snows, hails, or rains hard, the keepers of the lights do not care to expose themselves to the bad weather are apt to neglect till the fire is too low, then throws on a large quantity of coals which darkens the light for a time till the fire burns up again, and in some weathers it must be difficult to make them burn with any brightness. And when they are inclosed in a glazed close light-house they are apt to smoke the windows greatly, nor affords so much constant blaze (that gives the most light) as oil lamps, or tallow candles of 2 pounds each, but these last require often snuffing to prevent their light from being dull, so that after trial of these different

1 Stevenson, p65.

2 The melting of the grate is frequently reported, but most unlikely since a simple coal fire is not capable of reaching the temperatures needed to melt the metal. Most likely is that the temperature of a fire similar to that in a smithy achieved the phase transformation to an austenitic structure that is soft and can bend under the weight of the burning materials. Once it had cooled, the observer of distorted metal could easily have concluded that it must have melted.

sorts of lights, we have fixed upon lamp lights, with proper reflectors behind them to answer best here at Liverpool." [3]

Hutchinson was an influential voice raising concerns about the need to advance the technology. Putting theory into practice he made significant progress in lighting his port and sharing his ideas throughout the engineering community.

Thanks to the professionalism of Hutchinson, the Elder Brethren had become aware of the success of the Argand lamp design - essentially an oil-burning lamp mounted at the focal point of a parabolic metal reflector. They had been used at Liverpool in 1772 and Hunstanton in 1778 where the directionality of the light produced by the design made them ideal as leading lights. Stevenson thought that the Brethren were doubtful they could work well at headland sites where they required a wide angle of illumination, and that this was one reason for their inertia.[4]

From 1786, however, Trinity House took a full and active part in the development of lighting technology, if not building. Following a visit that year to France from where reports of improvements to their lighthouses were returning, a decision seems to have been made to become pro-active. It led to the installation of a temporary beacon at a newly created Blackheath test facility at Shooters Hill in London in 1787, together with an invitation to prospective engineers to test their designs. One of those who impressed with his experiments was Thomas Rogers. Working with a partner, George Robinson, Rogers demonstrated new equipment he had designed, and persuaded Trinity House to try out his lamps. In 1789, they improved the design to make a magnifying lens for a light. The Brethren agreed to the installation of these innovative lamps in the newly built Portland High and Low lighthouses.[5]

The great French designer of optical equipment, Augustin Fresnel, admitted that he had not himself invented the technology of using glass to improve the light from lighthouses, but that methods of so doing were already in hand in England. In the third edition of his Treatise, Hutchinson described new work carried out in Liverpool port with glass lenses.

"These improvements were brought to Liverpool by Mr. Thomas Rogers. The Trinity House in London very generously built a temporary light-house on Black Heath to try experiments to improve light-houses, and after they had done very laudably, advertised liberty to any other people to try experiments for this important purpose. Mr. Rogers being in the glass trade as above mentioned, got reflectors blown in one piece of glass to their form, and by a new method silvered over the convex side without quick-silver, made them very bright good reflectors, and had what I call a large circular patent lamp three inches diameter, consequently the wick nine inches round, stands at the focus of the reflector, and before it a plain convex lens of solid glass twenty-one inches diameter and five inches and a half thick in the focus, which makes the light answer the principle of the Magic lantern upon an enlarged scale. The first of this improvement was ordered and put in use at one of the Portland light-houses, next at the Hill of Howth near Dublin the report of them seems incredible, and to very great advantage in hazy and foggy weather. And he is now putting them up at Waterford light-house, and brought one of them here to Liverpool and had it tried in three different places to compare with reflectors made with plain pieces of looking glass which it surpassed. His reflectors were but twelve inches diameter, he said he would get them enlarged to eighteen inches, then he reckoned he would not lose one ray of light from going through his lenses, which I hope will have a fair trial at our light-houses here, where we require the most perfect sights that can possibly be got made, not only to be seen at the greatest possible distance without our most extensive sand banks, to let ships see that they are in a fair way, but to diverge to each side as much as necessary, to let them see when they are out of a fair way, which is the most important." [6]

In 1791, Hutchinson could perhaps see the benefits of the idea, and was optimistic. After his work at Portland, Rogers fitted his lamps in 1790 at Howth Head, Hook Head and at other sites in Ireland, as well as at North Foreland to complement the newly rebuilt structure there. This is beautifully illustrated in the fine image of the 1791 North Foreland lighthouse on p52. The thick glass panes have lenses incorporated into the lantern

3 Hutchinson, p148-9.

4 Stevenson, D A, p66.

5 Boyle, M and Ken Trethewey: *Portland Bill*, B&T Publications, (1996). ISBN 978-1-901043-01-2.

6 Hutchinson, William: *Mr. Rogers' Improvements for Light-Houses On Improved Glass Reflectors and Lamps, with Solid Glass Lenses before them for Light-Houses*. In: *A Treatise Founded Upon Philosophical And Rational Principles, Towards Establishing Fixed Rules, For The Best Form And Proportional Dimensions In Length, Breadth And Depth Of Merchant's Ships In General; etc*. 3rd Edition (1791).

surrounding the lamps.

However, in 1801 Robert Stevenson was doubtful after a visit to Portland.

> *"I next visited the Portland lights, situated upon the south-east of that 'isle', which consist of a high and a low light, thereby distinguishing it from the Scilly and Eddystone lights. In the one lantern at Portland there are seven reflectors, and in the other six – only the one half of each lantern faces the sea, and that next the land is dormant ... Before each reflector there is placed a large lens not with a view to increase the light but the better to distinguish the light-house. The reflectors in the highest tower are of a square form with Argand burners and I believe were placed there for the purpose of experiments, though they are now found useless and the circular form is now universally in use.*[7]

All of the Rogers 'reflectors' were removed from the Irish lighthouses about 1812 and replaced by better types. They were kept in use at Portland after 1818 and at North Foreland until 1834.[8]

Fresnel was directing his attention to lighthouse equipment when he wrote:

> *"I thought from the start of substituting large glass lenses for parabolic reflectors. We know that a lens, like a parabolic mirror, has the property of making the rays starting from its focus parallel; it produces by refraction the effect that the parabolic mirror produces by reflection. This application of lenses to the illumination of lighthouses could not be a new idea, for it comes too easily to the mind, and there is, in fact, a lenticular lighthouse in England; but it appears that it has little brightness, which is probably due to the great thickness of the lenses used, which is 0.20 m, and perhaps also to the general arrangement of the apparatus, on which I do not have no specific information."* [9]

Fresnel understood that with the quality of most glass being so poor, Rogers' lenses were far too thick to be effective.

An Old Light And A New Keeper

In my years of experience as a family historian I have learnt to be careful not to dismiss any family story as fanciful, as there is often some thread of truth on which it is based. If Henry had worked on HMS *Victory* as an apprentice then she was no more than the job in hand, just another ship, albeit a large one. There was no hint of what she might become. Following her launch in 1765, *Victory* languished in the Medway until March 1778 when she was commissioned for deployment to the American War of Independence. The family story implicating Henry in her construction was embellished by the suggestion that, as keeper of the South Foreland light, he dipped the flag as she passed on her way to Trafalgar. That story is one to relish, but it might not be correct.

In May 1782 it was announced from Deal[10] that Admiral Lord Howe and Vice-Admiral Barrington would lead a fleet of 14 ships, carrying nearly a 1,000 guns, past the South Foreland with *Victory* and *Britannia* leading the way as First-Rate 100-gun Ships-of-the-Line, and with two fire-ships tagging along for good measure. It must have been a splendid sight and dipping the flag in respect of their passing was a patriotic gesture worthy of any Englishman, but it is unlikely that she ever passed that way again. Portsmouth became her base and Spithead was her resting place.

As the 1780s progressed, so did the family of Henry and Judith Knott. Children seemed to arrive each alternate year following Susanna in 1781 and it seemed to be a girl on every occasion. Five were added by 1789 bringing the family to seven, but leaving Joseph as the only boy. The lighthouse was becoming crowded as it seems likely that it was also home to Henry's widowed mother Elizabeth and his Aunt Susanna, who was unmarried, but who had been his mother's housekeeper at the light. There was a lot for Judith to cope with, but there was also a lot of help. Yet, very gradually it had become a time of seriously increased activity in the Channel with an ever-present antipathy towards the French.

Early in the morning of the 9th July 1782 someone saw a 'row-boat' anchored close in under the South Foreland light. A message was passed along the coast to the Revenue & Excise, and their cutter *Rippon* was sent from Sandwich. She put her own boats in the water and a chase ensued that ended in the Downs and 13 men were taken prisoner. Two swivel-guns were mounted on the boat which had come overnight from Calais.[11] Their objective was never revealed.

On the evening of Sunday 17th November 1782 a foreign ship named *Oldenberger* was wrecked on the sandbank known as the Brake (see the chart in Appendix 1, p404) with a valuable cargo that

7 Stevenson, R: *English Lighthouse Tours*, p25.

8 Stevenson, D A, p68

9 Fresnel, Augustin: *Un nouveau système d'éclairage des phares*, Académie des Sciences (Paris) 29 July 1822. https://melusine.eu.org/syracuse/mluque/fresnel/augustin/phare.html

10 *Kentish Gazette*, 15 May 1782.

11 *Kentish Gazette*, 17 July 1782.

included chests full of candles. By the time that a salvage operation had swung into operation the cargo had been plundered, and suspicion fell upon vessels from the Downs and South Foreland. A notice was put in the local newspaper to the effect that if anyone was in possession of such goods then their return to the Customs at Ramsgate would attract a reward of half the value at auction. I wonder if anyone did, especially the candles?

There were regular newspaper reports concerning ship losses and persons lost overboard, and later registers at St. Margaret's (to which I will return later) give more detail of those poor souls found along the coast.

The Old Lights Are To Be Replaced

In 1791 the Greenwich Hospital Trust decided that the old lights were to be replaced with new lights built in their place. Someone made a simple sketch of the existing lights which was attached to a letter dated 30th December to an undisclosed addressee.[12] That simple sketch revealed so much that was previously unknown. They were simple octagonal towers with the Upper Light being 10 m (34 feet) high and the Low Light 6 m (20 feet) high. Each had a raised octagonal dais on the flat roof that allowed access all around the brazier, but which, in itself, was not flat. It was lower at the centre where the brazier rested. The larger platform was about 7 m (24 feet) across and the smaller one 5 m (16 feet). The sketch included a measurement 'to the sea' and not to the cliff edge and of course that is open to interpretation, but the Upper Light was 135 m (438 feet) away and the Lower Light just 26 m (85 feet) distant. Looking beyond the sketch, it would seem from their shape that they were made of wood and they were probably lap boarded, a system in common use in the South East of England. This could easily have required the skills of a carpenter for routine maintenance and these were the skills, it is thought, that Henry Knott had acquired in his youth. However, the one important facet that is not apparent is the family accommodation. The artist may not have concerned himself with that and ignored it.

The original drawings of John Yenn's designs still exist and a word picture of the lights has been created from them as follows;

The 1790s lighthouse that was designed by John Yenn was octagonal, of three storeys plus a basement, with an elongated hexagonal stair turret against its north-west side, extending up through much of the height of the lantern. It was entered by a projecting single-storey lobby below the west wall of the tower. The tower proper was about 4.25 m (14 feet) broad at the base, and 3.8 m (12 ft 6 in) at the lantern, externally, and stood about 12.57 m (41 ft 3 in) above ground level, 7.75 m (25 ft 5 in) to the soffit of the balcony. There was a fireplace in the north wall at each level (including, it seems, the basement and lantern), rising to a high chimney. The basement floor was about 1 m (3 ft) below ground level, with a 'cistern for oil' along its east side. The lantern had horizontal and vertical astragals, and was surmounted by a shallow domical cap.[13]

It was intended that the new lights would be much more substantial and have an enclosed copper lantern. The lights would be replaced one at a time and the larger light would be built first. Of course, as the work proceeded, the two brazier lights would continue and that meant that the new light would not be in the same position as the old light and as Durrant revealed, it was beside it. But it also meant that what was known formerly as the East and West Lights would now become the Upper and Lower Lights of our acquaintance. The prospect of a new light did not appear to inspire very much attention, but it is recorded that the new Upper Light cost £1,804 – 2s - 3½d – literally down to the last halfpenny, yet there is no word on the length of time it took to build it.[14]

The new lamps were to be fuelled by sperm oil, but Henry was glad to see an end to the open brazier. It would be much more pleasant to be indoors on a dark and stormy night, but what would this oil be like? Would it smell? He had heard that it came from whales caught by the Nantucket whaling community,[15] but it was new and, like everything new, the gossip surrounding it created its own uncertainties. Henry was soon to realise that every new innovation brought with it its own difficulties.

The physical appearance of the brazier structures was recorded in sketches in 1808 by Captain Durrant, a Militia Officer whose duties had brought him to Dover. His illustrations are priceless and reproduced here on p96-97. We see a square, robust masonry tower of three floors with a castellated parapet. It also had a lean-to structure at its base that provided some form of basic accommodation

12 Admiralty Greenwich Hospital Letter No.65 at the National Archives - sketch copied at St. Margaret's History Society.

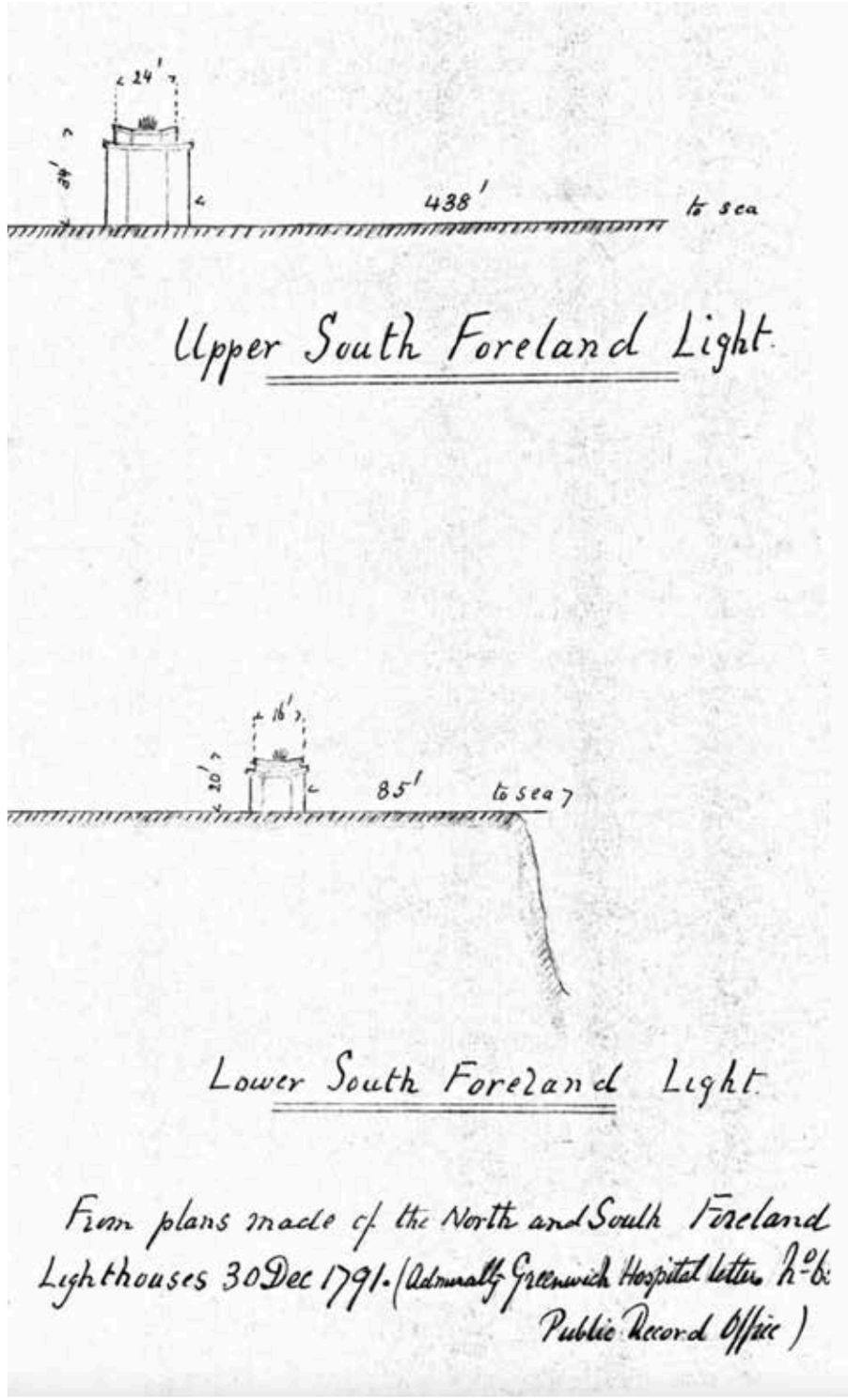
13 SFLCMP p62.

14 Harris Stone, p12.

15 Boyle, M: *Lighthouses – Four Countries One Aim*, B&T Publications, (1996) p11. ISBN: 1-901043-02-9.

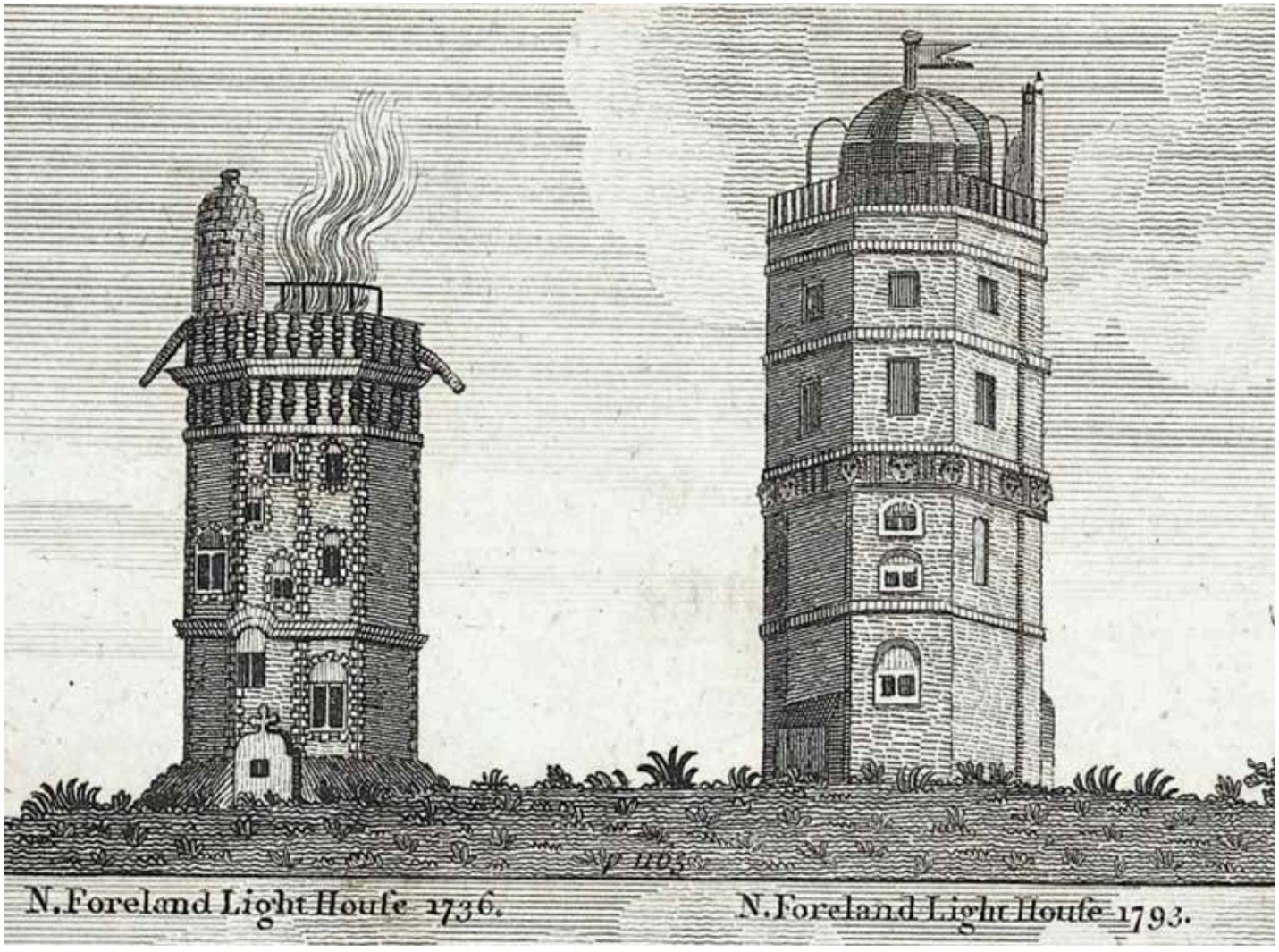
for the keeper. A chimney was a notable addition to the shape. Originally there were two structures rather than one, simply to differentiate their presence from that of the single brazier at North Foreland, but Durrant's sketch of the Low Light does not seem to include the former brazier structure. The new Upper Light was built, as suspected, immediately alongside the old tower, but Durrant includes a small cottage a little distance from the new structure.[16] It probably made little difference to the Knott Family which structure they called home until now, when the family had possibly reached as many as ten occupants. The identity of the other light keeper has also never been uncovered with any certainty, so the size of his family is unknown. Retrospectively, I think Henry would have won if they had tossed a coin for the Lower Light.

It is now 1792 in the Knott family. Burial records for the 19th May show the name Elizabeth Knott, but is it Henry's mother or Henry's daughter, born 1783? This latter girl is the only one who seems not to have married, so we cannot tell. Two years had passed since the birth of Judith's last daughter, Sarah, and she was probably hoping that there would be no more, but it was not to be. At 39 she fell for another baby – another daughter Jane, her ninth child. Surely this must be the last. The date was 1793!



Above: This is the only known image of the South Foreland lighthouses of this period. Crucially, it shows the two towers, the upper taller than the lower, with their octagonal shape. It provides the important clue that these two lighthouses were in the same style as the North Foreland lighthouse of which we have much better images (see p92). The plans are ambiguous in that they do not tell us whether the towers were being made taller or whether lanterns were being added - or both. The caption reads: "From plans made of the North and South Foreland lighthouses, 30 Dec 1791 (Admiralty Greenwich Hospital Letters No 65 Public Record Office").

16 SFLCMP pp62ff.



Above: A rare image that compares two successive North Foreland structures. On the left, the 1736 structure has a coal fire and two curious side projections that we must assume are shutes for the disposal of ash. The bulbous protrusion on the top platform must be a chimney emitting smoke from fires inside the tower. In 1793, the tower has an additional two storeys and an enclosed lantern that houses the newly installed Argand oil burning lamps. The clues contained in this important image suggest that very similar structures were present at South Foreland at the same period of their conversion. John Rennie described the new lighthouse as follows ...

"This is an Octagon building about 25 or 30 feet in dia. and as I was told 62 feet high to the Chausser which is placed on a platform about 5 or 6 feet less than the inside, There is on one side of the building a well hole for raising coals from the Coal Yard and on the other side a winding stair to the top. The Platform has a room below for the keeper that attends during the night and from thence is a stair up to the Platform where there is a chausser. At the head of which is a large stone facing the head above 3 feet distance - beyond this stone and near about the Centre of the Platform stands a Chausser which is a grate about 26 inches wide, 24 inches broad and 21 inches deep. The back part, viz that stands on 4 legs about 28 inches high..."

At South Foreland the new upper tower was completed in 1793. Designed by John Yenn it was three storeys high, 41½ feet to the top of the copper lantern, and the circular rooms inside the octagonal tower were 12½ feet in diameter. An enclosed spiral staircase adjoined the northwest side of the main tower. Two years later the lower tower was finished, this was similar to the upper tower but only two storeys in height. Both towers were equipped with the new Argand lamps fitted as a catoptric system of two small oil lamps each backed with a paraboloidal metal reflector). The lamps were fuelled by sperm whale oil, coal fires having by this time generally been discarded in favour of the new Argand oil lamps. Not until 1810 were magnifying lenses used again.

War With France, But The Lights Continue To Shine Brightly

There was an uneasy tension in the air among some sections of the English population since the fall of the Paris Bastille in July 1789. The remodeled French armies had embarked upon a swathe of European conquest at which the English could only nervously look on. Inevitably there was a surge in refugees across Europe, but in France it was not until the relentless harassment culminated in the Paris prison massacre in September 1792 that England became the destination of choice. Despite the attempts of Prime Minister William Pitt the Younger to stay neutral, the French Revolutionaries executed King Louis XVI on the 21st January 1793 and declared war on Great Britain on the 1st February. During 1793 it has been estimated that upwards of 25,000 refugees crossed the Channel, most of whom headed for London. Someone's distress was another man's payday as ship's captains took their chances, and their money and nocturnal cross-Channel boat traffic greatly increased. Was it, therefore, a coincidence that the Greenwich Hospital chose to rebuild the lights at this moment, and for Trinity House to announce their intention to place a floating light on the Goodwin Sands? Perhaps it was an orchestrated attempt at assisting the poor French refugees in their hour of need.

The South Foreland Upper Light was probably completed towards the end of 1793. At the time, Trinity House only announced changes to their own lights, and consequently there is no accurate date for the changes at South Foreland. By 1794 everything was back to normal and as the year rolled into 1795 the lighthouse builders returned to build a second lighthouse lower down the cliff, just 75 ft (23 m) from its edge. It was to be the Low Light, identical to the Upper Light, but having only two floors. It was to use the same sperm oil lamps, but only two paraboloidal reflectors. An announcement dated 25th April 1795 declared:

> *"The newly completed Lower or Eastern Lighthouse will be exhibited on the 1st May 1795. It is of an improved construction with Argand lamps and reflectors, the same as is now found on the Upper or Western Lighthouse. They will be of equal brightness and both visible at the same time on every bearing at sea. Their brilliance and steadiness is superior to the old coal lights and will be seen from a greater distance."*[17]

When the Low Light was rebuilt to a similar design but shorter stature the cost was recorded as being £1,761 13s 10½d, just £44 cheaper than its big sister up the hill. Surprisingly John Yenn's plans for his lighthouses included a design for a pair of cottages for the light keepers that were perfectly symmetrical with a living room 4 m (12 feet) square and a bedroom 2 m (7 feet) by 4 m (12 feet). It was noted that one of the keepers had eight children and that has to be Henry and Judith Knott, but it would appear that, for some reason, the cottages were never built. The single cottage that stands to the right of the Upper Light in Durrant's sketch might be assumed to be that of the light keeper and his family, but a clue to its possible use emerged in 1832 when ownership of the lights passed to Trinity House. The Greenwich Hospital Agent was compensated for:

> *"... having built an additional convenience for himself when visiting South Foreland lighthouses beyond the accommodation furnished for the lighthouse keepers.*[18]

We might conclude, therefore, that the keepers lived in and around both the old and new towers.

Before the year 1795 ended, Trinity House announced that their floating vessel was in place and showing three lights to distinguish it from the North and South Foreland lights. It also had a bell which would be rung in hazy or thick weather. She had been moored one mile north of Sands Head (see p404), but late September was not the best time of the year to moor a new lightship. It was not long before it had been damaged by a 'tempestuous storm' and had to be temporarily replaced. This new situation would have been watched by the light keepers from their new lanterns, and they would probably have been the first to realise that it had broken from its moorings and was adrift, but how could they raise the alarm in 1796?

Naval Activity Off The Coast

It might be said that the war with France began hesitantly, but for Mr. Wood of Wansom Farm[19] behind South Foreland, it began with a bang that belonged to one of 'the King's cutters' off the headland. It was between 3 and 4 o'clock on the afternoon of Wednesday 22nd May 1793. As the farmer returned from the field where his men were working with a plough, a 2-pound shot fell just a few

17 *Kentish Weekly Post*, 28 April 1795.

18 SFLCMP p69. Source: London Metropolitan Archive MS 30025/8;123.

19 Wansom is now known as Wanstone Farm.

yards from them. The news story concludes:

"The shot is now in his [the farmer] possession and it is hoped that a caution will be issued against such practices in future." [20]

Towards the end of the summer of 1794 it was announced that watch posts would be established along the coast from South Foreland to the Isle of Wight, supervised by Captain H. Roberts, a contemporary of the great naval explorer Captain Cook. These posts were 'to warn of an approaching enemy' and highlighted England's ever-present fear of invasion.[21]

On the 7th August 1795 there was a Russian fleet of eighteen men-o-war resting in the Downs whilst eight British warships were coming and going, as they followed their orders. Suddenly a French brig and a privateer appeared on the scene, no doubt inquisitive about this unusual gathering. They could do no more than record the sight as two frigates from the British naval presence immediately made sail and chased them off.[22] French ships were frequently close to our shores seeking opportunities and they never hesitated if such an opportunity presented itself. One occurred on Thursday 28th April 1796 when a small lugsail privateer with a crew of sixteen boarded the English sloop *Sincerity* inward bound from Guernsey to London with wines and ordnance stores. The piratical boarding party took possession of the sloop and left eight men on board to take her to Calais. As dawn broke the pirates found themselves faced with HM sloop *Racoon* and they took to the ship's boat in their attempt to escape, but the *Racoon's* boat captured them close to the French coast and all were returned to Deal. The privateer escaped.[23]

One hundred years previously the keepers of the South Foreland lights, possibly George Sharp and his colleague, had thought it prudent to approach their owner, Robert Osboldston, for some form of indemnity protecting them from the Press Gangs.[24] In December 1796 it was much more a question of money. It seems that almost every Hundred in the County[25] had been allocated a recruitment target based on their populations and St. Margaret's at Cliffe was in the Hundred of Bewsborough. A bounty of ten guineas was offered to any able-bodied man willing to serve in the navy 'immediately.' Only two men from the parish were required to present themselves to Richard Jell, the parish constable.[26]

1797 was the year of the Naval Mutiny at the Nore, just up the coast from St. Margaret's. The gossip in the *Red Lion* suggested that Trinity House had been ordered to destroy all its buoys and beacons along the Thames so that the Nore mutineers could not put to sea.[27] But, 1797 was also a traumatic year for Henry. Judith was pregnant again – and at 44 years old, that was not good! Henry and Judith's tenth child was a son, born on Tuesday 21st February into the new lighthouse that was to be his home. Amid the surprise of Henry's late arrival, no one gave a thought to the possibility that Henry would become the third generation of light keepers at the South Foreland light.

There was no mention of his birth on the front of the *Kentish Weekly Post* that day. Why should there be? This was not news like the desertion of Thomas Quick from the Royal Cornwall Militia or the impending sale of a lease on the post windmill at Hoo[28] following the death of the miller Michael Knott. What mattered to the Knotts was that their line of succession was assured and he was baptised Henry Knott on Sunday 2nd April, two weeks before Easter Sunday 1797. The following year the threat of invasion increased and troops began to arrive on the Forelands. White conical tents spread up the valley from the Bay towards the lighthouses. Shrill trumpet calls wafted on the air at sunrise and sunset as the light keepers went about their business of lighting and dowsing the lamps. There was a continual daily disturbance as foot soldiers and cavalrymen went about their duties mounting guard or forming patrols. Eventually substantial barrack blocks replaced the rows of tents providing shelter for a Company of infantrymen, fourteen cavalrymen with their horses and eighteen artillerymen and was enhanced by a cookhouse, guardhouse and magazine with stores and a barn, all lying behind a 71 cm (28 in) thick wall built across the bottom of the valley to block the way from the beach. *The Green Man* found itself on the wrong side of the wall, but next to a small gate which probably did little harm to its trade over the next twenty years.

20 *Kentish Gazette*, 24 May 1793.
21 *Kentish Weekly Post*, 23 September 1794.
22 *Kentish Weekly Post*, 11 August 1795.
23 *Kentish Gazette*, 3 May 1796.
24 In the 1750s, John Smeaton had commissioned a medallion to be carried by the workers on the Eddystone lighthouse to protect them from this event.
25 A Hundred was a division of a Shire that could hold its own courts – in Kent a Hundred was known as a Lathe.
26 *Kentish Gazette*, 20 December 1796.
27 Boyle, Martin: *Lighthouses – Four Countries One Aim*, (1996) p15.
28 This is the Hundred of Hoo – five parishes between the Thames and the Medway known as the Isle of Grain.

The New Technology Is Not So Bright

Around 1800 there was an explosion of ideas and inventions being adapted for use in lighthouses. No longer was it acceptable for the mariner to simply navigate using a stone tower with a coal-burning brazier on top. He was demanding that the light he saw was constant and bright, so it became important to enclose the light in a lantern and to direct its illumination towards the sea. This had already been done at South Foreland, but the complaints, like the tide, rolled in on a regular basis.

The Argand lamps and reflectors referred to in the *Kentish Weekly Post* in 1795 were the brainchild of the Swiss inventor, Amis Argand, who discovered in 1784 that if a glass funnel was placed over a naked flame it increased in brilliancy. This was due to the rising heat of the captive flame drawing in more oxygen through the base of the circular wick. It was a very practical invention, but the delicacy of the glass funnels precluded any excitement among the lighthouse administrators. These lamps were further described in a Dover Guide of 1828 as having a "capacious copper reflector with the inside washed with silver."

When describing the rebuilding of the South Foreland towers, one author said that, "It was not until 1810 that magnifying lenses were used,"[29] but the existence of these lenses within the lantern were more traditional than fact.

Shortly afterwards two British inventors took the concept of the Argand lamp a step further. Thomas Rogers, a glass-cutter and George Robinson, an optical expert, devised a system that combined silvered-glass reflectors (concave mirrors) with a large convex lens. These reflectors were manufactured to incorporate an Argand lamp within the perimeter of its rim and the final effect was to magnify the light source tenfold. The Portland High Light was the first to be fitted with it in 1788 and eighteen reflectors were fitted in the Dungeness light in 1792.[30] But we are left 'in the dark' once again, with regard to the South Foreland light and its new apparatus. Was it the simplest form of the Hutchinson reflector devised by a Liverpool Dock Master and installed in his lights during the 1760s? If so, it was fitted first and then changed again in 1810 to the more complex Rogers and Robinson reflector that I have described above.

In 1810 Henry Knott was 62 years old, and at this time the great lighthouse engineer Robert Stevenson was working methodically around our coastline. Although he was the Chief Engineer of the Northern Lighthouse Board in Scotland, he seems to have been lending his professional expertise to the Trinity House and inspecting lighthouses on their behalf.[31] It must also be remembered that Trinity House still did not own the South Foreland lights, but that did not stop his tours. At the start of his second tour, Stevenson wrote:

> *"Leave London on the 28th for Moorgate, Ramsgate, and Dover with a view to visit the four land lights and others upon that coast. Find the south and north for land lights to be fitted up in the modern style with from 12 to 14 plated reflectors in each light room, which were not thoroughly cleaned and some reflectors were in rather a dirty state. The light keepers are comfortably lodged and seem to be well pleased with their situations. The dwelling houses partake of that cleanliness which is so general in the cottages of the English."*[32]

The fact that Stevenson is known to have visited South Foreland, allows us to conclude that Henry Knott Senior met and spoke with Robert Stevenson, one of the greatest lighthouse engineers in the history of the service, even if he was a little red-faced about the condition of his reflectors. Any fuel-fed flame will give off smoke and it was therefore of critical importance to keep the wicks in good condition. The earliest flat wicks would only last about four hours without trimming, and it didn't take much to set them smoking. The reflectors could only be cleaned during the day when the lamps were extinguished, and on this occasion Henry and his assistant had been caught out by the great man himself.

The question that hangs over all the foregoing text regards the layout of the family accommodation at the lights. It has never been clear whether these lights continued with one keeper at each light or whether an allowance had been made for an assistant. There is no doubt that Henry would have had the help of Henry junior from the age of 12 or even younger, but whether it was in the Upper or the Lower Light is not known. One thing must be certain: there had to be another light keeper whose identity may now be known, as we shall see.

29 Harris Stone, J: *The Piccadilly of the Sea*; (1910); revised (1980), p12.

30 Boyle, M: *Lighthouses to Light Their Way* (1996) p21/22.

31 Stevenson, R: *English Lighthouse Tours*.

32 Stevenson, R: *English Lighthouse Tours* p30.

Above: The South Foreland High and Low lighthouses, as sketched in 1808 by Captain John Durrant.

The Durrant Sketches

In September 1808, Captain John Durrant, an officer of the Royal Navy, made sketches of the South Foreland in a book that is preserved by Hampshire Cultural Trust. These (and the Turner sketches shown overleaf) are the only known images of the post-1793 structures that existed prior to those of Walker that remain today.

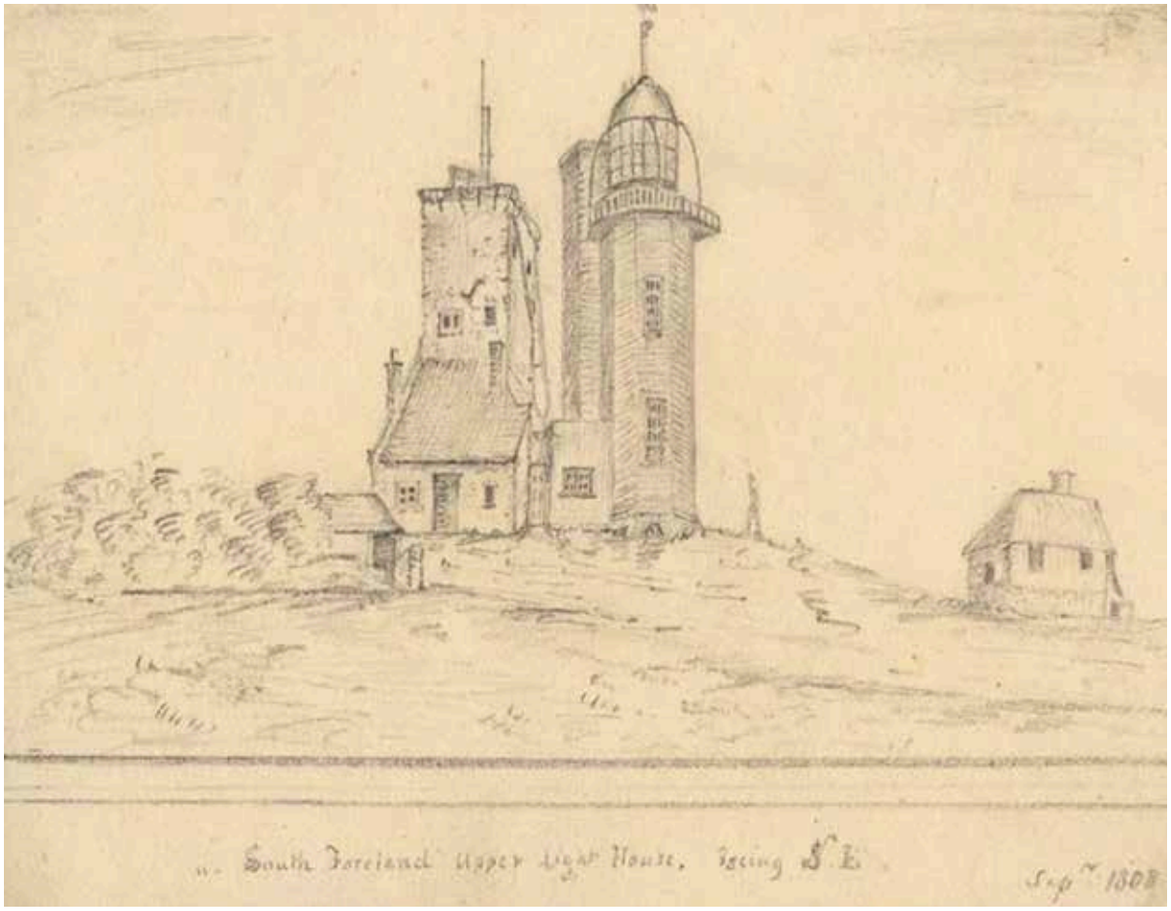
Here we see that the 1793 towers stand close by other towers that we must conclude were the earlier towers built in the time of the Greenwich Hospital ownership.

The image of the two lighthouses appears to be a very good representation of their positions on the cliffs, with appropriate differences in placement and elevation. The towers match in design, and the High light has at least three levels, whilst the Low light has two.

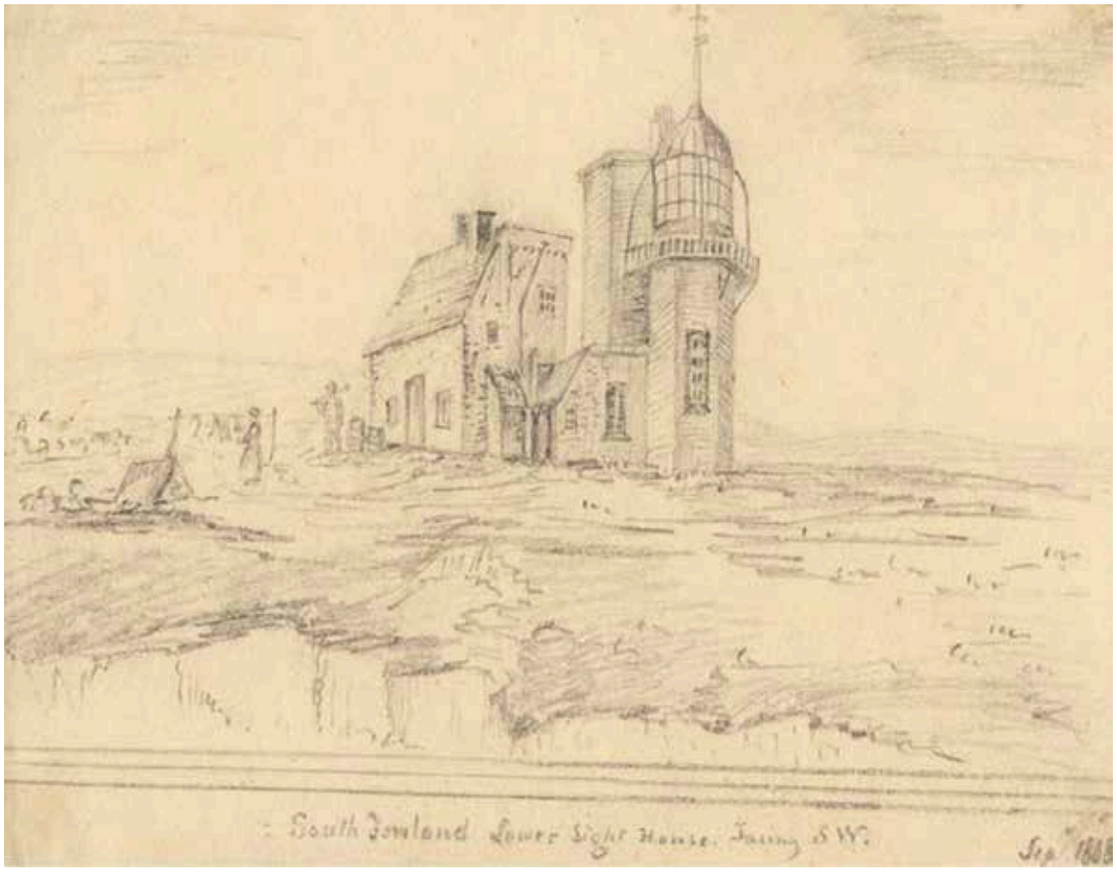
The living accommodation appears as modest stone cottages that seem to be both integrated into the old towers, as well as joined to the new ones, allowing the keepers to move from living space to workjng space without going outside. At the High Light, a cottage is shown a short distance away from the lighthouse complex (and this is confirmed in the Turner sketches). The Low Light cottage appears to have more than one floor level. The towers have the octagonal form that was retained by Walker, topped by cylindrical lanterns and rounded cupolas given extra rigidity by curved metal supports attached to the parapet.

Of further significance is that the two sites show clear signs that each of the consecutive lighthouses was built immediately adjacent to the previous ones without necessarily demolishing them. This, of course, allows the new building to be carried out without extinguishing the old light until the new one is ready to take over the duties.

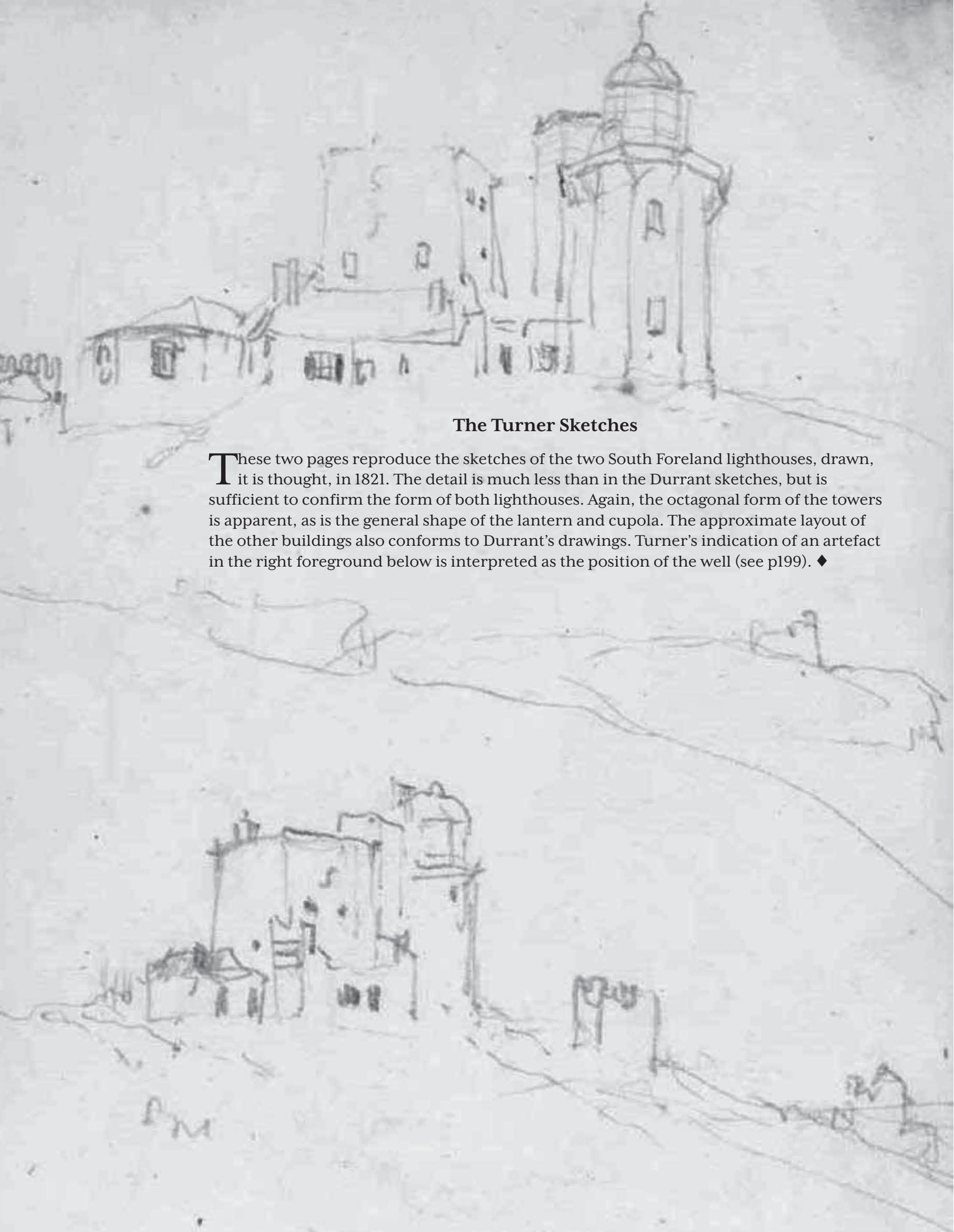
We would expect there to be similarities in these sketches with those we have of the towers at North Foreland and this is indeed the case. ♦



ABOVE: The South Foreland High lighthouse, as sketched in 1808 by Captain John Durrant.



ABOVE: The South Foreland Low lighthouse, as sketched in 1808 by Captain John Durrant.



The Turner Sketches

These two pages reproduce the sketches of the two South Foreland lighthouses, drawn, it is thought, in 1821. The detail is much less than in the Durrant sketches, but is sufficient to confirm the form of both lighthouses. Again, the octagonal form of the towers is apparent, as is the general shape of the lantern and cupola. The approximate layout of the other buildings also conforms to Durrant's drawings. Turner's indication of an artefact in the right foreground below is interpreted as the position of the well (see p199). ♦