

A Search For

# The Neath Abbey Ironworks

Training Ground

of

Hopkin Thomas

I reached -a small village half-way between Swansea and Neath, and without stopping continued my course, walking very fast. I had surmounted a hill and had nearly descended that side of it which looked towards the east, having on my left, that is to the north, a wooded height, when an extraordinary scene presented itself to my eyes. Somewhat to the south rose immense stacks of chimneys surrounded by grimy diabolical looking buildings, in the neighbourhood of which were huge heaps of cinders and black rubbish. From the chimneys, notwithstanding it was Sunday, smoke was proceeding in volumes, choking the atmosphere all around. From this pandemonium, at a distance of about a quarter of a mile to the south west, upon a green meadow, stood looking darkly grey, a ruin of vast size with window holes, towers, spires and arches, between it and the accursed pandemonium, lay a horrible filthy place, part of which was swamp and part pool; the pool black as soot, and the swamp of disgusting leaden colour. Across this place of filth stretched a tramway leading seemingly from the abominable mansions to the ruin. So strange a scene I have never beheld in nature. Had it been on canvas with the addition of a number of diabolical figures, proceeding along the tramway, it might have stood for Sabbath in Hell—devils proceeding to afternoon worship.

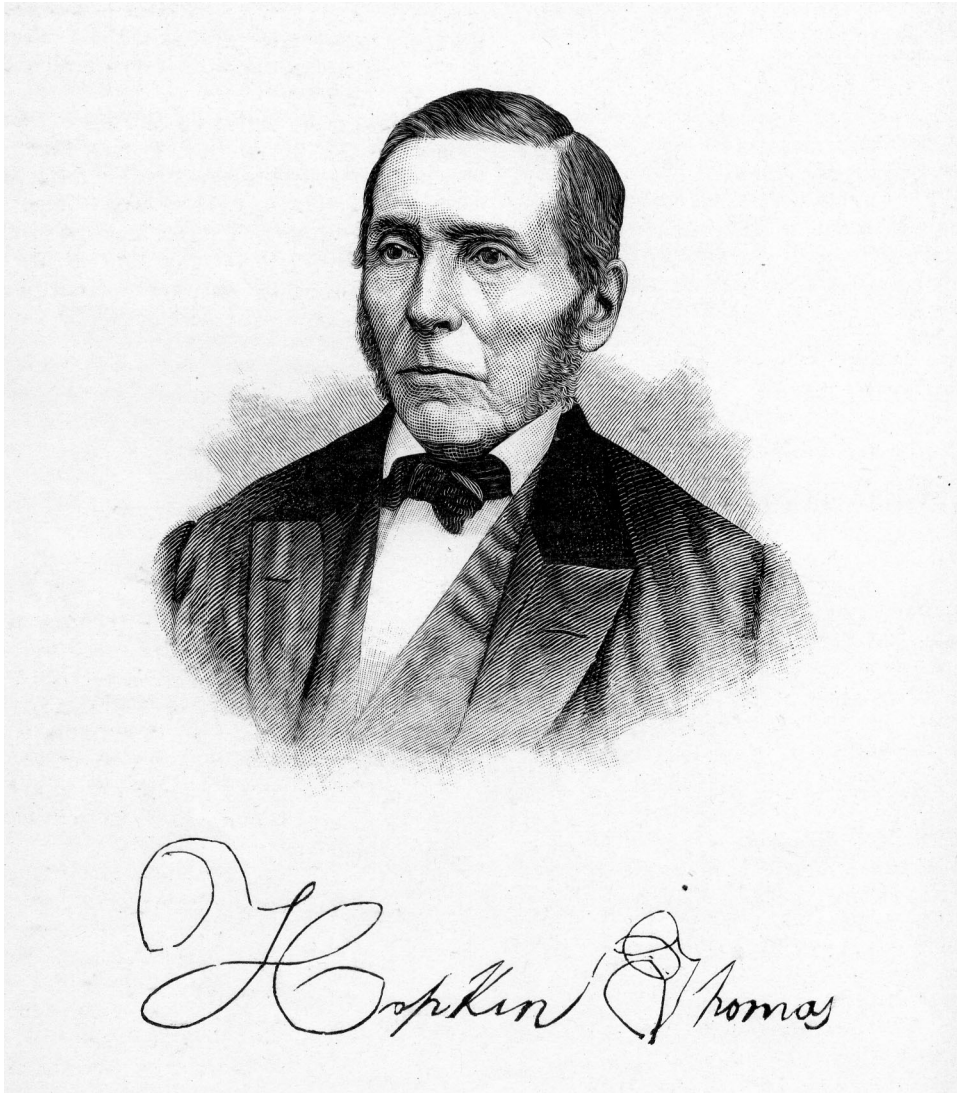
George Borrow - Wild Wales, 1854

John B. McVey

1996  
(Revised)

## FOREWORD

According to biographical histories of the Lehigh Valley, (1) Hopkin Thomas was born in Glamorganshire, South Wales in 1793. A facsimile copy of a handwritten page of the 'Welsh Bible' (2). gives the exact place and date as Bryncoch, December 19, 1793. He was raised on a farm (3), his father a miller for his entire life. At the age of sixteen Hopkin began an apprenticeship at the Neath Abbey Iron Works where he learned the machinist trade. In 1834 he emigrated to America where he entered the employ of the Baldwin works in Philadelphia where he presumably practiced the trade of steam engine design learned at the Neath Abbey Ironworks machine shop. This is an account of a one-day visit to the Neath, Wales made in June, 1996 by John, Ruth, and Wendy McVey to initiate an attempt to track the history of Hopkin Thomas during his apprenticeship.



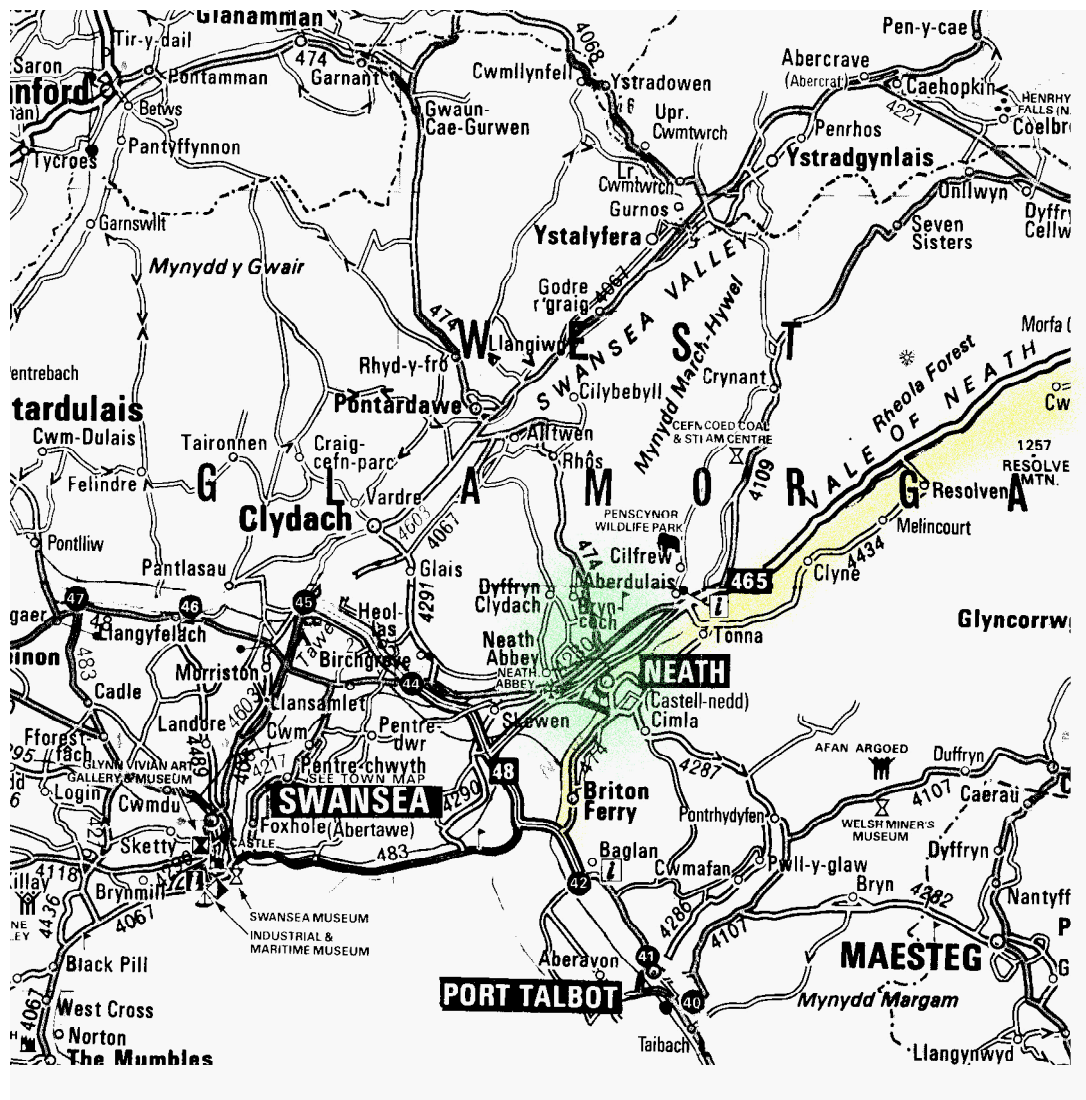
Hopkin Thomas, 1793 - 1878. Master Mechanic, Inventor,  
Designer of Steam Engines

(Reproduced from an engraving appearing in the 1884 History of the Lehigh and Carbon Counties)

## FINDING THE IRONWORKS

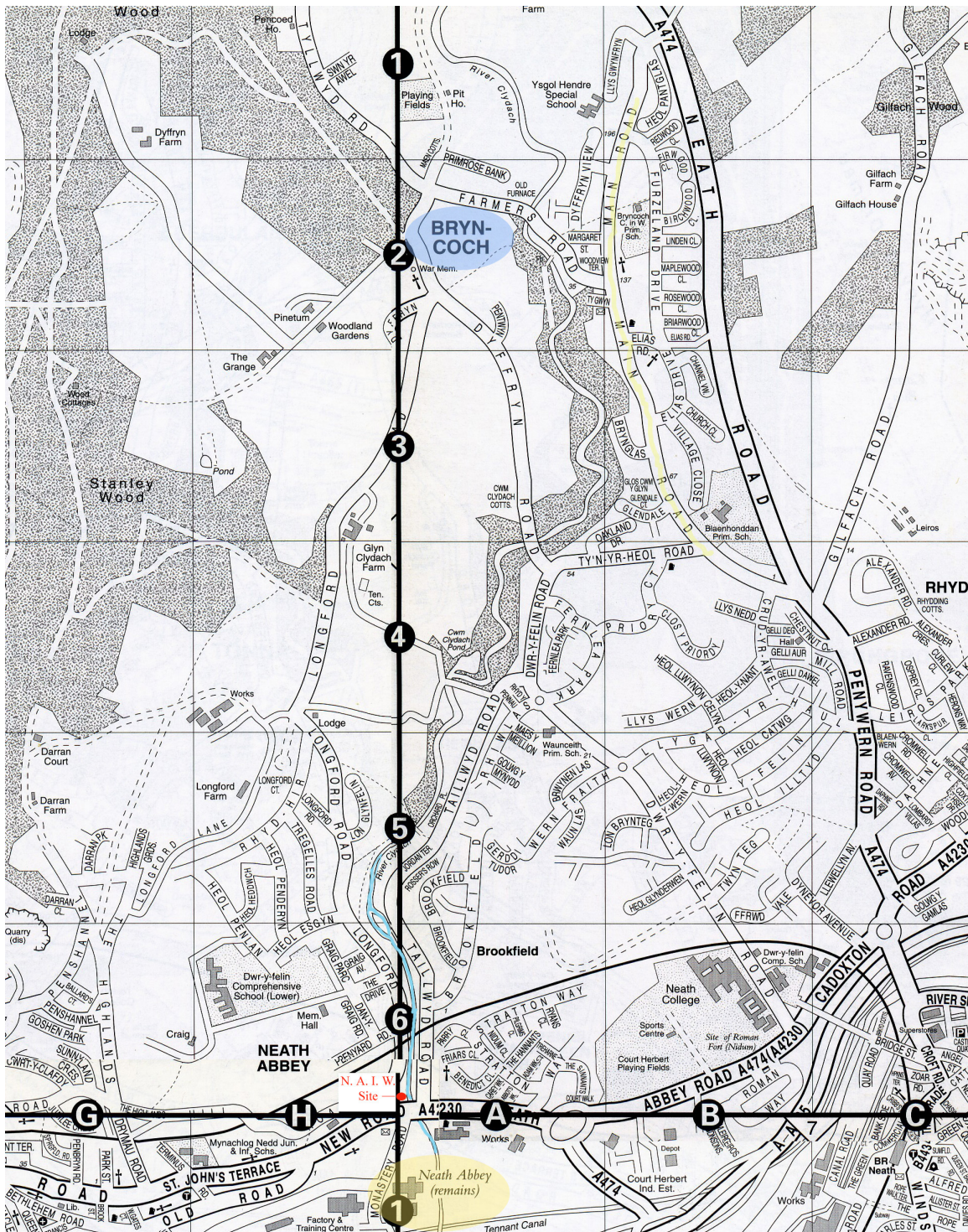
Glamorgan is the central of three regions which span the southern coast of Wales. Gwent, to the east, borders on the Severn and Wye valleys - the England-Wales boundary. Dyfed, to the west, borders on the Irish sea. We were vacationing in Siop Fach, a cottage in Brynberian, Pembrokeshire, in Dyfed at the time we made our visit to Glamorganshire. The Glamorgan area includes the major cities of Cardiff, Swansea, Port Talbot and Myrthyr Tydfil. The latter is the home of Catherine Richards - Hopkin Thomas' wife - and of the Davies family, also prominent in the history of the Lehigh Valley.

In descriptions of Wales, the Glamorgan area is referred to as "The Valleys" due to the numerous north-south river valleys where was produced the coal and iron ore on which was based the industrial revolution which occurred in the eighteenth century. One of these valleys is the Vale of Neath. Contemporary guidebooks describe the Neath Castle and the Neath Abbey as places of interest. Clearly, the remains of the Neath Abbey Ironworks were to be found in the vicinity of the Neath Abbey.



We approached the Neath Valley from the west using Motorway M4, Exit 44. We arrived shortly on the main street, New Road, (A4230) of the town of Skewen where we dismounted for the purpose of purchasing a local street map of the area (4). Skewen adjoins the political area known as Neath Abbey. These two towns lie on the west bank of the Neath River, the city of Neath lies on the east bank. We proceeded to the site of the ruins of Neath Abbey. The ruins are to be found on the low area adjacent to the Neath river and close to the A474 bridge joining the east and west banks.

We found the abbey ruins to be under the care of Cadw: Welsh Historic Monuments and to be well preserved. Admittance to the grounds is through a decorative iron gate located adjacent to a caretakers cottage. A brochure (5) describing the site is available for purchase at the cottage. The medieval Cistercian abbey dates from the twelfth century, probably reaching its zenith in the fourteenth



The iron works are located at the lower center of the map. The Abbey is just south of the Ironworks. Bryn-coch, Hopkin Thomas' birthplace is at the upper center.

and disbanded in the mid-sixteenth. (The last abbot was Leyson Thomas. When the abbey was dissolved in 1539, the abbot 'worked one of the many small coal mines in the area' (6) - he was downsized!!) Restoration of the site was begun in the late 1940s - restoration of the decorative paving tiles in the undercroft of the abbey is still ongoing. The current caretaker has been at the site since the restoration began. As he was knowledgeable about the history of the area, we inquired as to whether he could direct us to the site of the Neath Abbey Ironworks. Indeed he could. He indicated that restoration work had begun at that site as well.

The site was within walking distance of the abbey, however we chose to drive the several blocks. The site was located with some difficulty. It is surrounded and shielded from view by contemporary buildings on the south, east and west; and a rail trestle and steep hill lie to the north. We recommend parking on Taillywd Road, which runs north (uphill) from New Road (A4230). (Taillywd Road

is approximately one block west of the roundabout where A474 intersects with A4320). The western boundary of the site is formed by Longford Road.

As Taillwyd Road rises from New Road a tiny park lies to the left from which the site may be observed though heavy foliage growing on the banks of the smallish Clydach River which flows through the grounds of the ironworks. Access to the iron works site is by way of an alleyway lying just west of an automobile garage fronting on New Road. At the time of our visit, signs were posted that the public was not permitted to enter the grounds due to the restoration activities. However, the Welsh proved to be the most accommodating people on the earth and permission to enter the grounds was quickly secured from one of the workmen.

The site consists of two blast furnaces and a large mill-like structure erected on a level surface. These structures are on level ground that today appears to be only several acres in area. It is not possible to discern the size of the original grounds due to the development that has taken place since the last operation of the furnaces in the nineteenth century.

Industry had been in place at this location long before the building of the iron works - particularly copper smelting, coal mining and iron making. The first reference to the existence of an ironmaking furnace at this site was in a lease recorded in 1694 (7) wherein reference is made to 'a parcel of land where-on an iron-melting furnace stood. at Cwm Felin. It would appear that the Neath Abbey Ironworks was consolidated in the last decade of the 18th century - about the time of the birth of Hopkin Thomas. The following passage is from a description published by the Neath Antiquarian Society (8).

*In the last decade of the 18th century, Richard Parsons an Ironmaster with Works at Clydach, and Ynyscedwyn, and who had been manufacturing iron at the Cwmfelin site in Neath Abbey, relinquished his lease in favour of a Quaker consortium of Fox, Price, and Tregelles, who had a foundry at Perran Wharf, on the Fal river at Cornwall, but wished to expand further into the iron trade, and engineering generally.*

*At the same time Parsons secured a lease of the Neath Abbey Estate minerals, and took over their Collieries hitherto worked by the Landowners. In the same period he leased 60 acres of saltmarsh plus the old Abbey Wharf, and by linking these diverse interests he began to form a network of tramroads, which enabled him to supply coal to the adjacent Copperworks, and the Ironworks then in the process of being built. These were shrewd moves making Parsons a leading industrialist in the district.*

*In 1806 the Quakers who had initially been dependent on Parsons' coal for the Ironworks, succeeded in obtaining a lease of the minerals under the Dyffryn Estate, which gave them the liberty to control their own coal requirements, An Agreement was formed in 1809 by them with Parsons for making a tramroad to connect their Dyffryn Colliery (Pwll Mawr) into the Parsons tramroad system, and extend this alongside the river Neath westward to a point below the Crown Copperworks, and there to erect staging for loading shipping with their coal. This place was known afterwards as 'The Quakers Old Bank' and was the beginning of the laying down of a comprehensive web of tramroads over the Morfa land.*

The site is referred to as the Cwmfelin site here and is elsewhere referred to as the Cwmfelin Falls site. Apparently there are waterfalls in the Clydach river just upstream of the ironworks, probably very near the railroad trestle. Other than the site description, the significance of this passage is that it contains references to the fact that the works were purchased by the Quaker Fox family of Cornwall and other Quakers.

Within the site, the two blast furnaces are located on the northern edge of the property as it exists today. The furnaces are pressed against the steeply upsloping western boundary which border upon Longford Road As noted in the pamphlet on industrial archaeology and steam entitled Ironworking (9) where there was a convenient hillside, blast furnace charges were assembled on the hill and wheeled across a bridge to the furnace top. Later, powered inclines were used. Only the ivy-covered stone bases (about fifteen feet in height) of the furnaces remain. Workman on the site told us that a portion of the remains had recently been removed to ensure safety. Wendy gathered some clippings of the ivy and they are now growing at 223 Cider Mill Rd.

Of greater interest than the blast furnaces are the remains of the large two-story stone building on the south edge of the property. This according to the carpenter to whom we spoke was the machine shop where steam engines were built. This is undoubtedly where Hopkin Thomas learned the steam engine design trade which he pursued upon his emigration to America. The carpenter mentioned that the building has been identified as the first gas-lit building in Wales. He commented that the inventor of the gas illumination system was known to have emigrated to America where he amassed a

fortune based upon his engineering success at this site. Presumably, the building was fitted with pipes and the gas from the coke ovens was compressed and distributed throughout the building.

Two other workman were observed re-pointing the stonework on the second floor of the roofless structure. There being no other individuals present with whom we could talk, we left the site. The restoration would appear to be a significant effort. Ruth pointed out that surveys must have been conducted and proposals made to the appropriate Welsh ministry in order to secure funding for the project. Inquiries are being made to obtain such documents. We have been advised that much of the history of the works is documented in a 1984 publication authored by a member of the International Stationary Steam Engine Society (10).

## THE NEATH MUSEUM

While talking with the caretaker at the Abbey site, we also confirmed that there was a museum of local history in Neath. Anticipating that there would be materials related to the Neath Abbey Ironworks at the museum, we drove across the river into the city. Following directions for the city center, we parked near clean, well-kept, pedestrian-only shopping center; signposts direct visitors to places of interest. The museum is located on Orchard Street, between the Victoria Gardens bus station and the main shopping plaza. The museum contained only a few exhibits of interest. A useful collection of publications was available, many of which are referenced herein. The museum attendant did identify two books of interest that could be inspected at the municipal library. We were advised that there were no bookstores within Neath that would contain works of local history.

One book available at the museum that deserves special attention is a historical work by David Graham George entitled *A Skewen Boy Looks Back* (11). This work contains information on where on where the author obtained genealogical information on his family and also information specific to the Neath Abbey Ironworks. Specifically, the authors great-grandfather spent his childhood in the immediate neighborhood of the works:

*William George, my great-grandfather was born in Cadoxton in 1835 but this was the locality where he spent his childhood, in a house called 'Ty Machine' (Machine House), located somewhere in the confines of, or adjacent to the Neath Abbey Iron Works. In a place of history, once a place of beauty, desecrated by coal workings, and the smelting of metals. Where the sweat and skill of men produced beautiful engines, locomotives, ships, etc. from the basic materials won from the ground. A place of Fire, Smoke, Dust and Noise, where men worked like slaves, but were so proud of their efforts.*

Note that the area is referred to as Cadoxton - there seem to be many names used to reference the area. Cadoxton appears to refer to a parish. (Skewen was originally part of Cadoxton, but separated in 1843 - the reference to 'a suburb of Neath' in the following may be a reference to Skewen.) The author quotes (12) C. F. Cliffe from *Book of South Wales*:

*Cadoxton is a parish on the north-western side of the river, which extends for a distance of fifteen miles from Briton Ferry to Pont Neath Vaughan. A suburb of Neath, and Neath Abbey Iron-works, the copper-works of the Crown and Mines Royal companies, and many other large mineral or manufacturing establishments, stand in this extensive parish. At Neath Abbey works of Messrs. Price and Co. steam-engines and iron steam-boats are constructed.*

*A Skewen Boy Looks Back* contains several excellent photographs of the ironworks; some of the photographs are marked as having been acquired in 1984. One is a picture of a plaque, perhaps attached to the wall of the machine shop (although this is not stated to be the case). The plaque contains the inscription:

RIVERSIDE  
IRON & ENGINEERING  
WORKS.  
NEATH ABBEY

---

BEAM ENGINES.  
LOCOMOTIVES.  
STEAM PUMPS.  
IRON SHIPS...  
RAIL TRACKS..  
BRIDGE SECTIONS.

Were made here  
1785 ~ 1865.  
M.P.S

*I have often stood on top of Cwmfelin falls and tried to imagine what it was like when the Georges lived there. The water from the head of the falls powered the water-wheel of the forge and rolling mill, and the noise of the hammers incessantly banging away must have been dreadful, then the smoke and dust from the furnaces below, especially when there was a southerly wind is beyond my imagination. Then at night it must have been like Hell itself with the sky all lit up with the red glare of the flames and the dust, soot and smoke. I once had the pleasure of being taken around the site of the old Neath Abbey Ironworks by a dear friend, the late Hubert Brown. Then, I had no idea that the place existed, and when I was shown the old furnaces, the machine shop etc., and told that machines, beam-engines, locomotives, and even ships had been made there, I was astounded. He also took me to see the old Cheadle works dry dock where many ships, including he said, the first iron ship in Wales was constructed, unfortunately the Motorway covers it now.*

Another photograph is from an earlier time and shows the 'Cwm Clydach and Taillwyd'. Taken from the Railway Viaduct. Note the Cwm is pronounced as though the 'w' is a double 'oo' as in 'soon' and refers to a cirque or steep-sided ravine formed by glacial action. Taillwyd is the row of houses along the Taillwyd Road mentioned above as a convenient parking spot. There is little resemblance between what is depicted in the photo and what is seen today.

Two additional photographs are excellent renditions of the blast furnaces and the machine shop.

The book also contains an interesting reference to the schooling of the children of the day - a Report of the State of Education in Wales, 1847 is the source of the information quoted by George:

*The Report of the State of Education in Wales, 1847.*

*This report makes very interesting reading, inasmuch as it gives one an excellent impression of what life was like, not only for children, but what life was like in general in those days. The curriculum seemed to be based practically all on the Bible, and 90% of the questions asked the children were directed towards the understanding of the Bible. Also I was very impressed by the great contribution that the Neath Abbey school made to the community under the guardianship of Joseph Tregellis Price Esq.*

*The Parish of Cadoxton-juxta Neath was visited by an inspector called Mr. William Morris.*

*I visited this parish on 24th, 26th, and 27th days of February, 1847. It contains Neath Abbey iron works, Crown copper and speller works, Mines Royal copper and speller works, Kirkhouse's speller works, Parson's collieries and pits, Bryndewi and Bryncoch collieries, Aberpergwm colliery, Aberdulais tin works and forge, John Penrose's colliery and pits, Richard Penrose and Starbuck's colliery, Abernant iron works, Onilwyn iron works and Kirkhouse's colliery.*

*I found the following day-schools:- Neath Abbey British schools, for boys, girls, and infants; Mrs. Beal's school at Skewen; Miss William's school at Crown copper works; the girls school in the vestry in Cadoxton village; Aberdulais tin works school, and Pentre Clwydau school, by means of which the lower, middle, and upper parts of the parish are each supplied with some amount of instruction.. It is in contemplation to have a new schoolrooms at Skewen and Cadoxton.*

*I could not, upon the most diligent inquiry, find any more day-schools.*

*Neath Abbey Works and Schools. - These works and houses round them form a suburb of Neath. Joseph Price, Esq., who is managing partner of the company, told me that the schools attached to them had had the most beneficial effect upon the working classes of the neighbourhood, who used to be notorious for their blackguardism. The school was formally held in premises which were a part of the works. Previous to the erection of the present school-rooms, which are separate buildings surrounded by a wall, Mr. Price instituted some inquiries respecting the effects of the school, which had then been in operation for about 20 years. Cadoxton is a large parish, extending nearly the entire width of the county, from Swansea Bay to Brecknockshire, and containing eight or nine hamlets. Of all the scholars who since its commencement had been in the school, only two had been chargeable on the parish, and of these two, one a girl had become insane, and the other, a young man had lost the use of his arm. The present buildings were erected at the cost of Mr. Price on the land of, and with materials furnished by, the Lords of the Abbey, of whom Lord Dynevor is one. There had been three masters at the boys' school. When it was about being opened for the first time, a lad of 16, who had up to that age been in the National school at Neath, occasionally assisting the master, applied to Mr. Price for work. Mr. Price thought him likely to make a good master, and bound him apprentice to himself to learn the art of a schoolmaster. In fulfillment of this agreement, he first sent him to the British school, in Goat Street, Swansea, as a model school. On his*

*return, the Neath Abbey school rapidly filled under his hands. During the vacations Mr. Price sent him to London, Bristol, and elsewhere, to see the best schools that he could hear of. The master, by taking advantage of the opportunities, had risen at the time of my visit, to be head of Coalston (Colston) school at Bristol. His successor at the Abbey school was less efficient. Under his hands the school declined, and he had recently been induced to resign. The present master was just entering on his duties, and seemed likely to discharge them well.*

*Mr. Price was one of the first proprietors of works who introduced the custom of weekly stop-pages for the support of a school. The plan had been already in successful operation for providing medical attendance.*

Note the reference to Joseph Price, one of the Quaker purchaser's of the works who served as managing partner. The Quaker influence on the operations of the Neath Abbey Ironworks appears in many of the articles we discovered.

## THE MUNICIPAL LIBRARY

We walked a few blocks to the Municipal Library (just beyond the Victoria Gardens bus station) and found the two books to which we were referred to be available at the reference librarian's desk on the second floor. Apparently these two books are a popular source of history for visitors and scholars. The 1974 symposium proceedings, Neath and District, contains an entire chapter on the iron industry - a substantial portion dealing directly with the Neath Abbey Ironworks (6).

The most pertinent information found in this volume was a reference to a collection of virtually thousands of plans of the products produced at the machine works plans "which testify to the remarkable engineering achievements of this works". One portion of the collection is referred to as "Plans of Machinery 1792 - 1882 and reportedly contains 886 plans. Based on the information provided, it is believed that the plans are on file at the West Glamorgan Area Record Office in Swansea. Subsequent correspondence exchanged with the Borough Archivist and the Record office verified that the records do exist and the are available to bona fida researchers. Based on other correspondence with the International Stationary Steam Engine Society it would appear that Laurence Ince, a member of the society, and author of a book detailing the operation of the Neath Abbey ironworks (10), is the individual most knowledgeable concerning the contents of the records. As of this date of this writing (Nov. 1996) , I have located Mr. Ince, but have not received a response to my inquires - nor have I been able to locate a copy of his book. (*Later: Contact was made. A revised edition of the book has been published.*)

[In another section of the 1974 Neath and District publication, a succinct history of the other industries in the Neath are during this time is presented. Here the Quaker character of the business at the ironworks is reflected upon: "... during the Napoleonic Wars, Joseph Tregelles Price could have amassed a fortune by manufacturing armaments, but would only make implements of peace such as ships, lighthouses, and engines ...". The earlier history of these and other ironworks points out that for the most part owners and ironmasters did in fact owe their prosperity to the arms industry. The iron industry flourished because of the demand by the Royal Navy for cannon and shot. The capability for boring cylinders - one of the major hurdles to the development of large horsepower steam engines - was developed from the cannon-boring operations conducted by the eighteen-century British military/industrial complex.]

A room off the reference library reading room appeared off-limits to the public, but I managed to duck in while no-one was looking and I found an extensive collection of historical works. I was shortly discovered, and politely but firmly instructed that I would have to locate the material in which I had an interest in the card catalogue - only the librarians were permitted to pull the material. A quick pass at stuffed-to-the-gills card catalogue strongly suggested that it would be advisable to return to the task in a future year when the catalogue has been computerized.

## MERTHYR TYDFIL

Merthyr Tydfil is known as the "capital" of the Valleys and was the largest city of the region due primarily to coal production. It was the home of Hopkin Thomas' wife, Catherine Richards, and was the town in which Hopkin and Catherine's first child, William R, Thomas was born (May 30, 1829). It is written that Hopkin Thomas began his apprenticeship in the Neath Abbey ironworks in 1809. No information has been uncovered whether he remained at the ironworks until his emigration to Philadelphia. in 1834. If he were to have remained an employee of the ironworks, it is most likely that he would have lived in the Neath area, not in Merthyr Tydfil. It is possible that information on the location of the residence of the parents of a newborn would be recorded. An office where such an inquiry could be pursued is the Merthyr Tydfil Family History Centre, Nanty Gwenith Street, George Town, Merthyr Tydfil. (14).

Merthyr Tydfil is located north of Neath and is reached by means of a decent road in approximately 30 - 45 minutes. We did travel to the outskirts of the town, but as the day was late we managed to take only one photograph of the area from across the valley, before heading back to our cottage.



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