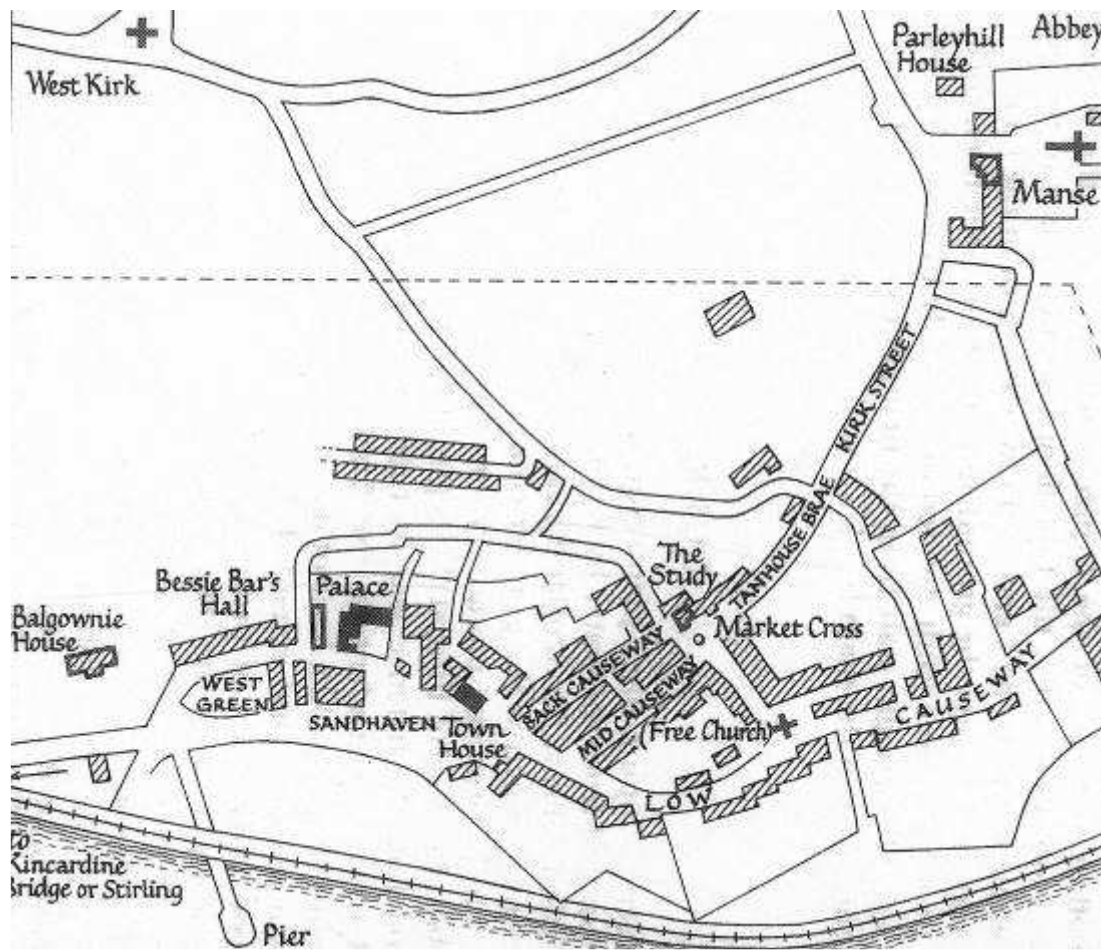


CULROSS. Notes for Heriot-Watt University JBM Excursion 30th June 2011
By Professor Roland Paxton [16th cent. Mining; Sir George Bruce; Palace and Abbey]



[Map from Gifford, John. *The Buildings of Scotland - Fife*. Penguin, 1988 144. Note Palace and Abbey]

Culross developed significantly from a small Abbey town as a result of Sir George Bruce's successful late 16th early 17th century coal mining and salt-panning operations. The mine extended under the Forth and had a coffer-dam or 'moat' shaft access off-shore (built c. 1604 or earlier), which later joined with a land entrance west of the town at Blairburn. Bruce's operations enabled the town to become a Royal Burgh and and him to build his remarkable 'Palace' from 1597-1611. It is now in the care of the National Trust, and will be visited as part of this excursion.

An account of Bruce's mine in 1618, written by his guest author, John Taylor, the King's 'Water Poet', part of which reads:

"... I went in by sea, and out by land [possible because] on the shore at low water did the master of this great work build a round circular frame of stone, very thicke, strong, and joined together with glutinous or bituminous matter so high withal that the sea at the greatest flood [cannot] overflow the height of it. Within this round frame ... hee did set workmen to digge with mattocks, pickaxes ... They did dig forty feet down right into ... that which they expected, which was sea-cole ... they following the veine of the mine did dig forward still: So that in the space of eight and twenty or nine and twenty yeeres [from c.1590] they have digged more than an English mile under the sea ... the mine is most artificially cut like an arch or vault ... that a man may walk upright in most places ... The sea at certain places doth leake ... into the mine ... [this leakage] is all conveyed to one well neere the land; ... where a device like a horse-mill ... with three horses and a great chain of iron going downward

many fathoms, with thirty-six buckets fastened to the chaine ... eigheteen goe down still to be filled, and eighteen ascend up ... which do emptie themselves (without any man's labour) into a trough that conveys the water into the sea again" [Taylor, J. *Works*. Lond. 1630 132-3].

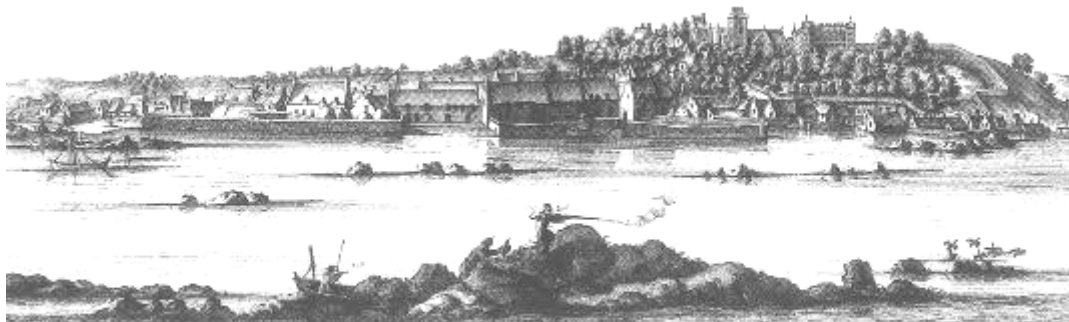
Bruce's works are a landmark in Scotland's industrial history. When leasing the mine in 1575, Bruce's 'great knowledge and skill in machinery' was acknowledged, and he was thought to be the most suitable person to open the then abandoned mine. He adopted the best continental 'state of the art' practice of Agricola and others. By 1595 Bruce had constructed a storage reservoir on Culross Muir to guarantee water supply to a colliery water mill at or near the horse gin site. He also erected a windmill and a tide-mill as alternative power sources.

The workings are believed to have extended two miles under the sea before the mine was flooded over the cofferdam in a storm in 1625, the year of Bruce's death, after which the town's prosperity declined. This, despite efforts by others to exploit the natural resources of the area - including the 9th Earl of Dundonald, owner of the Culross Abbey estate in the late 18th century, with his mines, kilns, 800-acre forest and tar distillation works. Unfortunately in this respect the Earl proved a better scientist than man of business, went bankrupt, and died abroad in poverty. [Paxton, R. 'Engineering challenges before the bridge'. In, *100 years of the Forth Bridge*. Telford, 1990. 10-12].

King James VI/I is said to have honoured the mine with a visit (in 1617?). He is believed to have entered the mine on land at Blairburn but, seemingly unaware of its offshore access shaft, received a shock on emerging from its top at high tide [see Fig] Fearing for his safety, reputedly, he cried 'treason', but soon realised that all was well and returned safely to shore by boat!

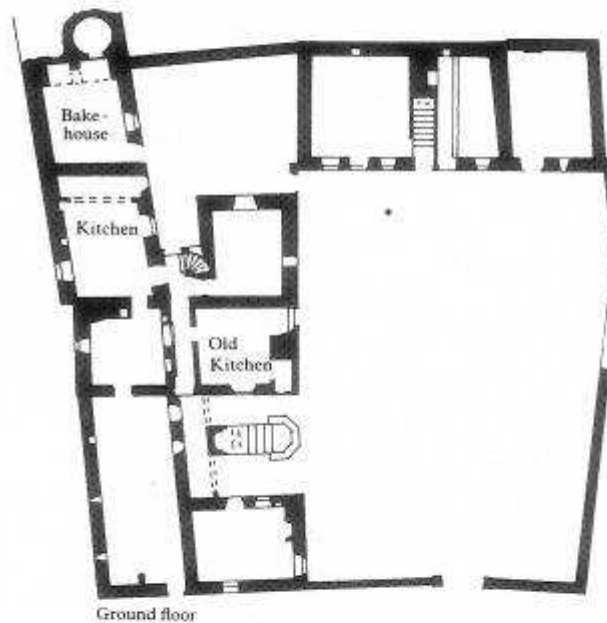


[Land, D. 'Culross Moat Shaft', *Industrial Heritage*. Vol. 15. 1997 5-6.]



Prospectus Palatij & Oppidi CULROSSIAE. (The Prospect of y^e House & Town of Culross.)

View of Culross. [Slezer, J. *Theatrum Scotiae*, Edinburgh, 1693. pl. 47]

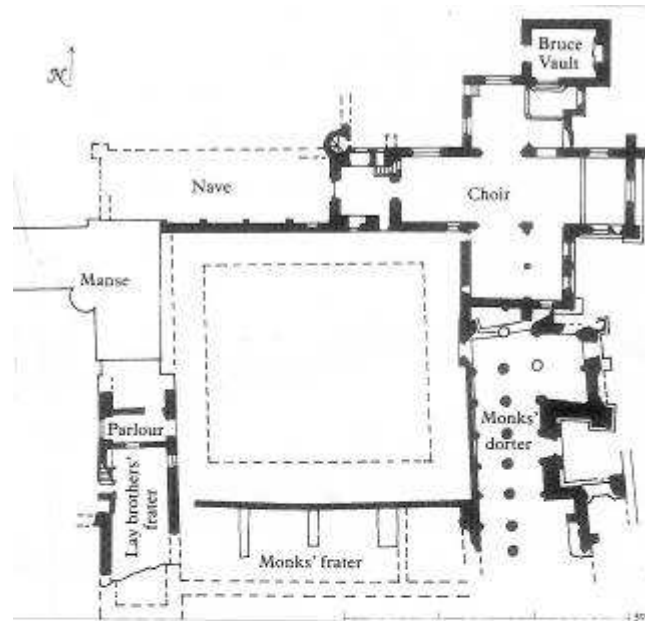


87. **CULROSS PALACE** (property of the National Trust for Scotland) is a compound of buildings put up by the mine-owner George Bruce of Culross (later of Carnock) in the late C16 and early C17. Probably he acquired and developed the site piecemeal. There is no evidence of grand architectural intent, although the present harled walls and pantiled roofs give the buildings a slightly spurious unity.

To the street a screen wall with corniced ball-finished gate-piers into a courtyard, its w and n sides filled by Bruce's buildings. The w range's s part is a roughly symmetrical U-plan whose three-storey n jamb, with smart pedimented dormerheads on its s front (the centre one carved with Bruce's initials and the date 1597), seems to contain a remodelled earlier two-storey house, apparently consisting originally of a hall and chamber above a kitchen and store. It was probably at the same time as he reconstructed this house that Bruce added to it a new two-storey L-plan block on the s, with

[... see original publication for continuation]

[Culross Abbey. Extract from Gifford, John. *The Buildings of Scotland - Fife*. Penguin, 1988 146-7]



CULROSS ABBEY (PARISH CHURCH)

Malcolm, Earl of Fife, founded the Cistercian monastery of Culross c. 1215; the first monks being imported from Kinloss Abbey (Grampian) three years later. Originally a foundation of choir-monks and lay brothers, each group occupying its own part of the cloister and church, by the late c15 it seems to have been reorganized like other Cistercian houses as a community of choir-monks only. Consequently the nave (lay brothers' choir) became redundant and was demolished, c. 1500, by Abbot Andrew Masoun, who finished off the choir with a tall w tower and also began the addition of a N aisle. After the Reformation the cloister buildings were abandoned and the choir taken over as the parish church, this status being legally established in 1633. The usual reconstruction of the interior to fit in galleries followed, whilst the exterior was altered to suit the new internal arrangements. In 1905-6 R. Rowand Anderson carried out an extensive restoration, making of the exterior a careful version of its late medieval appearance and providing a polite High Presbyterian interior.



Prospectus Sanoby de Culross. The Prospect of the Abby of Culross
Culross Abbey remains and Parish Church. [Slezer, J. *Theatrum Scotiae*, Edinburgh, 1693. pl.

School of the Built Environment, Heriot-Watt University. Edinburgh - 29.6.2011