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The Margate Shell Grotto

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Introduction The Shell Grotto is a Grade 1 Listed structure located in Grotto Hill, Margate [TR 3591 7087] beneath urban housing and gardens.

Since it was opened to the public in 1837 this curious underground structure has been the subject of much speculation and debate as to its origins.

Many pamphlets, articles and papers have been written over the years, almost all of which concentrate their attention on the intricate patterns of shells which adorn the walls and roof and thus give the grotto its name. (*Plate I*)



Plate I
The intricate shell decoration which gives the site its name.

The shell decoration consists of roughly square panels, each containing a specific design or motif with many of the designs incorporated in the panels being sufficiently ambiguous to allow for several different interpretations. The analysis of the symbolic meaning of the designs by several writers has led to dates of Prehistoric, Roman, 18th cent etc. proposed for its construction and its purpose ranging from ancient Phoenician temple to 19th century folly.

The latest researcher is Mick Twyman of the Margate Historical Society who has recently published the results of several years study¹ and believes the Grotto may have been associated with the Knights Templar with a construction date of mid 12th century. His conclusions are based on the careful measuring of angles within the Grotto and the observance of the position of projected sunlight onto the inside of the dome. (*Plate II*) He has also identified design features which he suggests points to the Altar Chamber being an early temple for Masonic rituals. Almost all of the theories of the Grotto's origins are based on there being 'hidden wisdom' in the layouts of the shells.



Plate II

The mid-day sun on the north wall of 'The Dome'. Mick Twyman considers that the position of the sun on the inside of the Dome can be used as an efficient solar calendar between March and October.

The writer has approached the matter from a different viewpoint and has looked at the grotto purely as an excavated underground void and has avoided using the decoration of the grotto as a primary source of interpretation to date the structure.

An examination of the Grotto was made during 2005 and the site was compared with other man made chalk caves in Thanet, Kent and the south east of England. The comparison sites were taken from the writer's personal survey archive and the Kent Underground Research Group's extensive database.

Background Notes

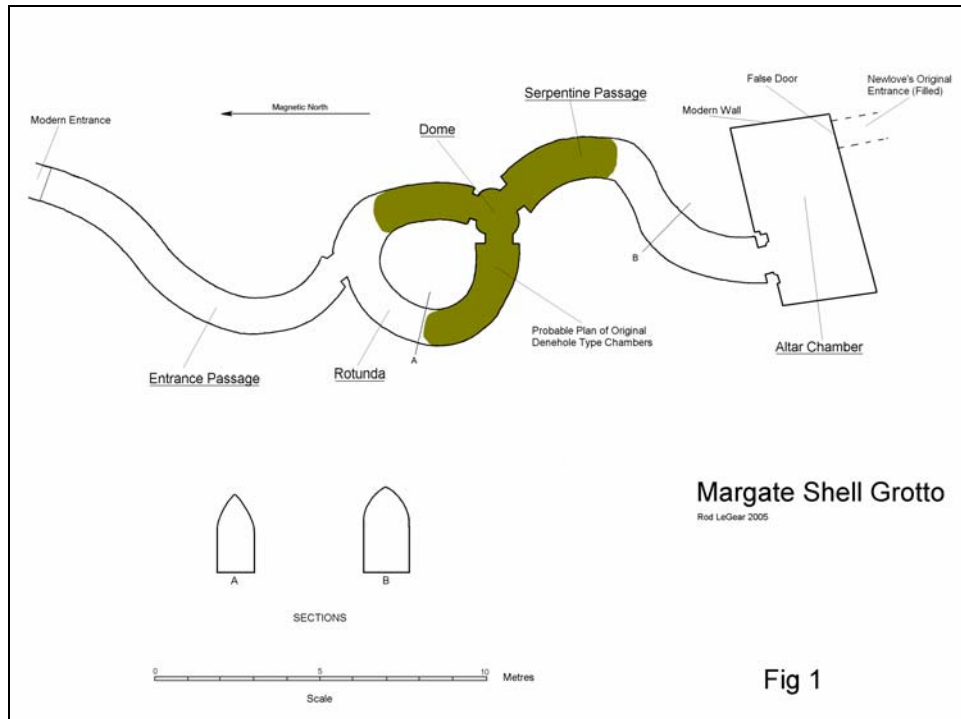
Initial Discovery Contemporary accounts vary but the common theme is that a spade was lost into a void when a cap-stone was disturbed in 1835. In order to retrieve the tool a small boy named Joshua, the young son of James Newlove, was lowered through the narrow hole on a length of rope. Newlove was the schoolmaster of the nearby boys' school, Dane House School.

Shortly after the discovery the land above the site was purchased by Newlove who then opened the grotto to the public in 1837 after installing a horizontal entrance into the altar chamber and lighting the tunnels with naked gas flame lighting.

High Street Grotto House It would perhaps be relevant at this point to mention that a superficially similar structure had been discovered thirty one years earlier near the High Street.

In 1804 both the Courier Magazine and The Times described a 'curious grotto' that had been discovered at Margate. Several writers, both past and present, have read the articles and have erroneously believed that they refer to the Shell Grotto. The sites, however, are completely separate with the High Street site lying approximately 0.6km west of the Shell Grotto and of very different construction. *[See Appendix]*

Description The Grotto has traditionally been divided into five named sections comprising: Entrance Passage, Rotunda, Dome, Serpentine Passage and Altar Chamber. *[FIG 1]*



Entrance Passage The entrance passage is a curving tunnel cut in the chalk, average 2.5m high and 1.1m wide, which leads into a circular feature known as the Rotunda. (*Plate III*)



Plate III

The 'Entrance Passage' is unlined and early reports suggest that it was originally only four feet high.

Early accounts state that the passage originally continued northwards past the modern entrance (constructed by James Newlove around 1840) and surfaced via a set of steps. The remains of this section of the tunnel are backfilled and lie beneath the adjacent property. It was also said that when the Grotto was discovered in 1835, this passage was only about 4ft (1.22m) high and blocked at the end 'with chalk blocks'. One account of the Grotto's discovery says that young Joshua and his older sister Fanny had already gained access via this passage before the spade was allegedly lost down the shaft. James Newlove had the tunnel enlarged and new entrance steps constructed when he changed his entrance from the Altar Chamber to one further up the hill. This passage is the only one which is unlined, having none of the elaborate decoration which features in the rest of the Grotto.

A few shells are present at the back of some candle niches, but this relatively crude work was almost certainly undertaken by a local workman named Wales when the tunnel was enlarged from its original small dimensions.

Rotunda The entrance passage joins two tunnels (average 2.4m high and 1.1m wide) which curve to form a roughly circular plan. These passages have been rendered and decorated with shells.

The two passages forming the Rotunda enter into a circular well-like feature known as the Dome. The entrances to the passages from the Dome are marked by what appears to be concrete clad archways as is the opening to the Entrance passage from the Rotunda. (*Plate IV*)



Plate IV

Two of the archways leading from the 'Dome'.

The Dome The Dome is a 1.0m diameter circular shaft extending to the surface which is 4.00m above floor level. At the surface the shaft has been capped with a concrete rendered brick or flint dome which has a small aperture (0.4m wide) open to the sky. The conical dome extends 0.5m above the modern ground level, the topsoil having been removed at some time in the past. (*Plate V*) The surface area is now covered by a poorly designed concrete raft installed by a previous owner. The whole area of the shaft and the underside of the dome is rendered and covered with shells.



Plate V The top of the 'Dome' is now proud of the surface. The topsoil was removed at some time in the distant past.

Serpentine Passage An 'S' shaped shell decorated passage (2.6m high by 1.4m wide) which leads from the Dome to the Altar Chamber.

Altar Chamber The Altar Chamber is a shell decorated trapezoid room of dimensions 5.54m by 3.0m. The eastern wall is of fairly modern construction, the original having been damaged by enemy action on 10th November 1940. The flat, plain roof 2.38m high is also, if early accounts are accurate, of relatively modern construction. It is said that a vaulted roof complete with shell decoration

was removed and boarded over when it became an obstacle to the construction of an extra room for a girls school run by Mrs Newlove above the site. At some time before this work was undertaken a Mr Mercer made sketches of the Grotto including the vaulted roof. Sadly the Mercer Papers were lost when Margate library moved from Victoria Road to Cecil Square. In order to open the site to the public it was said that Newlove had a horizontal entrance dug from a 'false door' (*Plate VI*) in the south-east corner of the Altar Chamber. When construction began on the new school room and the vaulting removed this entrance was sealed up and the low original entrance passage enlarged and new steps put in for access.

Plate VI

The position of the 'False Door' behind which is the blocked 1837 public entrance.



Whoever commissioned and/or planned the elaborate designs for the shell panels must have been a well educated person who managed to entwine many different themes into the intricate patterns of literally millions of shells.

2005 Assessment

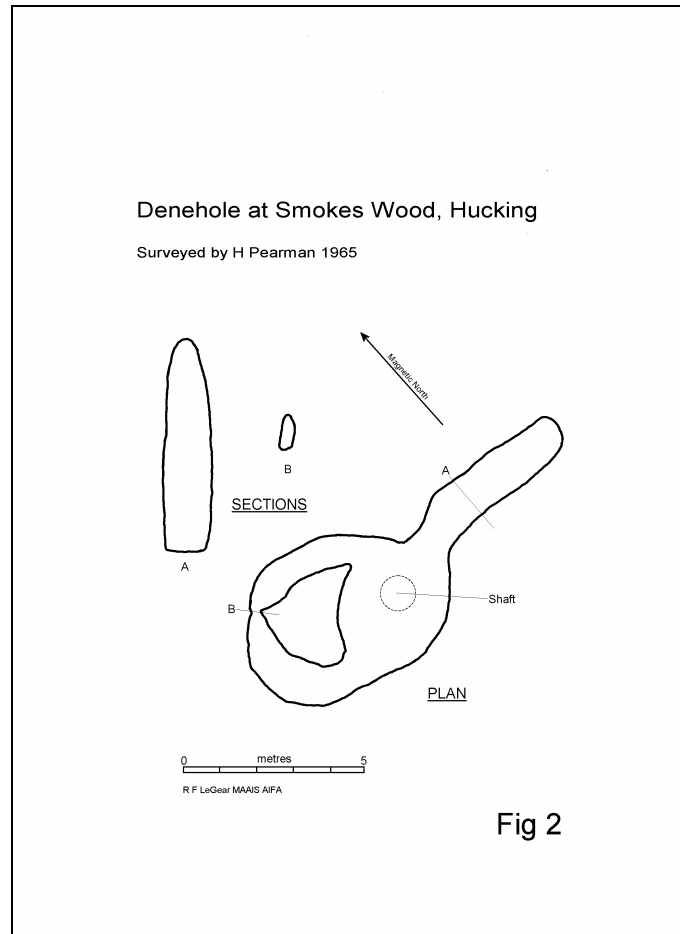
An assessment of the grotto was undertaken during 2005 when the site was examined as an excavated space in the chalk as opposed to a decorated grotto. Much of the usual information that can be ascertained from hand hewn tunnels is not available, as all the original walls and roofs, except the entrance passage, are covered with the shell designs. The tool marks left by the excavators can tell a great deal about both the direction in which a tunnel was dug and the skill and experience of the worker. For the purpose of the examination it had to be assumed that the plan and shape of the Grotto was the same as the originally excavated space. This of course may not be the case as any other cavities and voids may have been deliberately sealed when the decoration was applied.

Dome The examination commenced at the Dome where the 1.0m diameter shaft and the three equidistant headings leading from the bottom were found to be remarkably similar to those found in the small chalk mines commonly known as deneholes in south east England. Deneholes were generally excavated to obtain an unpolluted supply of chalk to spread on the land as a fertilizer, a process known as 'chalking' or 'marling'. The narrow shafted types tend to date from before the Roman invasion up to the beginning of the 14th century. The ground plan of these small mines depended on the amount of chalk required, the local geology and the experience and whim of the miner. A three chambered type would have three headings dug from the shaft for a distance dependant on the friction of the hauling rope on the base of the shaft.²

Rough calculations show that a denehole with similar dimensions to that of the Grotto i.e. a 1.0m diameter, 4.0m deep shaft and headings 2.6m high by 1.2m wide, would have chamber lengths of approximately 3.0 to 5.0m.

An examination of the Grotto plan shows that the first part of the Serpentine Passage is 3.5m from the shaft to a significant change of direction. The eastern Rotunda passage is a similar length to the junction with the Entrance Passage. The western Rotunda passage is 3.0m long before it tightens the bend to join the eastern passage. The abrupt tightening of the turns is in contrast to the smoother curves in other parts of the Grotto and gives an indication that the short tunnels may have been extended at a time when the original purpose of the excavation had concluded. Extending the passages beyond the 'friction limit' would have required the use of some form of underground transport such as wheelbarrows. This leads the writer to suspect that the Grotto could have been adapted from an existing denehole type excavation. It may be argued that denehole chambers are straight whereas the Grotto's initial headings are curved. Generally this is the case although deneholes and their later versions, chalkwells, have been recorded with curved chambers. A denehole at Hucking, near Sittingbourne, was examined in 1965 by Harry Pearman and Fred Topcliffe of the Chelsea Speleological Society [Fig 2] and also by members of the Sittingbourne and Swale Archaeological Research Group around the same time.³ The resulting surveys depict a shaft with curved chambers that connect, giving a remarkably

similar plan to that of the Rotunda, although the Hucking example is of larger dimensions and the final connection of the two tunnels was not fully completed. In 18th century Hertfordshire, chalkwell diggers favoured excavating circular passages around a central shaft.



The underside of the dome itself is decorated with shells and to have completed this work from inside the shaft, another method of access must have been available at this time. It is possible that either the Entrance Passage [possibly of lower dimensions] or an entrance into the Altar Chamber was then in use.

Serpentine Passage The passage continuing from the southern of the three shaft headings reverses the direction of its curve and enters at the north west of the Altar Chamber. The name Serpentine Passage is applied to the whole length from shaft to chamber. Whilst it is possible that the whole of this tunnel was excavated from the shaft it is more likely that the southern portion was dug from the chamber to connect with the shorter tunnel dug from the shaft.

Altar Chamber The Altar Chamber poses several constructional questions. If it originally had, as the early reports suggested, a vaulted roof, then the top of the

vault would be dangerously near to the surface. Digging upward to carve out a vaulted roof would have been extremely hazardous given the nature of the local chalk and the proximity of the surface. The chamber may, therefore, have been constructed by the 'cut and cover' principle where the cavity was excavated from the surface and the roof constructed before backfilling on top of the vaulting. As all of the vaulting was removed by Newlove it is impossible determine which constructional method was employed

It is said that Newlove had a horizontal entrance cut from the bottom of the hill to a 'false door' in the south east corner of the Altar Chamber so that he could open the Grotto to the public. The only other access at that time was the small hole in the shaft capping and the four foot high curving tunnel which was later to become the modern entrance passage.

The writer wonders if this was actually the case. If a passage was dug to intercept an exact location i.e. the 'false door' then a good degree of underground and surface surveying expertise must have been employed. If, on the other hand, the entrance was dug from the false door southwards then no particular survey skill would be required but access for the diggers and disposal of spoil would have been a problem.

It is possible, however, that Newlove only re-opened an existing blocked or sealed passage. Such a horizontal passage could have been used as access for the construction of at least the southern part of the Grotto, the spoil being easily taken out to the surface. The passages in the Grotto gently slope down from north to south following the contour of the hill. Therefore gravity would make the underground transport of chalk spoil (probably in barrows or small sledges) towards the southern entrance much easier.

Entrance Passage The entrance passage is something of a mystery. It was said to be originally four feet high with a similar width and blocked at the end. The passage allegedly continued northwards beyond the modern entrance stairs and came to the surface via some steps. That portion of the tunnel is said to be backfilled and lies beneath an adjacent property. The passage is now of similar dimensions to the rest of the Grotto having been enlarged by Newlove when his altar chamber entrance was closed after construction of extra school rooms above. This work was completed by a local builder/plasterer Stephan Wales. It is puzzling that the opening to the entrance passage from the rotunda has a full height archway that was obviously constructed at the time of the decoration. (*Plate VII*) If the passage really was only four feet high when the Grotto was discovered in 1835 why was the opening at full height? The description of its size was given by Newlove's daughter, Fanny Schmitt, in an interview when she was an old woman. Either her memory was erroneous or the passage was never completed by the Grotto constructors. The plan of this passage shows that it curves in a similar way to the serpentine passage and may have been intended as mirror image of the latter. A pilot heading of small dimensions may have been

dug with the intention of enlarging it later. That this was never completed by the original excavators could indicate that the Grotto was never fully completed.



Plate VII

The full height archway leading from the 'Rotunda' to the 'Entrance Passage'.

Discussion The shaft and the three headings, if they were originally dug as a denehole type small chalk mine, could date from Roman up to Mediaeval times. Without the evidence from tool marks etc it is impossible to give a definite date although the writer would lean towards the Mediaeval period. Extending the three chambers from the base of the shaft would have required the use of wheelbarrows to carry the excavated chalk. This form of transport did not come into common use in vertical shafted chalk mines until the 17th century.

It has been suggested that the arched shape of the passages could date it to the 14th century. This is not necessarily so as the shape of the roof was chosen by the miner not for its architectural design but for very practical reasons. The roof shape chosen depended on the structural quality of the material he was digging through. The arch shape used in the Grotto was the safest form that could be used in the loose jointed chalk in which the structure was excavated. A flatter profile would not have supported the roof and serious falls would have occurred.

Conclusion Based on a physical examination of the Grotto, reviewing accurate plans, the published literature and comparing it with other underground structures it is the writer's personal opinion that a small mediaeval denehole was reworked and extended at some time after the original mining had ceased. The skill required to cut the passages to a relatively complex predetermined plan would indicate that the date of the reworking could be from the 17th century onward although an 18th century date would seem more likely. It is probable that the shell decoration was undertaken at the same time or very shortly afterwards.

As to the purpose of this enigmatic structure the writer can make no useful comment except that it is highly likely that the Shell Grotto's original designer, whoever and whenever that was, has accomplished exactly what he set out to achieve i.e., speculation, controversy and conjecture which started with the discovery in 1835 and continues to the present day.

Appendix The other grotto was found during building work on the west side of Margate High Street on the premises of a Mr Oldfield who held a 25year lease on the house which he converted into a boarding school. The Times article of 26th September 1804 describes the site as follows:

"There is at Margate, although known to only a very few persons, a curious grotto, concerning the construction and real date of which nothing is certainly known. It is on the premises and behind the house of Mr Oldfield, and has a door which opens towards the sea, behind which is another, glazed with painted glass, on which are various well-executed emblematical representations, with two armorial bearings, and an inscription with the name of a Dutch lady and the date of 1612. Whether this is the date of its erection or not cannot precisely be told.

The place is quadrangular, with a sort of wagon roof, and most plentifully adorned with valuable shells of various kinds and sizes. It is floored in compartments with smooth stones and the spaces in between filled with pebbles. In one corner is an antique earthenware vessel, seemingly intended for the holding of Holy Water, a conjecture which receives confirmation on the east side which appears to have been formed to represent an altar piece.

There is, therefore, little or no doubt that this apartment was originally calculated for the most austere and sublime exercise of the Catholic Church, admitting no light but through the small stained window, which however, when opened, immediately discloses a view of the ocean. It is only within a short time that it has been discovered. Nobody knows, as far back as is recollected what the place contained: but it is said that it was the burial place of some old person who had once kept the house, on the site of which a seminary is now erected"

The site was incorporated into the cellars of the house which became known as Mrs Hill's Grotto House, Mrs Hill being the Landlord and owner of Grotto House and the adjacent Garden House.

At some time after its discovery the shell panels were removed and the site became a simple barrel vaulted cellar extension.

The house is still standing but has been renamed. It is still possible to discern the outline of the small window described above, although it has now been rendered over.

Acknowledgements The writer would like to thank Sarah Vickery, the owner of the Shell Grotto, for unlimited access both to the site and to the Grotto archives. Thanks must also go to Mike Twyman of the Margate Historical Society who willingly supplied the writer with the results of his extensive documentary research into the Shell Grotto and Mrs Hill's Grotto house.

End Notes

- 1 *The Mystery of Margate's Shell Temple* M Twyman Bygone Kent Vol.27 No6 p279 [2006]
- 2 Most deneholes did not use any form of underground transport. Chalk was hauled to the surface directly from the working face. When the friction of the hauling rope at the base of the shaft became too great - excavation in that direction ceased.
- 3 Chelsea Speleological Society Records vol. 4 p44 [1966]
See also *Archaeologia Cantiana* LXXX p269 [1965]