

6. The River Avon

The River Avon is further west than any other 'Lothian river', and as it does not flow wholly within the Lothians at any point along its course, it is perhaps arguable whether it should be included. However I give more weight to the facts that for almost 11km, a third of its total length of



31km, it forms the boundary between West Lothian and the Falkirk district, and a significant part of its catchment and some of its right bank tributaries are in the former county. As is normal the starting point for a journey along the river is the source, but there is disagreement over where this is. The Gazetteer for Scotland describes the River Avon as issuing from the larger of the two Fannyside Lochs which are on moorland, 5km east of Cumbernauld. A view of this western loch in fading light is shown in the upper photograph. The loch has two outlets; one in the west, the Glencryan Burn, which flows to Cumbernauld from where its contents eventually reach the River Carron. The outlet relevant here, the River Avon by this interpretation, is a stream leaving the south-east of Fannyside Loch, and flowing east, for a few hundred metres, until it is met by the Garbethill Burn. The eastern, smaller loch, also feeds into the latter burn at a point slightly upstream, near Fannyside Mill, built in 1763 to grind corn, as a successor to previous mills on the site. The mill survives as a ruin which may well be restored as a private house in the next few years; it is shown with the other mills on the river in Table 1 at the end of this account. From the junction with the Garbethill Burn, the nascent River Avon, in this version of the geographic picture, swings eastwards, to be joined by a stream coming from the south-east, but there a complication arises.

This stream, is the Avon Water which has travelled, generally north-eastwards, but with abrupt twists and turns, for c5km, from a location named Avonhead, near the hamlet of Upperton. The lower photograph shows this stream in a copse a few hundred metres from its source which is at



Grid Reference Point NS 802 696, on the north-east slopes of a low hill near the 200m contour. It would seem perverse not to regard this as the true starting point of the river, given the names adopted, and the fact that the Avon Water is substantially longer than the stream named the River Avon above. So, changing horses as it were, I see the river as beginning life as the Avon Water, flowing 5km to where it meets the Garbethill Burn, boosted by outflows from the Fannyside Lochs, and there it changes its name to the River Avon. Viewed in wider perspective, the river begins its journey in North Lanarkshire, 7km south-east of Cumbernauld, and 5km north-east of Airdrie in upland country of moorland and patches of forest; quite wild given that it is only 20 km from the centre of Glasgow.

A few hundred metres downstream, the newly formed River Avon crosses from North Lanarkshire into Falkirk District. The river is about to drop through the 150m contour, but there is no dramatic change in scenery, as it flows slowly along a shallow valley for 3km to reach the northern edge of Slamannan, though its surrounds have softened. It receives many tributaries in this stretch, mostly small, but two coming from the south, the Rashiehill Burn, and the Culloch Burn are more substantial. The latter rises quite close to Avonhead, and follows an easterly course until it veers north, to circle round three side of Slammanan before meeting the right bank of the River Avon. South-west of the town, at Balcastle beside the burn, a mill is shown on a 17th century map, but the buildings were demolished in the late 20th century.

Slamannan is a small town with a population of just over a thousand. That it has a long history is made obvious by the existence between the town centre and the river, of the castle motte shown in the photograph, alongside. I think this is the only such earthwork in the Lothians, although there are many elsewhere in



Scotland. Pottery finds suggest that the site was occupied in the 12th century, but nothing seems to be known about what sort of castle might once have crowned the mound, though a tower surrounded by walls is probably the best guess. The nearby church dates to 1810, but had a predecessor which also had 12th century origins. A small agricultural community here, was transformed from the mid-18th century onwards by the growth of the coal-mining industry, serving a ready market to the north in the giant Carron Ironworks, and the town grew rapidly to house those working in pits round about. Sadly for the prosperity of the town, the easy seams were worked out by the early 20th century, mines closed, and people moved away, leaving a rather dowdy husk, mirroring the decline of many Scottish communities in the central belt.

The photograph alongside looks downstream from a bridge just outside the town and shows that the accretion of water brought by the tributaries mentioned above has expanded the stream into a small river. Fairly tranquil progress eastwards for 5km, still collecting water from tributaries, but now in a shallow valley brings the river to Avonbridge. The first bridge here was perhaps built in the 16th century, but the present structure is not old. There were mills in the 17th century and earlier, with their past existences now signalled by house and street names, and the fact that a right bank tributary of the River Avon, is called the Lin Mill Burn. This stream powered a linen mill to the south-east of the village, where there are traces of a



lade. Upstream, the burn changes its name to Drumtassie, and under both names, it is the boundary between West Lothian, on its right bank, and Falkirk District, along its whole length. Avonbridge expanded in the 19th century when it housed miners, working on open and deep coal seams nearby. A brick-making factory with a prominent kiln chimney operated for two decades but closed in the 1970s.

A few hundred metres downstream from the village, the Lin Mill Burn joins the river which then becomes the boundary between Falkirk district and West Lothian. It continues to flow eastwards, but there are low hills to either side which confine it in a valley with steepening sides. Westfield is 3km downstream from Avonbridge, and here the river is joined by a significant right bank tributary, the Logie Water, though that stream is less than 1km long being formed south of the village by the confluence of the Barbauchlaw Water and the Couston Water. The former follows a generally south-easterly 12km course, rising on the border between West Lothian and North Lanarkshire. It passes through the village of Blackridge, and skirts the town of Armadale on its north side. Both communities depended heavily on mining, with Armadale expanding four-fold to its present population of nearly 10000 during the 20th century, but now townsfolk have been compelled to seek other occupations or commute. The Couston Water rises just south of Bathgate, and follows a north-westerly course. Bathgate probably deserves more attention than I am going to give it, but for all its age, little built-history remains and it is similar to many other towns in West Lothian which grew as mining communities and have struggled recently to find another role. Bathgate has suffered added misfortune, because replacement businesses, like Leyland and Motorola have shut-down relatively soon after opening, and although it has the strength that comes from a population of 15000 and is the hub of its locality, the growth of Livingston, nearby, must have been a constraint. The town's most famous son was Sir James Young Simpson, a pioneering obstetrician in many ways, but best known for discovering the anaesthetic properties of chloroform, and putting them to use during childbirth.

There were corn-mills on each of the Barbauchlaw Burn, and the Couston Water, and the former also powered Birkenshaw linen mill and a saw-mill, while downstream of their junction there was a paper-mill at Westfield which opened in the 1850s and continued in operation until 2002; details are given in Tables 1 and 2. The River Avon flows generally eastwards after receiving the Logie Water, passing on the right bank a second Wallace's Cave encountered in the journeys, (the other is near Roslin beside the River North Esk); this cave is alleged to have been Sir William's hiding place after his heavy defeat at Falkirk by the English army of King Edward I on 22nd July 1298. Obviously much can change in 700+ years, but the photographs suggest that the cave is now an arch which would give little protection, so I am sceptical about the association. Whatever his movements after the battle and in spite of the fact that experts agree that he lost leading an outnumbered force, Wallace's reputation seems to have been seriously damaged by the defeat. Maybe his compatriots thought he should have continued to shadow rather than fight a superior army, or the high-born looking to regain leadership of the independence movement, saw a chance to replace a man of relatively humble birth. Alternatively, the decision not to lead again in battle might have been his own response to failure, as otherwise he remained an active and significant figure in the Scottish independence movement, until his betrayal and butchery in London 7 years later in 1305. After death, he became and remains, a Scottish icon, with any downturns in his career seen as unimportant, in comparison with his achievements and courage.

A short distance further downstream, the river is joined by a small right bank tributary, the Brunton Burn, and in the angle formed to the east of the confluence is Desert Wood, which comprises 26ha of mixed woodland, privately owned but accessible by paths. I have found no explanation for the puzzling name. The burn is some 6km long, flowing mainly west, from its source on the south side of Cockleroy Hill, where a stone wall marks out a univallate oval hill fort. The burn has



been dammed to form Lochcote Reservoir, near rectangular in shape and of area 17ha, which supplies Bo'ness and its surrounds. The ruin of Lochcote Castle is near the north bank of the reservoir, but as can be seen from the photograph above, the remains are scanty, and little can be deduced about the original configuration, though its build-date thought to be in the 17th century, probably means that it was a tower house. Surprisingly, nothing seems to be known of its builders or later owners.

Further downstream, the Brunton Burn skirts the small village of Torphichen to its south, and here it is joined by a small left bank tributary, the Torphichen Burn. This must have powered the corn mill known to have operated in the village, possibly from a very early date. There may have been a second mill there, but I have found no relevant information. Torphichen Preceptory, just east of the B792, dominates the village. The Knights Hospitallers, or Knights of St. John, probably acquired the site, which then contained a small church, in the 1140s, and built a larger church and claustral buildings later in the 12th century. It was the headquarters of the order in Scotland, but dependent on the English headquarters at Clerkenwell. Its loyalties lay mainly with England during the Scottish Wars of Independence, and the order was expelled from its properties in Scotland in c1300, though the knights drifted back afterwards and regained Torphichen. Following the Reformation, the last preceptor named Sandilands became Lord of Torphichen in 1564.

The original 12th century church now survives only in the crossing, with its blocked arches which once led to the nave, choir, and tower. The transepts were rebuilt in the late 14th century, and then a new stair turret was built onto the tower. The photograph was taken from the south east, and the roof-line and arch of the choir are clearly visible, on the wall of the crossing. After the Reformation the nave was appropriated as the parish church, while the remainder, including the whole



choir, fell into disrepair, or was dismantled. In 1756 the original nave was demolished and replaced by the present parish church. The claustral buildings to the north of the church survive only as a marked out cloister walk and a few fragments, though they once included a grand house for the preceptor in the west range, a refectory, and no doubt accommodation for other knights of the order. There are other interesting monuments of all ages not far from Torphichen which sits at the west end of the Bathgate Hills, but I shall highlight only one, to the south-east of the village, atop Cairnpapple Hill.

In c3000 BC, a Neolithic henge was built on the hill which is 310m high. It comprised a circular ditch about 1m deep surrounded by an earth bank 1.2m high, probably intended to screen the interior from view. Within the ditch was a ring of 24 large wooden posts, though they have long since vanished. By c2000 BC the henge had fallen out of use, but obviously retained ceremonial significance, and the local community sited an important burial near the centre of the ring, which they covered with a small cairn of stones. Later, two more burials were added nearby in stone cists. These were covered by a much larger cairn that extended over the original burial cairn. The footprint of this second, larger, cairn was used when a concrete cover was built for all the burials in 1949, though it is probably much taller than the cairn it imitates. The cairn can



now be entered via a short ladder that descends from its roof. Inside are the preserved remains of the original grave, known as the north grave, and one of the later cist graves. The former can be seen in the lower photograph, while in that above, the overall lay-out is seen, albeit flattened out. The efforts made since the 1940s to allow the public to see as much as possible of the monument, and to preserve it are laudable, but I am afraid they have rendered the site more than a little artificial.

Re-joining the River Avon, the river is flowing east in a steep-sided gorge, and is crossed by the late-18th century Torphichen Bridge, an impressive structure with a single high level, segmental arch; it carries the A801 between Armadale and Falkirk. Just downstream, on a riverside terrace below the gorge walls, are the remains of Torphichen Bridge Mill, and beside it, the ruined cottage in which Henry Bell was born in 1767. The family were mill wrights and engineers, and Henry received somewhat haphazard training in these crafts, but became possessed by the idea of propelling boats by steam power. From early in the 18th century, the likes of Thomas Newcomen had experimented in the field, but it was only after James Watt's transformation of steam

engine efficiencies late in the century, that steamboats became a practical proposition. Overall priority has to be given to the insufficiently lauded engineer, William Symington from Dumfries, whose work in the 1780s and 1790s culminated in the successful trials of the steam-powered Charlotte Dundas on the Forth and Clyde Canal in 1803; not only was the boat driven forward at a speed of a few knots, but it towed barges. For various reasons, this 'world-first' was not exploited, and Symington turned to other projects.

The American engineer, Robert Fulton watched the first trials as probably did Bell, and the two corresponded, before in 1807, the former built a steamboat with which he instituted the first commercially successful carrying enterprise, conveying passengers on the Hudson River between New York and Albany. Bell may have supplied designs to Fulton, but his own claim to priority as institutor of the first commercially successful steamboat service in Europe is based on the thrice-weekly passenger service between Glasgow, Greenock and Helensburgh which began in 1812 using his steamboat, Comet. Perhaps, it was not a real money-spinner, because in 1819 he modified Comet, and began a service from Glasgow to Oban via the Crinan Canal which took 4 days. This move to the open seas proved a step too far for the infant technology, and Comet was shipwrecked near Oban in December 1820. Bell then built Comet II to ply on the Clyde, but tragically it was sunk near Gourock in October 1825, by a collision with another steamship, and 62 of the 80 passengers drowned. By the time of Henry Bell's death in 1830, the technology which he had helped to pioneer was well established, but he failed to benefit, and an annuity had to be established by public subscription to relieve his poverty. He is commemorated by plaques at his birthplace and in Helensburgh where he spent his later years.

The river next swings north, passing on the right bank Carriber Mill, originally a corn-mill but converted to a threshing mill, attached to a farm there. Traces of the water delivery system remain. On the left bank is Muiravonside Country Park, opened in 1977 when Falkirk District Council acquired a 68ha portion of the estate of that name. First recorded in the late 12th century, the property passed by marriage to a family called Ross in 1471, and they built Muiravonside House in the early 17th century. The estate was sold to an Edinburgh lawyer called McLeod, a prominent Jacobite supporter, in 1724, and that family somehow hung on to it until 1835, when it was purchased by Sir Charles Stirling. He was responsible for some of the items that can be seen in the park now, like the water-powered sawmill converted from a corn-mill, and the lime-kilns. Unfortunately, expensive litigation over a contested will impoverished the estate, and the house fell into ruin and was demolished on safety grounds in 1970.

Moving on downstream, the vestigial ruins of Carriber Castle are set above the steep right bank in Carriber Glen; they are shown alongside in a photograph taken by a Mr. Knowles, 6 years ago. Castle is something of a misnomer, as it seems to have been an unfortified residence with walls less than 1m thick,



built in the 16th century for a Robert Gibb who is variously described as court jester to King James V and Baillie in charge of Newhaven harbour in Edinburgh during the reign of Mary Queen of Scots; perhaps he performed both roles, but presumably not wearing the same outfit. The building may have taken the form of a

courtyard with living quarters to the north and south, but the remains are insufficient to allow certainty. It seems to have been inhabited into the 18th century, but judging by its condition it probably began to decay in that period.

Next, the river twists north, and then east again, as it passes beneath the Avon Aqueduct carrying the Union Canal on its 50km journey along the 73m contour, from central Edinburgh to its meeting point with the Forth and Clyde Canal in Falkirk. The aqueduct's length is 247m, the 2nd longest in the United Kingdom, (Telford's Pontcysyllte Aqueduct is 307m long); it is 25.9m high and 7.2m wide with splayed ends where it joins the wider channel of



the main canal. It has 12 segmental arched spans of 15.2m, each built to a standardised construction with hollow spandrels, as was characteristic of Thomas Telford's other designs; the engineer responsible for building it between 1819 and 1821, under the master's supervision, was Hugh Baird. Water is carried in a cast iron trough just over 2m deep and 4.1m wide, set between the spandrel walls and braced with iron stays. Cobbled towpaths run along both sides of the water, and there are iron railings atop the parapets. The tapering piers supporting the arches are also hollow, with buttresses up to parapet level.

The Avon Aqueduct is one of three along the Union Canal, (the others cross the River Almond at Linn's Mill, and the Water of Leith at Slateford in Edinburgh), and following restoration during the 1990s, all are accessible by boat from each terminus. The aqueducts are Listed, but together they and the canal as a whole, were a remarkable engineering achievement, two centuries ago, and may be less acclaimed than they should be. As with most canals, commercial success was short-lived with decline setting in here after the railway linking Edinburgh and Glasgow opened in 1842. The canal was officially closed in 1965, and sections were filled in and culverted, a process reversed at some cost in the aforementioned restoration. In 2002, the Falkirk Wheel opened allowing boats to be raised 24m from the Forth and Clyde Canal, into 2 locks which provided the other 11m required to reach the level of the Union Canal; together the arrangements replaced 11 locks which had closed in the 1930s, and re-established a continuous waterway across Scotland for leisure craft.

The meandering river which remains the boundary between West Lothian, on its right bank, and Falkirk District, next arrives at the scant remains of Manuel Priory (otherwise 'Emmanuel') on the left bank of the River Avon; they are visible from the B825. The Cistercian nunnery was founded in 1164, probably for a prioress and 12 nuns, but it is by no means certain that this complement was ever reached, and the only numbers recorded were 5 and 4 at different times in the 16th century. It seems that in 1506 a petition from King James IV to replace the nunnery by an Augustinian friary was approved by the pope, with bad behaviour by the nuns, one of the justifications, but for some reason this never happened. The establishment had only a small annual income of £57 in 1561, (equivalent to less than £16000 now). The Livingstone family who held the commendator-ship after the Reformation (a position which relieved the prioress of administrative and

financial responsibilities, but often allowed the commendator to enrich himself at the expense of the abbey,) cannot have benefitted much in this case, as the impoverished nunnery limped towards its closure in 1599. All that remains is the ashlar west-end gable of the priory church shown in the photograph alongside. It seems that the building was roofless by the early 18th century, and that the walls which are now absent were washed away by the River Avon in the 1780s. It was suggested that the claustral buildings were, as normal, south of the church, and that a change of course by the river destroyed them, but recently, resistivity tests have suggested that the cloister was



to the north and has left traces in a field there. Perhaps the priory had a corn-mill in the medieval period, but Manuel Mill, also on the left bank, and slightly upstream, is a complex of buildings dating from the late-18th century, now part of a farm steading. Water to power the mill was drawn off above a weir close to the Avon Aqueduct, and the path of the lade is easily traced on contemporary maps. Manuel Burn which rises near Polmont is a small stream which joins the left bank of the River Avon here.

Next in view is another fine example of 19th century engineering, the Avon Viaduct, shown in the photograph; it still carries the main Edinburgh/Glasgow railway over the valley formed by the River Avon. The masonry viaduct, designed by an engineer called John Miller, was opened in 1842, and is fractionally less than 400m long. It comprises 20 stilted segmental arches, each spanning 15.2m (50 feet), together with 3 at the east end, each of span 6m, leading from an embankment. The 4th and 5th arches from the east end cross the river, at a height of 24.6m above the mean water level.



On the right bank of the river, immediately to the north of the Avon Viaduct, are survivals from Linlithgow Burgh Mills. There are records of mills here from the early 13th century, but the buildings standing now which have been converted into houses, date from the 18th century. There were two mills with their own water-wheels, one a flour mill, the other which ground barley and oats, and in the 19th century steam power was also made available. Mills on the west side of Linlithgow drew water by way of lades, some of which have been

traced, from the River Avon itself, from a right bank tributary, the Mains Water, and from the town loch. Shaw refers, to mills which produced textiles, silver, snuff, flint, paper, leather, and tannin from bark, in addition to the corn and flour mills but it is difficult to determine which mill produced what; the best guesses of myself and my collaborator, Dr. Alastair Robertson are given in the Tables at the end of this account, but this is a topic which would repay further investigation.

About 200m downstream from the Avon Viaduct, the River Avon passes under a bridge carrying what was the main Edinburgh to Stirling Road, downgraded to the A803 after the opening of the M9, which bypasses Linlithgow to the north. The present bridge is c50years old, but it replaced a structure built in 1660, which itself probably incorporated parts of the bridge standing on 14th September 1526 when the Battle of Linlithgow Bridge took place. Although 13 years had elapsed since the disastrous Battle of Flodden in 1513, where King James IV had died, leaving a 17 month old baby boy to succeed as King James V, it is not difficult to see links between the events. The widowed Queen Margaret Tudor, sister of the English King Henry VIII, was certainly not short of the determination and persistence of her family, and although she put Scottish interests behind her own, she probably put them ahead of those of her brother, the English King; unfortunately she proved sadly lacking in judgement. Her precipitate remarriage after Flodden, to the head of the powerful Douglas family, the Earl of Angus, might have provided stability, but instead morphed quickly into bitter rivalry between husband and wife.

Efforts were made to side-line both of them, by conferring power on John Stewart, 2nd Duke of Albany, a French resident but 1st cousin, once removed, of King James V and second in line to the throne. He came to Scotland in 1515, when appointed joint-Regent with the ex-Queen, and quickly side-lined his co-governor of the country, but for the next 9 years his authority waxed and waned, as he retired to France for extended periods, between making efforts to establish unity between factions many of which agreed only about their dislike for him and his 'Frenchified ways'. Fascinating as these events are to aficionados of Scottish medieval history, this is not the place to detail the twists and turns, as the advantage shifted between Regent Albany, the ex-Queen and the Earl, as they gained and lost support from inside and outside Scotland. Instead I shall only describe the situation in 1526, the year of the battle, by which time, Albany had conceded defeat and returned permanently to France, but the struggle between ex-Queen Margaret and the Earl of Angus raged on.

King James V was held to have reached his majority in 1524, at the age of 12, but little had changed for him as he remained a prisoner of the Earl of Angus in Edinburgh. Since 1521, the key ally of Angus had been James Hamilton, 1st Earl of Arran who led a numerous and powerful family, and by virtue of his mother being a sister of the King's grandfather, King James III, was himself close to the line of succession to the throne. Their opponents were the King's mother, Queen Margaret, in alliance with John Stewart, 3rd Earl of Lennox, whose mother was another sister of King James III; their base was Stirling. The King cleaved to his mother, and his favourite 'uncle', Lennox, and managed to get messages through to them begging for rescue from Angus. In response, an army was raised and began an advance towards Edinburgh, but Arran with a contingent of Hamiltons moved forward to Linlithgow to check its progress, while Angus paused to gather reinforcements with the intention of joining his ally. I take what follows, in large part from Cooper's book entitled 'The Heart and the Rose' and he acknowledges that much is conjecture, in the absence of eye-witness accounts or much

archaeological back-up; the annotated map is a screen photograph taken from an Historic Scotland document. The suggestion is that Lennox arrived to the west of Linlithgow with 10000 soldiers to be confronted by Arran with at most 3000; neither can have been certain when Angus would arrive on the scene.



Standing now on the viaduct, which carries the road from the village of Whitecross along which Lennox approached, it is clear that the River Avon gorge would have been a major obstacle to an advance on Linlithgow from the west, but the river itself much less so, unless it was running very high. Lennox must have considered the option of forcing the bridge using his superior numbers, but instead sent the greater part of his army upriver to Manuel Nunnery where they could cross by a ford (the movement is indicated by a red arrow on the map). From here, one would have imagined that his best option would have been to move round the south of Linlithgow, outflanking Arran, and Angus if he had arrived, with a fair chance of winning a race to Edinburgh. Instead, he decided to attack Arran's position at the top of the steep right bank of the river. Unsurprisingly, momentum could not be maintained, and the attack faltered, at which point Arran sent his army down the slope and routed the Lennox army, which may not have been fully across the river. Whether the reinforcement brought by Angus played much part is not known, though he was reported as on the battlefield, when the fighting ended.

The Lennox army probably lost 2000 men, compared with a tenth of that number of losses suffered by their opponents. Perhaps they might have regrouped, and even renewed the attack with still superior numbers, but their leader, the Earl of Lennox had been wounded, and taken prisoner, so retreat was inevitable. There followed a heinous crime, when Lennox was murdered in cold blood by James Hamilton of Finnart. Retribution was a long time coming, but the perpetrator was executed by Royal command in 1540, ostensibly for other historical crimes, but it is fair to assume that the King had not forgotten the murder of his well-loved relative. The consequences of the battle were not as might have been predicted, namely a consolidation of the power of the Angus/Arran faction. Within a year, King James had managed to escape the clutches of Angus, and join his mother in Stirling Castle. Another army set out for Edinburgh, but this time with the King at its head, resistance would have been treasonous and opposition melted away. The Earl of Angus took refuge in

Tantallon Castle, on his way to a long period of exile in England. The Earl of Arran, a much older man, made his peace with the King.

Linlithgow is an old town, with records extant from the early 12th century, and for a period in the Middle Ages it was one of the 4 most important burghs in Scotland and the site of a mint. However, it has not really participated in developments since, so has remained quite small with a current population of c13500. The main street runs east to west along the south shore of a loch, but a potentially fine setting is blighted by some awful buildings erected on its north side in recent decades. The ruin of Linlithgow Palace, on a high promontory jutting westwards into the south of the loch is shown in the aerial photograph taken from the 'Topofly



Website'. Its earliest parts date from c1425. After two centuries of building it comprised four high ranges forming a rectangle, around a central court, and with towers at each corner; McWilliam supplies copious details, and excellent guidebooks are available on the heritage site. Probably its main claim to fame is as the birthplace of Mary, Queen of Scots in 1542. The departure of the Scottish royal family for London in 1603, did not bring all building work to an end, but it was hardly occupied thereafter, and was burnt out by soldiers in the Duke of Cumberland's army in 1745.

St. Michael's Church is just to the south of the palace; external views are impressive enough, though the proximity of the palace can take something away, but the interior is matched by very few Scottish churches, which is why I include the photograph alongside, rather than one of the exterior. The present building is the successor to a church recorded first in the early 12th century, but so badly damaged by invading English forces in the 14th and 15th centuries that it had to be totally rebuilt between 1425 and 1540. Things got no



easier after that, because it was damaged again during the Reformation, when statues and other 'popish' symbols were removed or defaced. The main body of the cruciform church is very large, and in comparison

the transepts and the west tower, are in plan, small. The tower was topped by a stone crown until 1820 when it was removed because of the danger of collapse, but in 1964 an aluminium replacement was mounted. My earlier strictures about the newer buildings on the main street cannot really be offset by pointing to distinguished older buildings there, and the rest of the town to the south is dominated by the Union Canal, and railway which pass through it at high level. So, I move on from Linlithgow hoping more enlightened planning will one day enable it to display more fittingly its fine setting, and the interesting buildings which still stand.

The River Avon leaves the north-west of Linlithgow, flowing north, passing under the M9, and then a water treatment plant on a site once occupied by a mill. At this point it turns west and enters wholly into Falkirk district, in which it remains for the remainder of its course. Along the next stretch where the river gradually veers north-west, there have been 3 mills on the right bank, named Kinneil, Tod's, and intriguingly, Jinkabout; all were corn-mills. I have viewed correspondence on the internet about the name of latter, which was demolished in the 1930s, but the most obvious explanation, given that jinking can mean dodging, is surely that the river here turns back on itself in a very tight loop before heading off north, (apparently a mill at Redhall on the Water of Leith, also bore the name for a while). Grangemouth Golf Course is on the left bank, while on the right bank, slightly upstream, is the hamlet of Inveravon. Insignificant now, and showing little evidence above ground of its past, it must have been a hive of Roman activity, around the year 140AD.

Here, the Antonine Wall crossed the River Avon, heading from Bo'ness a few kilometres east on the shore of the Firth of Forth to Kilpatrick on the River Clyde. It represented the attempt of the Emperor Antoninus Pius to advance the border of Roman Britain, north from the line of the Tyne (Northumbrian) and Eden which had been fortified by Hadrian, less than 20 years earlier. The main features are shown in the photograph alongside, taken well to the west of Inveravon. Unlike Hadrian's Wall, the Antonine Wall was not topped by



masonry, but had rubble foundations below a 3m high turf wall, a ditch, 5m deep, 'outside' to the north, and an earthwork built up from excavated soil, to its south. There were 17 forts along its 62km length. As with Hadrian's Wall, there have been long-lasting arguments about its functions, with the most obvious defensive one often subordinated to other suggestions, for example that it was a glorified customs barrier. If it was indeed mainly a defensive fortification, the absence of a masonry wall would not have diminished its effectiveness much, because there would have been a high wooden palisade on top of the turf wall. Perhaps a long occupation would have led to its reinforcement in stone, but the Antonine Wall was abandoned after barely 20 years, when the Romans pulled back to Hadrian's Wall in 165AD. There was to be one further Roman attempt to conquer Scotland when Septimius Severus invaded in strength early in the 3rd century but he died on the campaign, and his army was immediately withdrawn. One of the forts along the Antonine Wall

was on a bank of the river at Inveravon, needed there because it is clear from the fact that its lines on each bank do not match up, that the wall was not carried over the river. The soldiers, who built the wall with its forts, were housed in temporary camps, and three of these, close to Inveravon have been identified on aerial photographs.

Downstream of the Jinkabout Mill location, the River Avon flows north, then swings east, and then north again before it enters the Firth of Forth, all within the boundaries of Grangemouth. The town, which now has a population greater than 17000, was founded in 1768 at the east end of the Forth and Clyde Canal, and its early history is that of a thriving port sustained in large part by the canal traffic. The hub of the port was on the River Carron which also reaches the Firth of Forth in



Grangemouth, but to the west of the River Avon. The extensive dockyard developments during the 19th and 20th centuries which built the nationally important port of today, have all been beside the River Carron. The final stage of the River Avon's journey is shown in the aerial photograph above, taken from the south-east for the BBC. It passes through a giant industrial complex made up of an oil refinery and associated chemical works now owned by a company called INEOS, founded and largely owned by Sir James Ratcliffe, reputed to be one of the richest British citizens; his net worth was estimated to be over £21 billion in 2018. Born in Lancashire in 1952, he trained as a chemical engineer at Birmingham University, and later gained an MBA in London. His modus operandi has been to use debt finance to buy cash-generating refineries and chemical plants unwanted by groups like ICI and BP, as they sought to focus on a smaller number of key areas. Apart from Grangemouth, INEOS owns other operations in the UK, and in Italy, Germany, France, Belgium and Canada, with a head-office in London, though Ratcliffe himself has recently become a tax exile.

The River Avon is one of many of that name in the United Kingdom, a fact explained by 'Avon' meaning river in Celtic tongues. The West Lothian/Falkirk river is by no means one of the longest, flowing 31km from its source to its mouth; nor is it one of the largest, with its mean flow rate of 4.18m³/s (55730 gallons/minute) or perhaps more meaningfully, especially for a river entering the Firth of Forth at Grangemouth, 5½ road-tanker loads per minute. Interesting features seem to be concentrated at the downstream end of what is largely a rural course, though things in that regard, change dramatically at its mouth. I view bridges and watermills as special when making river journeys, because they are of the river in a way that castles, and churches, villages and towns, are not. As regards bridges, I do not think any of great age now cross the River Avon, but I try to do justice to the fine aqueduct just outside Linlithgow. As regards watermills, Tables 1 and 2 which follow, provide information on locations, and types of water mills; Table 1 also presents a map of the river and its main tributaries which may be useful in locating other features mentioned in the text.

Table 1. Water Mills on the River Avon and its tributaries



River Avon

Mill	Type	Mill	Type
Av1 Gateside	Textiles	Av13 Torphichen Bridge	
Av2 Balmitchell	Corn, Grain, Flour, Meal	Av14 Old Mill	
Av3 Balmitchell	Saw mill, cooper	Av15 Carriber	Corn, Grain, Flour, Meal
Av4 Hainnig Lint	Textiles	Av16 Wood'dale	Saw mill, cooper
Av5 Hillend		Av17 Manuel	Corn, Grain, Flour, Meal
Av6 New Linn	Textiles	Av18 Lin'gow Burgh	Corn, Grain, Flour, Meal; special
Av7 Mid Strath	2 mills very close	Av19 Avon	Paper
Av8 Strath	Corn, Grain, Flour, Meal	Av20 Little	Corn, Grain, Flour, Meal
Av9 Ballenbreich	Textiles	Av21 Kinneil	Corn, Grain, Flour, Meal
Av10 Wauk Mill	Textiles	Av22 Tods	Corn, Grain, Flour, Meal; special
Av11 Avon Forge	Foundry	Av23 Step	
Av12 Wood Mill		Av24 Jinkabout	Corn, Grain, Flour, Meal

Tributaries

Logie Water		
Mill	Type	
L1 Westfield	Paper	

Forrestburn Water		
Mill	Type	
F1 Forrestburn		

Barbauchlaw Burn		
Mill	Type	
BB1 Clattering	Corn, Grain, Flour, Meal	
BB2 Craig	Corn, Grain, Flour, Meal	
BB3 Barbauchlaw	Corn, Grain, Flour, Meal	
BB4 Birkenshaw Lint	Textiles	
BB5 Muirhill Lint	Textiles	

Table 2. Mills on Tributaries not on the Map

Mills are ordered from the source of the stream; tributaries are ordered from the source of the stream which they feed. Left Bank tributaries are denoted (L), Right Bank tributaries, (R), Continuations, (c); 2 parents are named where a stream does not flow directly into one of those named in Table1.

Colour code for mill type; **Corn, Grain, Flour, Meal, Barley**; **Textiles**; **Paper**; **Sawmills, Coopers**; **Foundries**; **Special inc. Snuff, Flint, Gunpowder**; **Unknown**:

For mills with different functions at different times, more than one colour is used. BF ≡ Bleachfield

Stream	Parent (1)	Parent (2)	1.		
Garbethill W. (c)	River Avon		Fannyside		
Culloch B. (R)	River Avon		Balcastle		
New Linn B. (R)	River Avon		New Linn	Bridgend Lint	
Couston W. (c)	Logie W.	River Avon	Ballencrief	Nethermuir	
Bog B. (c)	Couston W.		Bathgate		
Torphichen B. (L)	Brunton B. (R)	River Avon	Torphichen (1)	Torphichen (2)	Wallhouse
Millhall B. (L)	River Avon		Millhall		
Loch B. (R)	River Avon		Loch		
Mains B. (L)	Loch B.		Hole		

Of the 13 additional mills on the tributaries, 5 were corn mills, 3 were textile mills, 1 was a paper mill, 1 was a saw mill and the other 3 were of unknown type.

The total number of mills listed in Table 1 is 32, to which can be added the 13 in Table 2, giving 45 in all.

Of these, 17 were in the generic category, 'corn mills', 10 were textile mills, 3 were paper mills, 3 were saw mills, and 2 were 'special' at some stage in their lives, (these numbers allow for changes of function over the lifetimes of the mills). There were 11 of unknown type. The rich farming land around the river and the lower reaches of the tributaries is a sufficient explanation for the existence of many corn mills, and the River Avon was important in the linen and paper industries.

The mills which have been listed are those which operated at some time in the 18th, 19th, and 20th centuries and appear on maps dating to that period; obviously there will have been mills much earlier than that. No doubt, many of them will have been on the sites occupied by later mills, but for any others, I simply do not have the information needed to place them.

My search for threshing mills has not been systematic, but I am aware of 4 beside the River Avon and its tributaries, but there are likely to have been more, especially if those using power sources other than flowing water are included.