

# **Plas Brynkir**

Summer 2012 seasons, 12th- 30th August 2013 & Summer 2014.

Sponsors of project

Snowdonia National Park Cardiff University Bangor University Council for British Archaeology Cadw Gwynedd Council

Directors: Dr Mark Baker and Dr. Sarah K. Doherty School of History, Archaeology & Religion Cardiff University Humanities Building Cardiff CF10 3EU

E: <u>bakerme@cardiff.ac.uk/skdoherty28@msn.com</u>

2014 Season: W. T. (Bill) Jones E: <u>WTJ831509@aol.com</u>

# **Table of Contents**

1.0	Summary	4
2.0	Introduction	7
	2.1 Site Location 2.2 Site History	
3.0	Objectives	20
4.0	Methodology	20
5.0	Results 5.1 Fieldwork 5.2 The Trenches 5.3 The Buildings Survey (2012 and 2013) 5.4 Artefacts	25
6.0	Conclusions and Recommendations	46

# Illustrations

Figure 1: Location Plan

**Figure 2** Surveyors' drawing of 1816 show an L-shaped building for the lower house with a circular turning area in front.

Figure 3 Photogrammatory by David Will

**Figure 4:** Clearing the terraces and ha-ha looking up to the Upper House from the lower terraces and possible bowling green. Photo: Louise Morgan.

**Figure 5:** The Ashlar facing rear entrance of the Lower House under threat from young trees. Photo: S. Doherty **Figure 6:** Elevation plan of External Area 1 of the Lower House showing two stories, window and doorways. Drawing: WCM and digitised by S. Doherty

Figure 7: Bottle stamp with the "Brynker" family name detail. BK13/066. Photo: S. Doherty

**Figure 8:** Layout of survey grids, with respect to key modern features and National Grid. Basemap © Crown Copyright 2013, OrdnanceSurvey/EDINA supplied service. After: Young "Geophysical Surveys at Plas Brynkir, Gywnedd" GeoArch Report 2013/18 (unpublished report 2013).

**Figure 9**: Plas Brynkir. Ground resistivity data as images from Surfer, 0.5m probe spacing, located on modern basemap. Upper House data shown with greyscale 180 ohm measured resistance (black) to 320 ohm (white). Yellow indicates possible walls underneath the surface. Trenches E- H are indicated in red squares. Basemap © Crown Copyright 2013, Ordnance Survey/EDINA supplied service. After Tim Young"Geophysical Surveys at Plas Brynkir, Gywnedd" GeoArch Report 2013/18 (unpublished report 2013).

Figure 10: Plas Brynkir, Lower House. Ground resistivity data as a bitmapped images from Geoplot:d

Figure 11: Plan of Trench A, Lower House (2013 season). Drawn by CRM and Digitised by S. Doherty

Figure 12: Trench C, showing the mudstone "quarry" layer [170]. Scale 2m.

Figure 13: Trench C, showing the robbed out wall running northeast-northwest with remains of tumbled mudstone blocks. Photo: S Doherty

**Figure 14:** Showing large basal stone [132] with the mudstone and dolerite packing [135] of the wall [131] in Trench F. Scales 2m and 0.5m. Photo: S. Doherty

**Figure 15**: Showing wall [156] of trench F, contemporaneous with wall [131] of trench E as it appeared to run along the same lines.

**Figure 16:** Plan of Trench H, showing modern water pipe [151] next to the basal stones of the 15th Century Hall and the orange clay [140] underneath the gravelled surface [147] containing post holes or more likely "stone hollows" from the gravelled path. Photo: S. Doherty

Figure 17: Detail of the gravelled surface [147] overlying orange clay [140]. Photo: S. Doherty

Figure 18: Pottery dish detailing the Brynkir Crest from the underneath the door threshold slate in trench I

**Figure 19:** Trench I. The Doorway of the 17th Century hall, showing the slate threshold (where the ranging pole is resting) sitting on top of the earlier dolerite threshold stone. Notice the squared mudstone "Renaissance" wall in front of the earlier uneven wall. Photo: S.Doherty. Scale 1m

**Figure 20**: Section of the Upper House Trench during the 2014 season showing the original floor, stacks of bottles and the collapsed floor slate roof with second floor blocks overlaying it.

Figure 21: The Different types of slate found in North Wales. Photos: W. T. Jones

Figure 22: The slates found from Brynkir Upper House showing the positions on the roof. Photos: W. T. Jones

**Figure 23**: A random slate selected from the 2014 excavations at Brynkir, similar in shape to a "Moss" slate, but using lime torching instead of moss. Drawing: W. T. Jones

**Figure 24:** The slater's rule or pric mesur, the tool that gave the finished roof its aesthetic qualities. The exact location of every slate was determined to within a half an inch. Drawn by W. T. Jones.

**Figure 25**: The main difference between a slater's hand trimmer, cyllell fach, and a slate quarryman's cyllell fach, is the piercing spike on the spine.

Figure 26: Porch roof of Llangar Church, 1 mile S.West of Corwen.

Appendix 1: Context List & Small Finds List

# 1.0 Summary

1.1 An archaeological excavation, geophysical survey and non-invasive building survey was carried out at the standing ruins of the upper and lower houses at Brynkir, Garndolbenmaen, Gwynedd in order to investigate the relationship between the development of the two houses and the history of the park in which they are placed. The site comprises of two (now ruined houses) known as the Upper House (perhaps dating between the 15<sup>th</sup>-18<sup>th</sup> Century, built by the Brynkir family) and the Lower House (dating between 18<sup>th</sup> and 20<sup>th</sup> Century, belonging to the Huddart family), surrounded by a large six thousand acre park estate, perhaps dating back to the 15<sup>th</sup> Century.

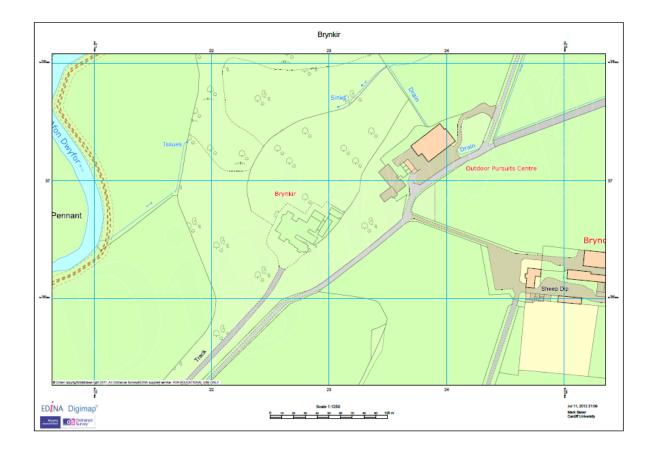


Figure 1 The site of Plas Brynkir (grid reference: SH 52466 43621) is located near the village of Garndolbenmaen, Gwynedd, North Wales at the head of Cwm Pennant/Pennant Valley, just five miles north from the port and town of Porthmadog.

The site is located within the Snowdonia National Park, North Wales but is neither a Scheduled Ancient Monument nor a Listed Building. Only the 19<sup>th</sup> Century tower, lodges and estate bridges are listed, all Grade II. The work consisted of a small geophysical survey around the upper and lower houses and garden terraces to ascertain the extent of earlier phases underneath the ground; an archaeological excavation of promising features indicated from the geophysical survey; and recording of the ruins still standing in the Upper and Lower Houses. The work was commissioned by Cardiff University, and sponsored by Snowdonia National Park, Bangor University, The Council for British Archaeology, CADW and Gwynedd Council. Although designed to be a serious archaeological investigation, the fieldwork at Brynkir will also be used as a fieldschool to train undergraduate archaeology students of Cardiff and Bangor Universities and other volunteers.

- 1.2 The work will enable the further understanding of the development of mansion houses in North Wales. The site is potentially remarkably rich in archaeology, with evidence of a platform house of late-medieval date, and post-1500 domestic building phase of the upper and lower houses. These were asset stripped c.1945 for their building materials (principally timbers and metals). Since then, there has been an absence of archaeological analysis, despite the site perhaps being an example of a 'Unit System' property.
- 1.3 Further work, strongly recommended, would be to further uncover the complex nature of the history of the site. The site has both local and national significance. From a local perspective a large, domestic site that fits into a pattern of post-Medieval houses in North West Wales whose architectural similarities are reflected through inter-familial relationships. This provides a corpus of buildings which are in terms of planning and family provision identifiably Welsh in character, and unique to the region. This form of arrangement was termed the 'Unit System' in an attempt to describe a form of Welsh gentry house whose

#### Plas Brynkir Archaeological Investigations Summer 2012, 2013 & 2014

components consisted of independent houses built in close proximity to each other, yet structurally separate.

The surrounding environs of the site have yet to be uncovered. Exploratory field walking and analysis of satellite photographs and Google maps of the estate suggest activity from early medieval times, perhaps with a medieval deer park and associated buildings. If true, this would be a first for North Wales. Test pits and field surveys would potentially reveal some building or earthwork traces, as suggested in satellite images.

Investigations into the historical records relating to the Lower House (19<sup>th</sup>-20<sup>th</sup> C in date) has revealed potentially could have a rich history relating to its occupants' involvement during the First World War. The estate was bought in 1903 by the Greave family who used it as a hunting lodge until the advent of the First World War. The house was then utilised by the Ministry of Works as a Prisoner of War Camp for around fifty German Officers. With HLF funding, we hope to investigate this interesting change in the fortunes of the house. The project has begun collecting oral memories from local people and gathering photographs of the period. Already, stories such as the German officers drinking the contents of the Greave family's cellar dry, and reports of the officers stealing tobacco from local famers have emerged. One of the officers was reputed to have been the son of a Rhinish Vintner later sent cases of wine to partially replenish the stock of the wine cellar! Further archival and archaeological research is needed to flesh out the understanding of the occupants' experience of living in Lower House and the effect that the prisoners of War had on this area of North Wales.

#### 2.0 Introduction

#### 2.1 Site Location

The Site is located within the district of Garndolbenmaen, Golan Gwynedd, North Wales, close to Cwm Pennant Hostel, Grid Reference SH 5227643667. Brynkir appears to be a Unit System house, composed of at least four separate buildings, which are awkwardly connected at corners or are entirely separate from adjacent structures. The Royal Commission of Ancient and Historical Monuments in Wales only recorded the late-medieval upper house, which had become by the eighteenth century a secondary dwelling. No historic images showing the Upper house survives.

2.2 Site History (Mark Baker)

Plas Brynkir, Garndolbenmaen, Gwynedd is the central case study for my PhD and is a representative example mansion houses evolution in Wales. In terms of its archaeology the site is a palimpsest: the earliest evidence is that of a platform house of late-medieval date, post-1500 domestic building phase of the upper and lower houses. These were asset stripped c.1945 for their building materials (principally timbers and metals). Since then, there has been an absence of archaeological analysis, despite the site being suggested by Hemp and Gresham<sup>1</sup> as being an example of a 'Unit System' property<sup>2</sup>. There are enigmatic references to a Regency villa being added onto an earlier house by members of the Huddart family and in building receipts held at Bangor University. A member of the Greaves family who owned Brynkir prior to asset stripping in 1945 recalled during an interview a building called the 'Tudor' house behind the Regency villa.

<sup>&</sup>lt;sup>1</sup> Colin A. Gresham, 'Platform Houses in North-West Wales', *Archaeologia Cambrensis* 53 (1954), 48 (pp.18-53). <sup>2</sup> Ibid

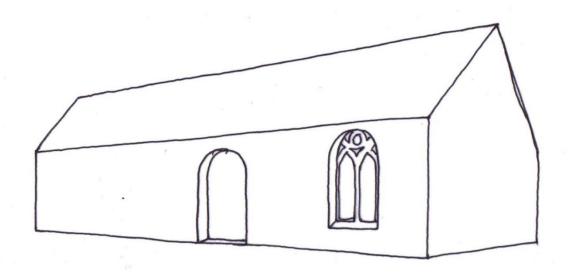
#### Plas Brynkir Archaeological Investigations Summer 2012, 2013 & 2014

The site has both local and national significance. From a local perspective a large, domestic site that fits into a pattern of post-Medieval houses in North West Wales whose architectural similarities are reflected through inter-familial relationships<sup>3</sup>. Nationally, this provides a corpus of buildings which are in terms of planning and family provision identifiably Welsh in character, and unique to the region. This form of arrangement was termed the 'Unit System' in an attempt to describe a form of Welsh gentry house whose components consisted of independent houses built in close proximity to each other, yet structurally separate. For instance, at Gwydir, Llanrwst, the solar tower and hall range stand at corners to each other, yet had no direct access, until an awkward addition subsequently resolved this issue. It appears, according to documentary evidence, which two generations of the Wynn family lived on site simultaneously, yet autonomously. Various theories have been put forward as to why Welsh gentry families built in such a fashion, and it appears that it was a response not only to traditional forms of partible inheritance, but also changes to familial relationships in early-modern Wales. It is important to note that the last noted case of 'Unit System' existence was recorded in the late-nineteenth century near to Criccieth, Gwynedd.

If Brynkir can be proved a 'Unit System', it will be comparable to nearby Clenennau and Parc thus establishing the mansion complex as an important marker in Welsh architectural history. The site also offers unique opportunities for investigating aspects of traditional architecture, in particular, the association between the two mansion houses. Detailed study of these has the potential to shed important light on building design and construction, as well as on the provision made for partible inheritance and the spatial aspects of social organisation.

# **Upper House Development (drawings by Ceri Leeder)**

<sup>&</sup>lt;sup>3</sup> Colin A. Gresham, *Eifionydd: A Study in Landownership from the Medieval Period to the Present Day* (Cardiff: University of Wales Press, 1973).

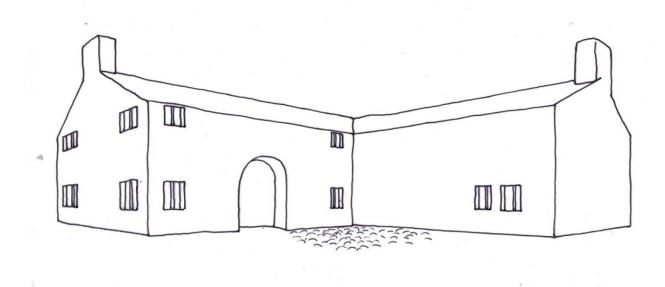


# Phase 1

A plinth of at least three courses, with shaped corners was constructed to create a platform onto which the hall was erected. This was graduated and the stones which were above ground level, and visible, support the argument that the front elevations, overlooking the gardens, were originally rendered. Medieval Welsh poetry refers to the houses in this area looking like lanterns in the hillsides. The earliest sections of the upper house are constructed out of dolerite boulders, most probably gathered from post-glacial scatter and roughly hewn to shape. There appeared to be very little evidence of tooling marks and it is likely that stones were chosen specifically due to their dimensions: larger boulders on the lower courses, decreasing in size as the wall height increases.

At roughly 2 metres from ground height, a ledge was observed internally, onto which a wooden roof or floor may have been supported. It was noted that all of the phase 1 building material stopped at this level.

There was little evidence, if any, of external render on the rear elevations.



#### Phase 2

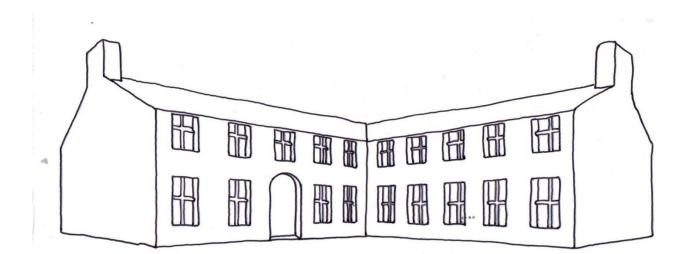
At right angles to the hall house was constructed a large two-storey building with central doorway: parlour to the left and dining room to the right. On the garden gable-end, four small windows survive in their original size, and overlook the terrace gardens. The building of this 'Snowdonia Type' house is likely to have taken place during the last quarter of the sixteenth century.

The walls are constructed out of mudstone, identified by the Geology Department, National Museum of Wales, as being from the quarry site in Bryn Brain. The mudstone used cleaves naturally when quarried into rectangular blocks, easily moveable and usable for constructing walls of great height. Diagonal tooling marks were visible on all of the external mudstone. These marks may be part of the finishing process post-quarrying, or were used to create a surface onto which render/limewash could adhere. Some dolerite boulders were included in this building phase, but none were as large as those found in phase 1. Most appear to have been chosen specifically for their size, possibly being split. However, the markings found may be glacial marks, but it is likely that these were made more defined so that render could adhere more securely.

It may have been at this point that the second storey of the late-medieval hall was added. If the hall had originally had a cruck-frame roof, then it is likely this was enclosed within the later phase, as the collapse of the building to the late-medieval stonework may indicate that when the building was asset-stripped, the roof was removed in its entirety.

# Phase 3

At some point after the Snowdonia house had been built, a rear stair-tower was added onto the north-east exterior wall, positioned directly opposite the main door. The expansion of fireplaces in the parlour and dining room may also date from this period as the arching is similar to stonework found in the tower. In the 1662 the Hearth Tax records Ellis Brynker, gent, listed under Llanfihangel-y-Pennant parish, as having three hearths. This probably ties in with the three ground floor hearths in the upper house. This raises the question as to whether hearths sharing a chimney stack were taxed separately. This seems improbable as it would be unlikely that there were no upstairs fireplaces at Brynkir in 1662, is supported by the alternative name of 'chimney tax'. The tax had been introduced the same year in order to cover the deficit resulting from supporting the recently restored monarchy.



11

# Phase 4

4

The staircase-tower was reconfigured and the entry blocked, indicating that it may have been an open-well stair, which was either filled in or was replaced with a dog-leg to fit into the altered space. Unfortunately, due to collapse, there is no evidence of window openings.

Windows were added or enlarged to take casements, which appear to have been glazed with diamond paned glass.

It may have been at this time that the house was awkwardly divided, so that the hall was partitioned off from the rest of the building. It is likely that this is the evidence of the Unit System, noticed by Colin Gresham and referred to in his article on Parc, Llanfrothen in 1942.<sup>4</sup> Historic photographs of the Snowdonia House gable-end show that all of the sixteenth-century windows were in-filled and that the exterior was rendered. It is likely that the window seats either side of the parlour fireplace were converted to cupboards.



# Phase 5

Many of the windows in hall-range were blocked up at both ground and first floor levels, indicating either a change of use or possibly response to Window Tax. This tax was introduced in 1696, under William III, under the 'An Act for making good the Deficiencies of several Funds therein mentioned and for enlarging the Capital Stock of the Bank of England and for raising the Publick Credit'.<sup>5</sup> Unfortunately, Window Taxation records do not survive for this area of Caernarfonshire. The tax was repealed in 1851. All of the windows blocked up were large casement windows (as evidence by the lead and diamond-shaped glass discovered).

The main doorway was also altered so that it was made narrower. Under the lowest course of this infill, in an undisturbed context, was found a shard of Buckley slipware, dated c.1700. Between the late-seventeenth and late-eighteenth centuries, Buckley ware was very popular and characterised by large thrown storage vessels for household and dairy use along with press moulded baking dishes with bold slip decoration.<sup>6</sup>

# Lower House

A new house is first referred to in the surviving account book for Brynkir held in Bangor University Archive beginning in May 1812.<sup>7</sup> John Norton was responsible for overseeing the enterprise under the direction of Joseph Huddart. Monies appear to be paid retrospectively and were dependent on the receipt of an invoice, so in some cases, work may have been carried out a month or more previously. What we can discern from the documents is that the house's

<sup>&</sup>lt;sup>5</sup> British History Online, Statutes of the Realm: volume 7: 1695-1701, 'William III, 1696-7: An Act for making good the Deficiencies of several Funds therein mentioned and for enlargeing the Capital Stock of the Bank of England and for raising the Public Credit. [Chapter XX. Rot. Parl. 8 & 9 Gul. III. p. 5. nu.1.', Statutes of the Realm: volume 7: 1695-1701 (1820), pp. 218-238. URL: http://www.british-history.ac.uk/report.aspx?compid=46868 Date accessed: 12 April 2012]

<sup>&</sup>lt;sup>6</sup> <u>http://www.ceramics-aberystwyth.com/buckley.html</u> [accessed 15.9.12]

<sup>&</sup>lt;sup>7</sup> Bangor University General Collections MS 809-811

#### Plas Brynkir Archaeological Investigations Summer 2012, 2013 & 2014

construction was already well underway as lead, slates and slater's nails were purchased for the roof. This indicates that either Huddart had purchased an unfinished house, as he was to do at nearby Wern, or that the foundations were quickly cast and the walls rose at speed so that the building could be quickly made watertight with a roof. For instance, an invoice for July 18<sup>th</sup> 1812 refers to slating the new house totally 353 yards, 4 feet and inches in total, while the rendering or cementing the underside of the slates in place totalled 202 yards 0 feet and 10 inches. Intriguingly, it is recorded that 3 ½ days was spent stripping off old slates.<sup>8</sup> What could have taken the slaters such a long time to strip? An unfinished house? Or another old house being asset stripped to provide materials for this one?

Internally work was progressing, with 29 feet of oak being purchased, presumably for flooring as both sawyers and carpenters were employed. Specialist woods such as mahogany were singled out, as well as laths, which were both purchased from a Robert Morris. Stucco is mentioned, as well as window weights for sashes. Hair was purchased for plastering the new house. A glazier was paid for installing panes of glass into the garret, probably above the main staircase. Labourers proved to be the most costly expense, totally £31 5 1 ½ for June. A slater was singled out for repairing the roof of the old house, but which building does this refer to? The Upper House or a structure already existing on the site of the Lower?

Sandstone is noted, together with mention of 6 loads of stone being brought to the house. 60 yards of paving stone was paid for, together with stone masons whose own account was one of the most costly within the list totally  $\pounds44 \ 0 \ 10 \ 12$  for August alone, compared to carpenters who were paid  $\pounds18 \ 0 \ 0$ . Veranda columns were turned, referring to their construction out of wood. Several entries note cement plasterers, does this represent those who carried out the stucco work? A stone cutter is also mentioned, did they use the plug and feather technique seen all over the site. More flags were purchased from Merionethshire by sea.

<sup>&</sup>lt;sup>8</sup> Bangor University General Collections MS 809, no. 15.

By November, locks and hinges were being bought, together with huge quantities of nails, bushels of hair for plastering. Thomas Davies the glazier was paid £57 5 8 and William Jones £61 13 0 for providing lime. Doors were purchased from Llystyn Gwyn.

# Chronology of Lower House in Maps and Images

# 1810s



Figure 2 Surveyors' drawing of 1816 show an L-shaped building for the lower house with a circular turning area in front.



1840s building and 1880s OS Surveyor Drawings



1910 & 1915 OS Drawings



1930s reconst4ruction of the house by Ceri Leeder.







Figure 3 Photogrammatory by David Will

# Gardens

Ornamental terraces drop down from the site of the two houses towards the position of the lake and the river and the road leading to Cwm Pennant. From the date of the Upper House it is thought that these terraces might be late-sixteenth or early-seventeenth century in origin, and they relate to the terracing at nearby Parc, Llanfrothen. William Lewis Anwyl (ob. 1642), of Parc, was a prominent, wealthy, cultured and well-educated man with a strong sense of family, who had contacts in London and elsewhere who kept him supplied with books and information. He may have tried to create a garden based on Italian ideas on his rather unpromising steep,

#### Plas Brynkir Archaeological Investigations Summer 2012, 2013 & 2014

wet site. Despite the date of 1671 on the latest house, William Lewis may have built this too, as his will refers to a recently constructed house and a cywydd (panegyric) on his death mentions his 'New House of immense construction' as well as gardens, orchards, parks and 'fair towers'.<sup>9</sup>

There are remains of fine trees planted in the 19<sup>th</sup> Century, e.g. a Monkey Puzzle; rhododendrons have largely reverted to the *ponticum* stock that nearly all old rhododendrons were grafted on, and bamboo. As the excavation progresses more interesting trees and shrubs may emerge from the undergrowth, as well as other garden features.

The circular carriage sweep had once been in front of the main entrance to the house (all overgrown now but you can see where the trees were planted in a circle). Originally the mansion must have sat beautifully in its park and meadowland facing the river and forming a pretty view in itself. Scrubby woodland now obscures the view from the house. whereas the Drawing Room with its fine bay window would have afforded a lovely vista. The rivulet at the bottom of the terraces has been engineered and faced with picturesque rocks to form little cascades and there may have been a water garden here.

Looking at the Ordnance Survey maps of 1889, 1900 and 1915 (see above), one can see that the Regency mansion was indeed surrounded by both park and farmland, with at least two serpentine walks through pleasure grounds, a small lake (now silted-up), a large walled garden beside what was then the Home Farm, and an ornamental walk up to the banqueting tower. This tower was built to celebrate the coronation of King George IV in 1821 (begun in 1819 and now converted as a romantic holiday cottage) using labour in a scheme set up to provide work for ex-soldiers following the end of the Napoleonic Wars.

<sup>9</sup> ICOMOS Park and Garden Register 'Parc'

# **3.0 Objectives**

- 2.0 The objective of the project is to create an archaeological building investigation and recording (ABIR), together with an archaeological investigation to establish the character, history, dating, form and archaeological development of Brynkir and its setting, including buried components. The objectives for the project are as follows:
- 2.1 Create a detailed standing buildings survey of the houses as they survive, including elevations, and indicate areas requiring conservation. No architectural plans or drawings survive recording the layout of the buildings. The Royal Commission of Ancient and Historical Monuments in Wales only recorded the late-medieval upper house, which had become by the eighteenth century a secondary dwelling, so a complete survey of the Upper house in particular needs to be undertaken.
- 2.2 Create a stone-by-stone recording of the ashlar work (the outer facing of the lower house) and other stones used as building materials and decorative features of the Upper and Lower Houses. Take samples. Identify possible quarry locations in the surrounding estate.
- 2.3 Undertake a geophysical survey (supervised and undertaken by Dr. Tim Young) of the open spaces around the Upper and Lower Houses, the gardens and terraces now located within the hostel grounds.
- 2.4 After identifying potential areas of interest from the geophysical survey, open test pits 1 x1m to ascertain what these features or anomalies are.

# 4.0 Methodology

The site sits within the activities area currently in use by the Cwm Pennant hostel that includes an archery range (where the Upper House is located), assault course with tyres (garden terraces), football pitch (ha ha and possible bowling green), dry-ski slope (garden terrace) and a wider orienteering course (Medieval deer park, fernery, folly and gardens). With this in mind,

# Plas Brynkir Archaeological Investigations Summer 2012, 2013 & 2014

with the likelihood of human traffic concentrating in certain areas, the archaeology team had to ensure that the safety of the site was paramount at all times whilst also fulfilling our goals for understanding the development of the site. The Lower House had previously been fenced off by the hostel, and so this was more accessible for archaeological exploration.



Figure 4: Clearing the terraces and ha-ha looking up to the Upper House from the lower terraces and possible bowling green. Photo: Louise Morgan.

However, being a ruin in varying degrees of collapse, with a lot of fallen rubble and potential for more, it had to be closely monitored for any changes or movement. All staff and students wore PPE at all times and were never allowed on the site alone. The site is also full of mature trees, laurel and rhododendron bushes making it in places quite hazardous and difficult to navigate. Much of the early 2012 season was taken up with the removal of as many plants, roots and immature trees as possible to make the site more accessible and to prevent further bioturbation (see Figures 4 & 5).



Three different types of archaeological investigation were undertaken at Plas Brynkir,

- (1) Building and Field walking Surveys,
- (2) Geophysical Survey,
- (3) Archaeological Excavation and Post-excavation analysis.

The standing building survey and field walking were begun in 2012, completed in 2013. The field walking was undertaken to identify potential areas for archaeological investigation and to begin to understand the relationship between the Upper and Lower houses and the surrounding estate and its boundaries. The standing building included creating a scaled floor plan of all the rooms of the Upper and Lower Houses. An elevation drawing of each wall (inside and out) was created with a stone-by-stone of the fine Ashlar work and recording of features, such as building joins and blocked up windows.

Ashlar work describes finely dressed stone that has been worked until squared or the masonry built of such stone. It is the finest stone masonry unit, generally cuboid in shape or less frequently trapezoidal. Precisely cut on all faces adjacent to those of other stones, Ashlar is capable of very thin joints between blocks, and the visible face of the stone may be as quarryfaced or feature a variety of treatments: tooled, smoothly polished or rendered with another material for decorative effect (see Figure 5).<sup>10</sup> Once a standing building survey was undertaken, samples for analysis of the Ashlar stones and mortar were taken for analysis at the National Museum of Wales. The geology of Gwynedd is comprised of hard igneous rocks, such as granite and dolerite, in the mountainous areas with slates and sedimentary mudstones is also abundant. Both houses used mudstone from the quarry at Bryn Brain, an exposed area within Brynkir's park and the dolorite was extracted from Craig Gyfyng, an outcrop located to the north west of Brynkir, in the centre of Cwm Pennant/Pennant Valley Sample one of dolerite (E004829) from a piece of ashlar found in the bow window of the drawing room, and sample two (E013015), from the quarry site, Craig Gyfyng. Slate roofing typical of post medieval Wales<sup>11</sup> was used; all were primary construction materials. The materials used in the development of both houses on site have been affected by what was locally available. It is only later into the late Victorian phase of building at the lower house that brick and other stones that would have required sourcing from further afield start to be used in the building work. The 1930 sale catalogue states that the green dolerite found at Graig Gyfyng was used for the building of Brynkir<sup>12</sup>. It also states that the stone was able to be used for building purposes, particularly dressed stonework and set-making.

The building survey of the Lower House was undertaken in 2012 and the Upper House in 2013. This was achieved through analytical drawings showing relative phasing and stratigraphic analysis of the structure, for example on changes in materials, butt joints, key joints, mortar,

<sup>&</sup>lt;sup>10</sup> Wright, George R.H. (2000). Ancient Building Technology, Vol 1: Historical Background. Technology and Change in History. Leiden, The Netherlands: E.J. Brill. p. 100.

<sup>&</sup>lt;sup>11</sup> J. B. Hilling. (1976) The Historic Architecture of Wales: An Introduction. University of Wales Press

<sup>&</sup>lt;sup>12</sup> 1930 Sale Catalogue p.13.

#### Plas Brynkir Archaeological Investigations Summer 2012, 2013 & 2014

surface treatments or other constructional details. These comprised sections, elevations, details and plans. Copies of all drawings will be deposited with RCAHMW and the Gwynedd Archives. Interpretative drawings by an artist Ceri Leeder were also produced to illustrate phasing, development, analysis, function or use of the structures. These were not necessarily to scale and were axonometric, isometric or cut-away as well as plans, sections or elevations. These also included reconstructions of lost features, functions, or form.

The Geophysical Survey was undertaken by Dr. Tim Young<sup>3</sup> with the assistance of students from Cardiff University using ground resistivity survey of both the Upper and Lower Houses. The survey was located close to the Upper House extended from the area in the angle of the two surviving wings, down the slope across the terraced path features, across a revetted ditch and bank and onto the present mini-football field. The survey of the Lower House focused on the areas immediately in front of the standing northern wing of the house as it contained the least amount of trees and laurel bushes that cover most of the site (see Figure 1). The surveys were laid-out using a Nikon EDM and tapes, in measured locations with respect to the standing buildings. For the Upper House survey a base line was constructed along the eastern side of the lawn area, terminating at a tree at the south-western end. The data resulting from these surveys were then uploaded onto Geoplot and Surfer software<sup>3</sup> so that they could be despiked for interpolation at 0.125m node spacing for imaging and interpretation.

Once the Geophysical data was interpreted, and likely features (e.g. walls, pits etc) were identified and 1x1m test pits were opened in these positions. The 1x1m size was initially chosen to teach undergraduate students how to triangulate, how to lay out trenches and how to undertake archaeological investigation. If the resulting archaeology proved to be interesting, it was decided to expand the trench. All trenches were excavated by hand using tools such as trowels, shovels, mattocks and hand mattocks, where deemed appropriate by the supervisor (the author).

Eight trenches were opened in 2012 in the Upper and Lower House, nine trenches test trenches were labelled A-I in 2013 and one in 2014 (in the Upper House). In most places, the archaeology was quite shallow, 1 meter deep being sufficient to reach a feature. Once excavated, each context was described and interpreted using the MOLAS system in single contexts. Each trench was drawn onto graph acetate paper using the MOLAS system (scale 1:20 for plans, 1:10 for sections or detailed plans) and was later scanned and digitised by the author. As each context was revealed, digital colour photographs were taken using a Digital SLR Pentax 1855 or a Canon SX210 camera and appropriate photo scales.

#### 5.0 Results

The work was undertaken over three seasons in the summers of 2012, 2013, and 2014 of up to six weeks at a time. The 2014 season was undertaken by W. T. Jones and local volunteers. Conditions at the site, as can often be the case in North Wales, alternated between being exceptionally dry and hot, to pouring rain and waterlogged, and so the team had to prepare for both. The turf topsoil was regular across the site ranging from 80mm to 90mm in depth with an orange clay natural encountered at 800-900mm. In the Lower House area, this natural was in places grey slate underneath the orange clay.

#### 5.1: The Buildings Survey 2012- supervised by Mark Baker

When one examines the Ordnance Survey maps (as outlined by Baker, this volume, see Introduction) of 1889, 1900 and 1915, one can see that the Lower House was surrounded by both park and farmland, with at least two serpentine walks through pleasure grounds, a small lake (now silted-up), a large walled garden beside what was then the Home Farm, and an ornamental walk up to tower. This was built to celebrate the coronation of King George IV in 1821<sup>13</sup> (begun in 1819 and now restored and converted to a holiday cottage, see Voelker, this volume) using labour in a scheme set up to provide work for ex-soldiers following the end of

Trust.

<sup>&</sup>lt;sup>13</sup> Mark Baker. Brynkir, Dolbenmaen, Gwynedd. Trafodion, Issue 2 – November 2012, the Journal of the Welsh Historic Gardens

the Napoleonic Wars<sup>14</sup>. The buildings survey of 2012 focused on the Lower House, with detailed scale plans, elevations and a stone-by-stone survey undertaken by each of the students who were designated a particular section of the house to work on in groups of three (see Figure 6). These revealed that the house was multi-phased with an initial regency villa, added to a wing at 45° (at same angle as the Upper House) and ashlar dolerite facing over the back of the house added during the 19<sup>th</sup> century, and a circular cellar was constructed, likely when Captain Joseph Huddart bought the house<sup>15</sup>. In the 20<sup>th</sup> Century Roman Cement was added to the front of the house, with three "day" marks visible. His son, Sir Joseph appears to have taken on the estate in 1816 and built the surrounding estate buildings, a bridge, the servants' quarters and the tower (see Figure 1) to commemorate the visit of George IV who knighted him. In 1903 the estate was sold to the Greaves family who added a billiard room and added to the gardens. The estate was mostly used for hunting and shooting parties. In 1945 it was sold to local farmers who commenced asset stripping the estate, including removal of the roof.<sup>16</sup>

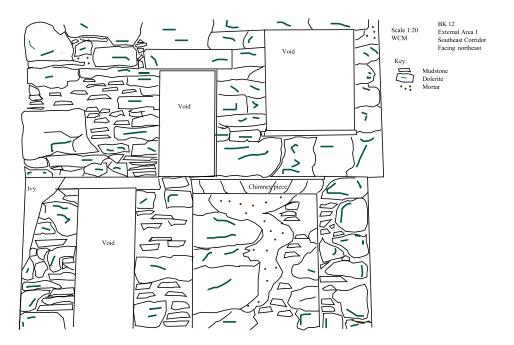


Figure 6: Elevation plan of External Area 1 of the Lower House showing two stories, window and doorways. Drawing: WCM and

digitised by S. Doherty

<sup>14</sup> ibid

<sup>&</sup>lt;sup>15</sup> See Chapter by Mark Baker on the history of architecture of this part of North Wales for more detail, this volume.

<sup>&</sup>lt;sup>16</sup> RAF photo dating 1946 shows the estate without a roof.

#### 5.2: Excavations 2012 Season in the Upper House

A total of five trenches were excavated at the Upper House, each were placed at strategic positions for understanding the structure's form and function and to enable a building chronology to be created. According to the Royal Commission's volume on Caernarfonshire, the Upper House began as a sixteenth century hall-house, and then an additional seventeenth century two-storey wing was added at a right angle. Five trenches were put in around the building, labelled A-E. A, 3m x 1m, dissected the interior and exterior of the great hall; B, 1m x 1m, which was on the external corner of the hall, where the stone platform of the building was wholly exposed; C, 2m x 3m, in the interior of the original 16<sup>th</sup> century hall interior by the cellar entrance; D, 1m x 2m, was over the main entrance of the seventeenth century house; E, 1m x 3m, was over the rear wall of the hall which had been demolished to foundation level.

All five trenches had two layers above the undisturbed archaeology: a layer of topsoil of up to 30 cm in place, which covered a layer of demolition and collapse material that was up to 1m in depth. Within the later were found large pieces of fallen masonry and roofing slate, which due to its compact nature, meant that removal took longer. Finds uncovered in the rubble layers probably related to the dwellings use as a garden feature in the 19th century according to the 1899 sales catalogue. Notable finds included a perfectly preserved clay pipe was found with the decorations and manufacturers mark intact, dating from 1860-1900, and a wide range of domestic glass and pottery finds also of similar periods. In the deposition levels, bottle stamps with the 'Brynker' family name intact on them were also found (see Figure 7).



Figure 7: Bottle stamp with the "Brynker" family name detail. BK13/066. Photo: S. Doherty

# 5.3: Resistivity Survey 2013- Undertaken by Dr. Tim Young<sup>17</sup>

The survey to the north of the Lower House produced anomalies suggestive of features oriented at approximately 40 degrees to the orientation of the north wing. These included a very strong boundary (high resistivity to the northwest, low resistivity to the Southeast) passing West-Southwest from the Northwestern corner of the North wing. The interpretation of these features is unclear, with services or garden features on an oblique alignment, the location of an earlier building on a different alignment, or a post-demolition hard standing amongst the possibilities.

The survey close to the Upper House extended from the area in the angle of the two surviving wings, down the slope across the terraced path features, across a revetted ditch and bank and onto the present mini-football field (see Figure 4). The principle anomalies (see Figures 8 & 9) are interpreted as:

- a pipe trench carrying a water pipe to a mid-twentieth century house that stood in the grounds

- several orthogonal walls suggesting a substantial range to the Southwest of the courtyard

<sup>&</sup>lt;sup>17</sup> Tim P. Young "Geophysical Surveys at Plas Brynkir, Gywnedd" GeoArch Report 2013/18 (unpublished report 2013).

- less substantial indications of walls to the Northwest of the courtyard, including a possible square feature, either within the courtyard or forming part of a NW range.

Many show at both 0.5m and 1.0m probe spacings, but some do not appear on the wider spacing – either indicating they are relatively shallow features, or that they are less differentiated at depth (e.g. the wall of a room may be more differentiated from its surroundings above floor level and in the footings, then it is at floor level). Positive resistivity anomalies may be generated by, for instance, stone-built drains as well as by walls so some circumspection is required in assuming all these anomalies indicate walls<sup>10</sup>.

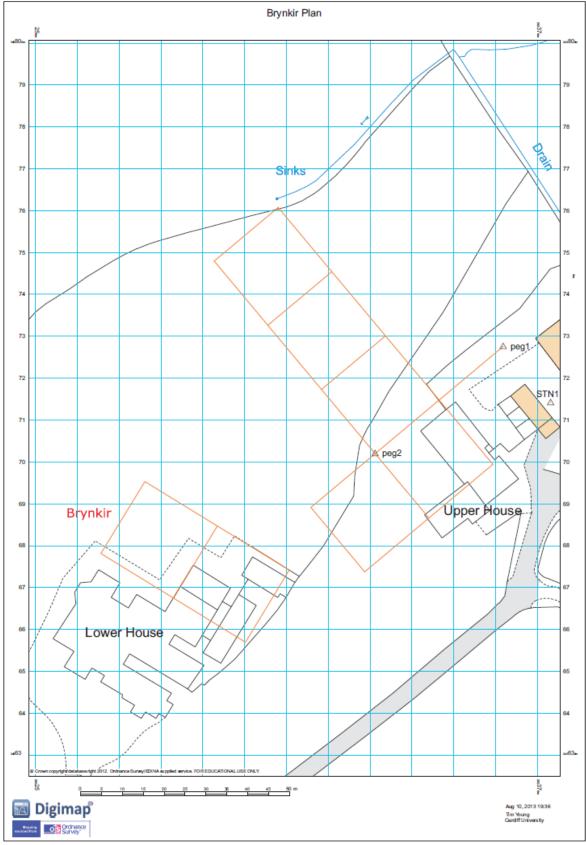


Figure 8: Layout of survey grids, with respect to key modern features and National Grid. Basemap © Crown Copyright 2013, OrdnanceSurvey/EDINA supplied service. After: Young "Geophysical Surveys at Plas Brynkir, Gywnedd" GeoArch Report 2013/18 (unpublished report 2013).

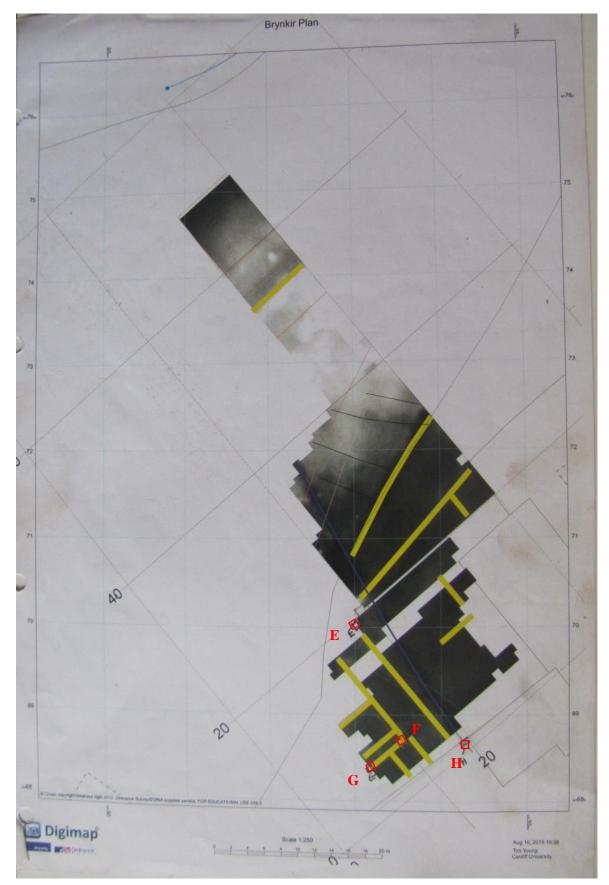


Figure 9: Plas Brynkir. Ground resistivity data as images from *Surfer*, 0.5m probe spacing, located on modern basemap. Upper House data shown with greyscale 180 ohm measured resistance (black) to 320 ohm (white). Yellow indicates possible walls underneath the surface. Trenches E- H are indicated in red squares. Basemap © Crown Copyright 2013, Ordnance Survey/EDINA supplied service. After Tim Young"Geophysical Surveys at Plas Brynkir, Gywnedd" GeoArch Report 2013/18 (unpublished report 2013).

# 5.4: Excavations in the Lower House 2013- Supervised by Dr Sarah Doherty

As outlined previously, the resistivity evidence for the Lower House was not as clear as the Upper House. The exception was a linear anomaly running at  $45^{\circ}$  to the standing range of the rear entrance of the house (see Figure 10), with surrounding garden features.



Figure 10: Plas Brynkir, Lower House. Ground resistivity data as a bitmapped images from *Geoplot*:d. 1.0m probe spacing, despiked data greyscales: 450 ohm measured resistance (black) to 50 ohm (white) for 0.5m probe spacing and 400 ohm measured resistance (black) to 600 ohm (white) for 1.0m probe spacing. After Tim Young"Geophysical Surveys at Plas Brynkir, Gywnedd" GeoArch Report 2013/18 (unpublished report 2013, fig 3d). The 45° anomaly is contained within the red box.

It was therefore decided to open 4 trenches in this area. Trench A and C were 1 x 3m, B was 1x2m, and Trench D was 2x2m in the hopes of picking up the 45 degree angle anomaly.

Trench A proved to contain the remains of garden flowerbeds and terraces cut into the natural orange clay (contexts 123 and 127 see figure 11). It was quite difficult to excavate, as there was a lot of

[PA1] Plan of Trench A Showing Contexts 122, 123, 124,125,127 Scale: 1:20 Drawn By CRM 15/8/2013 Digitised By SKD

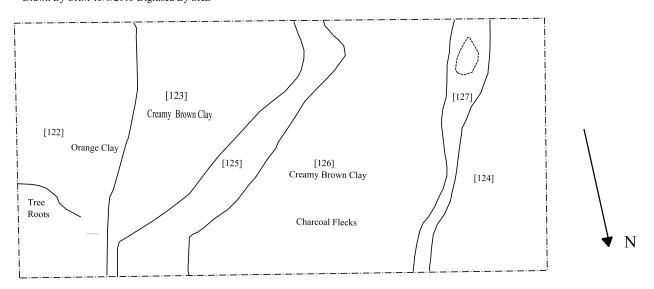


Figure 11: Plan of Trench A, Lower House (2013 season). Drawn by CRM and Digitised by S. Doherty

modern root damage of the area. It was perhaps only used as a flowerbed or similar garden feature as the "gulleys" or flowerbeds were very shallow, from surface to feature was a mere 15-30cm deep throughout the trench. This interpretation would fit in with contemporary descriptions of the gardens.<sup>18</sup>

Trench B did not contain any archaeology but was useful for ascertaining the geology of the area, which proved to be a thick orange clay interpersed with pebbles. Underneath the topsoil at c10cm there was an orange clay layer, then at c70cm a gravel sand layer emerged to 80cm when the orange clay interpersed with pebbles was revealed at 110cm.

Trench C was in a really soggy part of the site, under the lees of the standing buildings and heavy tree cover, devoid of sunlight, yet proved to contain the likely remains of a quarry for mudstone to the Northeastern end of the trench. The upper layers were extremely waterlogged, and no doubt the impermeable rock layer c40cm below was the cause. The soil contained various lenses of burning, and several large pieces of mudstone, probably the result of the partial collapse of the surrounding buildings. In the 1940s, the Lower House had been asset stripped, and most of the surrounding trees were felled. It is possible that these burning lenses represent this phase, as they were just below the topsoil layer at c10cm.



Figure 12: Trench C, showing the mudstone "quarry" layer [170]. Scale 2m.

<sup>&</sup>lt;sup>18</sup> See Baker (Introduction, this volume)

Trench D proved to be the most interesting of the Lower House excavations. It was the largest trench of the area at 2x2m in the hopes of ascertaining what the apparent 45° "anomaly" was in the resistivity report<sup>19</sup> At about 80cm from the surface, the remains of a robbed out wall [117] was uncovered, running northeast to northwest within a dark-grey sandy soil. All that remained of the wall were some mudstone blocks. The upper layers [167] contained a lot of loose mudstones, perhaps the residuals from this wall (see Figure 13).



Figure 13: Trench C, showing the robbed out wall running northeast-northwest with remains of tumbled mudstone blocks. Photo: S Doherty

As has been suggested<sup>12</sup> that the 45° is the same setting as the Upper House, it may perhaps be that this wall indicates an earlier pre 18<sup>th</sup> Century building contemporary to the Upper House. Unfortunately, the trench contained very little in the way of datable finds, apart from in the topsoil layers. Further investigation of this area is needed in order to ascertain the relationship between the two houses.

5.5: The Upper House Excavations 2013- Supervised by Dr Sarah Doherty

<sup>&</sup>lt;sup>19</sup> Tim Young "Geophysical Surveys at Plas Brynkir, Gywnedd" GeoArch Report 2013/18 (unpublished report 2013, fig 3d).

Five trenches were explored in the Upper House (see Figure 9) in order to confirm the geophysics report and to test circumstantial evidence of a possible gatehouse<sup>20</sup>. In 1805-9 estate documents from the Huddart family mentions the removal of just such a gatehouse, rendering the hall and dining room into servants quarters. Other sister houses in the area were known to contain courtyards and gatehouses e.g. Dolbenmaen. These common features for 17<sup>th</sup> C "Renaissance Houses" would likely occur at Brynkir also where the family were Sheriffs of the area. Most of the finds occurred within the topsoil, and were in the main 18<sup>th</sup> and 19<sup>th</sup> Century pottery and glass.

Trenches E-I were excavated in the Upper House within the archery range of Cwm Pennant Hostel, most at 1x2m, apart from G and H which were test pits at 1x1m. Trenches G and I were sterile, but like Trench B served to show the geology of the area. The natural again proved to be a thick orange clay interspersed with pebbles. Trenches E and F seem to confirm the existence of a wall, with a large dolerite basal stone [132] 0.5m wide and mudstone and dolerite rubble packing emerging in trench E



Figure 14: Showing large basal stone [132] with the mudstone and dolerite packing [135] of the wall [131] in Trench F. Scales 2m and 0.5m. Photo: S. Doherty

<sup>&</sup>lt;sup>20</sup> See Baker (this volume)

(see Figure 14). Unfortunately, due to the excavation being undertaken on a modern archery range, where concrete square plinths had been placed just under the topsoil (see the south-eastern corner of Trench E in Figure 14) the trench could not be extended, as this would undermine the concrete.

Trench F demonstrated that rather unusually, the walls of the gatehouse and courtyard must have formed a parallelogram rather than a rectangle (which was generally the preferred choice e.g. at Dolbenmaen). The wall [156] like that of trench E's wall [131] contained large dolerite basal stones in



Figure 15: Showing wall [156] of trench F, contemporaneous with wall [131] of trench E as it appeared to run along the same dia as they would not have been easily moved. The mudstone rubble however, could easily be removed by hand. Indeed, most of it seems to have been reused for the rubble wall of the ha-ha and other 19<sup>th</sup> Century walled features contemporary to the Lower House.

# Plas Brynkir Archaeological Investigations Summer 2012, 2013 & 2014

Trench H abutted the corner of the 14<sup>th</sup> Century core "hall" house. It proved to contain the 1945 water pipe apparently used by semi-permanent squatters at the site, so the trench was somewhat disturbed. However, just beneath the topsoil, the remains of a gravelled surface were revealed just over 1m away from the corner of the hall. It appeared firstly in section overlying the natural orange clay, but a small sondage to the southeast revealed the detail (see Figures 16 and 17).



Figure 17: Detail of the gravelled surface [147] overlying orange clay [140]. Photo: S. Doherty

Figure 16: Plan of Trench H, showing modern water pipe [151] next to the basal stones of the 15<sup>th</sup> Century Hall and the orange clay [140] underneath the gravelled surface [147] containing post holes or more likely "stone hollows" from the gravelled path. Photo: S. Doherty

The entire surface of the trench up to the modern water pipe [151] is likely to have been covered by this gravelled surface [147] as within the underlying clay [140] are the remains of very shallow hollows, perhaps the negatives of larger stones part of the gravelled surface. The stones are mostly rounded or sub angular, ranging from c 2-4cm in diameter to up to 8cm and are in different colours of black, brown and greens. It is possible that this gravelled surface is the remains of a cobbled pathway around the edges of the 15<sup>th</sup> Century House, or could relate to the gatehouse and

Renaissance phase when the Brynkir family undertook several improvements of the house and its surroundings<sup>21</sup>.

Trench I focused on clearing and cleaning the main "Renaissance" period doorway of the house in order to ascertain the different phases of the household and the various improvements on doorway indicated by the estate records. The doorway was apparently narrowed in the 17<sup>th</sup> Century and new windows put in. This proved to be the case, a building break was discovered in the doorway, and an earlier threshold stone was revealed containing a dolerite foundation. By contrast, the 17<sup>th</sup> Century doorway was covered by a threshold stone of slate. During the 2012 season, a 17<sup>th</sup> Century pottery plate with the Brynkir Crest had been uncovered underneath this threshold, giving a useful terminus post quem for the entranceway.



Figure 18: Pottery dish detailing the Brynkir Crest from the underneath the door threshold slate in trench I

<sup>&</sup>lt;sup>21</sup> Baker, this volume.



Figure 19: Trench I. The Doorway of the 17<sup>th</sup> Century hall, showing the slate threshold (where the ranging pole is resting) sitting on top of the earlier dolerite threshold stone. Notice the squared mudstone "Renaissance" wall in front of the earlier uneven wall. Photo: S.Doherty. Scale 1m

## 5.6: The Excavations of the Upper House in 2014, Supervised by W. T. (Bill) Jones

The 2014 season consisted mainly of one trench 5m long and 1m wide from NW to SE in front of the inglenook fireplace, see Figure 2. The only difference between the Royal commissions survey and ours was that a spiral staircase had been found, which had been built during the original construction of the fireplace. Also a second floor, very roughly constructed had been laid on top of a fallen roof which had fallen on top of rubble and stacked bottles. This floor may have been made to house animals due to the rough way they had been laid, and because large gaps in the floor this suggests that it may never been completed. The original floor needs more excavation to determine its date (see Figure 20).

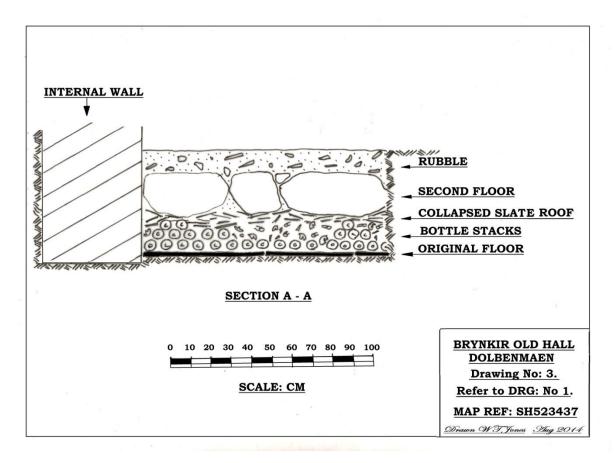


Figure 20: Section of the Upper House Trench during the 2014 season showing the original floor, stacks of bottles and the collapsed floor slate roof with second floor blocks overlaying it.

## Finds Report- undertaken by W.T. Jones

The artefacts uncovered during the Brynkir Excavations were in the main modern 19th and 20th Century remains such as blue-transfer pottery, glass, Victorian drains, and the remains of metal hinges from fences and gateposts. Surface remains from a possible midden near the Lower House<sup>22</sup> could prove to be the most interesting, but unfortunately are not from sealed contexts.<sup>23</sup> During the 2014 season when the Upper House was partially excavated, a large amount of wine bottles and roofing slates were uncovered, and these are described here.

<sup>&</sup>lt;sup>22</sup> Now a badger's set

<sup>&</sup>lt;sup>23</sup> Mark Baker Brynkir. Archaeological Building and Recording Investigation Summer 2012

#### Bottles.

Hundreds of bottles were found on the floor surface of the Upper House, these had been laid down in rows, one on top of the other, and some stacks were three layers high. Most of them were the olive green champagne bottles with a kick up base, a few Hamilton bottles amongst were found among them. Only one local bottle was found, which was a Hamilton type with Humphreys of Portmadog embossed on it. These were covered by a fallen random slate roof, and on top of that a very rough floor was laid, probably using the stones from the walls. Most of these stones had not been quarried but removed from nearby fields, as the plough marks were to be seen on them. These marks should not be confused with glacial marks, because glacial marks tend to go in the same direction as the glacier, these marks are a lot deeper and follow different directions, depending on the direction of the plough.

During the 2014 excavations in the Upper house, a total of 176 champagne bottles and 4 Hamilton bottles were found. A total of 240lbs of broken bottles were uncovered. This suggests that the Upper House was perhaps used for wine storage when the Lower House was in use in the 19<sup>th</sup> and 20<sup>th</sup> Centuries.

# Slates

Slates have been quarried in North Wales at least since the Roman period and probably much earlier. Hundreds of these slates have been found at Tremadog, during the construction of the Porthmadog bypass. All are of a uniform hexagonal shape, with a square hole for the hand-made nail, off-centred at the top; from the pointed bottom to the hole is nearly one foot, equivalent to a Roman *pes* (see Figures 20 and 21).

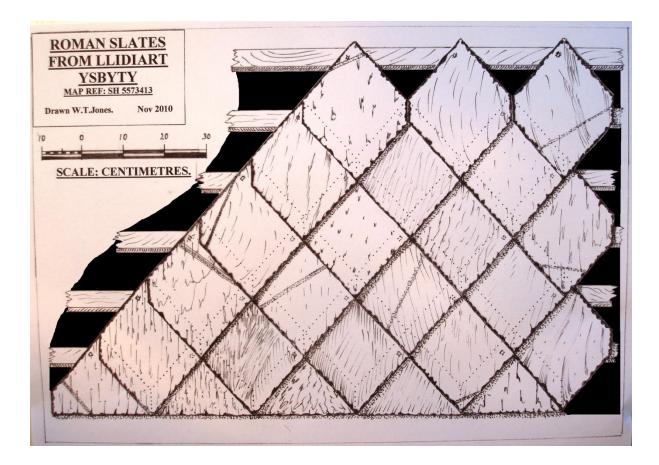


Figure 20: Roman Slates aligned on the roof of the Llidiart Ysbyty. Drawn by W. T. Jones



Roman slate

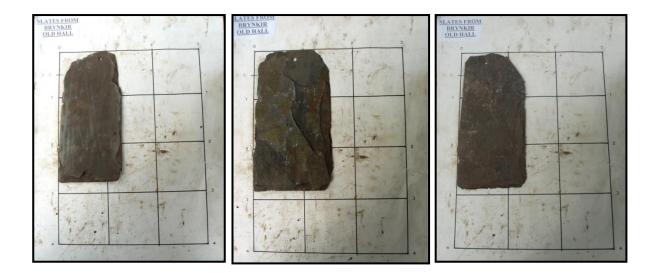


Welsh Moss slate



Modern slate

Figure 21: The Different types of slate found in North Wales. Photos: W. T. Jones



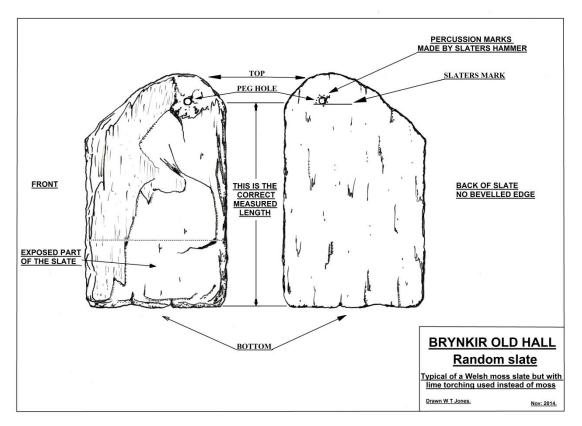
Brynkir slate from the left hand side of the Brynkir slate from the centre of the roof. Bry roof the

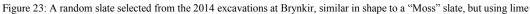
Brynkir slate from the right hand side of the roof

Figure 22: The slates found from Brynkir Upper House showing the positions on the roof. Photos: W. T. Jones

The majority of the early roofing materials were hewed from local mudstone tuffs at first, and then from slate outcrops. The slates would have been hewed roughly where they were, before being hauled to the site. The next process would have been to grade them by size and thickness. The biggest ones would have gone on to the eaves and then diminishing in size towards the ridge. All the slates that were found at the site were of the sort known as moss slates or, Llechi mwsog, sometimes referred to as 'diminishing courses', 'peggies' or 'randoms' (see Figure 21). On closer examination, they were found to be anything but random, as they had a specific pattern and purpose. These roughly hewed slabs of stone make for an aesthetically pleasing roof, though this involved more work than meets the eye. Once on site, the slates were treated differently, depending on whether they were to hang on the left, in the middle, or on the right hand side of the roof. The slates on the left hand side of the roof would have had the upper left hand corner chopped off, (see Figures 22 and 23), and then the exact measurement from the bottom of the slate to the peg hole would have been marked with a slater's rule, pric mesur (Figure 24), and a hole made on the top right hand corner of the slate. This hole was driven from the underside of the slate with the spike on a slater's hand trimmer, a cyllell bach. (See Figure 25). Pock marks made by this hand tool can be seen at the back of the slate around

the peg hole, also the scratch mark made by the slater's rule (a pric mesur) denoting the exact location of the peg hole. More research has allowed us to follow up this scratch mark, back to the Roman times 2000 years ago, when it was used by their Slater to mark the position of the nail hole<sup>24</sup>.





torching instead of moss. Drawing: W. T. Jones

<sup>&</sup>lt;sup>24</sup> Romano-British villa at Abermagwr. Driver & Davies, 2011.

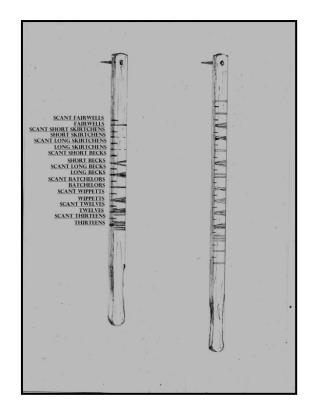


Figure 24: The slater's rule or pric mesur, the tool that gave the finished roof its aesthetic qualities. The exact location of every slate was determined to within a half an inch. Drawn by W. T. Jones.

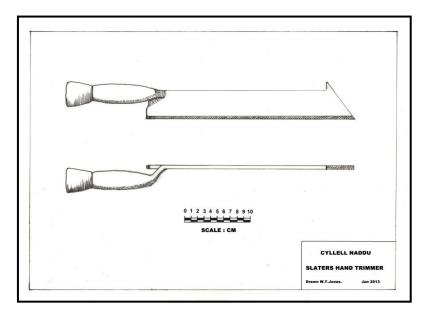


Figure 25: The main difference between a slater's hand trimmer, cyllell fach, and a slate quarryman's cyllell fach, is the piercing spike on the spine.

Slates are not naturally flat, but have a slight curve in them, due to the curvature and movement of the Earth's crust, even modern slates have this very slight curve, though hardly noticeable. The old slater knew this, and the slate would only be laid with the concave side facing downwards on the battings.

The wooden tree-nails or "trunnels" were made out of soft wood ranging from about 20mm to 50mm in length and about 10mm square cross section. The idiom of a square peg in a round hole comes to mind. Here the square peg is driven into a round hole from the front of the slate to the back, so that it is jammed there. If it dries out and shrinks it will not fall out. To attain this aesthetically pleasing effect, the slater had to abide by certain standards, which is where the slater's craft begins. He has to sort them out in sizes and thickness as to the position they went on to the roof. The same size and thickness would go on to the same row or batten on the roof (see Figure 26).

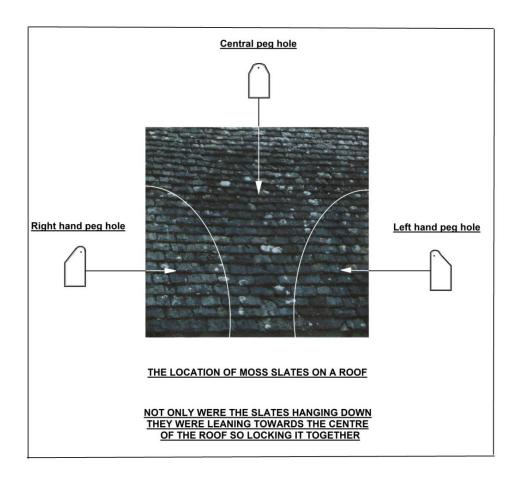


Figure 26: Porch roof of Llangar Church, 1 mile S.West of Corwen.

# Plas Brynkir Archaeological Investigations Summer 2012, 2013 & 2014

The position of the peg hole would be determined and marked with the slater's rule, the pric mesur, within a half inch accuracy, then using a knife-like tool, the cyllell bach, for hand trimming on a metal traverse trafal. The wooden pegs were made by the hundreds by tying a piece of string loosely around a square block of wood  $2\frac{1}{2}$ " x  $2\frac{1}{2}$ " and then splitting it up into  $\frac{1}{4}$ " square cross section pegs. The slater most probably started at the middle of the eaves working outwards towards the gable end, and after the first layer was hung with the wooden pegs the next layer was laid on a bed of sphagnum moss. Because of the coarseness of the slate this provided a cushion and insulated the roof. This was done on every course up to the apex of the ridge. Lime-mortar torching was used in high-status buildings, and traces of torching were found at Brynkir Upper House. Every now and then the moss underlay had to be renewed. This was done by a 'mosser' a craftsman who went around replenishing the moss under the slates using a mossing iron to force moss underneath the slates. Though the collapsed roof at Brynkir Upper House was not the original, as it included a selection of moss and lime torched slates. This roof was erected probably during the transition period between hung, and nailed slates.

## **6.0** Conclusions

The excavations at Brynkir House have revealed that the site is multi-phased and rather complex. Other than a survey of the upper house by the Royal Commission in 1954, the site has been overlooked by archaeological analysis until the 2012 excavation. An archaeological excavation, geophysical survey and non-invasive building survey was carried out at the standing ruins of the upper and lower houses at Brynkir, Garndolbenmaen, Gwynedd, during the summers of 2012 and 2013 in order to investigate the relationship between the development of the two houses and the history of the park in which they are placed. During the 2012 season, a building survey was undertaken to record all the standing building remains, in order to complete what the royal commission missed in 1954. These revealed that the house was multi-phased with an initial regency villa, added to a wing at 45° (at same angle as the Upper House) and ashlar dolerite facing over the back of the house added during the 19th century, and a circular cellar was constructed, likely when

47

Captain Joseph Huddart bought the house . In the 20th Century Roman Cement was added to the front of the house, with three "day" marks visible.

Resistivity Surface Surveys of the two houses were undertaken by Dr. Tim Young during the 2013 season. The survey to the north of the Lower House produced anomalies suggestive of features oriented at approximately 40 degrees to the orientation of the north wing. These included a very strong boundary (high resistivity to the northwest, low resistivity to the Southeast) passing West-southwest from the Northwestern corner of the North wing. The surveys of the Upper House suggested several orthogonal walls suggesting a substantial range to the Southwest of the courtyard and less substantial indications of walls to the northwest of the courtyard, either including a possible square feature, within the courtyard or forming part of a northwest range.

The Excavations of the 2012 season were largely exploratory test pits in order to establish the stratigraphy of the site and to examine pre-existing features (e.g. the Upper House cellar, the basal stone foundations). However, the 2013 season could use the resistivity survey in order to be more targeted with the excavation strategy. Likely features indicated by the geophysics such as walls were selected, and particularly in the Upper House, the resistivity proved to be successful, and Dr. Young correct in his interpretations of the data. Trenches E and F were discovered to contain large dolerite basal stones, likely to be contemporary to the 14<sup>th</sup> Century House which contained similar foundations. Trench H revealed a possible gravelled path perhaps relating to the gatehouse. Trench I demonstrated the various phases of the 14<sup>th</sup> core and 17<sup>th</sup> Century improvements of the main house indicated by estate records.

The Lower House was marginally less successful with resistivity, probably due to the extremely waterlogged soil, particularly in Trench C. However trench A revealed the remains of shallow gulleys perhaps indicating flowerbeds. Trench D proved to be the most interesting of the Lower House area, with the remains of a robbed out wall at a 45,° the same as the angle of the Upper House. It was much deeper than any of the surrounding standing remains and so it is interpreted as an

48

earlier phase perhaps contemporary to the Upper House, which was later demolished to make way for the construction of the 19<sup>th</sup> Century Lower House.

The artefacts uncovered during the Brynkir Excavations were in the main modern 19<sup>th</sup> and 20<sup>th</sup> Century remains such as blue-transfer pottery, glass, Victorian drains, and the remains of metal hinges from fences and gateposts within upper topsoil and rubble layers. This is likely due to most of the walls within the trenches being demolished in the early 19<sup>th</sup> Century when the Lower House was being constructed. It is hoped that future excavations will reveal datable items from sealed contexts.

Much further work is needed at the site of Brynkir. Plas Brynkir has the potential to be a significant site, not just for Porthmaddog and its environs, but also for the wider Welsh community. It contains buildings and remains of a wide variety of periods dating from the Early Medieval period to post-war, notably two large buildings. First, the Upper house dating to the 15th to 18th century, which was built by the Brynkir family. Second, the Lower House, dating from the 19th to mid 20th Century, built by the Huddart family, both within a six thousand acre estate. Medieval houses are rare in the UK, are relatively unknown in Wales and the excavation and correct and further recording of the "Upper house" of Plas Brynkir would aim to rectify this situation. Further investigation is needed of the surrounding estate environs. After a preliminary survey of the wider garden and park of the site, there potentially could be a deer park dating to the medieval period. If true, this would be a first for North Wales.

49