

2. The Waulkmill Glen Mystery, A study of a Ruined Building, near Upper Darnley

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with drawings by J Scott Wood

Introduction

The GUARD report on Darnley Estate, Mill and Farm (*Speller and Taylor, 1996, 16*), drew attention to the ruined remains of this 'curious' and 'enigmatic' building. Surprisingly little was known for certain about this structure before the GUARD survey. Local opinion had tended to assume that it was the mill that gave the glen its name. Speller and Taylor suggested that 'regardless of function, its short life was probably related to the demise of the bleachfields in the middle of the 19th century'. ACFA decided that a close study of this intriguing building would make an interesting project and this article is a summary of the ACFA report.

We would like to thank Keith Speller and Kevin Taylor for their support.

Location of the building

The building is situated at NS 523 583, on the SW edge of Glasgow, just inside the city boundary, west of Upper Darnley and just beyond the edge of the built up area. It is reached by turning south off Nitshill Road on to Corselet Road, following that road to the gates of the Waulkmill Glen Reservoir.

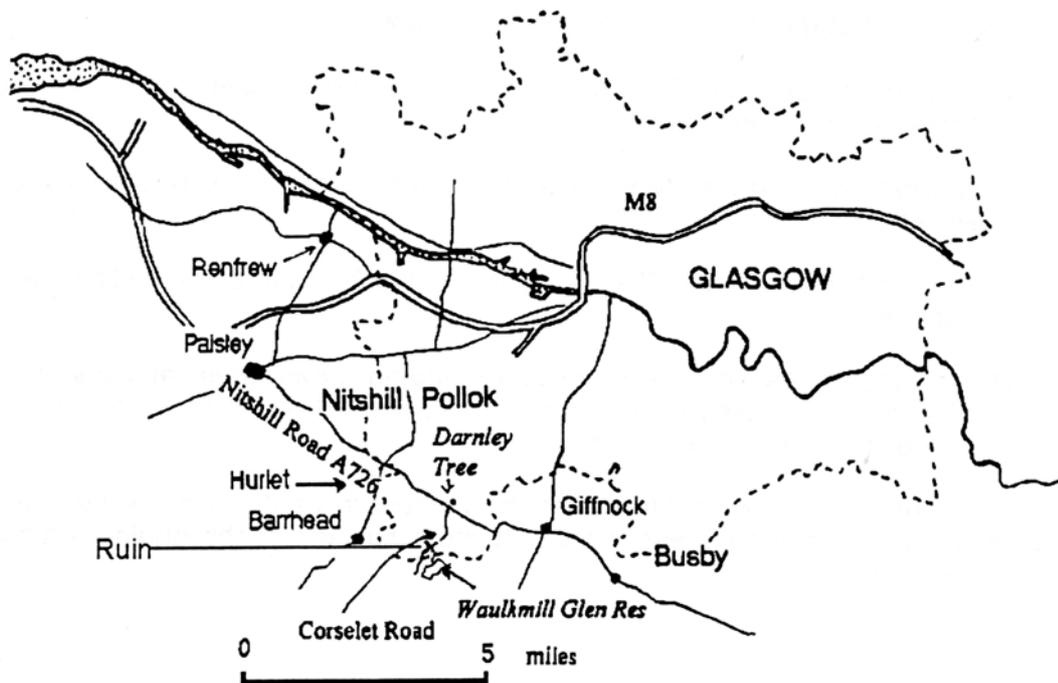


Figure 1 Location map

Possible use and date

There would seem to be a prima facie case for considering, three possibilities:-

- that the building is indeed the remains of a waulkmill.
- that it was connected to the bleachfield operated in the immediate vicinity from the 1790s onwards by Charles Tennant and others.
- that it was some sort of 'cottage' or recreational building erected by Sir John Maxwell of Pollok around the end of the eighteenth century.

...or perhaps some combination of these explanations should be borne in mind, while we look through the evidence from the historical research and the architectural study.

General history of the area

In 1590, Sir John Maxwell of Pollok purchased the lands of Over Darnley but not the superiority. (*Fraser, i, 49*) Over and Nether Darnley appear on Pont's map of c 1595. Incidentally, this map does not show a castle at Darnley, although Crookston is accurately drawn in detail. (*Stone, p174*)

A marriage contract of 1646 between George Maxwell and Arabella, daughter of Sir Archibald Stewart of Blackhall provided that the lands of Upper Darnley, Pollok, Higgs, Cowglen and Mearns were to pass through the male heirs of the couple. (*Fraser i, 61*)

In 1767, Sir James Maxwell of Pollok, the seventh Baronet, purchased from William, Duke of Montrose, the superiority of the lands of Upper Darnley, as well as of Cowglen, Hillfield, Patterton and Deaconsbank. (*Fraser i, 97*)

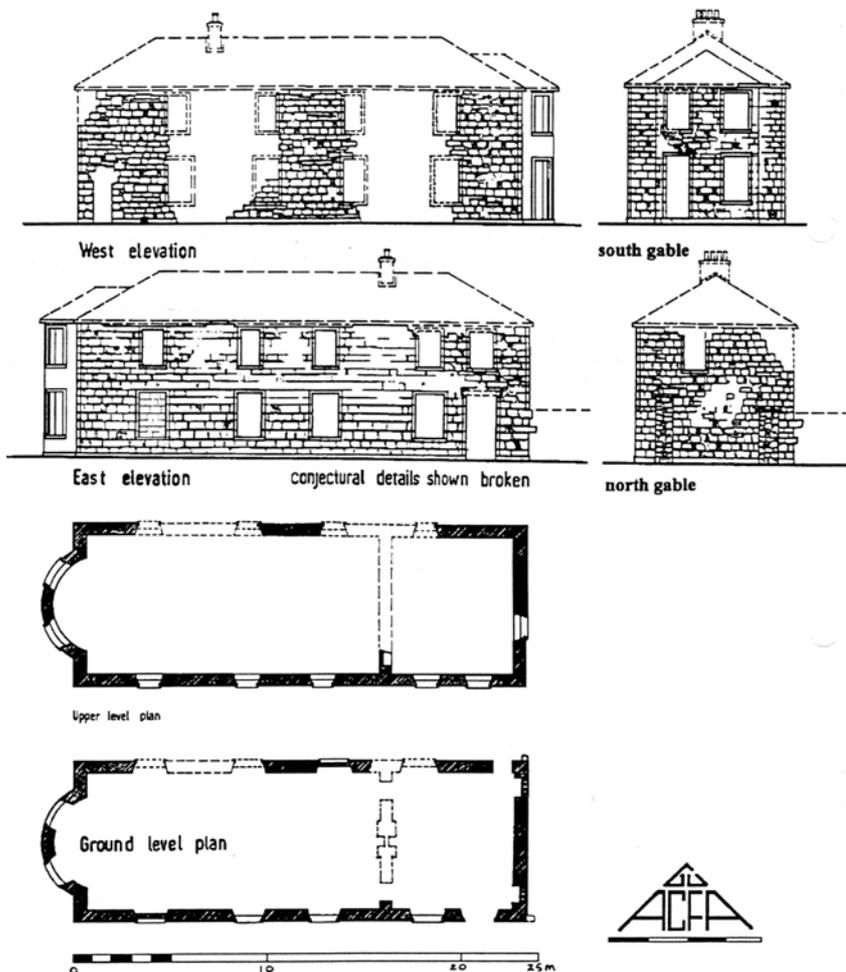
Sir James' successor, Sir John is said by Fraser to have 'erected a cottage at Upper Darnley'. This may be a reference to the Improvement period farm at Upper Darnley, shown on Ainslie's map of 1796.

The Maxwell of Pollok Collection at the Glasgow City Archive shows that Sir John and his heirs were responsible for extensive improvements to the farms on their estate and leased several portions for industrial purposes, including mining, quarrying and bleaching.

FIG. 2

The ruin in Waulkmill Glen

Plans and Elevations by J Scott Wood



Description of the building

The building is a triple cube of two storeys, divided internally by a cross wall, one third of the way from the north gable. It lies NNE by SSW.

The east elevation, which is almost parallel to Corselet Road, is the most complete, (see *Plans*). It has a doorway at the north end with a window above it and a pair of windows to the left. The door lintel has fallen; it has no inscriptions or markings. Like all the window and door openings in this building, these features have narrow raised flat margins, as do the corners. There is a matching eaves course, square in section with no moulding beneath it. There is a raised basal course along the foot of the building, 0.3m high.

The raised margin at the NE corner extends from the eaves two thirds of the way, down the building. In the bottom third there are tie stones indicating that a wall was built on to this corner.

There are three other pairs of windows on this elevation. but they are not symmetrically placed, they seem to fall into two sets, i.e. a set of four more or less centrally placed and a set of two towards the south corner. This might suggest an internal arrangement into three compartments.

The windows on the ground floor, nearest the gable, is a false window, with the opening filled with finely cut polished ashlar slabs. There is no trace of fixings for wooden frames. The upper window, second from the south corner, shows signs of having been modified, perhaps reduced.

The wall on this east side is intact and with no visible cracks. The eaves course survives at the south east corner, for 1.5m. A single block of the course is in position between the first and second upper windows from the south end. There is some damage to the north end of this elevation.

The south gable

This gable is bow-fronted, with a doorway within the bow on the south west. The opening is tall enough to have taken a fanlight above the door. There is one window on the ground floor and two above. The stonework on this elevation is of particularly high quality, with squared dressed blocks. More care has been taken with the stonework on this frontage than anywhere else. Even today, without the curved sashes the impression is one of elegance and refinement.

The west elevation

The west side has had four pairs of windows but two stretches of walling have fallen, between the first and second pairs and the third and fourth pairs. The windows are similar to those on the east side. The lower window, second from the north end, has been a blind window.

There is an opening in the north end 1m wide, like a doorway but without any raised margins. The lintel and some of the stonework above have fallen. There is no window above this opening. The north west corner has a tie stone projecting 2m above the base of the wall, indicating that a wall has been built on to this corner.

There is a small square aperture through this wall 1.5m south of the opening, at the level of the basal course. It measures 0.4m by 0.3m and appears to be a structural feature, not the result of later damage.

It would seem that rubble has been removed from the site.

The north gable

This gable has two narrow openings, symmetrically placed towards the corners, but of unequal height. The openings have both been rather crudely walled up, with small section wooden lintels. Neither opening has any margins.

There is one window in this gable, placed to the left of centre. As for the quality of the stonework, there are some substantial blocks framing the openings, the coursing between them is noticeably poorer than in any of the other faces. There are no traces of raggles or traces of cement flashing from pitched roofs attached to this gable. Tie stones project from both corners. The north east (left) corner has stones pointing north, while the north west corner has stones pointing west, indicating some sort of

enclosure at this north end.

The interior

The interior has been divided into two main compartments by a cross wall about one third of the way from the north end. This northern compartment has a doorway and a window on the ground floor and on the upper floor, two windows in the east wall and a window in the north gable, making this a very well lit room.

The southern two thirds appear to form one compartment. The walls in this portion have been coated in coarse plaster and there are vertical lines of dooks for strapping to take lath and plaster, or perhaps panelling. This finish is very evident over the whole ground floor, on both sides, and also on the upper floor, especially at the bow-fronted southern end. The interior of the blind window on the east side is similarly treated. There is no trace of a stair, nor of any chimneys. The cross wall could have carried four chimneys and this is shown as a conjectural detail on the drawings.

The interior of the building is heavily overgrown.

The surrounding area

In the plantation in which the building stands there are banks and hollows of uncertain purpose. These may relate to earlier agricultural use such as field banks, rigs and trackways, or to later drainage and tree banks, but they may relate to the building in some way. More detailed investigation of these features was outside the scope of this study. The north end of the building is very heavily overgrown so that it was not possible in the time available to check whether there were any fragments or walls or outbuildings.

Results of the historical research

The NMRS has no records relating to this building. There is no index card in the file and it does not appear on the related model map. The Abridged Saisines in the SRO begin in 1781 and were checked up to 1870. There is no reference to this building or the lands it stands on being bought or sold. Documents in the Maxwell of Pollok collection in the Glasgow City Archive show that the bleachfields were held on leases or tacks. The Mitchell holds copies of the patents awarded to Charles Tennant which describe him as 'Charles Tennant of Darnley, near Glasgow, Bleacher' and give details of his processes for the production of bleaching liquor and bleaching powder. The patents are No. 2209, 1798 for bleaching liquor (witnessed by Kirkman Finlay) and No. 2312, 1799 for bleaching powder.

Map evidence

Roy, (c1752). The building does not appear on Roy's map. Roy shows only one farm to the east of the Brock burn. The name is illegible, owing to a fold in the map, but the location suggests a position corresponding to the 'Old Dam' on the Ordnance Survey 1st Edition of 1864, and to 'Nether Darnley' on Ainslie's map. Roy shows nothing at the position of 'Upper Darnley' farm as it appears on later maps.

Roy is generally reliable in terms of recording features, and very strong on topography, but the relative positions of his features have to be rectified by reference to later sources. It is virtually certain that this ruin was not in existence in around 1752 when Roy's survey was made.

Ainslie, (1796) shows Upper Darnley and Nether Darnley, connected by a track, but does not show this building. Another track leaves Nether Darnley and runs due south close to the edge of the Waulkmill Glen but not crossing it. This indicates a track to the west of the location of the ruin, close to the edge of the Glen, presumably heading for a crossing point over the burn. On the other side of the burn, the 1st Edition OS shows the track between North Brae farm and Littleton with a spur heading off to the east, continuing as a field boundary towards the burn. This could have linked up with the track shown on Ainslie, and may help to explain some of the banks and hollows

referred to above.

Ainslie does not show Tennant's bleachfield, though he shows the road leading to it.

Richardson, (1795) has less detail than Ainslie, but it does mention the bleachfield and its proprietor, Charles Tennant, who was in partnership with a Mr Brown from Paisley. It shows Upper and Lower Darnley but does not show this ruin.

Neither Ainslie nor Richardson can be taken as definitive. The fact that Ainslie omits the bleachfield could mean that it was only being set up around this time (*Speller and Taylor*, 11) Both map makers made a point of mentioning the names of proprietors to enhance sales.

Macquisten, (1828)

In the Maxwell of Pollok collection at the Glasgow City Archive there is a map drawn in 1828 by Peter Macquisten, showing the buildings pertaining to the bleachfields. This map is not reproduced here because permission has not been sought from the trustees of the Maxwells of Pollok.

However it shows the buildings in existence at that time at the main part of the site, but it makes no reference to this ruin. The colour-coded map gives details of dates of construction of the bleachfields buildings, showing those used by Messrs Brown and Tennant, and the alterations and new erections by Robert Smith, who took over the bleachfields when Tennant moved his operations to St Rollox at the turn of the century.

The buildings depicted cover the full range we might expect at a bleachfield. There is a dwelling house, presumably for the proprietor or manager, used and enlarged by Brown and Tennant and extended with a new block by Smith. This is the building shown on the 1st Edition OS map of 1864 labelled 'Darnley House'. Nothing of this structure now remains, except for some rubble on the site of the house, the garden gate and fence and some of the garden trees. The other buildings included a stove, warehouse, boiling-house, furnace shed, starch-work and gauze stove.

The plan does not mention a counting house or office building, nor the reception and despatch area, nor a laundry (apart from the domestic laundry to the rear of the dwelling house.) (*See Fig 2*)

Map of Waulkmill Reservoir, (1852)

The first map to show the ruin is a hand coloured map of 1852 held in the Maxwell of Pollok collection in the Glasgow City Archives. This map was made to show the land and buildings pertaining to the Gorbals Gravitation Waterworks which acquired land from the Maxwells to create the reservoir in the 1840s. It shows the building as roofless, with the label 'ruin'. It is an elongated rectangle lying north east to south west, with an bow-fronted south end, exactly as shown on the 1st Edition Ordnance Survey, and as it appears today.

This map also shows a dotted line labelled 'covered drain' originating at the stone wall enclosing the waterworks property and sweeping past the ruin in a smooth curve some 20 metres from the ruin, by-passing it on the south and west and making no contact with it. The word 'issues' on the line of the drain indicates the point at which the stream emerges from its culvert and is in the same position as that shown on the 1st Edition OS map, and indeed is the same as in September 1997.

The drain is not shown to the east of the boundary wall, on the waterworks side, where there is a new access road. It seems reasonable to conclude that the drain probably predates the boundary wall.

Since this map is in a fragile condition, permission was not sought to reproduce it but Figure 2 shows the essential details.

The First Edition Ordnance Survey, 1864 (*See Figure 3*)

This map shows the ruin shown on the 1852 map, depicted in exactly the same way i.e. a roofless ruin without any outbuildings or enclosures. The water channel is shown, from about 20 metres to the north west of the building where it emerges from a culvert

at the present time. It continues flowing through a well-built stone-lined channel which leads to the south east corner of the rectangular reservoir which fed the bleachworks with water. This reservoir is labelled the 'Old Dam', presumably because it was out of use by the time the map was surveyed.

The building is approached by a continuation of the road from the bleachfields, which peters out about 30 metres from the building. The waterworks are accessed from a new divergent road to the east of a stone boundary wall, shown as an unfenced track. The old road links the building to the bleachworks and may have stopped short because of the presence of a yard or outbuildings, now disappeared, or concealed by very dense undergrowth. This interpretation is supported by the existence of tie stones protruding from the corners of the north gable.

At a later date the road was extended past the ruin, on an embankment, and continued south towards Newton Mearns (and Corselet).

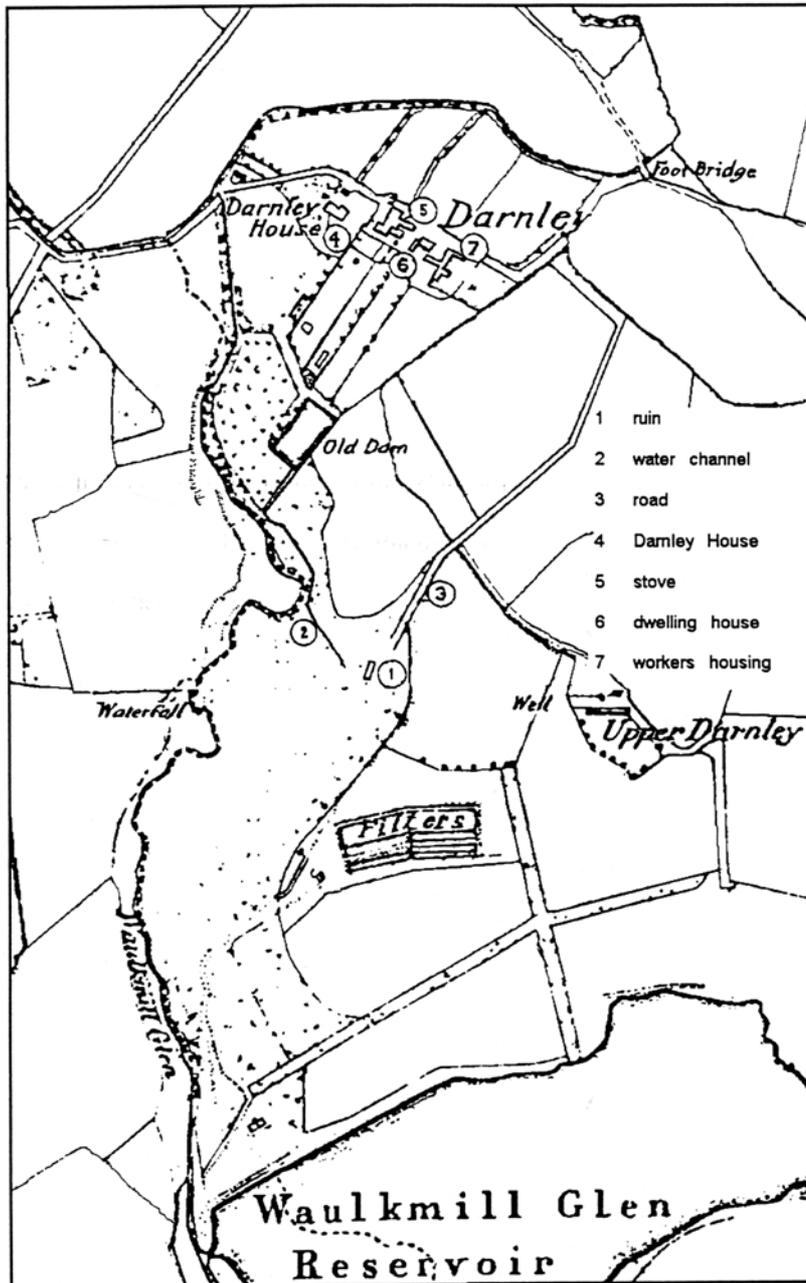


FIG 3

Dating and function

It has to be said that we are not much further forward in our quest for the date and function of this ruin. It has not proved possible to fix a precise date and purpose. However its period of existence can be bracketed between c1752 when Roy's map was made and 1852 when we know for certain that it was a ruin. We need to return to the three possibilities raised earlier.

A waulkmill?

While this is a possibility, it has to be said that the building is not actually located in Waulkmill Glen and would be better described as 'near Upper Darnley'. It is only a few yards from the boundary wall of the grounds belonging to the Waulkmill Glen reservoir, constructed in the 1840s. It might be worthwhile searching Waulkmill Glen for traces of a waulkmill, but that was beyond the scope of this survey.

There is no mill shown at this location on any of the early maps. The first depiction of the building in 1852 simply calls it a 'ruin'. There is no record that we can find in the *saisines* to suggest that the building or the land it stands on were sold by the Maxwells of Pollok; the farms and the bleachfield were operated on leases.

The bleachfields connection?

The suggestion seems more promising. The bleachfields were operated in the 1790s by Charles Tennant who patented bleaching powder and went on to found the St Rollox chemical works, which was to develop into one of the world's greatest multi-nationals. It still trades at the present time as Charles Tennant and Co. Ltd.

Sir John Maxwell's 'cottage'?

It seems unlikely that this could be a reference to this ruin, which could hardly be described as a cottage and may be thought to refer to the farm steading at Upper Darnley. However Ian Marshall has pointed out that what Sir John Maxwell might describe as a 'cottage' might be somewhat above the normally accepted definition of the term. A banqueting or picnic house might be a possibility, but it seems much too substantial for such a limited function.

The building looks as if it has all been built as one piece, although there are indications of minor structural changes such as at the upper window on the east elevation. It does not have the appearance of a 'cottage' that has been adapted for industrial purposes, but that possibility cannot be completely disregarded.

Stylistically, the building is not closely dateable, it could be from the mid 18th century through to the early 19th. Its most striking feature is the elegant bow-fronted south gable which is by no means uncommon. The Hermitage at Dunkeld has a gable like this and it dates from the 1750s. In the immediate area, at Househill near Pollok, the eminent architect David Hamilton added a new block with bow-fronted gables to an existing house, in the early years of the nineteenth century. *Wordsall, 1981, 32* shows a photograph of this house and says 'the feature of curved bows appeared on a number of his early designs'.

The best evidence is circumstantial and points strongly towards a connection with the bleachfield, as Speller and Taylor have pointed out. The only access to the building was from the road that approaches from the north, passing the bleachfields. The road ends before it reaches the building and on the building itself there are indications on both the northern corners of the gable that outbuildings existed at this end. The water channel that served the bleachfield passes close to the ruin.

Speller and Taylor (1996, 16) argued that

'Its construction suggests an industrial use, i.e. absence of internal divisions, the lack of a visible chimney or kitchen area, the artificial water course, the numerous large windows - it may be a laundry or pump house. However the presence of plaster stud work combined with the general house-like appearance of the structure (especially from the southern entranceway) suggest a more domestic use. Regardless of its actual function its short life is

probably related to the demise of the bleachfields in the middle of the 19th century'.

Their conclusion, that the building was connected to the bleachfields, is given some added weight by John Hume's opinion, 'I am no clearer about the function of the building ...it could have been used as a base from which to supervise the upper part of the bleaching operation'. (*pers comm* 5.12.97).

As for the form an office or counting house building might have taken, John Hume recorded the remains of the contemporary St Rollox chemical works prior to its demolition in 1964- 65:

'The oldest building on the site was the office building just inside the main gate, which appears in a print of 1833, and may well have been the original works office. It was practically unaltered from its appearance in the print - a single storey stone building, whitewashed, with an elegant frontage to the canal'. (Hume, 1966)

This sounds like a less imposing building than we have at Darnley. However, it may be suggested that the Darnley operation was more than just an ordinary bleachfield, and that it may well have had the functions of a research establishment, to perfect the processes for manufacturing and using bleaching liquor and bleaching powder.

The original bleachfield operation was backed by a group of wealthy and powerful industrialists and represented a considerable investment, to create a reservoir (the Old Dam), a covered channel to bring in the water supply, to erect extensive buildings, and to make up roadways and paths. Substantial amounts of capital must have been involved.

In this context an elegant, well appointed counting house and office block with an industrial annexe would not be out of place.

Charles Tennant - Biography and historical significance

Charles Tennant was born at Leigh Courton, near Ayr in 1768. He was the fourth son of John Tennant, a farmer at Glenconner. His father was the 'Guid auld Glen' mentioned in Burns' Epistle, which was dedicated to James Tennant, Charles's elder brother by their father's first wife.

Charles is referred to by Burns in the following terms:-

'And no forgetting wabster Charlie,
I'm tauld he offers very fairly'

He more than fulfilled his early promise. By 1825 he was operating the largest chemical works in the world at St Rollox in Glasgow.

Charles had been apprenticed as a weaver in Kilbarchan and in the mid 1790s, when he would have been about twenty-five or twenty-six, he set up in business as a bleacher at Darnley, along with a Mr Brown from Paisley.

Partners and patents

Charles Tennant is credited with the invention of bleaching liquor, using lime and chlorine. The use of chlorine as a bleaching agent had been pioneered by Berthollet, who had explained the process to James Watt in 1787 (*Mclean, 141*).

No doubt Darnley was chosen because of the abundant supplies of lime in the neighbourhood. It was also well placed for receiving cloth from the mills in the Barrhead/ Neilston area. Most significantly, it was adjacent to the Hurler where Charles Macintosh (of waterproof fabric fame) and James Knox manufactured alum from shale. Macintosh, Knox and Co. became even better known as the Hurler and Campsie Alum

Co. and was on its way to becoming the largest concern of its type in the country. Other business associates were John Finlay, Charles Stirling and John Wilson, who was to become Charles Tennant's father in law. Tennant was working with some of the best connected and most effective entrepreneurs in the west of Scotland. There is a charming family tradition recounted by H.J. Tennant that his devotion to his bleachfield was so strong that he was to be seen in the fields with his watering can, looking after his stock, into the small hours. This attracted Mr Wilson's attention, the two became firm friends and not long afterwards, Tennant married Wilson's daughter Margaret.

The Darnley bleachfield represented a very considerable investment to create the reservoir and water supply channel as well as the necessary industrial buildings and dwelling houses but the indications are that Tennant's operation was more than an ordinary bleachfield. An insight into the sort of operation Tennant was running can be gained from his patents of 1798 (*No.2209*) and 1799 (*No.2312*), for bleaching liquor and bleaching powder, which were to revolutionise the industry.

The existing system of bleaching required the use of large quantities of potash, made from wood ashes and from kelp and other sources of alkali. A large part of the supply came from a myriad of small scale kelp-burning enterprises, mainly on west coast and in the islands. These supplies had to be supplemented by large scale imports which caused a considerable drain on the nation's balance of payments, according, to Tennant, of some £100,000 annually.

As well as boiling up the fabric in the ash solution. the cloth had to be exposed to the sun and air for a considerable period. This slow and antiquated process was responsible for a bottleneck in textile output at the bleaching stage.

Tennant's process involved the use of lime instead of potash or kelp, etc. The lime was turned into quicklime, then sieved. and the slurry was put into large vessels or 'receivers' of about 140 gallons. A paddle was used to agitate the solution. Salt and manganese were added and then chlorine gas was pumped into the mixture while the whole solution was agitated to diffuse the lime particles into the liquor.

The new process was equal to, or superior to, the old method and did not fade dyed colours, but freshened them up. This process was patented by Charles Tennant in 1798.

The next step was to pass the chlorine gas over trays of the lime mixture, to produce a powdered form of chloride of lime which was easier to transport. This stage was invented by Charles Macintosh but was patented by Tennant in 1799 for commercial reasons.

The effects of the new process were dramatic and far-reaching. The whole bleaching process became much faster and cheaper, taking only one third of the time to complete. Operations could continue all year round, there was no longer any need for textile manufacturers like the Finlays to accumulate a large winter stock, or to lie idle over winter. Linen could now be bleached as cheaply and effectively as cotton. The amount of plant needed was cut down and labour costs were drastically reduced, as were the losses due to careless operatives. Dealers could now turn over two or three times as much stock in one year.

Tennant's 1798 patent was witnessed by Kirkman Finlay, son of James Finlay. The Finlays were in the process of achieving a dominant position in the cotton trade in the west of Scotland. When Tennant moved to St. Rollox in 1799/1800 the new firm was known as 'Tennant, Knox and Co' . Property transactions over the next decade (*Abridged Saisines, 5903, 9031*) show Tennant acting in partnership with James Knox, Charles Macintosh, William Couper (a surgeon in Glasgow), and Alexander Dunlop (a

merchant in Greenock). By 1814 the St Rollox works was being operated by 'Charles Tennant and Co' .

Patent problems

Gaining and enforcing a patent was not as straightforward as it might seem. Given the enormous profits to be made by scooping the pool, there was a premium on speed and secrecy, particularly while the process was being developed from a theoretical or small scale laboratory process to a full scale production process. Industrial espionage was by no means unknown and patent infringement was very difficult to deal with. Boulton and Watt's published correspondence (*Tann, 1981 Docs 25 - 40*) shows the problems afflicting the early industrial pioneers in maintaining commercial confidentiality and enforcing patents. According to Smart (1996, 126) there are good grounds for suggesting that Charles Macintosh, at his Hurlet works, employed Gaelic speakers to keep his processes secret, as his father had done at his Cudbear Works in the 1770s.

Key workers could desert at a crucial stage taking insider knowledge to competitors as in the celebrated case of the London brewer Nathaniel Chivers. He was unsuccessfully taken to court in the 1770s by the Anderston Brewery Company of Glasgow, for divulging the secrets of porter brewing to a rival firm. (*Donnachie, 1979*) With so much potential profit riding on such a substantial investment, there may have been a need for secrecy at Darnley.

Tennant's Darnley operation should perhaps be seen as rather more than just another bleachfield. It may well have had to act as a research establishment, for production trials to perfect the process. There would also have been a need for a facility to produce highly toxic chlorine gas. As soon as the process was perfected and the patents secured, the operation moved on to St Rollox. With John Wilson's help, Tennant was able to secure a controlling interest (*Tennant, 12*).

The St Rollox works became the largest chemical works in the world, by 1825. Under Charles' son John the business expanded, with the famous 450 feet high Tennant's Stalk being erected in 1842. It was to remain a landmark of Glasgow well into the twentieth century. John Tennant acquired interests in railways, mines and plantations. John's second son Charles inherited the family business and expanded and diversified it even further into a conglomerate, with interests in chemicals, copper, sulphur, gold recovery and mining, steel manufacture and explosives. The Tennant companies were re-organised in 1885 with the creation of Charles Tennant and Co Ltd and in 1890 the company joined the United Alkali Company which was to merge with their long term rivals, Brunner Mond, to form ICI in 1926. Charles Tennant and Company Ltd still exists and has a Glasgow office at 214 Bath Street. (See Checkland, 1986)

Maps

Pont, T. Map of the Baronie of Renfrew, c1595.

Roy, W. Military Survey of Scotland, c.1752.

Richardson, T. Map of the Town of Glasgow and Country seven miles around, 1795

Ainslie, J. Map of the County of Renfrew, 1796.

Thomson, J. Renfrewshire, 1826.

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Documentary sources

These included records held in the Maxwell of Pollok collection in the Glasgow City Archive. It has not proved necessary to actually reproduce any of these records so permission has not been sought from the trustees of the Maxwells of Pollok estate. National Monuments Records of Scotland, at the RCAHMS

Scottish Record Office, Edinburgh i.e. the Abridged Saisines for 1781 onwards. Mitchell Library, Glasgow Room and Business Information (for Patents) Glasgow City

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