

Wales

CARMARTHENSHIRE

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Dolaucothi Goldmines – benefits from the European Exchange Programme

R P m Mo 

Acquisition of the Dolaucothi Estate in rural Carmarthenshire has ensured the preservation of one of the most significant Roman sites in Britain. Intensive mining for gold is reflected in a series of open cast pits, trenches, adits, mine entrances, channels, tanks and spoil heaps all now hidden beneath broad-leafed and coniferous woodland. The mines, apparently abandoned after the Romans left, were not reopened until the middle of the nineteenth century. Mining reached a peak in the 1930s, but finally ceased in 1938.

As reported in the *Annual Archaeological Review 7* (1998/99), Dolaucothi was accepted as part of the National Trust European Exchange Programme. A review of the management and interpretation was followed by a visit this year to French and Spanish Roman and pre-Roman goldmines. The Area Manager, Philip James, and the writer were joined by Robert Maxwell, National Trust archaeologist in the North West

The broad theme of the exchange was the management and presentation of industrial archaeology sites but this was narrowed to two tasks:

- To achieve a greater understanding of the European significance of the Roman mine at Dolaucothi.
- To investigate the management and presentation of mines and mine archaeology in France and Spain with the aim of enhancing and improving the management of similar sites in Trust ownership.

The host was Ian Cowburn who amongst many other responsibilities manages a medieval, eighteenth and nineteenth-century silver mine in L'Argentière. Although undergoing an active programme of restoration based on excavation and reconstruction, the site remains open as a visitor attraction. The party was also joined by Beatrice Cauuet who has spent the last twenty years working on French and Spanish Roman and pre-Roman gold mines and Bruno Ancel who has archaeological responsibility for the mine at L'Argentière but also researches mines in the Pyrenees. Visits were made to pre-Roman mines south of Limousin (France) and Roman mines

near Campo (France), in the Cangas del Narcea area (Spain) and Las Medulas (Spain), a journey of some 2,500 miles.

It was striking how the Roman sites, both fluvial and hard rock, contained equivalent site components apparently linked in a similar manner to that familiar in Dolaucothi. At some sites the close visual resemblance was uncanny, particularly in the Pyrenees with bracken-covered slopes, low cloud and driving rain. The hard rock mines in the Astruías in Spain have tanks, leats and open cast pits on the same scale and display identical inter-relationships to those present at the Welsh site. It is not surprising, therefore, that Barri Jones and Peter Lewis, who surveyed Dolaucothi in the early seventies, based their interpretation of the mine on the Spanish examples, many of which had been described in contemporary texts. Las Medulas, the World Heritage Site near Ponferrada was perhaps the most spectacular, where cliffs and pinnacles of bright red deposit are all that remain of a well-documented but in the end fruitless attempt to locate gold-rich deposits.

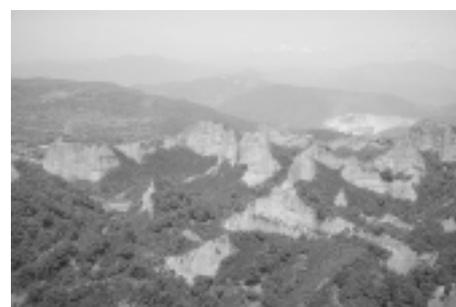
The Welsh mine with its landscape of pits and trenches is more complex than many of the European sites where the technology employed can be inferred from the surviving earthworks. However, there are problems of interpretation at all sites irrespective of the nature of the archaeology. In response to this lack of understanding, European archaeologists have developed expertise specific to Roman and pre-Roman gold mines. This can be related to broader trends in mine and mining archaeology in that French archaeologists appear to be advancing in innovative directions which are directly linked to subsequent conservation. Of prime importance is the requirement to understand the entire process from extraction to processing. The relevance of geological analysis is recognised along with the need for a rigorous programme of surveying, recording and underground excavation. Sophisticated techniques have been developed at L'Argentière to analyse products and methods of processing.

As a direct result of the European Exchange, Dolaucothi has been asked to become part of the European Cultural Itinerary known as Minet. This links non-ferrous mines open to the public and includes Trevithick Trust (UK- Cornwall), European Centre for Traditional and Rural Cultures (UK- Llangollen), Irish Geological Survey, Proyecto Arravanes (Spain – Linares), Scorpmínera (Italy – Communita Montana Valli Chisone e Germanesca), Fournel (France – L'Argentière), Killhope (UK – Durham) and



Tanks and leats at a hard-rock gold mine at Alto de Palo, Cangas del Narcea, Spain. These are identical in scale to those found at Dolaucothi.

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Las Medulas, Leon, Spain. This gold mine is well documented in contemporary Roman sources and is today a World Heritage Site.

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Peticora (Italy). The programme aims to link mining centres by facilitating communication and advocating best practice approaches. The Trust hopes that by establishing partnerships throughout Europe, it will be in a position to access European ideas and techniques which will in turn enhance opportunities for European funding.

Dolaucothi has benefited greatly from the European Exchange Programme. The first stage highlighted management and interpretation difficulties which the Trust is now addressing. For instance, 1999 saw the completion of a contour survey at 0.2m intervals and a scale of 1:500 the results of which clearly demonstrated the complexity of the archaeology. As a result of the second phase the Trust was made aware that although Dolaucothi is geographically isolated and apparently unique in a British context, it is an intrinsic part of a European network of sites, some of which have been studied in great detail. Given our lack of understanding of the chronology and technology employed at Dolaucothi, it was recognised that the site would benefit greatly from the expertise and techniques developed in Europe. Accordingly the Trust has invited Beatrice Cauuet, Bruno Ancel and Ian Cowburn to the mine in the Spring of 2000 with the aim of carrying out a preliminary assessment. It is hoped that this will then form the basis for a long-term research strategy involving both French and British archaeologists.

GWYNEDD

John Latham

REGIONAL ARCHAEOLOGIST

Hafod Y Porth Copper Mine – recent survey

Owned by the National Trust, Hafod Y Porth is one of a group of small-scale copper mines in the Beddgelert area. The mine was surveyed initially by J L Agnew and I S Husband as part of an M.Sc. dissertation; this usefully included at least some of the underground workings. In 1999 the Trust commissioned a new survey of this important site from Helen Riley and Peter Muckle. The adits from the earlier survey have been sketched in to show their relationship with the surface workings. The site contains an excellent range of contemporaneous copper mine features as well as a structure relating to a distinctly earlier phase (Cwt Bugail – see below).

The mine is located within the Snowdon volcanic zone, the summit of Snowdon itself being 3km due north. Copper mineralisation is found within the caldera and especially in the Beddgelert Fault. Hafod y Porth, and several other workings are found on this line (Agnew, 1989, 360 – 61). The mine dates from at least 1755 when it is first noted in a document in Clwyd RO where the mine is described as Hafod Boeth (Bick, 1982, 73.) It is probable that the curious ruined cottage known as Cwt Bugail with its massive central hearth dates from this time. It is described as “Miners Cot” on a promotional plan of the mine issued in 1873 (reproduced in Bick, 1982, 75). A sale document from 1845 mentions a 24ft x 3ft waterwheel and an eight head stamp battery amongst other fittings. The stamps were sited in the Crushing Mill and the wheel pit, not now entirely clear on the ground, nearby. The latter date was probably the heyday of the enterprise. By 1864 the site was taken over by the Hafod y Porth Copper Mining Company and some ore was sold. The mine at that time possibly lacked machinery and ore was dragged over the hill to the works at Hafod y Llan. After the 1860’s the mine was sold on a further five times but as Bick states: “Whether any of these ventures ever put a spade in the ground is questionable...” (Bick, 1982, 74). The main purpose of all this apparent entrepreneurial activity was to delude unwary investors. At no time were more than a few men employed at the mine. The mine was worked with little geological insight and the output from it was minimal. 58 tons of dressed ore was recorded, although

considerably more was probably produced in total. The consensus is that the mine was worked on a very inefficient basis compared with others in the area. Recent geological investigation has shown that major mineralised zones around the periphery of the area were completely overlooked (Agnew, 1989, 367).

References:

Agnew, J L. 1989 The Hafod y Porth Copper Mine, *Bulletin of the Peak Mines Historical Society*, 10, no. 6, 359 – 367.

Bick, D. 1982 *The Old Copper Mines of Snowdonia*.

Welsh Highland Light Railway – proposed reinstatement of the line

This narrow gauge railway was first mooted in the 1870s but at that time it encountered considerable opposition. The grand design was to utilise two pre-existing railways, the Croesor Tramway (opened in 1864), which linked the slate quarries above Croesor with Porthmadog and the North Wales Narrow Gauge Railway

which was opened in 1881, linking Dinas Junction (on the LNWR) near Caernarfon with Rhyd Ddu. The Welsh Highland Light Railway eventually acquired both of these railway companies on 1st January 1922. The missing link between Rhyd Ddu and Croesor Junction was completed and officially opened on 1st June 1923. The whole route was rebuilt using 1ft 11inch gauge track. Although this new railway never proved to be very successful, it continued in operation until 1937. During its latter years the line was under official receivership but leased to the Ffestiniog Railway Company. The track itself was eventually requisitioned for scrap during the Second World War and the whole enterprise was finally wound up on 7th February 1944 (Boyd, 1989, 1–12).

For at least the last thirty-five years enthusiasts have been beavering away in an attempt to reconstruct the line. At the present date only a short section has been re-opened consisting of about one mile of track out of Porthmadog. Not until the advent of Heritage

The bridge near Beddgelert, photograph taken just before demolition.

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Lottery Funding and a climate favourable to public transport has a future for the line looked at all rosy. In October 1999 £9.2m of funding was made available to the owners of the line, once more the Ffestiniog Railway, who can now grapple with the many problems of reinstatement. Since the 1950s, the track-bed of the WHLR has been turned into footpath or road and has been variously tarred over or built upon. One of the first actions of Ffestiniog was to announce closure of the route where it had become a public footpath. The well-known Aberglaslyn Tunnel was closed and pedestrians had to use an alternative route below, alongside the river. At least three iron girder bridges (each designed to the same specification) were to be removed, because they were being used as foot access and were also, for safety reasons, considered inadequate for the new railway. It was on the issue of these bridges that the Trust was initially alerted.

Between Hafod Garregog and Cwm Cloch (about 7kms) the route passes through Trust land, so acquiescence on this removal was out of the question. Ten days' notice of demolition was given (in the event a couple of months elapsed) and a photographic record was made of the bridges *in situ* as a measure of last resort. Some assurance was given that "The Welsh Highland Railway Heritage Group" would record archaeological features (Letter from Tony Smare). However the consensus was that these bridges were adequately recorded in the original design drawings from the 1920's.

References:

- Boyd, J. 1989 *Narrow Gauge Railways in South Caernarvonshire*, 2, 1-12.
Letter from Tony Smare of Ffestiniog to Neil Johnstone of Gwynedd Archaeological Trust, dated 3rd November 1999.

SWANSEA

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Penmaen Burrows – exposed stonework of an early church

P M Pm Mo 

Much of the South Gower coast, an area of dramatic cliffs interrupted by sandy beaches, is in the ownership of the National Trust. Archaeologists including those employed by the Trust, have recorded a high density of sites dating from the Palaeolithic to the Second World War. Penmaen Burrows, located on the western side of Three Cliffs Bay, is no exception. Within an area measuring approximately half a square kilometre

in extent can be found a megalithic tomb, a ring work, a ruined church, a pillow mound and a limekiln. The first three sites are scheduled.

As the name would indicate, Penmaen consists of active and fossilised sand dunes, grazed until comparatively recently. The church which survives as nothing more than several courses of stonework embedded in sand had to be rescued from a blanket of scrub so dense that Cadw could not find the site. The footpaths traversing the property are increasingly popular, providing access to the beach below. Unfortunately this increased use has led to erosion with deeper and ever-widening paths. One effect of this has been the exposure of small areas of stonework. Survey and small-scale excavation were carried out in the summer of 1999 in advance of the construction of a boardwalk

Several sections of wall were identified and two were examined in detail. The first, which runs parallel to the path for a distance of some 12 metres, is fragmentary in nature with no evidence of method of construction. The second traverses the path disappearing into bracken on either side. Densely packed stones and rubble are fronted on the western side by a well-constructed face with a total width of approximately one metre. The function of these walls is unknown though the latter appears more substantial, possibly the remains of a structure. Both are located within five metres of the church.

Gower contains the remains of two be-sanded settlement sites; one in Rhossili, now in Trust ownership, and the other in Pennard on the other side of Three Cliffs Bay. In both locations a church, fragmented walls and at least one house have been identified. The example at Rhossili was excavated by Glamorgan Gwent Archaeological Trust (Davidson et al, 1987) who noted that the site may have been abandoned before the end of the fourteenth century although the church was maintained possibly until 1540. The excavators were reluctant to date the onset of sand encroachment. At Pennard, two centuries of be-sanding were deduced beginning in the fourteenth century (Lees and Sell 1983).

The recently exposed stonework at Penmaen suggests that here also there may have been a small settlement associated with an early church. The church was excavated in the middle of the nineteenth century when a twelfth-century thurible was discovered (Anon 1861). Only the internal area was investigated, leaving sand banked up against the outside walls, a situation which still prevails. Unlike Rhossili and Pennard,

documentary research does not reveal any hint of two churches in this parish with all written evidence apparently referring to the present building. It is tempting to suggest that this settlement may have been associated with the nearby ring-work (Alcock 1966) and that it was abandoned after this earthwork was vacated in the thirteenth century, a process either prompted or accelerated by increased sand encroachment.

References:

- Alcock, L. 1966 Castle Tower, Penmaen: A Norman Ring-Work in Glamorgan, *The Antiquaries Journal*, 46(2), 178-210
Anon. 1861 Report of the Swansea Meeting of the Cambrian Archaeological Association, *Archaeologia Cambrensis*, 7 (3rd series), 362-363
Davidson, AF and JE, Owen-John, HS and Tof, LA. 1987 Excavations at the Sand Covered Medieval Settlement at Rhossili, West Glamorgan, *The Bulletin of the Board of Celtic Studies*, 34, 244-269
Lees, DJ and Sell, S. 1983 Excavation of a Medieval Dwelling at Pennard, *Gower*, 34, 44-52.

OTHER PROJECTS:

(Camarthenshire)

Mwche

Across the estuary of the river Taff is a ruinous, remote structure once thought to be a bell tower where folk could summon the ferry from Laugharne. Consolidation of the structure is planned for the near future following a detailed survey of the site.



The Bell-tower at Mwche. Detailed survey and consolidation is planned for this building. J.LATHAM/NATIONAL TRUST

(Ceredigion)**Llanerchaeron**

Work has just begun at Llanerchaeron following receipt of a generous grant from the heritage lottery fund. It is planned to restore the interiors of the Nash Villa, repair all the outbuildings, reclaim the lake and restore the associated water features including the weir on the Afon Mydr that supplied water to the lake and water wheel. The money is also paying for some resistivity and magnetometry in the parkland and a thermographic survey in the house.

(Gwynedd)**Hafod Y Llan & Gelli Iago**

A comprehensive overview survey is due to be completed during 2000 of Hafod y Llan and Gelli Iago (land purchased from the Snowdon Appeal).



Survey work in progress at Cwm Llan Copper Mine.

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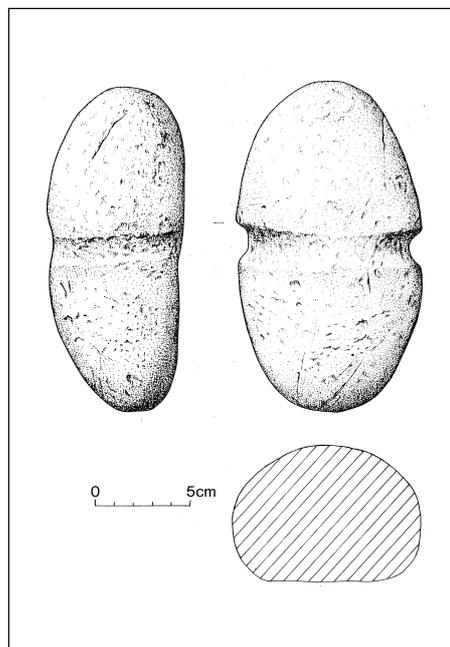
Swtan, Ynys Mon

The process of reconstructing and re-roofing what has always been considered to be the last thatch-roofed house on the island of Anglesey was completed early in 1999. The building has now been handed over to "The friends of Swtan" who will be responsible for presenting the house to the public. During the reconstruction process, a water-worn stone with pecked medial groove of unknown date was found in a field wall nearby. This could have been variously described as a weight for holding down thatch, a mining mawl or a ceremonial mace head.



Swtan during the final stage of reconstruction.

J.LATHAM/NATIONAL TRUST



The Axe-hammer found at Swtan in 1999 (drawn by Helen Riley).

(Wrexham)**Erddig**

Christopher Gallagher has produced a survey of earthwork features in the park that will go a long way towards our understanding the complex history of this estate. However, the bulk and the most important part of the report was taken up with a comprehensive review of the surviving archive material, organised by date, and linked wherever possible to the evidence on the ground. Also at Erddig, consolidation and clearance work on the well-known Motte & Bailey was completed and a new information panel erected explaining that site to the public. This is part of a long-term programme intended to widen public interest in the estate as a whole.