

## River Afan

### Synopsis

The document describes a virtual journey along the River Afan in South Wales, beginning at its source; the perspective is as much historical as descriptive of the current scene. Significant tributaries joining the river have also been tracked back to their start-points, and aspects of the whole river catchment are considered. Particular attention is given to bridges and watermills because of their intimate associations with the river, but nearby prominent buildings, both religious and secular, also feature. People of note have been associated with the river, and brief biographical notes are provided, where appropriate. The term 'virtual journey' is used because the account comprises descriptions of places, which have been visited, linked not by accounts of walks along the river banks, but by information gathered from desk top surveys.

As regards watermills, Alastair Robertson's Appendix contains sketch maps and tables identifying, and locating commercial watermills\* and farm mills\* in the catchment and wherever possible specifying their functions.

*\* a commercial watermill is paid by customers to process raw materials like grain or wool, a farm mill is a machine located on a farm, which operates at the behest of the farmer, normally without money changing hands.*

I provide no index, nor a formal contents list for any historical river journey, but as an aid to navigation through the document, I list the page numbers at which sub-headings and significant places appear.

<b>Heading/Place Name</b>	<b>Page No.</b>
1. Introduction	2
2. The Upper Reach	3
Cymmer	5
3. The Lower Reach	6
Pont-rhyd-y-fen	6
Cwmavon	7
Port Talbot/Aberavon	8
The River Mouth	12
Appendix	13
Short Bibliography	16

## River Afan

### 1. Introduction

This small Welsh river was included, somewhat whimsically, to complete a set of virtual river journeys along all the rivers Avon in Great Britain. It is part of a project, which began with our describing journeys along the relatively small rivers in the Lothians, around Edinburgh, where my brother, Alastair Robertson, and myself were born and brought up. Our focus was on landscape features, historical man-made artefacts, and people of note, associated with the rivers and their tributaries, rather than the natural world, i.e., the plant and animal life. The intention was not to walk along the banks of each river, but rather to identify the features of interest, visit those, which had not already been viewed, many had, and to link the sites with words and photographs, acquired by a wide-ranging desk top study, hence the description 'virtual journey'.

It had always been appreciated, that bridges, and watermills would deserve special attention, as uniquely associated with rivers, and as we expanded the project to consider more rivers, that we knew, the work on watermills, carried out by Alastair Robertson, assumed greater prominence. The differences, which emerged, some predictable, some surprising, led to a search for patterns, and choices of target rivers were in part dictated by a desire to build a national picture of watermill distributions, in a chosen period, after 1750. The decision to look at the 10 rivers Avon allowed us to extend coverage over a good part of Great Britain, though there were gaps, which we have also tried to fill. We have now completed over 40 such journeys

It has been suggested that 'Afan' may not be a form of 'Avon', but there is no certainty, and the choice fits well enough with our wider objectives. My own direct knowledge is predominantly of the lower reaches of the River Afan, where it reaches Swansea Bay in Aberavon; over a period of 20 years, I often stayed in a hotel there, and before breakfast, walked along the rather bleak promenade above Aberavon Beach. My reason for visiting was to be found in the town of Port Talbot which has subsumed Aberavon; it is the location of a large steelworks, owned first by British Steel, and then by Corus, for both of which companies, I worked, but more of that later. However, on a few summer evenings I ventured out in the car, to get an impression of the surrounding area, and went some distance up the valley of the River Afan. Personal memories of a long time ago, have been refreshed, whilst preparing this account.

The river catchment is within the South Wales Valleys, which can be described as an upland southern offshoot of the Brecon Beacons. The name, valleys, conveys the idea of low-lying land, but in reality, this is a plateau of sedimentary rocks extending across much of South Wales, quite well inland, where the Vale of Glamorgan lies between it and the sea, but reaching near to the coast, where the River Afan flows. The rocks underlying the plateau were laid down in the Carboniferous period, between 360 million and 300 million years ago. The name comes from the fact that coal seams were formed from organic material deposited then. In swamps and marshy areas, dead trees and other vegetation, fell below water surfaces and decayed, eventually forming peat. Where a rise in sea levels submerged the swamps, sedimentation of sand and silt began. Eventually layers of sandstone, and shale formed above the peat, and gradually increased the pressure, so converting it to coal. The South Wales Valleys plateau was formed when movement of tectonic plates in the earth's crust uplifted land from beneath water. The landscape also owes much to events, c10000 years ago, when during the most recent ice age, an icecap spread from the north reaching the southern edge of the plateau. Glaciers formed and their movement scoured the river valleys which lead, generally southwards from the plateau, each with a river

carrying away water, and continuing the scouring process; the glaciers deposited rocks and stones in the valleys, moraines, so increasing the depth, to which the coal seams were buried there. So, it can be argued that the natural landscape of the South Wales Valleys owes most to the relatively recent ice age, but the recent history and the superposed man-made landscape, resulted from the presence of the coal seams much longer ago.

## 2. The Upper Reach

The River Afan follows a short, rapidly-descending, south-westerly course from its source at OS Grid Point SS 918 951, beside the 490m contour. It rises on the north-west slopes of a flat domed peak of pennant sandstone, named Worfa, which rises to 568m, one of the highest points in the South Wales Valleys. The source is somewhere in the boggy area, shown, which is south-east of the crown of a hairpin bend on the A4107, linking the Rhonda Valley to the Afan Valley.



As can be seen, the landscape here comprises grassy moorland with patches of rushes, providing grazing for many more than the one sheep in view. Crossing the road and looking north-west, the infant River Afan can be seen, dribbling into its valley; if the gaze is swung to the left, it takes in the Llynfi Afan Renewable Energy Park. Quite a fancy name for a group of 12 wind turbines, on the northern slopes of Worfa; they started to generate electricity in 2017. A coniferous wood can be seen above the right bank of the River Afan, which is receiving small tributaries as it drops quickly, by more than 100m before it has covered just over 3km to reach the highest settlement in the valley, the twin villages of Blaengwynfi and Abergwynfi, on the left and right banks respectively. Nant Gwyfni is a small right bank tributary joining hereabouts. However, there is confusion over names, because some, though not the present day OS maps, have named the River Afan as I have described it so far, as the Afon Gwyfni.

The 2 villages now have a population of just over 1000, though there were no doubt more inhabitants in the past. The photograph is of Abergwynfi, and seems to me to display elements of many post-industrial age villages set on the slopes above the floors of South Wales valleys. The rows of terraced houses, now renovated and whitewashed, presumably provide decent accommodation, though local employment must be scarce. I may be mistaken, but I think these villages in their settings are unique in Great Britain, and



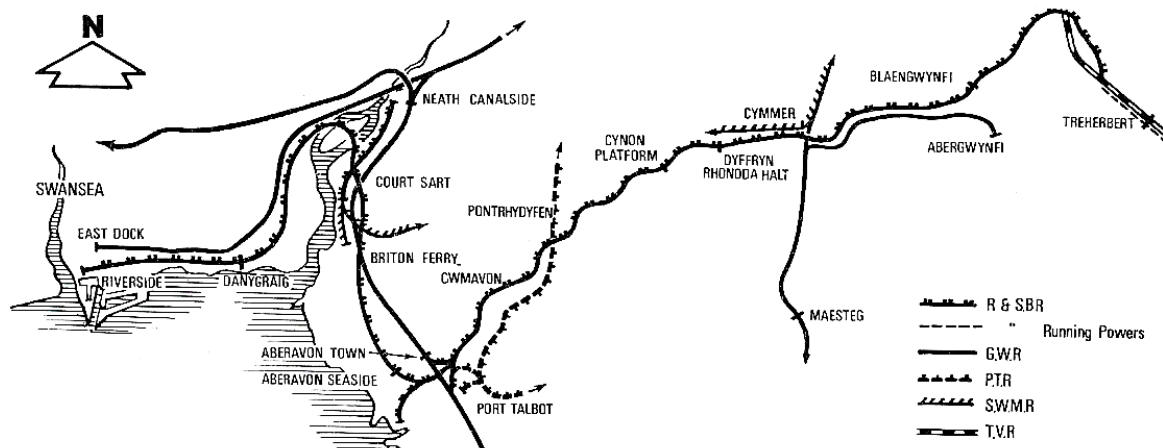
I very much hope, that a way of breathing new life into them can be found. They grew up because of coal, and here as in the other valleys, a traveller, just over 2 centuries ago would have seen only a few scattered farm houses, centred on cropped fields in the floor of the valley, and others, housing shepherds looking after sheep grazing on the upper slopes of the valleys and on the plateau above. This is the picture conveyed by the OS map issued in 1875, a few years before mine shafts appeared, this high up the valley

The driving force for the industrialisation of the whole valley was the discovery of an abundance of good quality coal. It is estimated that over a hundred mines of various sizes and types opened in the Afon valley in the 2 centuries before the 1980s. No space here is given to any kind of general consideration of this industry, but some attention is focused on what can be regarded as spin-offs, which have left visible evidence, as for example the mining villages already given favourable mention. After the almost complete cessation of deep coal mining in the 1990s, authorities everywhere have hastened to take steps to eliminate all trace of its existence. Thus, winding gear, and other above-surface buildings have been demolished, the underground workings sealed, and vigorous rewilding of the surface detritus, especially coal bings has been undertaken. Already, what were industrial waste-lands, have been made less obtrusive, particularly by large scale tree-planting, hence the Afan Valley Forest Park. In a few decades, a few excellent mining museums may be almost the sole reminder of the industry, which fired up the Industrial Revolution in Great Britain, and was copied throughout the World. Certainly, the industry should not be glamourised, miners were in constant danger, working often in appalling conditions. Their living conditions in the villages, which I now admire were not that great either. However, the present concern with Global Warming should not be allowed to imply, that those responsible for kick-starting a mainly beneficial transformation of human life, could have had any inkling of that downside. At school in the 1950s, and 1960s, when coal still powered the nation, we were told, that what humanity had to fear was another Ice Age; the scientific consensus was that we were in an inter-glacial period, with another Ice Age overdue, and I am not sure that has changed, but the focus is now rightly on shorter term concerns.

One very important spin-off from the discovery of large deposits of coal was the building of railways to transport the coal, from the pit-heads to ports, from where it could be shipped out. In the 18<sup>th</sup> century, teams of packhorses had carried coal down made-up tracks to the coast, from the relatively few coalmines opened by then in the Afan valley. This situation persisted into the 19<sup>th</sup> century as the industry expanded, though horses drew wagons along rails, which had been laid were laid on some of the packhorse trails. It was well past mid-century before steam railways reached the new mines in the upper Afon valley, but after they did, it was not long, before there were 3 lines, operated by different companies. The first was the South Wales Mineral Railway. Built between 1856-65, it linked Glyncoed, some distance up the valley of the Afon Corrwg, a right bank tributary of the River Afon, to Cymmer on the River Afon, and went from there by way of the Gyfylchi tunnel, c1km long, to Briton Ferry docks. As well as providing an outlet for collieries along its length, it was also carrying passenger traffic, by the 1920s. Next to enter the valley was the Llynfi and Ogmore railway, which, after an effective take-over by the Great Western Railway, linked with Cymmer in 1873 via a tunnel, c1.5km long, from the Llynfi valley near Caerau; the line was extended up the valley to Abergwynfi by 1886. This line linked the Afon valley with Bridgend and Cardiff.

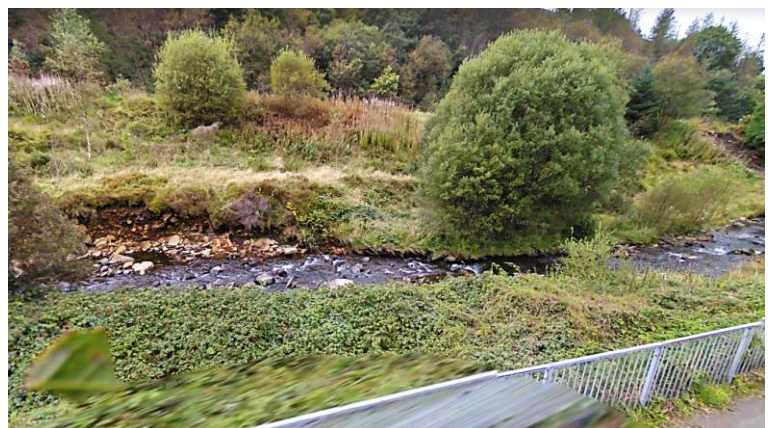
The third railway to arrive in the valley was the Rhondda and Swansea Bay Railway which between 1885-90 linked Port Talbot via Cymmer, the Croeserw viaduct and Gelli tunnel to Blaengwynfi and went by the

Blaenrhondda Tunnel, c3km long, east into the Rhondda Valley. To this complex mix, must be added the need for some lines to transition to the broader gauge of the Great Western Railway, for as long as it remained out of step with the national network, and then to reverse that change. The diagram shows the lines mentioned; the key is R&SBR  $\equiv$  Rhonda & Swansea Bay Railway, GWR  $\equiv$  Great Western Railway, PTR  $\equiv$  Port Talbot Railway & Docks (in 1898 they opened a branch serving pits north of the SWMR line), SWMR  $\equiv$  South Wales Mineral Railway, TVR  $\equiv$  Taff Vale Railway (not relevant to this account). The diagram and other information has been taken from the website, <https://wrrc.org.uk/index.php>.



Some of the railways were a great commercial success, with dividends as high as 6% being paid to company shareholders, but others struggled. There were too many changes to itemise here, during the 20<sup>th</sup> century, as railway companies went out of business, amalgamated, and eliminated passenger services, but a major influence was the deterioration of the tunnels mentioned above, which led to their closure, and the truncation of the network. The closure of the mines, on which they depended, rendered the railways unviable anyway, and as a result, none now serves the upper Afon valley; the tracks have been lifted, and the permanent ways converted into cycle tracks and walkways. There are remnants of disused stations in Blaengwynfi and Abergwynfi, from where we move on.

Just downstream from Blaengwynfi, the River Afon can be seen from a nearby road, as a growing stream. After negotiating a couple of bends, the small river reaches Cymmer having travelled c8km from its source. Here it is joined by a right bank tributary coming down from the hills, the Afon Corrwg, of greater length, 11km, and at least as large. Those who hold the view that the upper part of the River Afan is the Afon Gwyfni, suggest that the River Afan begins its journey to the sea from this confluence. I have little to say





of the Afon Corrwg, which flows south in its own deep valley, between relatively recent tree plantations on the slopes, land reclaimed from mining operations.

Cymmer is a village of 2500 inhabitants, strung out on the hillside above the joining streams. The houses are mainly terraced, neat and many with an air of recent refurbishment; there are the normal amenities, but few shops for a community of its size. Cymmer must have seen greater days, with coal mines round about, and as a



sort of railway junction, (for a substantial period lines came together here but did not meet, and served different stations). The one major survival from the railways is the lattice girder viaduct, shown above. It was 120m in length and carried trains between 1878 and 1970, but what remains is a skeleton with no decking. The river continues a sinuous course through the Afon Valley Forest Park, with its trails and tracks, some of which are dedicated to mountain biking; as flagged earlier it already seems close to a natural landscape, with little evidence of the industrial past.

### 3. The Lower Reach

After flowing for 8½km south-west from Cymmer, and descending below the 100m contour to Pont-rhyd-y-fen, the River Afan leaves the upper Afan valley and the forest park, and is met by the Afon Pelena on the right bank. Although the 9km long tributary is smaller, the parent river adopts its line, swinging abruptly south. The Afon Pelena was notorious as a heavily polluted stream, because the coal produced by the mines in its valley was sulphur-rich. Even abandoned



coal mines continued to discharge acid drainage water, rich in iron. This turned much of the river orange, down to the aforementioned confluence. The pollution is now much reduced following extensive work promoted by the Environment Agency to create engineered reed beds, which treat the mine drainage. The most striking structure in Pont-rhyd-y-fen is the Bont Fawr Aqueduct, shown in the old photograph. Built in 1827, the 4-arch aqueduct is 140m long and 23m high. A lade, 3km long, carried water from upstream (and higher) on the River Afan; it supplied the water to the giant waterwheels of the Oakwood/Pontrhydyfen Ironworks, powering the blowers, which produced the hot-blast air for the blast furnaces on the site, and other manufacturing equipment.

The ironworks was taken over by the Company of Copper Miners in 1841; they already had a factory on the opposite (right) bank of the river. In 1850, their extensive assets in the area seem to have been put up for sale; the inventory included, a number of collieries, a brickyard, and houses in the nearby village. Additionally, there were iron furnaces, furnished with coke ovens, capable of producing 800 to 850 tons per week, iron rolling mills

with a capacity of 750 tons per week, a tinsplate works, which could produce 1,200 boxes per week, a copper smelting works, with an output of 600 tons per week, and rolling mills, capable of producing 40 tons of copper sheet per week. Little information seems to be available after that, though production may have continued until the early years of the 20<sup>th</sup> century, when the blast furnaces were reported to be in perilous condition. The waterwheel may have been replaced by a steam engine at quite an early date, given the local abundance of coal, but the aqueduct continued in use as a tramway, and then and now as a pedestrian bridge.

Pontrhydyfen has a population of just under 1000, and as might be expected, given its industrial past, there are rows of terrace houses. However, it is in a sense a cultural hotspot, as the birthplace of Broadway theatre and musical star Ivor Emmanuel, (strictly he was born in Port Talbot but moved to Pontrhydyfen as an infant), international opera singer Rebecca Evans, singer and songwriter Geraint Griffiths, and actor Mark Frankel (also a tennis player of note who was killed in a car crash at the age of 34, when already successful but with greater things expected). Towering over them, in reputation and star quality, is Richard Burton, born Richard Jenkins in 1925, 12<sup>th</sup> of 13, children, son of a hard-drinking miner, and brought up by an adult sister after his mother died when he was two years old. His career owed much to his school master, later a RAF Station Commander, and theater director, Philip Burton, who more or less adopted him. Recordings of his voice send shivers down the spine and it was hardly impaired by smoking and continuous heavy drinking. He was a formidable stage actor, in Shakespearian and other challenging roles; he built a film career, which earned him 7 Oscar nominations, though he won none, and made him the highest paid film star in the world for a few years. Every other award came his way for stage and screen performances. He was married 5 times, twice stormily, to the actress, whose fame equalled his own, Elizabeth Taylor; they made 11 films together, many acclaimed. Sometimes the circus, accompanying production, almost overshadowed the film, as with Cleopatra. He was a byword for excess, an actor, who according to many critics, failed to live up to his promise, yet his list of credits exceeds those of most, who were thought to have done so, and when he died at the age of 58 of illnesses, which probably owed much to his lifestyle, his investments in real estate, and works of art, left to his widow, realised a sum, equivalent to more than £10 million now. Definitely a flawed character, but Burton must have been shrewd enough, in developing his career, and keeping a reasonable proportion of his earnings.

Cwmavon is a short distance downstream on the right bank of the river which still flows in a steep-sided valley. During the 18<sup>th</sup> century before the growth of industry the valley was rural, with people living in scattered farms and cottages. Oak forests covered much of the hillsides and on the valley floor, hay, barley and wheat were grown, and sheep and cattle grazed. In 1801 the population of Cwmafan parish stood at 232, but with the growth of industry, people arrived from England, Ireland and many parts of Wales, in search of work. Cwmavon quickly grew as a coal, copper and iron and tinsplate producing centre and by 1841 the population had risen to over 4000. Large numbers of houses were built for the workers, also schools, a reading room, company shops, chapels and other amenities. Looming over the town was the impressive Stack y Foel. It was a 9m high chimney, on the top of a nearby hill, to which fumes were led through a culvert of dimensions 4.5 X 3.3m and 1½km long, from the copper smelter down below. It had been built in 1830, but was dismantled during the 2<sup>nd</sup> World War, because it was thought that German bombers were using it as marker, when they raided Port Talbot. It was not re-erected because its function had gone, but the line of the culvert is still visible on the hillside. All the local industry has now shut down, and the village, with a population of 5500 has become a dormitory town for Port

Talbot. There are many rows of terraced houses and villa flats, but the settlement does not look run down, just purely functional, and the view across the river, towards tree-covered hills is a great bonus. The mean river flow rate is measured here as 70000 gallons per minute, but in spate as in the photograph, it can be more than 3 times as great. It is worth pausing to reflect



on the fact, that in spite of the obvious potency of the river as a source of power, I have made very little reference to watermills. As shown in Alastair Robertson's Appendix, there were a few cornmills in the catchment, but the upper part does not look conducive to arable farming, and lower down, the mining and industrial development of the late-18<sup>th</sup> and 19<sup>th</sup> centuries, may have resulted in the disappearance of farmland. Sheep were pastured on the moors of the upper reaches, which explains 2 woollen mills in the catchment.

The river has reached the northern edge of Port Talbot, a town of 37000 inhabitants, and the site of one of 3 major centres of steel production in the United Kingdom, (Scunthorpe and Rotherham are the others). However, this is a historical journey, so I shall begin by saying something about two older communities, both now subsumed in Port Talbot. Until the 19<sup>th</sup> century, the town at the mouth of the River Afan was Aberavon. There was probably a small settlement on the left bank of the river in the centuries after the Romans left South Wales, but the town's recorded history began with the coming of the Normans to South Wales, after their conquest of England. In 1091 they took control of Glamorgan from its former ruler Iestyn ap Gwrgant, but his son Caradog ap Iestyn remained ruler of lands in the area of the River Afan valley. He built a castle at Aberavon and he and his descendants became known as the 'Lords of Afan', of whom there were to be 10, but over time, they became more Norman English than Welsh.

When the 6<sup>th</sup> Lord, Morgan Fychan, died in 1288, he was known as the Lord of Avene. However, his son Leisan was known by the Norman/English style surname 'd'Avene' and he gave his sons, English first names, John and Thomas. By 1373 the line had run out and the land came under the control of Edward le Despenser, Lord of Glamorgan, who was the son of the notorious Hugh le Despenser, favourite of King Edward II of England. That family held the lordship until the early 15<sup>th</sup> century; eventually it passed to King Henry VII by way of Jasper Tudor, Duke of Bedford, arguably coming back into Welsh hands. It is known that the castle, then a timber and earthwork fortification, was burnt in 1153, but it was most likely rebuilt in stone. Nothing more is heard of it, until remains were identified in the 19<sup>th</sup> century, namely a moat and a small mound. It was built over in the later 19<sup>th</sup> century, and now the only indication of its existence is the name, Castle Street. There was a church near there in the 12<sup>th</sup> century, and there still is, but it is a 19<sup>th</sup> century rebuild, and that rather sums Aberavon up nowadays; there are no very old buildings.

The other ancient community, engrossed by Port Talbot, is Margam, on the east side of the town; it grew up beside Margam Abbey. The Cistercian house was founded in 1147 as a direct dependency of Clairvaux Abbey. The monks may have built the early church in Aberavon. The monastery grew quickly and in 1336 is recorded as housing 38 monks and 40 lay brothers, but it declined later in that century, and thereafter. By the 1530s only



8 monks remained, and the income of £181 was fairly small (equivalent to £114000 in purchasing power now), even if still large for a Welsh monastery. The abbey was suppressed in 1536, and sold to a family called Mansell, who converted the south and west ranges into a mansion house, but it was demolished in 1770. So, most of the claustral buildings that stood to the south of the church are gone, but the photograph shows remnants of the polygonal chapter-house, to the right of a vestibule, and a chapel high on the hill behind. Cryke Chapel was built in c1470 as a place of worship for local people of the lower orders, who did not have the right to worship in the Abbey itself, and maybe pilgrims; they certainly had to make a



steep climb to attend church. Much of the former nave of the abbey church survives, because following the Dissolution, the 6 westernmost bays (out of 8 in the 12<sup>th</sup> century church) were retained as the parish church; the lower photograph, looking west, shows the replacement chancel wall, at the east end of a reduced church, with short lengths of the walls and the base of a column, of the discarded bays. In the late 18<sup>th</sup> century, the site was a pleasure garden and the building was neglected, but extensive restoration work was carried out in the 19<sup>th</sup> century and today, the church once more serves the parish of Margam.

Margam Castle was built on higher ground to the east of the abbey ruins, by a family called Talbot, who had inherited the estate from the Mansells, in the 1830s. It was a very large mock Gothic country house, built of locally quarried sandstone, and is shown below; Cryke Chapel can be seen on its left, amidst planted woodlands. A regular visitor, in the years after it was built, was the pioneering photographer, William Foxe Talbot, and he made some early images, which survive.



The Talbots retained the property until the mid-20<sup>th</sup> century, but it is now in the hands of the local authority. Their stewardship was inadequate, and the house began to fall into disrepair, before a fire, in 1977, gutted the interior, but a restoration scheme is being progressed. Hopefully it will be completed, because although the building may not be to everyone's taste, it forms a good centre-piece in its estate, and its builders were instrumental in the development of the town named for them, Port Talbot.

Ships had probably visited Aberavon from its earliest days, either being pulled up on the beach, or by the 17<sup>th</sup> century, berthing at the mouth of the River Afan, to load cargoes of coal and sheep, from the hinterland to the towns of South Wales, to Bristol, and to the West Country of England. From 1750 onwards, tramlines for wagons pulled by horses, connected the harbour to local coal mines, and the establishment of copper smelting and ironworks towards the end of the 18<sup>th</sup> century, quickly increased volumes of trade. Christopher Rice Mansel Talbot of Margam Castle, the local Member of Parliament, took the initiative and pushed through a Bill in 1834, which approved the set-up of the Aberavon Harbour Company to develop the port facilities. A further Act in 1836 authorised the diversion of the river into a new channel to enable a new floating dock to be constructed by the renamed Port Talbot Dock Company, and it was completed in 1837. In 1894, the Port Talbot Railway and Docks Company was formed to link the port to the various competing railways, amongst them South Wales Mineral Railway and the Rhondda and Swansea Bay Railway. The resulting increase in volume of trade through the port led to a further extension to the dock facilities in 1898. The founding of Port Talbot Steelworks in 1902, and Margam Steelworks in 1916, led to greatly increased production, and the need for ore and coking coal could no longer be met from local mines and quarries; they had to be imported through Port Talbot Docks. Iron ore imports through Port Talbot reached 300000 tons per annum by 1930, and 3 million tons per annum by 1960, and imports of coal increased in proportion.

The docks had to be enhanced again, because they could not deal with ships larger than 10000 tonnes deadweight (DWT). In 1970, work was completed on the construction of a new Port Talbot Tidal Harbour, south-west of the existing docks system, which could accept ships in excess of 100000 tonnes DWT, and dredging increased that limit to 180000. In 1998, after being closed to shipping since 1959, the old floating docks were re-opened to handle coastwise cargoes like ground and granulated blast-furnace slag, timber, sand,



stone, and some finished steel products. As an aside, I remember embarrassing myself in the 1980s, at Hunterston, another ore/coal terminal in the West of Scotland. I had been called in to advise on solving a problem of fume and highly visible dust emission, during unloading. When observing the situation with the manager of the docks, I commented that the ship being unloaded must have been smaller than many docking there, to be told that it was 150000 tons DWT; I had forgotten that ore is almost 10 times denser than oil, so such carriers are far smaller than tankers carrying similar tonnages. The aerial view is from the south-west, and the breakwaters of the tidal harbour are in the foreground, with the unloading jetty above, and above it, Port Talbot Steelworks. The mouth of the re-aligned River Afan is to the left of the left hand breakwater and behind it can be seen the reopened 19<sup>th</sup> century docks, and behind them and to the left, most of the township.

I have already mentioned the Port Talbot Steelworks, and give a fairly brief account of the history of the works, since they opened in the early years of the 20<sup>th</sup> century. The original Port Talbot works were situated on the

right bank of the River Afan, south of Port Talbot railway station; constructed in 1901–5, they closed in 1961 and were demolished in 1963. Steelmaking at the present Port Talbot site, on the left bank of the River Afan, began with the Margam Iron and Steel Works, completed between 1923 and 1926. After the 2<sup>nd</sup> World War, several steel manufacturers in South Wales pooled their resources to form the Steel Company of Wales, in order to construct a modern integrated steelworks, on the Port Talbot site, while tinplate production, also in new works, was concentrated at Trostre and Felindre. All parts of the new works were operational by 1953, and the older Margam units were mostly shut down and demolished soon afterwards. In the 1960s, 18000 people were employed, in what was the largest steelworks in Europe.

Steelmaking had been nationalised after the war, and was denationalised, and then nationalised again in 1967 as part of the British Steel Corporation. It was privatised again in the early 1980s, and in 2000 merged with the Dutch company Hoogovens to form Corus. Then, that company was taken over by Tata Group, an Indian conglomerate. Steel production is cyclical, in so far as British Steel made a profit of £1 billion in a year, and in other years, losses almost as large, while I worked in the industry. The fluctuations were dependent largely on the overall state of the economy, though over-production across the world, especially in China, meant that the trend was downwards, in spite of ruthless measures to increase efficiency. There are now c4000 workers on the site, capable of producing 5 million tons per annum, the same as required 18000 in the 1960s. Port Talbot's achievement has been to remain open, though often near to closure, and it is to be earnestly hoped that it will continue to produce strip products for cars and tinplate. I am no proponent of nationalisation, but a country with any claim to a manufacturing base must make steel; the extreme nature of the market cycles necessitates government backing from time to time, and the energy intensive nature of the production route is an added problem, when the aim is to move to net-zero release of greenhouse gases, but I have said more than enough about a matter which still concerns me.

My own involvement with the site extended over quarter of a century up to 2005, mainly with Welsh Laboratories, which occupied buildings just inside the main entrance, but earlier in my career, with exercises on the steelworks, aimed at increasing efficiency to reduce costs. Unfortunately, the laboratories were closed soon after the formation of Corus, after I had acquired 25 metallurgists there. For about a year, I made the 600+ mile round trip on a weekly basis, trying to sort out their futures, and other matters associated with the closure. I often stayed at the Aberavon Beach Hotel, near the seafront, but in close proximity to a fairly run-down housing estate. The hotel was very good, but its location meant that theft from and of guest's cars had been a problem over the years, so the high surrounding barbed wire fence, the floodlights, and cameras, might have led a new arrival to imagine that he/she had reached a concentration camp, as portrayed in war films. It was amusing to see the expressions on the faces of arriving Dutch colleagues, visiting after the aforementioned merger.

As for the town of Port Talbot, as might be expected of a relatively new industrial town, there are no historic buildings, apart from those noted as surviving in its predecessors. The town is confined by the hills to its north-east, and by the railway and the M4 motorway which constitute a considerable barrier to expansion. There are of course, the normal amenities, like shops, schools, churches and chapels, and a few sports centres. The local rugby club, Aberavon RFC, nicknamed the wizards, has a long if not especially distinguished history, but the coming of professionalism reduced its status, greatly. The football club, Port Talbot Town FC, now play in the 2<sup>nd</sup> tier of the Cymru National Leagues, though they have spent a significant period in the 1<sup>st</sup> tier without winning



anything; a chequered existence since 1901, involving several name changes, does include one tie in European competition. Overall, the town is dowdy, and its appearance will not impress any first-time arrival; obviously its location beside a giant steelworks does not help, but its council leaders do not seem to have shown much ambition, as regards brightening it up. There are pleasant places nearby, like the resort of Porthcawl, and the Vale of Neath, but somehow Port Talbot seems disconnected.

The journey veered away from the River Afan, as Port Talbot was entered, and we must return for the final reach. The passage through the town along a riverbed punctuated with banks of mud, gravel and sand, takes it under several bridges, but none is old or particularly distinguished. Green Park Weir, shown before a recent refurbishment, had a key role in the operation of the Victorian docks. They are floating, which means that ships enter and leave through a lock, so water levels inside are maintained regardless of the state of the tides. However, a substantial amount of water is lost as ships pass through the lock. The weir directs water from the River Afan to where a sluice gate controls water entry into the docks to compensate for such losses. A small stream, the Nant Ffrwd-Wyllt, also flows into the docks, and there is an overflow into the River Afan, which releases water if there is heavy rain. As a final precaution, it was so arranged that seawater could be pumped into the docks if river water levels were very low.



On this rather downbeat note, the historical journey along the 18km of the River Afan ends. The catchment has been dominated by industry, especially coal-mining, and this has obliterated some of what went before. There are a few remnants of watermills, as listed in the Appendix which follows, and there may once have been more, though apart from the lower reaches where industrialisation has been intense, conditions have never been much suited to growing of corn, i.e., relatively high, wet, and with poor soil. The most impressive survival of any system to do with water power is the one-time aqueduct at Pont-rhyd-y-fen, which supplied water to drive hot blast blowers in an long-gone ironworks. There are no old bridges, and other pre-19<sup>th</sup> century buildings are at a premium. Nonetheless, it has been interesting to make this historical journey, which provides a contrast to almost any other which has been described.

## Appendix

### Commercial Watermills

We first describe the methodologies used to gather the information which has allowed the sketch maps and tabulations which follow to be produced.

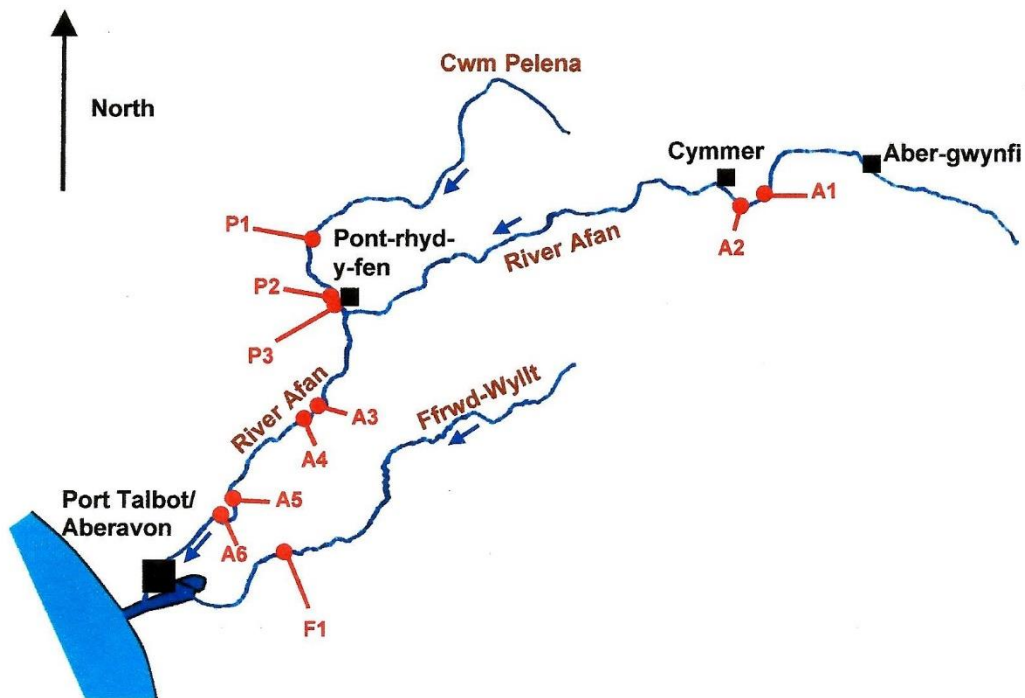
Note that commercial watermills were paid by customers to process raw materials like grain or wool, whereas farm mills, to be dealt with later were machines located on a farm, which operated at the behest of the farmer, normally without money changing hands. The great majority of farm mills during the period in question (post-1750) were threshing mills, separating grain from stocks (straw)

1. Commercial mills were initially identified from first edition, six inches to the mile Ordnance Survey maps (6 inch OS maps) of Glamorgan. The surveys for the first edition maps were undertaken between 1875 and 1877. These maps are available on the National Library of Scotland Map Images website (<https://maps.nls.uk>).
2. Where mills were suspected and not confirmed, some additional information was found by Google searching for water mills in the specific area.

The sketch maps and tabulations follow:



**Table 1: Water Mills in the River Afan Catchment**



**River Afan**

Code	Mill	Mill Type
A1	Gelli Mill	Corn
A2	Groes-crw Factory	Wool
A3	Cwm-Avan Tin Works	Tin Works
A4	Express Tin Works	Tin Works
A5	Margam Tin Plate Works Upper Forge	Forge
A6	Margam Tin Plate Works Lower Forge	Forge, Sawmill

**Tributaries**

**Cwm Pelena**

Code	Mill	Mill Type
P1	Fefail-fach Mill	Corn
P2	Gareg-lwyd Woollen Factory	Wool
P3	Gareg-lwyd old Factory	Unknown

**Ffrwd-Wyllt**

Code	Mill	Mill Type
F1	Dyffryn Mill	Corn

## Threshing Mills

The locations of possible water-powered threshing mills in the River Afan catchment were identified from first edition, six inches to the mile Ordnance Survey maps (6 inch OS maps) of Glamorgan. The surveys for the first edition maps were undertaken in the between 1875 and 1877, some years after the introduction of steam powered threshing machines which rapidly supplanted water and horse powered threshing. Water-powered threshing mills required sources of water including ponds and mill lades which are long lasting features and, in many instances, but not all, these features will be detectable on maps surveyed several years after the threshing mill has fallen out of use. Possible farm mills in the Afan catchment were identified from the presence of mill lades, dams or ponds on the OS maps. As threshing mills were by far the most common type of farm mill, it has been assumed that there were threshing mills at these farms. Thus, sites where water-powered farm mills operated at some time after c1790 are tabulated but it is difficult to say more about exactly when they operated.

In addition, horse gins were used to power farm threshing machines. As pointed out to us by the late Professor Paul Bishop, these can generally be recognised on early OS maps by the presence of small roundhouses on farms which were an intrinsic part of horse gins. One horse gin was recorded in the Afan Catchment.

Two possible water-powered threshing mills was found in the River Afan catchment. These are listed in Table 2, below.

The total number of possible threshing mills and horse gins (3) identified in the catchment was the same as the number of cornmills in the catchment (we identified 3 corn mills, see Table 1). The table defines the name of threshing mill, the name of the millstream and the name of the tributary of the Afan. Threshing mills were often built on very small streams, little more than drainage ditches. As a result, the mill streams in Table 2 had names that were not readily found. These are marked as "Unknown" but may be not have names.

**Table 2: Possible Threshing Mills in the River Afan Catchment**

River/tributary	Mill Stream	Mill
Cwm Pelena	Unknown	Blaen Palena
Ffrwd-wyllt	Unknown	Gallt-y-Cwm

**Table 3: Summary of the Numbers and Types of Water Mills in the River Afan Catchment**

	Catchment			All Catchments
	River Afan	Cwm Pelena	Ffrwd-wyllt	
Corn	1	1	1	3
Textile	1	1	0	2
Saw	1	0	0	1
Metal	4	0	0	4
Unknown	0	1	0	1
<b>All Commercial</b>	7	2	1	10
<b>Farm Mills</b>				
Threshing	0	1	1	2
<b>All Water Mills</b>	7	3	2	12

There was one horse gin.

### Notes to Table 3:

1. Reasons for the scarcity of cornmills compared with other catchments could lie in the unsuitability of conditions for growing corn, or the loss of farm land to industrial use. The numbers confirm the use of water power to drive metal processing equipment, before steam power became available. Woollen mills processed the fleeces from sheep kept in the upper Afan valley.

2. There were 3 threshing mills, making the ratio to corn mills in the River Afan catchment, 1 : 1, a value in the range for English river catchments. However, too much attention should not be given to this, because the numbers of mills are very low.

.....

### Short Bibliography

Title	Author (s)	Publisher	Date
Medieval Religious Houses – England & Wales	Knowles D. & Hadcock R.N.	Longman	1953
Water and Wind Power	Watts M.	Shire	2005

### Websites

Site	Comment
<a href="http://britishlistedbuildings.co.uk">britishlistedbuildings.co.uk</a>	
<a href="https://coflein.gov.uk/en/">https://coflein.gov.uk/en/</a>	Welsh historic buildings
<a href="http://maps.nls.uk">maps.nls.uk</a>	Historic maps
<a href="https://drtomsbooks.com/">https://drtomsbooks.com/</a>	My own website, ancient bridges, rivers & watermills
<a href="http://en.wikipedia.org">en.wikipedia.org</a>	
<a href="https://www.british-history.ac.uk/">https://www.british-history.ac.uk/</a>	
<a href="http://ceh.ac.uk/index">ceh.ac.uk/index</a>	Hosts the National River Flow archive

Some websites are referenced at appropriate locations in the text, in addition to the titles listed here; in carrying out the project, we have read guidebooks acquired during visits to historic sites, and we have consulted local websites, too many to list. We have extracted facts, but have not copied text. We should like to thank those responsible for making useful information available.