ART. XIII. – *The Ice-houses of Cumbria.* By R. G. DAVID, B.A.

IN 1660 Charles II returned from exile to England. While in France his gardener, Rose, had visited Versailles and studied the ice-houses there. Rugge's *Diurnal* tells us that "ice-houses were built in Upper St. James' Park, London in October 1660 as the mode is in France, Italy and other hot countries for to cool wines and other drinks for the summer season."[1] The advantages of storing ice soon became apparent, and by 1867 it was possible to write: "Most of the country houses of England of the better class are furnished with ice-houses for storage."[2]

In common with findings from other regions of the country, like Dorset and Northumberland, it is very rare to find any documentary evidence for particular ice-houses and information concerning their use occurs only occasionally in estate account books. The first built in Cumbria was probably that mentioned in a Holker Hall document, earlier than 1732, in which Mr Fletcher, steward of William Lowther, refers to an ice-house.[3] Some other ice-houses may belong to the eighteenth century, but the majority are clearly nineteenth-century, and the latest, High Borrans, near Windermere, was not built until the 1920s.

Advice on their construction was readily available. Architects, head gardeners, inventors and travellers wrote articles in profusion. The wide variety of methods which they advocated is matched by the many different structures which were built in Cumbria.

Fashions changed during the eighteenth and nineteenth centuries. The exclusion of heat seems to have been the main concern in the early days. As a result ice-houses were usually built undergound, their entrances faced north, and the structures were covered in trees. However by the end of the eighteenth century it was considered that dampness was the main problem. In 1797 the entry in the *Encyclopaedia Britannica* stated: "The aspect of ice-houses should be towards the east or south east, for the advantage of the morning sun to expel the damp air, as that is more pernicious than warmth; for which reason trees in the vicinity of an ice-house tend to its disadvantage."[4] The difference of opinion over the question of the direction of the entrance passage is well shown by analysis of the Cumbrian examples (see Table p. 153). In spite of the advice of the *Encyclopaedia* the majority of ice-houses in this county are now surrounded by trees. It is not always possible to be sure that there were trees there originally, but at Levens Hall and Hassness the ice-houses are located in deciduous plantations known as Ice House Wood. A summary of the significant features of the ice-houses can be seen (p. 153).

The architect J. B. Papworth writing in 1818[5] advocated that ice-houses should not be relegated to obscure corners of the estate, but should be significant features of the landscape. He includes a design for an ice-house which is massively monumental from the exterior, hiding a traditional arrangement for an ice-pit. With the possible exception of the now demolished ice-house at Lowther Castle, which was situated in the middle of a rock garden, no ice-house in Cumbria is anything other then functional and the majority are well out of sight of house and formal gardens.

As the nineteenth century progressed, ice-houses of a wider variety of forms were

constructed. William Cobbett in *Cottage Economy*[6] recommends the type of ice-house which he had seen in Virginia, U.S.A. These were entirely above ground and consisted of two concentric wooden walls about one metre apart, with the space between them filled with straw. The roof was thatched and rose to an apex about five metres above ground level. It would be difficult to determine whether any ice-houses of this type were built in Cumbria, or for that matter in Britain, because that kind of building is unlikely to survive many years of disuse.

One of the most detailed accounts of ice-house construction in the nineteenth century was written by Charles McIntosh in 1853.[7] He not only describes the traditional ice-house of entrance passageway and chamber under a domed roof, but also praises Cobbett's design. He refers to a design for an extraordinary ice-house and fruit store combined, complete with elevator and bowling green, which could be flooded in winter to form an ice-pond; and carefully describes the construction of ice-stacks and open pits. The ice-stack required a circular platform, not unlike a charcoal pitstead, upon which the ice was stacked in a wigwam shape. This was then covered with straw or bracken and thatched to keep off rain water. It would be very difficult to identify the sites of ice-stacks, but they probably existed in Cumbria, partly because they were successful,[8] and partly because it is difficult to account for the haphazard distribution of known ice-houses in the county. Otherwise it seems inconceivable that many of the large houses of Cumbria had no means of preserving ice, when neighbouring houses had ice-houses; so it may well be that some owners saved money by merely building an annual icestack. Cylindrical open pits, which would have been covered with straw and thatch, were either not built in the county, or have not been identified.

The source of ice was obviously a major consideration in the siting of an ice-house. Prior to the early nineteenth century all the ice used in British ice-houses came from local sources such as ponds, reservoirs and canals and as a result was often of poor quality. However during the first half of the nineteenth century vast quantities of crystal ice began to be exported from the lakes of New England and by 1867 Britain was annually importing 150,000 tons from Norway, the greater part consumed in London.[9] Though this block-ice was being sent by train from London to the provinces, it is not clear whether any found its way to Cumbria. Some however reached Berwick-upon-Tweed, as the Berwick Shipping Company recorded that in the seventy-three winters between 1821 and 1892 they had to import all of the necessary ice on six occasions, and a proportion of it on fifteen. They needed about 260 tons per annum and they were able to cut it all from local sources in the remaining 52 years.[10] These figures suggest that it was probably possible to keep the majority of private ice-houses in Cumbria stocked with local ice for most years in the nineteenth century, especially as the mean January temperature in Kendal as recorded by C. Nicholson in the 1861 edition of Annals of Kendal was 1·92°C in the period 1823-60, which compares favourably with 2·97°C recorded at Kendal Grammar School between 1963 and 1980. This shows that at the time of ice-house building winter temperatures were noticeably lower.

In Cumbria most ice-houses were built close to a source of ice, usually closer to the source than to the house they served. Often artificial or ornamental ponds and tarns were used, sometimes the ice-house actually being built in the dam, as at Patterdale Hall and Old Hall. Some like those at Netherby and Duddon Hall are close to rivers which may have been allowed to flood low-lying ground to provide still water on which ice could form. Others,

such as those at Helme Lodge and Sedgwick House, were built near the Kendal – Lancaster canal. The ice from these sources would always be crushed. The only evidence for block ice, perhaps imported, comes from High Borrans where a block of ice weighing about two hundredweight was bought from Barrow on at least one occasion in the 1920s, though in 1929 ice was cut from the nearby reservoir.[11] Helme Lodge, Sedgwick House, Lowther Castle and High Borrans ice-houses were filled within living memory. The gardener's account book of Holker Hall[12] refers to 15 employees during the fortnight ending 26th December 1883, and 14 employees during the fortnight ending 7th January 1885, receiving a bonus of ale, bread and cheese for "ice getting".

There were many different methods of filling an ice-house according to the nineteenth-century sources and twentieth-century practitioners. It was recommended that several days before the "ice getting" began the doors should be opened and a bushel or two of unslaked lime be put in to dry the atmosphere. It was essential that the meltwater could drain away, so if possible the ice had to be kept away from the drain. This could be covered with an iron grating or an old cartwheel inserted into a tapering pit and covered with brushwood. In cyclindrical or rectangular ice-houses "the floor should be formed with round poles, which should be three or four inches in diameter and should rest on sleepers five of six inches square".[13] At Helme Lodge the impressions of the wooden beams are still visible in the soil floor and wooden beams were in use at Rydal Hall.[14]

Some ice-pits were lined with double walls with an air gap between to improve the insulation. It is usually impossible to tell whether this method was adopted but it is visible at Sedgwick House and Old Hall. An early nineteenth-century manuscript adds: "If the walls be of brick or stone, it will be necessary to have them lined with plank, and for a greater protection from damp a few inches of powdered charcoal, between the wall and the plank will be found very useful."[15] Judging by the remains at Netherby the planks were laid vertically, attached to wooden battens which were themselves attached to the wall by iron pegs. Iron hoops helped to anchor the structure in place. The iron pegs also survive at Patterdale Hall. Normally however "a space should be left between the ice and the wall of the well, and straw placed there, so as to give passage to any moisture that may be collected by the dissolving of the ice on the top or otherwise."[16] Straw was placed at the bottom and up the sides of the pit in sheaves laid vertically up to a thickness of about 15 centimetres. However straw does not seem to have been used at Sefton Park, Liverpool and Sedgwick House when the ice-houses were filled during the Great War.[17] Underground structures were made waterproof, either by surrounding them with puddled clay or coating the exterior of the roof with tar (as at Crofton Hall and Edenhall) or covering the roofs with slates (as at Levens Hall and Holker Hall) before putting on the soil.

Where, as was usual in Cumbria, the ice came from local sources, it would be only a few centimetres thick. It was smashed into fragments outside the ice-house and then tipped into the ice-pit where the estate workers would pound it into a solid mass using a rammer. To reduce the temperature and help to consolidate it, Loudon suggested pouring on large quantities of salt water.[18] McIntosh believed that such an act would be "not only useless but injurious."[19] Other contentious issues were whether or not the ice should be left dome-shaped or saucer-shaped[20] and whether or not a wooden floor should be placed over the ice.[21] Before the ice-house was sealed the ice was covered with a thick layer of straw, and straw was placed in the passageway between the doors. Most ice-houses had two or three doors, though Duddon Hall has five. They were usually of wood, but at Levens Hall and

Holker Hall they are of slate. A series of right-angled bends in the passage as at Crofton Hall also helped to maintain a stable atmosphere in the ice-house. Some ventilation to reduce the humidity seems to have been an advantage and ventilation pipes can be seen at many ice-houses. Edenhall and Lowther Castle even had windows, no doubt slatted. Some of the simpler ice-houses such as those at Johnby Hall and Ferney Green, Bowness only had one door in the thickness of the wall.

No ice-house in Cumbria contained any evidence of shelving. One (Crofton Hall) had hooks hanging from the ceiling probably for hanging meat, but out of reach of the ice and one other (Duddon Hall) had a larder adjoining the ice-pit. The evidence from Cumbria suggests therefore, that in the vast majority of cases, the ice-houses were used only for storing ice.[22] McIntosh complains that "the extreme impurity [of the ice in Britain] renders it unfit for any other purpose save that of merely cooling wines or other viands enclosed in bottles or well covered dishes".[23] A Levens Hall experiment in 1980 showed conclusively that the ice became filthy. So the question arises – how was the ice used?

Recollections of gardeners at Sedgwick House and Sefton Park, Liverpool indicate that nothing was stored in the ice-house except ice.[24] When the ice was required a gardener would remove it from the ice-house and cart it to the cellars of the house, where specially constructed and well insulated chests were filled with the ice and perishable food was placed on wire mesh trays on top. By this method food never came into contact with the ice. One of these chests survives at Hutton-in-the-Forest, another is illustrated in The National Encyclopaedia of 1867 and nineteenth-century trade catalogues were full of advertisements for these "Portable Ice-Houses."[25]

A classification for Cumbrian Ice-houses

A number of classifications for ice-houses have been attempted, but they are not suitable for Cumbria. The system proposed by A. Niven Robertson in his article on ice-houses in the Edinburgh area is the most satisfactory, and is adopted here.[26]

A. Domed or globe-shaped pits
B. Circular chambers
C. Rectangular chambers
D. Tunnel-shaped chambers
E. Doubtful structures.
F. Ice-houses known to have existed.

The ice-pits as in A are characterized by a passageway leading into a chamber with a deep cylindrical or cone-shaped pit, usually with a domed roof. Categories B and C also often have a passageway but the chamber contains no pit and the ice is stored on or just below the level of the passage. A tunnel-shaped chamber is like a long passage. There are a number of doubtful structures where older buildings may have been adapted for use as ice-houses, or local tradition suggests they were used to store ice.

GROUP A

BRANTWOOD (SD 313958)

This interesting ice-house is situated in a steep bank about fifty metres north of the house. It appears to have been constructed by excavating a large cylindrical shaft in the rock, building an ice chamber inside it at the bottom and digging a horizontal tunnel three

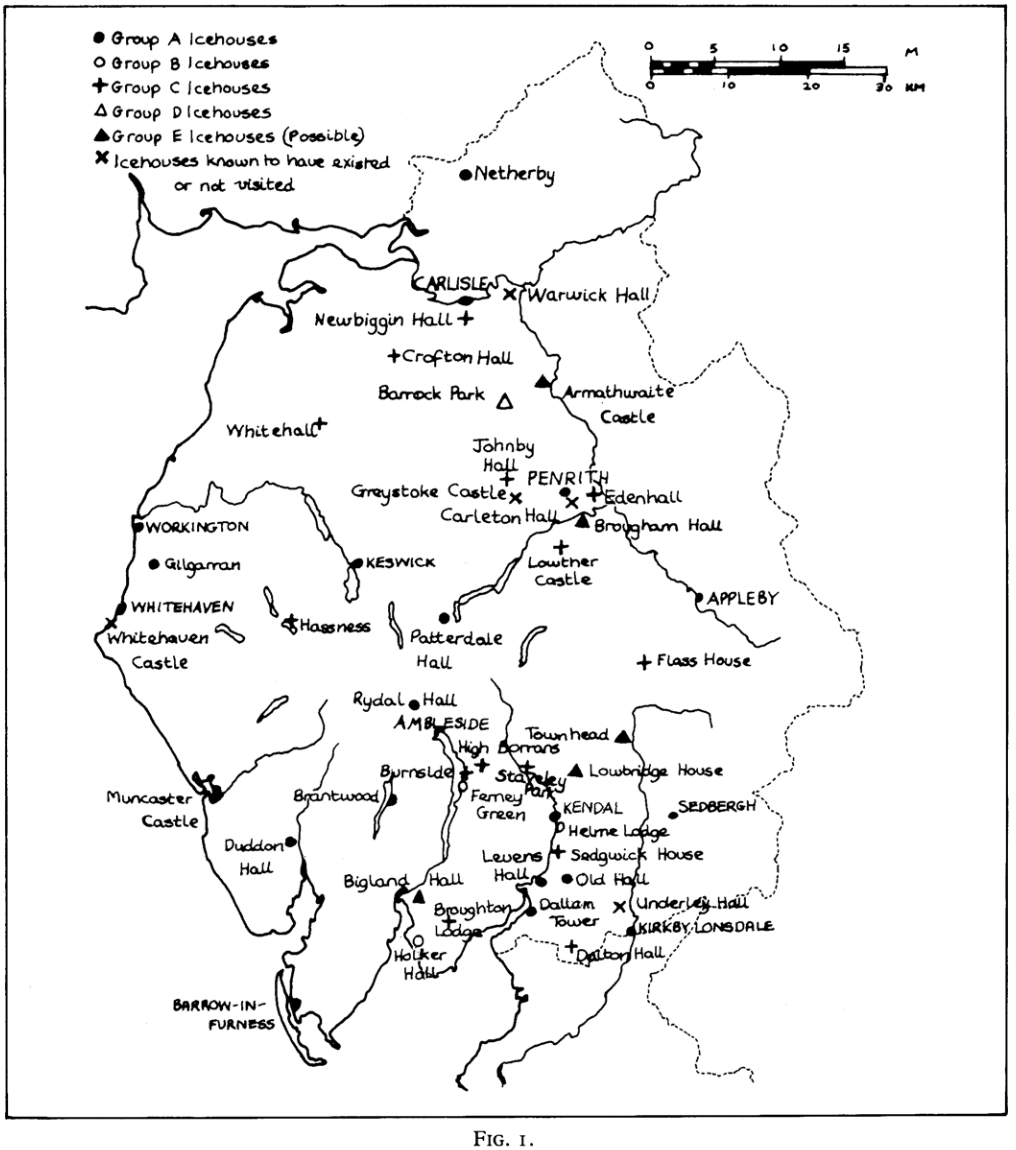

FIG. 1.

metres long from the scarp face to the base of the chamber. The rock seems to have been excavated by hand, which would be unusual for the final decades of the nineteenth century. One wonders if Ruskin employed some miners or quarry workers from Coniston village.

From the passage the entrance to the chamber is reached by ascending a flight of nine steps which curve clockwise round the outer wall of the pit. The wall on the left of the stairway is of natural rock and is part of the big shaft opened from the surface above. The outer wall of the chamber to the right is built of rubble. At the top of the stairs the entrance to the pit has two wooden doors (one of which survives) in the thickness of the wall. The pit appears to be egg-shaped. The inner surface is brick-lined and rendered. At the centre of the

domed roof there is a square shaft leading to the surface. The ice was presumably thrown in here. There is over a metre of water in the pit now and it is difficult to be sure what the floor is like. There appears to be a metal or stone object in the centre, but it is currently impossible to determine its shape or function. It is possible it was connected with the drain, which must have been a channel under the floor of the tunnel.

W. G. Collingwood in his "Life of Ruskin" (London 1900) p. 350 refers to the ice-house: "You see, perhaps, the ice-house – tunnelled at vast expense into the rock and filled at more expense with the best ice; opened at last with great expectations and the most charitable intent – for it was planned to supply invalids in the neighbourhood with ice, as the hot houses supplied them with grapes and revealing, after all, nothing but a puddle of dirty water." There is no obvious reason why this ice-house should not have worked.

There is another underground chamber in the grounds, approached by a flight of steps which lead down to a door and a fifteen feet deep cylindrical pit, now used for water storage. This pit has no drain. Whether it was another ice-house is not known.

DALLAM TOWER (SD 488812)

The ice-house is remarkably similar in shape to the one at Levens Hall and suggests the possibility of some contact between the two estates. It is in a wood a few hundred metres from the house. Like the Levens Hall ice-house it consists of an entrance passage leading into a domed chamber with a truncated cone-shaped pit and a parapet at floor level. There are however certain differences: the passage faces south, and the pit is lined in brick. Though the ice-house has recently been cleared out and restored, it is not possible to see the bottom of the pit. On the 1859 O.S. map there is a pond shown nearby, behind the stables, which may have been the source of the ice.

DUDDON HALL (SD 195897)

This is one of the most interesting ice-houses in Cumbria. It is built into the side of a natural rocky outcrop about 300 metres from the now ruined early nineteenth-century Hall, and about 50 metres from the River Duddon. The original entrance has collapsed, but it must have been approached down a flight of steps. At the bottom a curved passage to the left led to the larder, that to the right to the ice-house. These two passages completely enclose the inner ice-pit. Along the right-hand stone-built passage there were three doors. The walls at the end of the passage are of brick because they adjoin the larder. The entrance into the cone-shaped ice-pit is through an opening just over one metre high which itself had two doors. The floor of the chamber is no longer visible, but the walls consist of an outer layer of stone and an inner of brick covered with lime plaster. There is a trapdoor in the apex of the domed roof. The outside of the whole structure is covered by a layer of slates and earth placed on top and prevented from falling into the hole in the roof by a one-metre-high brick retaining wall around the trapdoor. The larder consists of two chambers with slate slabs forming table surfaces. The roof of both passageways and larder is supported on large slate or wooden beams sloping outwards, like the spokes of a cartwheel from the inner wall to the outer.

It looks as if the entrance to the passages collapsed before the ice-house fell into disuse, because another entrance has been inserted into the wall of the passageway leading to the ice-pit.

GILGARRAN (NY 032230)

This ice-house has recently been demolished. It consisted of an egg-shaped chamber, built of stone under an artificial mound. The walls were whitewashed. (Information from Mrs N. Dobie, Garden House, Gilgarran.)

LEVENS HALL (SD 497847)

This is one of the best constructed ice-houses in the county and adheres very closely to the plan shown in the 1797 edition of the *Encyclopaedia Britannica*. The entrance passageway, which is on ground level, faces east-north-east and had three slate doors, one of which survives intact. The domed ice-chamber consists of a subterranean pit, in the form of a truncated cone with a drain leading to a soakaway at the bottom. There is a parapet around the pit, a feature which appears at Dallam Tower. All the walls are of dressed stone and there is an iron ventilator pipe at the apex of the dome. The dome seems to have been covered with slates (cf. Holker Hall) and earth put on top. A number of trees are planted on the mound.

Among the Levens Hall papers there is a plan of a thatched ice-house endorsed "Plan for an Ice House from Lady Rowley." This family lived in East Anglia but it has not proved possible to establish which Lady Rowley is being referred to. Apart from the roof, the similarity in design between this ice-house and that at Levens Hall would suggest that it might have been sent at the time when the owners of Levens were contemplating building theirs. (Levens Hall MSS).

In January 1980 a group of boys and adults from Kendal Grammar School filled Levens Hall ice-house with ice, using, as far as possible, the original method. Much was learnt about the techniques of filling an ice-house, and the condition of the ice and the surrounding atmosphere in the ice-house during the subsequent months. It is hoped to publish an account of this interesting experiment in a later issue of *Transactions*.

MUNCASTER CASTLE (SD 104963)

The ice-house has been converted into an electricity substation and is no longer open to inspection. The following details have been supplied by the estate. The ice-house consists of a chamber with an entrance just below ground level approached by seven steps. The exterior is constructed of local stone and the interior of brick. The interior has a domed roof about two metres high and a bowl-shaped pit, of which the diameter is about three metres. This and the ones at Gilgarran and Brantwood are the only recorded examples of egg-shaped ice-houses in the county.

NETHERBY, LONGTOWN (NY 398719)

This ice-house was rediscovered during woodland clearance in 1978, about 200 metres from the Hall and situated in a natural bank. The façade and outer part of the north-east facing passage is built of sandstone, the door jambs being dressed. The inner passage, ice-pit and domed roof are of brick. The most interesting feature of this ice-house is the remains of the inner wall of wooden planks mentioned earlier (see p. 139). A date of 1844 is scratched on to one of the stone door jambs; the doors themselves were of wood.

OLD HALL, ENDMOOR (SD 535848)

This large ice-house is built into the dam of a small artificial reservoir about 300 metres from the house. The north-west facing passage originally had two doors before leading into the enormous barrel-vaulted chamber. The ice-pit is a cylinder 5·5 metres wide and at least

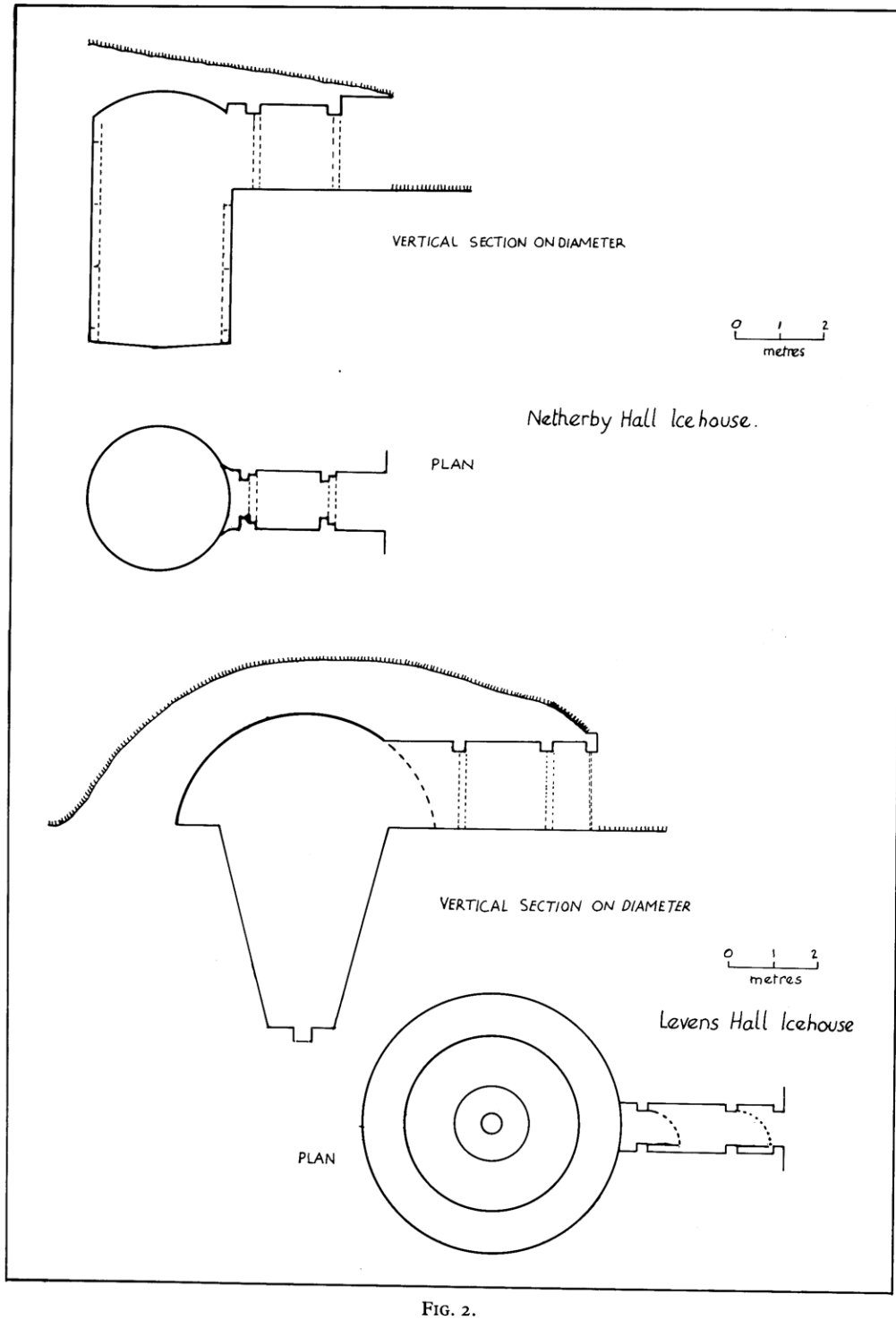
VERTICAL SECTION ON DIAMETER
0 1 2
metres
Netherby Hall Ice house.
PLAN
VERTICAL SECTION ON DIAMETER
0 1 2
metres
Levens Hall Icehouse
PLAN

FIG. 2.

4·25 metres deep, but as it is now filled with rubbish the exact depth is unknown. The interesting feature of this ice-house is the double wall of the pit with wooden spacers between. The inner wall is of brick, the outer, like all the rest of the structure, is made of limestone. A ring-bolt in the ceiling was probably used with a pulley for hauling up ice. The purpose of an odd metal rod hanging from the centre of the ceiling is unclear. There is a ventilator pipe in the wall of the ice-house.

PATTERDALE HALL (NY 383163)

This ice-house is built in the dam of Lanty's tarn, which according to W. Heaton Cooper in *The Tarns of the Lakeland* (London, 1960) p. 125 was constructed by the Marshall family, who bought Patterdale Hall from the Mounseys in 1824. The stone built passage which originally had four doors has three right angled bends. The passage has at some time been walled up at its entrance and also at the point of entry into the ice-chamber, leaving only the trapdoor in the roof as a means of access to the pit. The walls and domed ceiling of the ice-pit are rendered. It is no longer possible to see the floor but Heaton Cooper implies that it was saucer shaped. Two rows of iron pegs in the wall probably supported inner wooden walling as at Netherby. There is a ventilator pipe in the ceiling. The passage is slate covered as at Levens Hall, but it is not possible to see whether the dome is too.

RYDAL HALL (NY 365065)

This is in a wood in the valley of Rydal Beck about 200 metres behind the Hall, near the kitchen garden and the interesting game larder. The ice-house is set into a bank and covered with earth and trees. The cylindrical pit built of dressed stone is approached along a rubble walled passage which originally contained two doors, and which faces north. The roof is gabled and consists of four large slate slabs; above these there appears to be a lining of sheet lead. A box drain made entirely of slates discharges by the beck. Originally wooden joists across the bottom of the pit kept the ice away from the drain. This was an unusually small ice-house and the ice was presumably brought from Rydal Water.

GROUP B

FERNEY GREEN, BOWNESS (SD 404961)

The ice-house, about 75 m. north-east of the early nineteenth-century house, has a circular chamber entered by a gothic-shaped wooden door. The building is of local stone and is built into a natural bank. The domed roof collapsed a number of years ago. The inside wall which consists of alternating rows of river boulders and slabs appears to have been whitewashed in the past. The earth floor is now on the same level as the entrance and there is no indication of a pit.

HELME LODGE, KENDAL (SD 518908)

This is one of the most interesting ice-houses in Cumbria. It is in the west bank of the canal a few hundred metres north-west of the house and adjoining the bridge that leads to Natland Millbeck Mill. It is inside the bank in the corner formed by the road bridge and the canal, the only entrance being through a manhole in the roof. The roof of the limestone built chamber is corbelled and opens into a cylindrical pit, the whole being 4·15 metres deep. The floor of the pit bears traces of a soakaway in the middle and the imprints of eleven wooden beams which were obviously part of the drainage system.

Helme Lodge was built for W. D. Crewdson in 1824 by George Webster of Kendal. Two

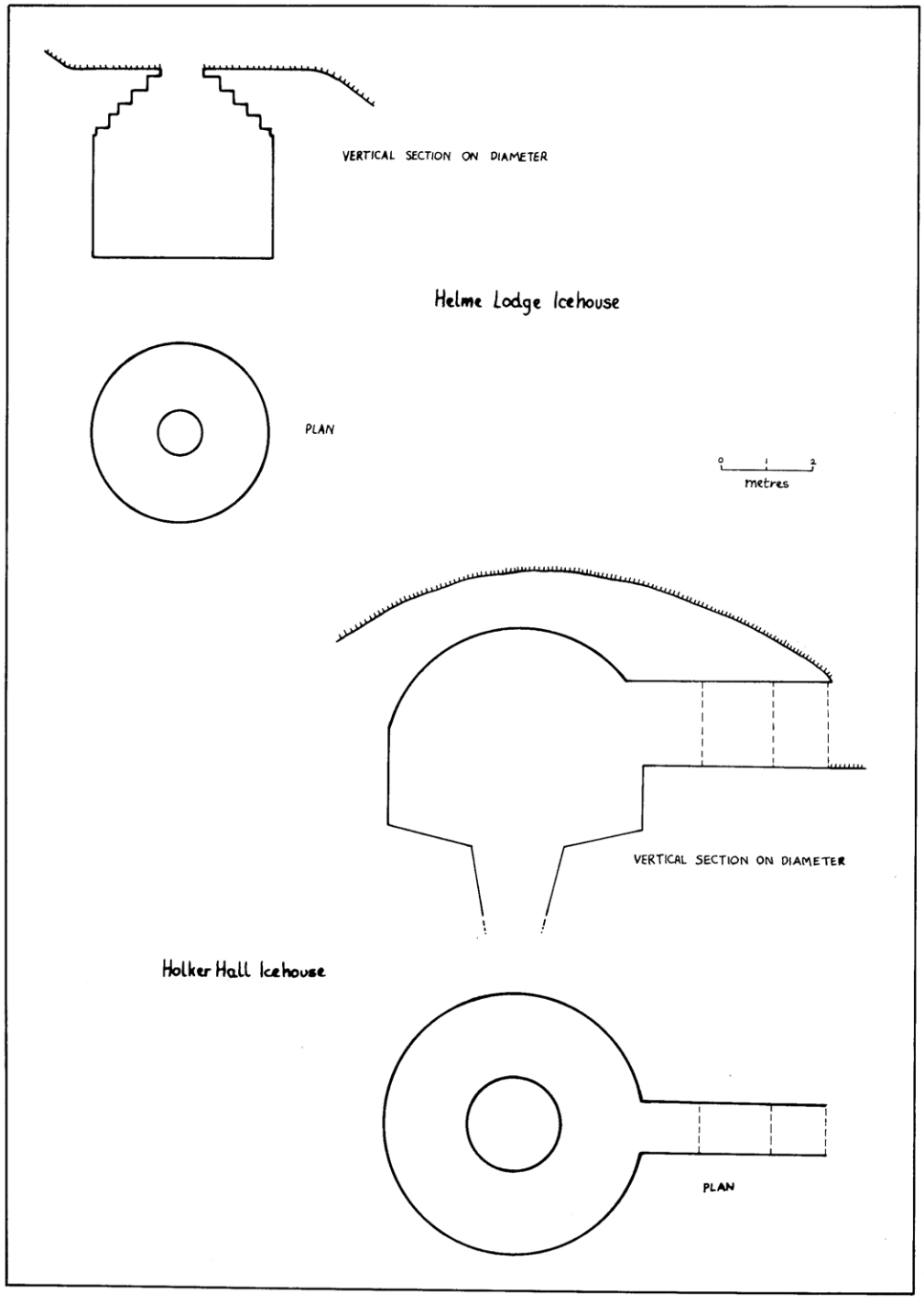
VERTICAL SECTION ON DIAMETER
Helme Lodge Icehouse
PLAN
0 1 2
metres
VERTICAL SECTION ON DIAMETER
Holker Hall Icehouse
PLAN

FIG. 3.

plans of the cellars of the house survive. One shows a windowless room labelled ice-house, the other the same room with a window and marked peat store. It has been impossible to ascertain which was built. An estate plan dated 1838 does not mark the existing ice-house.[27] On the 1899 O.S. map the ice-house is not shown, presumably because it was not spotted by the surveyor, but the area is shown as being covered in mixed woodland. Mr W. Donaldson, now of Holme, remembers seeing ice being cut from the canal with a saw round about 1905, and the ice being thrown into the chamber. (Personal Communication from Mr W. Donaldson of Holme).

HOLKER HALL (SD 353773)

If it is assumed that the present structure is the original one, this is the oldest documented ice-house in Cumbria, dating back to at least 1732 (see p. 137). The west-facing entrance passage, which is at ground level, had three Burlington slate doors. The cylindrical ice-pit is not of great depth, but its diameter is 5·5 metres. Walls and roof are made out of brick spiralling up to the apex of the dome. The slate floor slopes towards the centre where there is a large drain. There is a ventilation pipe in the roof. The outside of the dome is covered by slates. An artificial pond is situated nearby.

GROUP C

BROUGHTON LODGE (SD 393807)

The ice-house for this late eighteenth-century house was demolished in 1979. It was due east of the house, approximately two metres below ground level and connected to the surface by a flight of steps, and to the basement of the house by a 31-metre long tunnel. This is the only example of such a link in Cumbria. (Personal communication from the owners, Harry Taylor of Ashton Ltd.).

BURNSIDE HOTEL, BOWNESS ON WINDERMERE (SD 403966)

This ice-house, which is 50 metres east of the house, is entered through a trapdoor in the arched roof and is constructed entirely of local slates. It is now impossible to measure the depth of the rectangular chamber. The ventilation pipes look fairly recent.

CROFTON HALL (NY 303499)

This ice-house is adjacent to the surviving stable block of the Hall, dated 1826. It was built undergound and approached by a flight of steps which descends to a passage at right angles to it, which originally had two doors. There is another right-angled bend and two more doors before the rectangular chamber is reached. The floor is a mixture of earth and gravel and the roof arched with two rows of six iron hooks hanging from it. The whole building is of sandstone, mostly rubble blocks, but the roof and door jambs are of ashlar. The roof was covered with tar on the exterior before the layer of earth. A slight mound is visible on the surface.

The effectiveness of this ice-house was evident on the day it was visited. The temperature in the sun outside was 15°C, whereas inside it was 6·5°C.

DALTON HALL, BURTON (SD 537758)

This rectangular chamber built in a bank measured only 1·2 metres×1·6 metres×1·4 metres and is therefore the smallest ice-house in Cumbria. A nearby pond would have provided the ice. The walls are of brick backed by stone. The roof is one large sandstone slab.

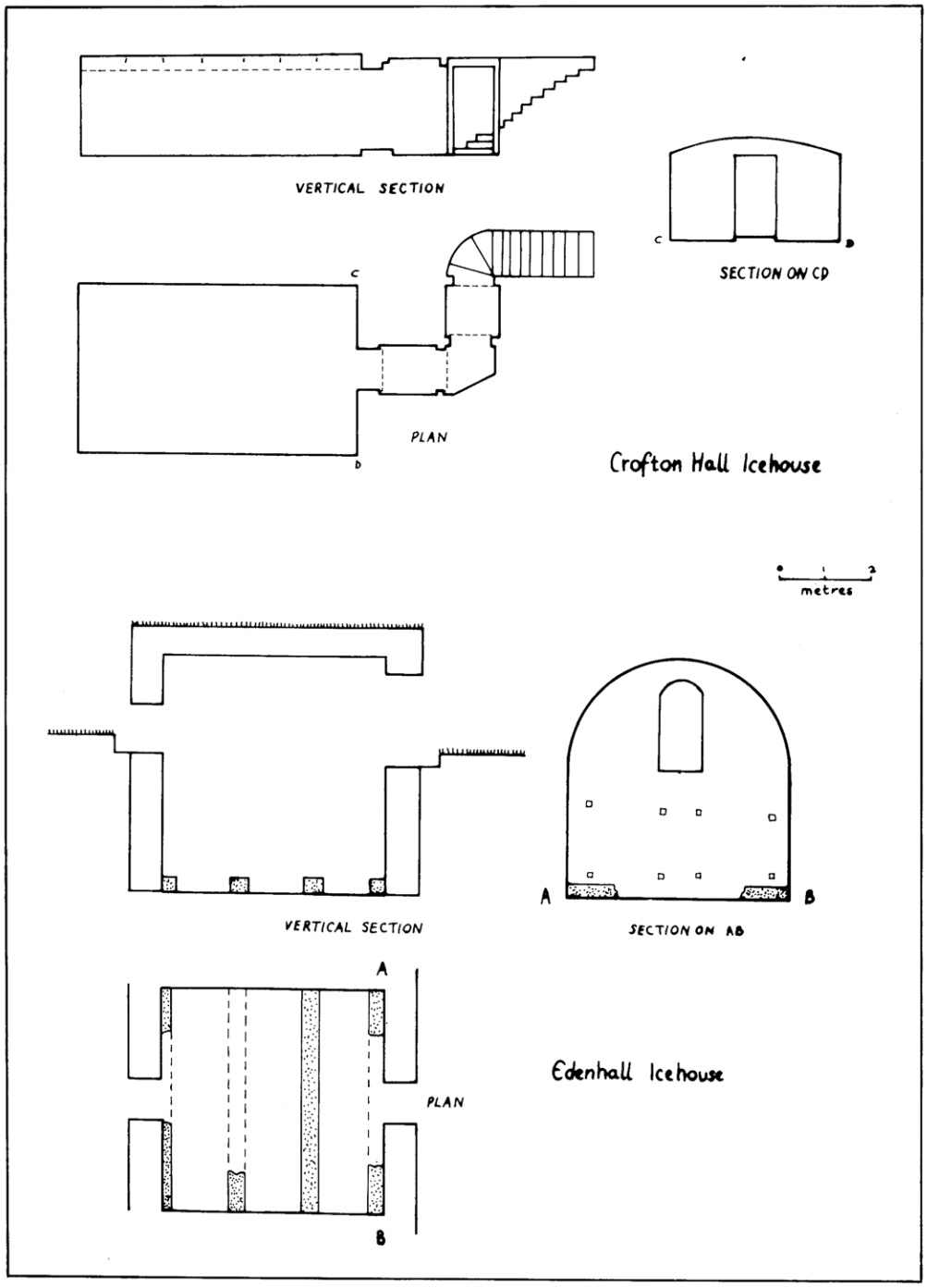
VERTICAL SECTION
C
D
SECTION ON CD
C
PLAN
D
Crofton Hall Icehouse
0 1 2
metres
VERTICAL SECTION
A
B
SECTION ON AB
A
PLAN
B
Edenhall Icehouse

FIG. 4.

EDENHALL (NY 562321)

This rectangular ice-house was built on a natural mound approximately 200 metres S.W. of the now demolished Hall. The wooden door is in the north wall and the building is unusual in having a window opposite it in the south wall. The walls are of sandstone, but roof and window surrounds are of brick, possibly made at nearby Wetheriggs, where a brick kiln was opened in 1854. The floor is of sandstone slabs. Four stone sills run E.-W. across the floor, and beam-slots in the walls at the top of these features suggest some form of timber lattice floor. The purpose of the other series of beam-slots half way up the walls is not clear. The exterior of the bricks which form the roof have been coated in tar before being covered with earth. The ice came either from a nearby pond or Whin's Pond one mile to the south-east.

FLASS (NY 628157)

This ice-house breaks all the rules, but the Hall itself is somewhat eccentric. The Hall is approached by a carriage drive at first floor level. In it there is a small sandstone manhole cover which leads directly into the ice-house at ground floor level beneath. The main entrance to it is barely 20 metres from the rear of the Hall beyond an ornamental garden. It is composed of large irregularly shaped blocks giving the appearance of an ornamental grotto. One wall of the chamber is partly natural limestone, the rest of large limestone blocks. The floor is paved in stone and the roof consists of a series of enormous slabs of limestone, stepped up to the south end and resting on corbels. The resulting chamber which is irregular rather than rectangular is very damp.

HASSNESS, BUTTERMERE (NY 187159)

The present house which was built in the 1920s replaces an earlier one. The ice-house was built prior to 1899 but had gone out of use by the 1920s, though it was still in good condition. It is situated in Ice House Wood a few hundred metres to the north-west of the house. The entrance passageway has been sealed recently but certain features are still visible. The passage faces south, is slightly curved and has at least one wood-framed door in its length. The roof and walls of the passage are of slate; the roof of the chamber, which is barrel vaulted in two layers, is made of concrete on the outside and brick inside. The ice chamber is rectangular, and is set in a bank under a mound of earth. The building is about 20 metres from Buttermere which was obviously the source of ice.

HIGH BORRANS (NY 431010)

This ice-house, which is beside the road, was built in the early 1920s by Robert Holt. It consists of a stone-built rectangular chamber with a flat concrete roof, and a single door. It is set into a bank and appears to have been sheltered by trees in the past. It has no special ice-house features and was not in use for very long as Sir Arnold Somervell had electricity installed in the 1930s and the ice-house became superfluous.

JOHNBY HALL (NY 435326)

This ice-house is built into a bank and faces north-north-east. It is entirely of brick, the floor included, but the arched roof was covered in concrete before the earth was laid on top. A small dammed pond nearby may have provided the ice. Mr N. S. Howard thinks that it may have been built during the restoration of the Hall at the end of the nineteenth century. (Personal communication).

LOWTHER CASTLE (NY 526237)

This ice-house, demolished when electricity was installed, formed the central feature of a rock garden, and the approximate site can still be found among the recently planted trees. The structure was stone-built and apparently had shuttered windows. The ice was cut from Jack Croft Pond. (Personal communication from Mr J. Peel, Newtown Head, Lowther).

NEWBIGGIN HALL, near CARLISLE (NY 434509)

This square-shaped, sandstone-built ice-house is approached by a passage with a right-angle bend. There were three wooden framed doors. The ice was put into the building through a small trapdoor in the roof. The sandstone flagged floor slopes down towards the centre where there is a soakaway drain. There is no obvious source of supply of ice.

SEDGWICK HOUSE (SD 513869)

The present house which was owned by the Wakefield family was built in 1868-69, and the ice-house may well have been built then. It was certainly there by 1899, as it is shown on the Ordnance Survey map of that year. It lies immediately to the east of the Lancaster-Kendal canal at a point where the canal is on an embankment. The ice was cut from the canal and was broken up on the canal bank before being sent down a chute to a trapdoor in the roof and thence into the ice-house. The rectangular building is entirely above ground and consists of two rough-cast walls, with a small gap between. The concrete floor, is ridged and has a drainage channel down the centre. The arched concrete roof is covered with corrugated iron supported a few centimetres above it by wooden panelling and the space between appears to have been filled with sawdust. Whether this outer roof is original is unknown, but it was there in 1916.

Mr W. B. Dawson, now of Heversham, who was employed by Mr Jacob Wakefield as a gardener at Sedgwick House in 1915-1916, said it took about twelve men just over a day to fill the building, using ice broken from the first 50 metres up and down the canal. The workforce consisted of the gardeners, oddmen, grooms, a farm hand and the chauffeur. Two broke the ice, two more pulled it along the canal to the ice-house; another two loaded it on to the chute, five broke it into small fragments and one man was in the building to spread it out.

The ice-house has recently been used as a farm building and has had openings made in the end walls. The only entrance originally was the trapdoor in the roof.

STAVELEY PARK FARM (SD 473982)

This south facing ice-house is constructed of local stone with a slate roof and is built into a bank. A chute in the north gable may have been used for ventilation or for filling the building with ice. A door in the south side provided the main access into the chamber. The interior is barrel vaulted and the walls and roof seem to have been whitewashed. The farmhouse is dated 1661, and the ice-house was built prior to the 1859 edition of the O.S. map.

WHITEHALL, MEALSGATE (NY 202416)

Whitehall was built by Anthony Salvin in 1861-2. The rectangular sandstone chamber is under an artificial mound. The ice supply was possibly the Home Farm Pond. This ice-house has not been visited. (Personal communication from Mrs E. Smith, Oyne, Aberdeenshire).

GROUP D

BARROCK PARK (NY 453465)

This is the only example of a tunnel-shaped chamber in Cumbria. It is situated just to the north of a seventeenth-century dovecote, and the entrance passage faces north. The walls of the passage and chamber are of stone, and the roof is arched in brick. There appears to have been one wooden door. The floor seems to have been of earth. The whole structure is just below ground level.

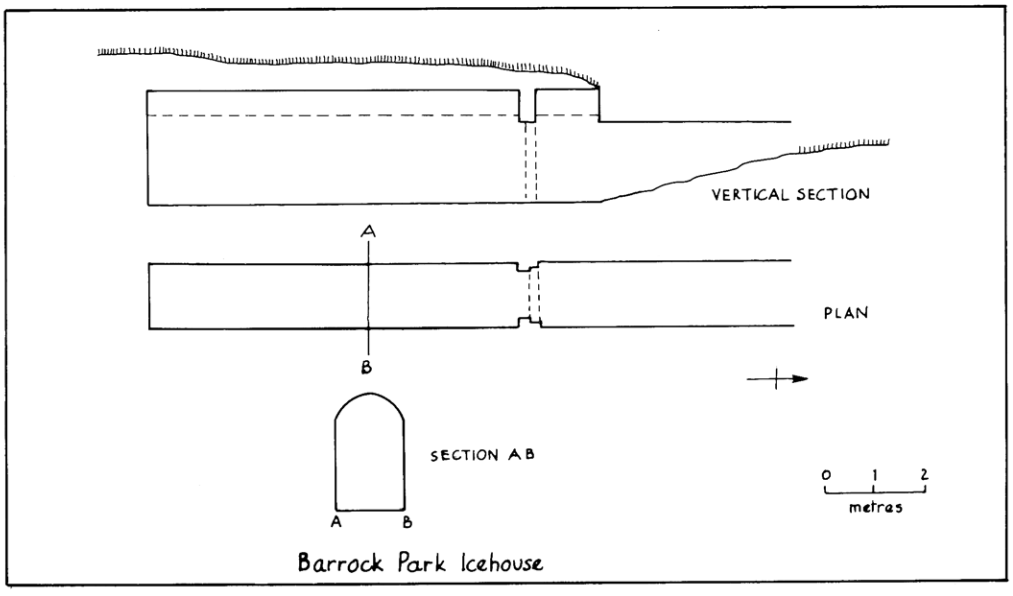

FIG. 5.

GROUP E

ARMATHWAITE CASTLE (NY 504463)

This man-made cave is cut into a sandstone bluff about 15 metres outside the wall of the old castle and 50 metres from the present house and River Eden. The outcrop is surmounted by an enormous yew tree. The arched entrance leads into a hand-hewn rectangular chamber. The floor is silted up. Part way along the side walls there are sockets for beams at roof level and traces of vertical posts left in the wall. There is no evidence apart from local tradition that this was used as an ice-house.

BIGLAND HALL (SD 354830)

The present owner of the Hall, Mr R. Bigland, quotes a family tradition that a building right on the edge of the Bigland Tarn was used for storing ice. The level of the tarn has been raised and the building is partly underwater and has been used as a boathouse, so its shape has been altered. It is entered on the landward side down a short flight of steps which leads to a door. The roof is arched and covered by grass. Any walling at the far end has been demolished to allow boats to enter.

BROUGHAM HALL (NY 528285)

A hand-hewn cave in a sandstone outcrop on the bank of the River Eamont, below the carriage drive between the Hall and the stables could perhaps have been used for storing ice. It consists of a passageway leading into a large chamber over five metres high. The lower part of the chamber is natural sandstone, the upper part is of well-built sandstone blocks. The roof is arched. The chamber is divided into two by a wall reaching to full height with an opening at the top. Nearly opposite this and at the same height is a passageway which bends round and appears originally to have come out on the slope above the entrance, but it is now blocked. The eccentricities of the Brougham family and the peculiar nature of this construction suggest that the real purpose of this building must be left open!

LOW BRIDGE HOUSE, BANNISDALE (NY 537010)

The present owner of the house believes that a small underground chamber by an ornamental pond was used for storing ice. It consists of drystone walls about 1·50 metres high. The 3 metre long chamber is one metre wide at the entrance tapering to 0·50 metres at the far end. The entrance faces north, but there is no evidence of a door. It is obviously not purpose built, but could have been used for storing ice.

TOWNHEAD, ROUNDTHWAITE (NY 607034)

A. Wainwright refers to this cold store or ice-house built into a bank in the grounds of the seventeenth-century Townhead House, and suggests that it may have been connected with the nearby house called Roundthwaite Abbey, *Westmorland Heritage*, (Kendal 1975, p. 430). The small, stone-built, rectangular, barrel-vaulted chamber presumably originally had a door in the now demolished south-west end, and a small window in the north-east side. The building faces into the prevailing wind and by utilising a draught it may have been used as a cold store. It has none of the special features of an ice-house so whether it contained ice is unknown.

GROUP F

The following ice-houses are known to have existed, but little is known of their shape or situation.

CARLETON HALL, PENRITH (NY 524292)

The ice-house was destroyed when the site was developed as the Police Headquarters. The building was situated to the south-west of the Hall in a wooded bank marked as Ice House Bank on the 1925 edition of the O.S.

GREYSTOKE CASTLE (NY 435309)

The Victorian ice-house collapsed during the war years.

UNDERLEY (SD 802612)

This ice-house, on a piece of ground known locally as Ice Hill, has been completely demolished. The remaining rubble suggests a circular structure with an entrance towards the north. The ice was probably cut from nearby Potts Hole.

WARWICK HALL (NY 465570)

The ice-house was used as an air raid shelter during the last war and has since been demolished.

Icehouse	*Direction of the Entrance*	*Number of Doors*	*Material of Doors*	*Presence of Trees*	*Building Material*	*Source of Ice*	*Nature of Passage*	*Date of Ice-house*	*Date of Last Use*	*Presence of Ventilator*
A										
Dallam Tower	S	2		Yes	brick limestone	pond behind stables?	straight			No
Duddon Hall	S	5	wooden frame	Yes	stone, brick		curved	pre 1897 (graffiti)		Trapdoor in roof
Gilgarran					stone					
Levens Hall	ENE	3	slate	Yes	limestone	canal after 1819?	straight			Yes
Netherby	NE	2	wooden frame	Yes	brick sandstone	R. Esk	straight	pre 1844 (graffiti)		No
Old Hall	NW	2		Yes	brick limestone	adjacent reservoir	straight			Yes
Patterdale Hall	SE	4	wooden frame	Yes	stone	Lanty's tarn	2 right angles			Yes
Rydal Hall	N	2		Yes	stone	Rydal Water?	straight			No
B										
Ferney Green	NW	1	wood	Yes	stone, some brick	Windermere?	none	pre 1913 (OS map)		
Helme Lodge	Trapdoor			Yes	limestone	Canal		post 1824 pre 1905	still in use 1905	No
Holker Hall	W	3	slate	No	brick, stone	nearby artificial pond	straight	pre 1732		Yes
C										
Broughton Lodge							straight			
Burnside	Trapdoor			Yes	stone					Yes
Crofton Hall	W	4			sandstone		2 right angles			No
Dalton Hall	SW	1?		Yes	stone, brick	pond				No
Edenhall	N	1	wood	Yes	stone, brick	pond or tarn	none			window
Flass	S	1		No	limestone		1 right angle	after 1851-54	up to 1914	Trapdoor in roof
Hassness	S	at least 1	wooden frame	Yes	stone, brick, concrete roof	Buttermere	slightly curved	before 1899		
High Borrans	SSW	1	wood	Yes	stone, concrete	Reservoir	none	1920s	about 1929	No
Johnby Hall	NNE	1	wooden frame	Yes	brick	small pond?		about 1900?		No
Lowther Castle					stone	Jack Croft pond			1920s	window
Newbiggin Hall	NE	3	wooden frame	No	stone		1 right angle			Trapdoor in roof
Sedgwick House	trapdoor			No	concrete	canal	none	between 1868-99	still in use 1915-16	
Staveley Park Farm	S	1		No	stone		none	before 1859		Yes
White Hall					sandstone			after 1861-62		
D										
Barrock Park	N	1	wooden frame	No	stone, brick		straight			

A Summary of the Principal Features of Cumbrian Ice-houses.

The owners of the following estates were contacted by letter during the period of the survey. They all replied that they did not have an ice-house.

Acorn Bank; Aldingham Hall; Arkleby Hall; Armathwaite Hall; Askham Hall; Barbon Manor; Belle Isle; Broadfield House; Broughton Grange, Cartmel; Broughton Tower; Calgarth Hall; Calthwaite Hall; Casterton School; Castlehead, Grange-over-Sands; Castletown House, Rockcliffe; The College, Kirkoswald; Crackenthorpe Hall; Crosby House, Crosby-on-Eden; Dalemain; Dalston Hall; Dovenby Hall; Eccleriggs, Broughton-in-Furness; Edmond Castle; Graythwaite Hall (there is a suggestion that Low Graythwaite Hall had an ice-house, but some excavation of a mound has revealed nothing); Grizedale Hall; Hawksdale Hall; Heaves Hotel near Kendal; Helbeck Hall; Higham Hall; High Head Castle; Ivegill; Holme Eden Hall; Howgill Castle; Hutton-in-the-Forest; Hutton John; Irton Hall; Isel Hall; Kirkby Thore Hall; Kirklinton Hall; Moresby Hall; Naworth Castle; Newbiggin Hall, Temple Sowerby; Nunwick Hall; Pelham House, Calderbridge; Rickerby, Carlisle; Rigmaden; Rose Castle; Rusland Hall; Sebergham Castle; Sizergh Castle; Skirsgill Park; Tarn Lodge, Hayton; Warcop Hall; Whelprigg; Winderwath Hall near Penrith; Woodhall, Cockermouth (The grounds were designed by Thomas Mawson and an ice-house was included in some of his designs, but one was not included on the original plan); Workington Hall; Wreay Hall.

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Notes and References

[1] *Old and New London*, Vol. IV, 178.
[2] *The National Encyclopaedia*, Vol. VII (London 1867), 316.
[3] Personal Communication from Mr H. Cavendish.
[4] *The Encyclopaedia Britanica*, Vol. IX (London 1797), 85.
[5] J. B. Papworth, *Designs for Rural Residences*, etc. (London 1818), 96-100.
[6] W. Cobbett, Cottage Economy (London 1822), 183-191.
[7] C. McIntosh, *The Book of the Garden*, Vol. I (Edinburgh 1853), 497-513.
[8] *Gardening Illustrated*, 31 Dec., 1881, 525 refers to an ice-stack lasting until the second week in September.
[9] *The National Encyclopaedia*, Vol. VII (London 1867), 317.
[10] Quoted in J. W. Bainbridge, *Stocking Northumberland Ice-houses* in *Industrial Archaeology*, Vol. IX 152-171.
[11] Personal communication from Mr S. Spedding of Staveley.
[12] Account book of Holker Estate in the possession of Miss Doris Wright of Holker.
[13] L.R.O. Undated manuscript DDG a/ 17 (21).
[14] Personal communication from Mr W. H. Gibson of Staveley.
[15] L.R.O. Undated manuscript DDG a/ 17(21).
[16] J. C. Loudon, *Encyclopaedia of Gardening* (London 1834), 611-13.

[17] Personal communications from Mr Mason of Kendal and Mr W. B. Dawson of Heversham.

[18] J. C. Loudon, *op. cit.*

[19] C. McIntosh, *op. cit.*

[20] See for example L.R.O. Undated manuscript DDG a/ 17 (21) and I.E.B.C. (ed)., *The Country House*, A Collection of useful Information and Recipes (2nd. edition 1867), quoted in A. Penny, *Ice-houses in Dorset*, Dorset Natural History Society Proceedings, Vol. 86, 214.

[21] See for example L.R.O. Undated manuscript DDG a/ 17 (21) and in C. S. T. Calder and A. Graham, *An Old 18th Century Ice-house in Midlothian*, Proceedings of the Society of Antiquaries of Scotland Vol. 84, 208-11.

[22] J. B. Papworth, *op. cit.*, p. 98 infers that ice-houses could be used for storing food.

[23] C. McIntosh, *op. cit.*

[24] Personal communications from Mr R. W. Mason and Mr W. B. Dawson.

[25] e.g. F. W. Follows of Manchester (1868) advertised a range of chests varying in price from £3 10s. to nine guineas.

[26] A. N. Robertson, Ice-houses of the 18th and 19th centuries in Edinburgh and the Lothians, *Book of the Old Edinburgh Club*, (Edinburgh 1953, Vol. XXVII), 112-151.

[27] K.R.O., WD/CR.