Fforwm Cerrig Cymru Welsh Stone Forum

NEWSLETTER

Number 10 March 2013 **Price £4.50**

Welcome to the tenth edition of the Welsh Stone Forum *Newsletter*, hopefully the first of many milestones to come. Thinking back it does seem a long time since the *Stone in Wales* conference which led to the formation of the Forum but it is reassuring to see that ten years later the Forum is alive and well and flourishing.

It has been another busy year for Forum members as is emphasised by the articles in this edition of the Newsletter. Despite the non-appearance of summer last year the field meetings still proved popular and once again I am indebted to John Shipton for producing write-ups of many of these and supplying me with a wealth of photographs. Continuing the field meeting theme John Davies details his continued research into the Old Red Sandstone of south Wales, this time concentrating on south-west Wales and Tim Palmer expands on the search for Pwntan Stone. Keeping to the field work theme John Davies also outlines his work on inspecting the stone built churches of Powys to gather information for inclusion into the revised edition of Pevsner's *Buildings of Wales – Powys*.

On a different theme Maddy Gray presents a postscript to her previous article on Paint on Stone by giving us a review of the unusual seven-sided font in Llanfaglen in Caernarfonshire, while Mark Baker and Andrew Haycock rediscover the forgotten house of Plas Brynkir. Andrew also reports on the Building and Ornamental Stone collection held at the National Museum, Cardiff. The Short Notes section includes a plea for volunteers to help out in forthcoming research work, so giving you something to keep you busy through the summer months!

My thanks to Alun Thomas for proof-reading and to all of the authors and a plea for more of you to come forward with articles for the next *Newsletter*. We start to scope the content around November but article are welcome anytime of the year.

Stephen Howe

PROGRAMME 2013

Saturday 23rd March: Pwntan Stone

Leaders: Tim Palmer & John Davies
Meet 11.00 in Tanygroes, on the A417 northeast of Cardigan. There is a long record, from the Middle Ages till the late C19th of the use of these unusually pale, iron-stained sandstones. Some of the C19th. masonry was particularly fine. Modern stone cleaning has made these stones much more conspicuous.

Saturday 13th April: AGM & Lecture, Penarth

11.00am, Penarth Meeting Rooms (previously Trinity Church Penarth, Woodland Place, Penarth, CF64 2EX, http://www.penarthmeetingrooms.org.uk/home/mapdirections.html).

The AGM talk will be given by Dr Andy King, on *Opening disused quarries for building stone extraction*. A major problem with obtaining small amounts of new stone for remedial and conservation work is that it is seldom possible or worthwhile to obtain standard Planning Permission for small-scale extraction jobs from old quarries. Some planning authorities have been more enlightened than others, and may permit the taking of small quantities of original stone for heritage works. Andy King has worked extensively on the building stones of Somerset, where a wide variety of different stone types have been traditionally used on a village by village scale.

Lunch will be taken locally. After lunch there will be a tour of the building stones of Penarth led by Dr Christian Baars.

Saturday 18th May: Pembroke & Haverford Priory

Leaders: John Davies & Jana Horák

Meet 11.00 Pembroke town car park, south side of main street (SM 984013). The morning will be spent in Pembroke, followed by lunch locally and the afternoon at Haverford Priory.

Saturday June 22nd Usk and the surrounding area
Leaders: Tim Palmer & Jeremy K. Knight, (ex. Cadw). Meet 11.00am Usk Castle (SO 376011). Final itinerary to be confirmed.

Saturday 13th July: Building stones of Llanidloes and the upper Severn valley
Leader: John Davies

Meet 11.00 car park by the river in Llanidloes (SN 956844).

Saturday 8th /Sunday 9th September: Building stones of Flintshire and the Vale of Clwyd
Leaders: Fiona Gayle (Flintshire County Archivist) & John Davies. Meet 11.00pm, St Asaph in pay and display car-park opposite the cathedral

We will focus on St Asaph on the Saturday afternoon, and Denbigh and Ruthin on the Sunday, taking in some of the village churches as well with luck and time. Members will be responsible for arranging their own accommodation.

Meeting details of each excursion will be published on the Forum web site please inform the Field Secretary (Tim Palmer, tjp@abet.ac.uk or tel. 01970 627107) of meetings you will be attending.

Searching for Pwntan Stone

John Davies & Tim Palmer

We have published short pieces about Pwntan Stone in earlier Newsletters. It is the pale, fine-grained, iron-stained sandstone that is widely encountered in southern Ceredigion and north-west Carmarthenshire as rubble or dressed walling, and also as a freestone for dressings. It was extensively used during the C19th, and it was a survey of C19th newspapers and articles carried out by Julian Orbach (one of the authors of the Pevsner guide to the two counties) that first brought the name to our attention. One of us (JD) even lives in a house that is made of Pwntan Stone.

The main Pwntan quarry that was used in the C19th seems to have been the large excavation (now much overgrown) on the hill just east of Tanygroes, about 10 km east of Cardigan on the A487. Pwntan Mawr Farm is at the north-eastern end of the village, and there are fine C19th buildings in the general area. Tremain Church (SN 235 487) is one of the very best, and the quality of the masonry work has contributed to the building being adopted by the Friends of Friendless Churches in the last couple of years. There is also a magnificent chapel (Calvinistic Methodist, built 1849 and enlarged 1882) [SN 285 494] and adjacent house in Tanygroes itself, and this shows another feature of the stone. It weathers dark and rather inconspicuous, but when fresh or newly cleaned it is very pale, and most unlike a typical Welsh stone colour. Figs 1 and 2 are before and after pictures of this chapel. It is only after you get your eye in for both the dark and the pale versions that you start to realise just how widely Pwntan (or Pwntan-type) Stone is used in this part of west Wales.

Fig 1 & 2. Tanygroes Calvinistic Methodist Chapel before (above) and after (below) restoration.

Another quarry that produces a similar product is Bwlch-y-fadfa quarry (SN 438 493) near Talgarreg. Here, Iwan Evans has recently started to produce small quantities of pale stone again for walls, patios and porches, but in the C19th it was the home quarry of the Allt-y-rodin estate further down the Clettwr valley. Home Farm behind the mansion (now in different ownership) shows the quality of the stone from this source (illustrated in 2004 in Newsletter No. 2 under the name of Talgarreg Stone). Similar stone was being used for fonts in medieval times (e.g. at Llansantffraed north of Aberaeron or at Henfynyw, south of Aberaeron, where an exquisite Romanesque font sits in a dull C19th church), so this is a stone with a good reputation and a long history.

We think that as this type of stone is used over such a wide area that there must be other places where it has been quarried in the past. The Geological Survey published the 1:50,000 map of the area (Sheet 194, Llangranog) in 2006, on which these sandstone are shown to occur as local beds or lenses in the Upper Ordovician Yr Allt Formation and the underlying Nantmel Mudstones Formation. Some are extensive enough to be marked on the map, and doubtless others are smaller or covered with vegetation and have been missed. Some have quarries marked in them, which we have been visiting. One, for example, is midway between Ffostrasol and Penrhiwpal (at SN 361 465). The quarry is overgrown but the lady who lives in the adjacent house (built of what looks just like Pwntan Stone) knows perfectly well that the stone was quarried just across the road.

Rediscovering a Forgotten House: Plas Brynkir, Dolbenmaen, Gwynedd

Mark Baker & Andrew Haycock

Through historical and archaeological research, an estate which had once been such a dominant influence in north-west Wales, has once again been brought into public consciousness by Cardiff University archaeology students.

Brynkir was a mansion at the heart of an 8,000 acre estate which survived until the Second World War when it was systematically asset-stripped. There are three distinct phases to the estate's history: firstly, the early origins are believed to lie in that of a medieval deer park, which possibly belonged to Owain Gwynedd, whose 'llys' was based for some time at nearby Dolbenmaen; secondly, Owain Gwynedd's descendants established a stone-built hall-house during the C15th and latterly took on its name as Brynkir/Brynker,: thirdly, the Huddart family, who purchased the entire estate in 1809, went on to develop it into a country residence of considerable size using a quarry from further up the Pennant Valley/Cwm Pennant, to build one of the finest ashlar-fronted houses in north Wales (Fig. 1).

Local Art teacher, Ceri Leeder, has been working with the archaeological team to create reconstruction drawings of how the mansion house appeared at different stages of its construction (Fig. 2). It is envisaged that phase two of the project will take place during the summer of 2013.

The building stone has been identified as an altered dolerite (metadolerite) by staff at the Department of Geology, Amgueddfa Cymru – National Museum Wales. Two samples of dolerite (from Brynkir House and a field outcrop at Craig Gyfyng, 1.5km NNE) were compared in hand specimen, thin section and by XRD (X-ray diffraction) analysis.

Fig. 1. Plas Brynkir, the ashlar front, 2012.

From the 1:50,000 geological map (Sheet 119, Snowdon), the dolerite is seen to be intruded into mudstones and sandstones of the Nant Ffrancon Group (Llanvirn age, Ordovician) and outcrops locally. In hand specimen, the dolerite is blue-grey-green in colour with a brown weathered surface. A standard thin section (30µm) was prepared from each specimen and observed using a polarizing microscope (Leica Ortholux Pol). This allowed for high magnitude identification of the minerals (shape, colour etc) and textures present within each rock. Distinct differences in the colour of minerals in cross-polarized light (known as birefringence) allows for very accurate mineral identification.

Fig. 2. Plas Brynkir, the ashlar front, circa 1930. (Image funded by the Llyn Area of Outstanding Natural Beauty).

The dolerite samples contain a primary mineralogy dominated by clinopyroxene and plagioclase feldspar with an ophitic texture (where large crystals of augite enclose smaller crystals of albite). This primary mineralogy is the same in both samples but is overprinted by a secondary metamorphic mineralogy, resulting from greenschist metamorphism, after the sample had solidified (Fig. 3). Although the nature of this metamorphic mineralogy is slightly different in the two samples, such variation can occur over a relatively small distance, such as across one outcrop, or even between samples collected within the same quarry.

On the basis of the petrological data, it is not possible to say categorically that the two samples were derived from the same locality. However, this is highly probable and if they are not from the exact same locality then they are

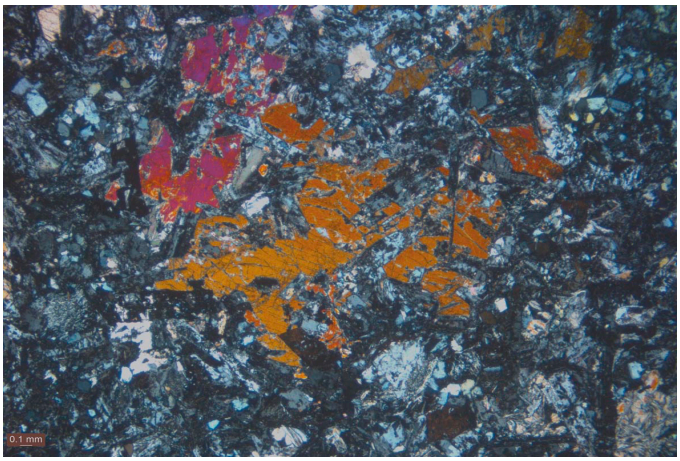

Fig. 3. Sample of dolerite showing ophitic texture in thin section (cross-polarized light).

from the same rock type at a locality nearby. This suggests that the stone used in the building of Brynkir House is likely to be local to Craig Cyfyng where the field sample was collected.

In thin section six major minerals were identified and these confirm the data obtain by XRD.

Mineral	%	Description
Albite	41	Elongate crystals, random orientation
Augite	17	Opthitic texture
Chlorite	12	Yellow green in plane light, low birefringence
Epidote	17	Yellow-green in plane polarised light, high relief
Actinolite	8	Mass of acicular crystals
Quartz	5	Colourless in plane polarised light

Corsi's Decorative Stones Online

Monica T. Price
(Oxford University Museum of Natural History)

Some of the polished stones used in churches and public buildings are from local sources, but often – far more often than is the case for unpolished building stone – they have been transported from further afield. Indeed, the import of stone from exotic places has traditionally imparted a degree of prestige, irrespective of whether that stone is more beautiful or practical than its more local counterpart. The Romans quarried stone from all parts of their Empire to embellish the buildings of Rome, and in such vast quantities that it was used and recycled for many centuries after.

One of the first to appreciate this amazing heritage of marbles, serpentines, granites and other polished stones was the lawyer Faustino Corsi who, early in the C19th, started to collect samples of all the different kinds to be found in the ruins of Rome. He then enlisted the help of agents and friends to obtain samples from working Italian quarries, and finally, added a selection of particularly choice decorative rocks and minerals from further afield. These include, for example, a suite of stones of Derbyshire given to him by the 6th Duke of Devonshire.

Corsi was a scholar who wrote a *Catalogo ragionato*[1] in which he described each stone and recorded where it was quarried. The quarry locations of many ancient Roman stones had been long forgotten but undaunted, Corsi attempted to correlate his samples with those described by ancient authors such as Pliny and Theophrastus. In a pioneering way that is emulated by most museums today, he organised his collection using a geological classification to include marbles, alabasters, serpentines, jaspers, porphyries and granites. He was fascinated by the mineralogy and methods of formation of the various stones, and how this could aid identification. When his *Catalogo ragionato* was published in 1825, Corsi had over 900 samples. He went on to write *Delle pietre antiche*[2], the most authoritative work on ancient decorative stone for more than a century.

In 1827, a student, Stephen Jarrett, travelled to Rome to buy the collection as a gift for the University of Oxford. Jarrett offered to pay handsomely for the stones and remaining catalogues, asking Corsi to increase the number to 1,000 at his expense. It seems probable that this was at Dr William Buckland's behest, for the eminent Reader of Mineralogy and Geology had, on his wedding tour in 1826, seen Corsi's collection and recognised its considerable value as a scientific resource. The collection is now in the Oxford University Museum of Natural History.

Fig. 1. (top left) Portrait of Faustino Corsi. Fig. 2. (top main) Ornamental stone specimens from the Corsi Collectiom. Fig. 3. ((bottom left) sample web page from the Corsi Collection website (see text for details). Fig. 4. Examples of high reolsution image on an samples from th collection, as viewed on the website.

Corsi always envisaged that his collection would be used to help people identify polished stone, and for that reason he chose to have large blocks, all approximately 145 x 73 x 40 mm. Over the years it has been visited by archaeologists, architects and conservators to help identify the decorative stones used in buildings, furniture and artefacts.

Some decorative stones, especially monochrome marbles, are very hard to identify with certainty and require the use of petrological thin sections, isotopic and trace element analyses, or examination of spectral data. By contrast, others can have such a distinctive appearance that they are very easy to identify. For the majority, geological features are key to providing a reliable identification, as is the context in which the stone is used. Some information about when a stone was quarried and how widely it was transported for use, can help confirm or refute an identification.

Over the past decade, we have been checking and updating Corsi's information, adding modern geological descriptions and imaging every specimen. Now, thanks to generous funding from the Esmée Fairbairn Foundation, we have made the entire Corsi collection freely available online at www.oum.ox.ac.uk/corsi. You can see galleries of small images, and click on a picture to enlarge it, view Corsi's original *Catalogo* entry in English and Italian, and read our up-to-date information about the stone. It is possible to search by stone name, rock type, quarry location or simply for particular features. The website has tips for identifying polished stone, sources of further information, and lots more about the fascinating history of Corsi's collection. The whole website is designed to work just as well on tablets and mobile phones, making it easier to compare Corsi's specimens with the decorative stones inside churches and public buildings.

Please explore the Corsi website, and tell us what you think, and whether it has helped your researches. If you would like to visit the collection, you would be very welcome, just contact me to make an appointment first.

Reference:

Corsi, F. (1825), Catalogo ragionato d'una collezione di pietre di decorazione. Da' Torchj del Salviucci, Roma.

Corsi, F. (1828), Delle pietre antiche libri quattro. Da' Torchj di Giuseppe Salviucci, Roma. (second and third editions were published in 1833 and 1845 respectively).

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Paint On A Stone: A Postscript

Maddy Gray

As well as a C6th inscribed stone, two later medieval grave slabs and some wonderfully idiosyncratic C18th woodwork, the old parish church of Llanfaglan (Caernarfonshire) still has its medieval font. Unassumingly plain and covered with a thick layer of whitewash, it is not even mentioned in Haslam, Orbach and Voelcker's *Buildings of Wales: Gwynedd* (Yale University Press, 2009). But it is in fact a very unusual and fascinating piece of stone carving, for it has seven sides (Figs 1 & 2). This is one of only four in Wales – but Wales still has proportionately more seven-sided fonts than most other countries. The Baptisteria Sacra database of fonts and baptistries (http://www.library.utoronto.ca/bsi/) records heptagonal fonts at Killin / Loch Tay (Perthshire & Kinross, Scotland), Elmswell (Suffolk), Chaddesden (Derbyshire) and Great Bowden (Leicestershire) and more, including sunken fonts, elsewhere on the Continent, but notes that the heptagonal shape is not common.

An anonymous visitor to the church has suggested that the seven sides may be connected with the Seven Sacraments. Medieval fonts carved with scenes depicting the sacraments are fairly common in East Anglia (see Simon Knott's wonderful Churches of East Anglia site at http://www.norfolkchurches.co.uk/ for photographs of some of them) but they usually have an eighth side with a depiction of something like the Virgin and Child or Christ in Majesty.

The only surviving depiction of all the sacraments in Wales is in stained glass in the Seven Sacraments window at Llandyrnog, Denighshire. The Llanfaglan font does not seem ever to have been carved but because of the layers of whitewash, it is hard to tell. This raises the interesting possibility that the whole sequence may have been painted

Fig. 1. (below left) The font from above, Fig. 2. (above) The Llanfaglan font. Photos Ifor Williams.

on plain stone. Several of the Seven Sacrament fonts in East Anglia were painted. Perhaps the best-known now, because it appears on the cover of Eamon Duffy's *The Stripping of the Altars*, is that of Westhall, Suffolk, which also has little moulded figures in gesso. However, these fonts are painted over carving. Tim Palmer has also noted minute traces of paint on some Cardiganshire fonts.

Harriet Sonne, of the Baptisteria Sacra project, notes that they have identified some Swedish fonts not completely carved but completed by painted motifs, presumably for economy. An entirely painted font would of course be even cheaper. She has also noticed that in Scandinavian fonts of the later Middle Ages, there was a trend to simplify the ornamentation; plain geometric or shell shaped fonts became very popular. The richly ornate and narrative trend of the early C13th seems to have declined when the production of the Paradiso fonts escalated. Again, it was cheaper and quicker to produce simpler works for exportation at that time, factors which influenced what was being produced.

The Llanfaglan font is of local, possibly Anglesey stone, and presumably, therefore, of local manufacture. The interior of the church would almost certainly have been painted (and repainted several times) in the medieval period, and it is of course quite possible that the local craftsmen who painted the walls could have been asked to paint the font. However, the seven-sided design suggests that it may always have been intended to complete the font by painting the scenes of the Sacraments.

The old church at Llanfaglan is now in the care of the Friends of Friendless Churches (http://www.friendsoffriendlesschurches.org.uk/indexmain.htm) who can advise about access. (A word of caution: the church in Llanfaglan village is a Victorian replacement, now also disused and used as a diocesan repository for unwanted church furnishings. The old church is about a mile west across the fields, a little more by road, on the edge of the Menai straits. Access is by a footpath across a field).

I am grateful to the key-keeper, Ifor Williams, who pointed out to me that the font had seven sides and provided much of the information in this note. I am also grateful to Harriet Sonne and Miguel Torrens of the Baptisteria Sacra project.

The Conglomerates & Coarse Sandstones of the ORS from Carmarthen to South Pembrokeshire

John Davies

West of the river Tywi in Carmarthenshire, to its westernmost outcrop at Canaston Bridge, in Pembrokeshire, the Old Red Sandstone has been described on the Geological Survey map (Sheet 228) as consisting of red mudstones and sandstones of the Lower Old Red Sandstone [Silurian and Devonian]. Further east in Carmarthenshire the sequence is as follows:

Devonian	Senni Beds Formation	(green-grey sandstones)
	St Maughan's Formation	(maroon sandstones, mudstones)
Silurian	Raglan Mudstone Formation	

However, from the River Tywi west, the Senni Beds Formation is not present and the Carboniferous rocks rest directly on the local equivilant of the St Maughan's and Raglan Formations. There is no distinction made in this area between the latter two formations, and the total is just referred to as Red Marls [mudstones].

On the Haverfordwest Geological Survey map (Sheet 228) several distinctive bands of conglomerate are marked within this red mudstone sequence. These bands extend westward from just east of Ciffig Church to Minwear Wood [SN 055 136] south of Blackpool Mill in the west, a distance of 17 km. Another band, further south, stretches for 2 km from near Three Wells to just west of Rhos Goch. Both bands appear to be at the same stratigraphical horizon and represent a single sedimentary event with the thickest parts of the sequence possibly representing river channls. The bands dip to the south and the southern outcrop represents the northern-dipping southern limb of a syncline.

Fig. 1. (top left) ORS Conglomerate Black Lion.St. Clears. Fig 2. (top right) Cream pebbly sandstones , Llanddowror Church. Fig 3. (bottom left) Conglomerate in rubble wall, Bwlch Gwynt cottage. Fig 4. (bottom right) Conglomerate, Town Hall, Narberth.

There are four main outcrops marked on the map:

- Three Wells [SN 183 116] to West of Rhos Goch [SN 202 124]
- East of Ciffin church [SN 211 138] to Carvan stream north of Tavarnspite [SN 180 138]
- Redford [SN 132 134] to Canaston Wood [SN 086 137]
- Canaston Wood [SN 069 139] to Minwear Wood [SN 055 136]

All occur just below or at the crest of an escarpment that runs the whole distance from west of Llanddowror to Canaston. The conglomerates consist of grey to creamish or reddish coarse sandstones, pebbly sandstones or true conglomerates. The pebbles are well-rounded and are predominantly of quartz, though rock fragments and jaspe rs also occur. These coarse-grained rocks have readily jointed to form natural rectangular blocks, making them especially useful as building materials. Due probably to a calcareous cement in some beds, they have also been dressed and used in ashlar walls. The conglomerates and sandstones are distinctive and have been used in buildings from as far east as St Clears, through Llanddowror, Ciffin and Whitland to Narberth.

At St Clears, the Black Lion [SN 281 164] has blocks of the conglomerate, but these may have been taken from local glacial till (Fig 1). Next door, the Toll House is faced with Ordovician Meidrim Limestone, but one or two of the cornerstones are composed of a very coarse, cross-bedded, locally reddish, sandstone which probably represents an eastern extension of this horizon into that area.

The tower of St Clears Priory [SN 281 156] has also used the very coarse, cross bedded sandstone as corner stones and butresses against the east wall of the chancel. The latter is also pebbly. The same lithologies appear in Llanddowror Church [SN 256 145] in some of the older dressings. There is also a creamy, pebbly sandstone with 1cm diameter white quartz pebbles and chert clasts up to 4cm in diameter, in Victorian dressings within the church (Fig 2). This may be a variety of this Old Red Sandstone

band or may be from the basal Namurian [Millstone Grit], equivalent to the Twrch Sandstone of the South Wales Coalfield.

At Bwlch Gwynt [SN 215 138], the cottages at the roadside have extensively used the conglomerate in rubble walls (Fig 3), suggesting that they probably stand very close to, if not on, the outcrop. Here, the white quartz pebbles are up to 2cm diameter and are set in a coarse, redish, sandstone matrix. Other blocks of coarse gritty-sandstone are similar to those at St Clears and Llanddowror.

At Ciffin church [SN 207 139] various varieties of frequently reddish and creamish coloured conglomerate and coarse sandstones have been used extensively in rubble walls, ashlar and window and door openings.

Further north, away from the outcrop, the rubble walls of Cavan Chapel Hall [SN 174 140] also have rubble walls of conglomerate and reddish, gritty sandstones. The walls of the ruined house at Melinau [SN 169 130] include blocks of pebbly, grey to yellowish, cross-bedded sandstone with white quartz pebbles and conglomerates. Near Capel Mair, Whitland, the coping stones to the bridge over the River Taf [SN 200 162] also include blocks of the conglomerate.

Whilst a pile of blocks in the field by Glanrhyd Chapel [SN 158 120] includes blocks of conglomerate the nearby quarry [SN 157 120] and the one at Castle [SN 149 121] only exhibit massive maroon sandstones. Princes Gate quarry [SN 121 129], from which St Catherine's Church [SN 136 126] is built, is actually an orange-weathering calcrete.

Westward again the most distinctive use of the conglomerate is in the Town Hall in Narberth [SN 109 145] , where the stone is dressed to form some form of ashlar walls (Fig 4). The stone is also visible in the rubble walls of un-rendered shops in the main street [SN 109 146]. Although the castle [SN 110 144] and church [SN 108 144] at Narberth have not yet been examined, it is most probable that this material would have been used there also [work in progress]. The stone at Narberth is most likely to have been quarried from the outcrops between Redford and Canaston Wood.

Along the outcrop many of the small cottages have the conglomerate in their rubble walls. There are also a number of small quarries marked on the OS. map and dip arrows [indicating outcrop] on the Geological Survey map. The quarry on the road at [SN 101 135], where the conglomerate might be expected, actually shows red sandstones lying above calcretes while the road section at Rhyd [SN 090 137] where the Geological Survey has indicated conglomerate, actually shows orange weathering calcrete. The westernmost quarry yet visited, at [SN 066 141], shows pebbly sandstones with quartz pebbles and pebbles of broken up calcrete resting on a gritty limestone [calcrete].

This project, which has attempted to connect the use of Old Red Sandstone conglomerates in western Carmarthenshire and south-eastern Pembrokeshire with the outcrop, has been moderately successful. It has indicated the sort of rigorous work which needs to be undertaken to produce a dependable map of the vernacular use of building stones in such a region.

The Building & Ornamental Stone Collection of the Department of Geology, Amgueddfa Cymru – National Museum Wales: A stone library resource for sensitive new build and restoration work

Andrew Haycock

The Department of Geology holds a significant collection of building and ornamental stones from across the UK and worldwide. Totalling over 750 specimens the collection includes prepared (cut / polished) trade samples sourced from stone masons, quarries and stone suppliers, stone from ruined buildings and historical renovations and field collected specimens for reference, research and comparison (Fig. 1). There are around 120 specimens from Wales and 200 specimens from England with the Welsh collection currently being one of the fastest expanding areas of the collection. Recent acquisitions include examples Cefn and Gwespyr Sandstone, of Carboniferous age, from Wrexham, dolerite from Plas Brynkir in Caernarfonshire, 'Snowdrop Marble' from Carmarthenshire (a dark Carboniferous limestone with brachiopods), and Pwntan Stone (an Ordovician sandstone from the Yr Allt Formation) from Brynhelyg Quarry, Cardiganshire. The map (Fig. 2) shows the geographic extent of the Welsh collections, the poorer quality of building stone from mid Wales being reflected in the limited distribution of sites. The department also holds a large collection of roofing slates and tiles stones.

The quarrying of building stone in Wales declined rapidly after the Second World War, which is reflected in the collection. The largest part was acquired as trade samples throughout the early and mid 20th century but in more recent years, the collection has acquired more staff-collected field specimens from disused quarries and natural rock outcrops.

Although in recent years, few large building projects have used indigenous stone, the collection provides a record of the historic use of building stones as well as those still in use today. It is an excellent resource for matching stone for buildings and restoration work thus allowing stone used in the past to be matched to that available today to meet current conservation and construction needs. Before specimens are added to the collection, they are prepared so as to include a fresh-cut (sawn) surface and a naturally weathered surface for comparison, as the colour and

Fig. 1. The Department of Geology Building and Ornamental Stone Collection

texture of each can differ significantly. This is particularly useful for stone-matching work.

When restoring historic buildings or building new homes, the sensitive selection of stone can make the result less obtrusive and help new buildings and restoration merge into their local environment. Where possible, the same stone should be used, but as is often the case, this is not always possible. The original stone may no longer be accessible or commercially extracted and in such cases it is important to match the stone as closely as possible. Where in hand specimens two sandstones may look very similar they may weather completely differently due to differences in their properties and composition.

The collection is supported by an extensive and growing collection of thin sections, which allow a rock to be studied in minute detail. By analysing the mineral content, texture, grain size, porosity, cementation etc, not only can the rock type be better classified, but it can also be used to identify certain characteristics to help better match stone types when the original is no longer available.

Comparing thin sections can also help match a stone from a building to a particular quarry. Research like this is important as the source quarries for buildings stones can often be lost from historical records. This matching process was recently used to confirm the source quarry for a ruined mansion house in Gwynedd (see the article *Rediscovering a Forgotten House: Plas Brynkir, Dolbenmaen, Gwynedd'* elsewhere in this Newsletter).

The Museum is continuing to develop its 'library' of building stones allowing the colour and texture of stone varieties to be compared more accurately than by using images in reference books. If you would like to view and make use of the collection please contact Dr Jana Horak or Andrew Haycock for further information.(Andrew.haycock@museumwales.ac.uk, jana.horak@museumwales.ac.uk)

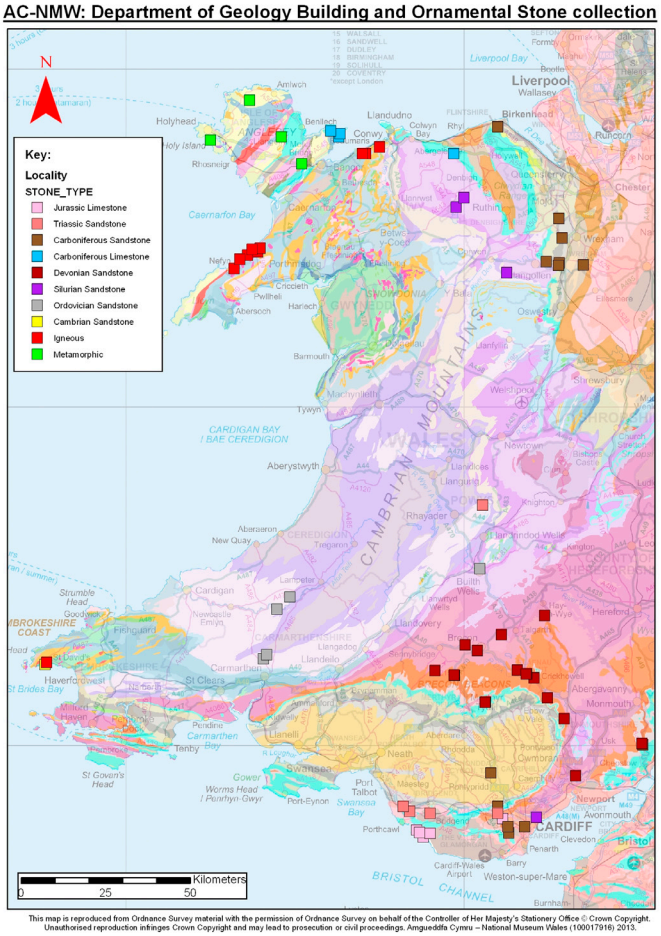

Fig. 2. Map showing the distribution of Welsh building stones in the collection.

FIELD MEETING REPORTS

Carmarthen: 9th June 20012

John Shipton

The first field trip of the year was to the historic town of Carmarthen. The Romans first settled at Carmarthen around AD75 when they built the fort of Moridunum. Over the next couple of hundred years the trading settlement to the east of Moridunum developed into a substantial town. Little is known of the town during the 'Dark Ages' however it is thought that during this time it gained the welsh name of Caerfyrddin (Merlin's Fort) because of its reported association with Myrddin (Merlin).

The town grew rapidly during the early to mid- mediaeval period and by Tudor times it was reported to be one of the largest towns in Wales. It avoided the industrialisation that affected much of south east Wales during the industrial revolution and fortunately managed to escaped the large scale redevelopment schemes of the mid C20th so there was much of interest for us to see on our visit.

We met in St John's Street car park where John Davies explained that most of the locally available stone was soft shale and therefore not much good for building. There is limestone from the Middle Ordovician period in the area with blocks from north of the Towy tending to be more deformed than those from the south. Most other stone is imported from elsewhere.

The group moved on towards the Market Square where the pedestrian area had been paved with Pennant Sandstone slabs (Fig 1) almost certainly from the Gwrhyd Quarry that we visited in 2011. Iron pyrite in the Pennant Sandstone rots and gives the stone its brown staining. When the market area was redeveloped the Old Clock Tower on St Catherine's Walk was retained. Its rubble walls are built of Ordovician gritstone with some turbiditic sandstones, which were created by 'submarine avalanches'. The dressings are of Bath Stone and the cills of Carboniferous Limestone in which fossilised brachiopods are clearly visible.

A little further on stands the Mansel Arms, where the external walls to the upper floors are rendered but the masonry of the ground floor is exposed. Much of the stone is Ordovician shale and may well have been stone- robbed or salvaged (depending on your point of view) from the old Roman walls (Fig 2). The mortar joints have been pointed in what was, in the view of the author, a less than sympathetic mortar. Close by on Mansel Street is the Zion Chapel, built in 1850 like many of the buildings in this area has rendered external walls. This is possibly a more suitable finish for walls built using these soft shales.

Reaching Lammas Street we came across a building that bore all the 'hallmarks' of having been a Midland Bank, with its red brick walls and Bath Stone dressings. However, Steve Gray revealed that although the building (that now houses an estate agent) had at one time been a branch of the Midland Bank it was originally a private house.

On an island in the middle of Lammas Street stands the Crimea War Memorial. The main elements of the monument are of Portland Stone, the corner blocks of Carboniferous Limestone, while the engraved panels are of an unidentified marble. The whole sits upon a sandstone base. The sandstone contains flakes of mica and is possibly Pennant Sandstone or one of the Namurian sandstones. At this point we also observed a few old Carboniferous Limestone kerb stones containing fossilized brachiopods.

Lammas Street also contains the English Congregational Church, built mostly of sandstone (probably Pennant Sandstone),and dressings of one of the Bath stones, possibly Stoke Ground as it contains terebratulid (Lamp shell) fossils. A short discussion ensued as to the durability of this stone in exposed locations. Some dolomitised Carboniferous Limestone had been incorporated into the wall at the side of the church.

Christ Church, on the opposite side of the road, is built of Ordovician sandstone from the Forge Quarry. Faults in the stone had filled with quartz crystals and in one Tim spotted a piece of sphalerite (zinc sulphide). The dressings are of Bath Stone and at the top of the tower the Bath Stone corbels support a later addition of what appeared from the ground to be Pennant Sandstone.

The gates at the front of the English Baptist Church were locked so we were unable to gain access or even a close view of the Palladian style front of the building. However, even from where we stood on Lammas Street we could see that the ashlars and columns were cut from a Jurassic limestone, probably Bath Stone, but there were grey patches on the columns which probably indicated cementatious mortar repairs.

After lunch we looked at the front of the old London Provincial Bank building that is now occupied by Barclays Bank (Fig 3). The upper floors are of Pennant Sandstone blocks with Bath Stone dressings but on the ground floor Stoke Ground Bath stone had been used. Some of the stone was showing clear signs of deterioration as the edges of the mouldings were crumbling.

Moving on passed the Boer War Memorial, where a Carrara Marble statue of a soldier in period uniform towers above the Guild Hall Square on a base of Pennant Sandstone and polished red granite, we reached the steps of the Guild Hall. The lower levels of the hall are of Bath Stone on a Portland Stone plinth. Above this level the construction is of Devonian age Old Red Sandstone rubble. Set on the front wall of the hall, beneath the portico, are memorial plaques probably of Carrara Marble, which are framed by what was thought to be Devonian Torquay Limestone surrounds. Some poor quality repairs had been carried out to these surrounds with sections of the frame being replaced with polished granite.

Fig 1. (top left) Pennant Sandstone slabs, Market Square. Fig 2. (bottom left) Ordovician shale, Mansel Arms. Fig 3. (top right) Ground floor Stoke Ground Bath Stone, first floor Pennant Sandstone blocks with Bath Stone dressings, Barclays Bank. Fig 4 (bottom right) Red sandstone gate, St Peter's Church.

Heading eastwards towards the castle we passed a section of the old town wall containing Ordovician sandstones, 'Senni Beds and Brownstones from the Old Red Sandstone, Millstone Grit and Pennant sandstone. Much of this stone has probably been recycled from the local Roman sites. A little further on a retaining wall built using Carboniferous Limestone from igubin contained

many fossil shells. Approaching the castle from the south we crossed Lias limestone slabs containing many fossil bivalves, possibly *Gryphaea*. Making our way up towards the council offices we passed a large section of castle wall, originally built in local stone, that had been repaired using blocks of Old Red Sandstone.

The modern council offices are sat on the high ground above the Towy River surrounded by the remains of the mediaeval castle. The walls are built in coursed blocks of Pennant Sandstone and door casings and string courses of Portland Stone. A large fossilised oyster shell was visible in one of the door casings. The roof is of Cambrian slate from the Lake District. Moving back into the mediaeval castle we climbed the Shell Tower that affords good views over Nott Square before exiting the castle through the gate into the square. Much of the masonry dressings to this gatehouse, including door jambs and voussoirs, are of Quarella Stone, from the Bridgend area, which was widely used as a free stone in mediaeval south Wales.

We re-grouped around the Nott Monument that consists of a statue erected on a granite, limestone and slate base commemorating Dr. Robert Ferrar, a C19th Bishop of St. David's. Time was getting on and as often is the case on our field trips we were fast running out of time so we pressed on up King Street passing the National Westminster Bank. This building has brick upper floors with the ground floor and the dressings on upper floors of a pale sandstone that was thought to be Cefn Sandstone. A polished, red, foliated granite cladding ran waist high across the width of the building giving some protection against grime and road salts as well as being visually striking. Passing the Post Office, built of Bath Stone, and the West Wales Valuation Tribunal Office, which has a facade of blocks of dolomitic limestone and Bath Stone dressings, we eventually reached our final visit of the day, St Peter's church.

Unfortunately, we were late and the church was locked but Steve Gray managed to track down the key keeper and we were able to gain access. The impressive gate is built of red sandstone (Fig 4), possibly Grinshill Stone, but Tim Palmer was unconvinced as it contains few calcite veins so its origin remains unproven. The original church door casing was of Ordovician limestone and Llandeilo Flags but it now has many inappropriate replacement stones as well. Away from the lime-washed tower, pebbly Brownstone quoins are visible. The window dressings and tracery are of Bath Stone. However, these replacements may well have been reclaimed from another building rather than being bespoke windows as they do not fit the openings in which they have been set.

Inside we inspected the tomb of Sir Rhys ap Thomas. The carved figure on the top of the casket is much repaired and some paint is still in place making it difficult to confirm the stone. However, inspecting the side of the stone tomb, where no paint was applied, it was thought that the stone might be Caen Stone from north western France. Ron pointed out marble wall plaques by P. Rogers of Swansea, explaining that the Carboniferous Limestone corbels supporting the plaques were typical of Rogers' work. At 16.30 hrs and after a very full day the meeting came to an end. Tim thanked John for preparing and leading a full and interesting trip.

Tenby 8th September 2012

John Shipton

During the conquest of Ireland in the mid C12th, Tenby was used as a base and staging post by the Kings of England so was important to the crown. It was also around this time that people from the low countries of Europe were settled in south west Wales. Consequently, after the town was sacked by the Welsh in the mid C13th it was not surprising that the Lord of Pembroke began building a substantial wall to defend the town. In 1328 Edward III granted Tenby the right to levy dues on merchandise entering the town. The funds raised helped finance the construction of extra towers in the curtain wall and an outer Barbican for the west gate - the current Five Arches. It was here that Forum members assembled at the start of our visit to Tenby.

The town walls are built of Carboniferous Limestone, a material that is quite hard and difficult to work. The Carboniferous Limestone in this part of south Wales is highly fractured and folded which makes it crush and split and, therefore, is usually only used in rubble work. John Davies pointed out patches of yellow lichen, which he said was a good indicator of limestone, and nearby found stylolites in the limestone blocks.

The walls of St. John's Church, erected in 1868, are built of a yellowish sandstone brought from Templeton, five miles north of Tenby (Fig 1). The stone is either of Namurian or Coal Measures in age and does not weather well as it contains very limited amounts of cement. Salts either deposited on the surface during storms or migrating from the mortar dry out and crystallise sub-surface, during which they expand and pop individual grains. The dressings are cut from Bath Stone, the typical calcite veins being clearly visible. A later addition, built in 1871, has walls built of larger blocks of Carboniferous Limestone, in one block of which a fossilised coral was found.

The Roman Catholic Church of the Holyrood and St. Teilo's was built in 1892 also using blocks of Carboniferous Limestone that contain many brachiopod and coral fossils. Once again the dressings are of Bath Stone. When

the church built a porch extension around twenty years ago recycled Carboniferous Limestone blocks were used. Previously some had possibly been setts as their surfaces are quite polished. They may have possibly come from a quay as some other blocks contained holes bored by marine worms (*Polydora*) indicating that they had at one time been below the water line.

We made our way up to Castle Hill to inspect the stone keep which still stands atop the hill overlooking St. Catherine's Island (Fig 2). The stone in the keep is quite varied and could have come from the coast to the east of Tenby where the varied geology ranges from Silurian to the Coal Measures. Flaggy stone voussoirs, possibly from the Coal Measures, and door jambs in a quartzitic sandstone were closely inspected.

Close by is the Prince Albert Memorial erected in 1865 by George Thomas, a builder from Pembroke, which is constructed of Carboniferous Limestone and Sicilian marble. It is the 'Welsh National Memorial to Prince Albert'. John Davies told the group that when Carboniferous Limestone is polished it was sometimes called 'Snowdrop' Marble. This was made famous by a

Fig 1.(top left) Poorly-weathering sandstone from Temple, St John's Church. Fig 2. (bottom left) Rubble work of various lithologies, Tenby Castle Keep. Fig 3 (top right) Interior of St Mary's Church. with Dundry Stone and Bath Stone arches. Fig. 4. (bottom right) Snowdrop Marble tombstone St Mary's Church.

Tom Morris who had a workshop inland and to the west of Pendine between 1840 and 1880. Chert was visible in the Carboniferous Limestone steps of the monument. Over the last 150 years the limestone has been dissolved by acid rainwater but the siliceous chert is not affected by this and so stands proud of the surface of the stone.

As the weather was kind to us most of us took our lunch in the peaceful garden adjacent to St. Mary's Church. After lunch we walked around the outside of the church viewing the phases of construction. The tower, west end and out buildings were built in the C13th mostly in sandstone rubble with the dressings in Dundry Stone. In the C15th the north and south aisles were added. These are built of Carboniferous Limestone rubble but we were unsure of the stone used in the dressings. In the C19th much of the window tracery and dressings were replaced with a stone that looked very much like Bath Stone but once again we could not get close enough to confirm that.

Inside the church is quite grand (Fig 3). At the time of the C15th enlargement, Henry Tudor lavished much money on the town because of its support during the War of the Roses. The earlier columns and Gothic arches supporting the structure are cut from Dundry Stone but the later C15th ones are in Bath Stone. A tomb recess in the north aisle contains a cadaver carving, which Tim thought that was in Painswick Stone from the Inferior Oolite of Gloucestershire. Other examples of Painswick Stone in the church include the tomb of the Whites and a painted monument to William Risom. A number of other imported stones have been used for other tombs and monuments including one in a recess in the north aisle that may be of Dundry Stone, several monuments in alabaster and a number of tombstones in the Choir of 'Snowdrop' Marble (Fig 4).

Strangely there were two fonts in the church; a relatively modern one on a timber plinth, which seemed to be used for regular christening ceremonies. Tim's view was that this one was of Caen Stone from northern France while the other was a fairly ancient eight-sided affair which Tim though was Dundry Stone.

At 15.40 John Davies closed the meeting bringing an end to another enjoyable and informative field trip. On behalf of the assembled he thanked Tim Palmer for planning, organising and leading the visit.

Welshpool: 6th October 2012

John Shipton

The last field trip of 2012 was to the market town of Welshpool, a town originally made prosperous in the medieval times through the woollen industry but now whose economy is largely based on agriculture.

A few years ago John Davies carried out a survey of stones used around Welshpool for a BBC web site about Welsh towns. A pamphlet had also been produced by the Mid Wales Geology Club, based on John's work, and our visit was an opportunity to walk John's trail around the town.

We met in the Municipal car park on Berriew road and set off on the trail into town stopping first near the Morrisons store a short distance away. Here John outlined the local geological setting explaining that the hills outside Welshpool are made up of Ludlow siltstones, below which lie the Wenlock shales and beneath these a sliver of Llandovery mudstones. These mudstones are ideal for making bricks and these are found all around the town. Powys Castle is sat on a plug of Ordovician igneous material surrounded by the Powys Castle Conglomerates that were former beach deposits. For a more detailed explanation of local geology I would refer you to the pamphlet *The Building Stones of Welshpool* which is available on line at www.midwalesgeology.org.uk

The stone walls of Morrisons are composed of a Carboniferous sandstone containing some mica and pale pink, iron-stained quartz grains, which has a reasonably open texture unlike Pennant Sandstone. Cobbles in the path outside of the store include some quite exotic stones that could have come from anywhere in Western Europe. The brick built houses across the road contain cream-coloured stone lintels that may be Cefn Stone.

Walking northwards along the canal we passed blocks of a grey/green igneous rock in a recently-built wall. The red brick museum building, in front of us, was originally a warehouse for canal traffic use. Its earlier window dressings, lintels and cills are of a pink/brown sandstone whose providence is unknown. However, in later work the builders had used a paler sandstone probably Cefn Stone from near Wrexham.

A short distance from the canal is a building that was previously a hospital but is now used as council offices. Built in red bricks with Portland Stone dressings the earlier building, circa 1930, was extended in the same style about forty years ago. Members spent some considerable time debating which part was the later build and which part the earlier; unfortunately we were unable to reach a consensus.

Moving back towards the canal we passed a fine gatepost cut from Carboniferous Limestone, probably from quarries near Llanymynech, along with a stone marking the 'Glyndwr Way' which is a coarse-grained igneous rock, possibly syenite (Fig 1). A little further on an old canal warehouse, built of a volcanic ash that has possibly come from the Gaerfawr or Middleton Quarries, contains feldspars that are weathered out and giving the stone a

Fig. 1. (top left) Glyndwr Way signpost. Fig. 2. (bottom left) 18 Severn Street, Cefn Stone porch. Fig. 3. (top right) Red Powys Castle Conglomerate blocks in rubble work wall. Fig. 4. (bottom right) Dolerite block walling and Hollington Stone, Christ Church.

porous appearance. A more recent adjacent wall was constructed of an altered dolerite. Continuing along the tow path we reached a bridge spanning the canal. Originally carrying a narrow gauge railway, the bridge abutments are built of a red sandstone containing weathered out mud clasts, that is probably of Triassic age from below the horizon of the Grinshill Stone.

Leaving the canal we crossed the bridge on to Severn Street. Built in 1863, number 18 is ornately constructed in three different coloured bricks laid in decorative patterns, and has a large porch built of Cefn Stone (Fig 2). At this point in the town we found that three different sandstones occur in buildings; Cefn Stone, Pennant Sandstone and Grinshill Stone all being evident close by. Number 24,

now the Welshpool County Court, was built in 1820. Its porch is supported by Doric columns of Cefn Stone but recent repairs in the bottom of the columns have been carried out in a Pennant Sandstone.

We crossed Severn Street to where the footpath was paved with sandstone slabs. Careful examination revealed wave mark ripples and it was thought that these slabs may have been imported from India. On the corner of Church Street stands the Royal George. This brick built building dates from the mid C18th and has Doric columns in two different stones; Cefn Stone and Grinshill Stone. Calcite veins were evident. Resisting the temptation to imbibe at this hostelry we took lunch at a nearby café as our first visit after lunch was to be to St Mary's church.

Suitably refreshed we set off for the C13th church of St Mary's. The retaining wall beneath the church is built of igneous rubble, either tuff or a high level intrusive possibly from the Criggion Quarry. Climbing the steps to the church we passed the war memorial built using red Triassic sandstone, thought to be Hollington Stone. The steps to the entrance, built in 1871, are mostly of creamy Cefn Stone but there is some Grinshill Stone and later replacements in Forest of Dean Pennant Sandstone. The doorway dressings are mostly Grinshill Stone but there are a number of later replacements. One, a brownish purple stone, may well have been St Bees. Many of the window dressings had been replaced with what appeared from our vantage point to be Hollington Stone. Before we went inside members inspected a large erratic in the church yard in front of the entrance but nobody could come up with a reasonable explanation of what it was and why it was there.

Inside the church we viewed the alabaster (from Derby) tomb of the Second Earl of Powys, designed by George Gilbert Scott. The marble reredos contained Carrara Marble (white), Connemara Marble (green), Sienna Marble (yellow) and jasper (red). Tim thought that the relatively modern pulpit was Caen Stone.

Leaving St Mary's we headed back into the town where many of the buildings are red brick with Cefn Stone dressings. The upper ashlars of the market hall are in Grinshill Stone and the lower ones Cefn Stone. However, the building was shrouded in scaffold with much stone replacement was taking place. We could not get close enough to identify the replacement stone and we could not find anybody working there who could tell us the name so unfortunately its identity will for the time being remain unknown.

The wall, adjacent to the gate to the Powys Castle Park, is built of red Powys Castle Conglomerate (Fig 3) while the Methodist Church, built in 1874, like many buildings of that period in the area is constructed in a green andesite from the Standard Quarry. The dressings are one of the Bath stones that Tim thought was probably Box Ground Stone. Nearby the brick-built Bethel Chapel also had dressings and a foundation in a creamy limestone, probably a Bath Stone but no calcite veins were visible so doubt remained.

The final visit of the day was to the redundant Christ Church built between 1834 and 1844. It has ashlars of dolerite and the original dressings were also cut from dolerite quarried from the Standard Quarry. However, alterations carried out by Lady Violet of the Powys Castle family were carried out in red Hollington Stone (Fig 4). This stone was extensively used for repairs at Powys Castle as we saw when we visited the castle in 2007. Before we left we bumped into the family who have made the church their home, Karl Meredith and Natalie Bass who have converted part of the church into living accommodation and intend to conserve the rest of the building over the coming years. Details of their project, progress and coming events on site can be found at www.christchurchwelshpool.blogspot.com

And so ended the final field trip of 2012 on a sunny autumn afternoon, John Davies closed the meeting and was thanked by all for organising and leading the trip.

SHORT NOTES

Understanding Urban Character – building stone update

We have had several mentions in recent Newsletters of Cadw's *Understanding Urban Character* project (Alfrey, J, *WSF Newsletter No.8*, [2011], 2-3; Palmer, T.J, *WSF Newsletter No. 9*, [2012], 11-12) in which building stone surveys have been commissioned to contribute to the understanding of the use of building stone. The project aims to identify the natural stone resources available within each of the areas and review how these have been used in vernacular buildings. Specific patterns in the use of indigenous stone, both geographical and temporal, are identified. Imported stone is considered in a similar way. Information is gathered by desk studies (see note on Coflein website) and field surveys, the latter often involving viewing a considerable amount of pebble-dash and render! During 2012/3 John Davies and Jana Horák completed synoptic surveys of Cefn Mawr, Holyhead and Hafod and the Lower Swansea Valley, with Pembroke being completed by the time this *Newsletter* is published. Other phases of the project, completed by others workers, include Blaenau Ffestiniog (2011) and Denbigh (2010).

Global Heritage Stone Project – update

WSF Newsletter No.9 [2012] reported on Global Heritage Stone Resource [GHSR] stone designation, a programme which aims to identify and document building stones that are of international importance. The initiative is supported by the International Union of Geological Sciences (IUGS). The strongest stone candidate from the United Kingdom for designation is Welsh slate. Jana Horák, Terry Hughes and Graham Lott are promoting this application by making a presentation at the European Geological Union meeting in Vienna in April in a session on Natural Stone Research and Heritage Stone Designation. Further work will continue to develop a strong case for the designation of north Wales slate.

Can you help?

The Royal Commission for Ancient and Historic Monuments in Wales (RCAHMW) has an excellent web site, *Coflein* (http://www.coflein.gov.uk/). This is an online database for the National Monuments Record of Wales (NMRW), the national collection of information about the historic environment of Wales. The name is derived from the Welsh *cof* (memory) and *lein* (line). In addition to data on specific buildings of note, the database contains some excellent galleries of images. Although some reference to the nature of the building stone used is recorded, many records lack this information. We would therefore welcome anyone using this site who finds a lack of building stone data but has such information to contribute, to please send the information to Jana Horak (jana.horak@museumwales) or Andrew Haycock (andrew.haycock@museumwales.ac.uk) at the National Museum Cardiff who will co-ordinate the passing on to David Thomas the Database Manager.

E-volunteers wanted!

The Welsh Stone Forum is considering setting up a scheme of e-volunteers to assist with the archiving and background research that underpins regional building stone projects. Several such studies have been undertaken to date, based on field surveys, petrological work and some archive research. However, we are aware that there are some occasions where more in-depth archive work might have added a significant contribution to developing the project further. Ideally we need volunteers who live close to, or can easily access, County Archive offices or the National Library of Wales. Those with archiving experience would be particularly welcome but we would endeavour to arrange training for those wishing who lack this knowledge. The projects would be advertised by e-mail to volunteers and those wishing to help would then be asked to make contact with us so that a work plan could be developed to co-ordinate the input of the volunteers. There would be no obligation to any long-term involvement and volunteers could participate on a project-by-project basis and allow them to work around other commitments.

If you are interested in participating in this scheme then please contact either Jana Horák (jana.horak@museumwales.ac.uk) or Andrew Haycock (andrew.haycock.museumwales.ac.uk).

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Please note that the views expressed in this newsletter are those of the individual contributors

ISSN 1759-7609