The Life of Robert Cochran of Britannia and Verreville Potteries

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The pottery industry in Scotland reached its climax in the Glasgow of the second half of the nineteenth century. Indubitably the most important pottery of that time was the Glasgow Pottery of J. & M.P. Bell & Co. but its nearest rival in size and quality of output was the Verreville and Britannia Pottery empire of Robert Cochran. Very little has been published on the career of Robert Cochran and this paper is an attempt to fill that gap.

Robert Cochran's parents were Alexander Cochran, shipmaster, Dumbarton and Christian McFarlane. They were married in Row (Rhu) parish in 1790 where Alexander Cochran is described as the son of John Cochran in Stuckinduff and Christian McFarlane as stepdaughter to Peter Gray at Newtown which is presumably Newtown in Dumbarton.[1] The couple must have settled in Dumbarton where they had at least seven children whose births were spaced out at fairly regular intervals:

Alexander	- born 30 July 1794
Duncan	- born 27 September 1797
Mary	- born 16 April 1800
Isabella	- born 20 February 1803
Robert	- born 10 June 1805
Christian	- born 30 March 1808
Daniel	- born 25 July 1811.[2]

Alexander Cochran, shipmaster, was drowned at sea on 20 November 1820. Of the sons of the marriage only Alexander and Robert survived into full adulthood in Britain; Daniel's death took place on 22 March 1813 when he was two, and Duncan was 'drowned in New York' on 3 June 1827 when he was 30 years of age.[3]

The only hints that we have as to how Robert Cochran started his career is the statement that he was clerk to John Geddes and Robert Alexander Kidston at Verreville Pottery but no dates or references are given for this and the source is not entirely reliable and is furthermore, contradicted by Robert Cochran jun. in a speech of 1877.[4] More likely is the fact that in 1838 the Post Office Directory gives Robert Cochran's address as Union Bank. It is possible that he started as an employee of this Bank.

The first firm date we have for him in Glasgow is 1834 when Robert Cochran entered into a partnership with James Couper as glass and china merchants at 36

(or 34) Buchanan St. but even the reference given for this is dubious.[5] The partnership, however, did exist and throve since in the following year a third partner was added in John McColl, a practical potter who took over the Port Dundas Pottery Company from William Johnstone.[6] This Pottery made salt-glaze stoneware of high quality. Orders were to be received at the Buchanan St. showroom and the retail partnership was agent for R.A. Kidston & Co., earthenware manufacturers, William Geddes, Esq., bottle manufacturer and the Glasgow Flint Glass Company.

By 1836 Robert must have felt himself prosperous enough to begin a family for on 18 October of that year he was married at the age of thirty-one to Mary McIndoe (aged thirty-three) by William Anderson, Relief Minister in Glasgow.[7] Their first child, named Alexander, was born on Christmas Eve 1837 and had sponsors at his baptism in his uncle Alexander and his father's partner, James Couper.[8]

John McColl, the potter, on 26 May of this year, retired from the partnership in the Port Dundas Pottery, in order to form a partnership with William Johnstone and John Forsyth in another pottery in Port Dundas. Perhaps he had only agreed to stay on to train the two other partners in the pottery business. Cochran and Couper must have found another potter to carry on the manufacturing side of the business because the partnership lasted for two more years.[9] It is likely that this is the John McColl who appears in the 1851 Census returns as living at 602 Gallowgate and being a 'potter manager'. Judging by the address, the pottery he was managing must be Clayknowes or Wellington, both of which were nearby.

In 1838 the following notice appeared in the *Glasgow Argus* for 15 June:

> SALE OF CHINA, STONEWARE, &c.
>
> William Stuart & Son intimate that they are instructed by Messrs. Cochrane (sic) & Couper, who leave the Premises on the 31st Jany. to Sell by Auction, on Thursday, 25th instant, at 36, Buchanan St., & following days, the remainder of their Stock of China Earthenware, Crystal Decanters, Caraffs, Tumblers, Wine Glasses, Coolers, Custard Cups, and numerous Miscellaneous Articles, to be on private sale the two days previous.
>
> Sale to commence at 11 o'clock forenoon.

The reason for giving up their retail business, if indeed they gave it up, was that the two partners had decided to enter the manufacturing side of the glass trade

and had acquired the St Rollox Glass Works where they also dealt in goods.[10]

Robert Cochran junior, Robert's second son, was born on 27 September 1839. Alexander and Robert seem to have been the couple's only children. Alexander Cochran senior and James Couper were the sponsors of both children.[11]

In 1840 the partners sold the Port Dundas Pottery to George Duncan thus ending their first involvement with pottery manufacture. Cochran & Couper seem to have remained agents for the Company [12] and, in fact, seem still to have been occupying the premises in Buchanan St. Robert Cochran was a witness at the baptism of his brother's first child, a daughter named Cathcart.[13] In the following year James Couper left the St Rollox Glass Works and Robert Cochran's older brother, Alexander, took over his two thirds share in the business.[14]

In 1843 Robert Cochran, flint glass manufacturer, made an appearance as commissioner on the sequestrated estate of James Young, an Alloa china merchant.[15] In the following year he appears in the Post Office Directory as living at 19 St Mungo St. in the Townhead area not far from the glass works.

In 1845 Robert Cochran became a partner in the Verreville Pottery Company along with Robert Alexander Kidston (whose estates had been sequestrated some time before) and with Alexander Cochran, Charles Watson and Robert Goodwin.[16] According to Fleming, Cochran's effect on the Pottery was intensely practical, stopping production of all the more grand and elaborate production lines which were unprofitable largely because of the small home market for such wares in Scotland. He concentrated instead on humbler, practical wares which would sell.[17] For the rest of its life Verreville Pottery was dogged by the fact that the buildings were old, and strictly speaking, unsuitable for pottery production in the modern manner and that mechanisation was next to impossible. In the same year Mrs Cochran died on 10 August at the age of forty-two at their home in 19 St Mungo St. in the Townhead area of Glasgow, of 'inflammation'. She was buried in the Glasgow Necropolis at one o'clock on the 14th of the same month with a hearse drawn by four horses with black plumes.[18]

In the following year Kidston retired from Kidston, Cochran, & Co., leaving the other four partners who were then trading as Robert Cochran & Co.[19] In the same year Robert Cochran was again a commissioner on a sequestrated estate, this time of Coghill & Co., china and glass merchants in Glasgow.[20]

In 1847 Robert Goodwin left the Verreville partnership and continued his career as a house factor.[21] The Pottery supplied Denny Brothers of Dumbarton with crockery for the 'Dumbarton Youth'.[22] Robert Cochran stood as witness at the baptism of his brother's fourth child, John.[23]

By 1848 Robert Cochran was branching out into other lines of business since he had become a partner in William Connal & Co. a large firm of iron bro-

kers, tea merchants and colonial and general merchants.[24] In the same year he was again involved with sequestrated estates of china merchants - as Executor of John McFeat who had died at his home at 57 King Street aged sixty-two on 7 January, and as Trustee on John Anderson's estate.[25] He was living at 34 Dundas St. and Verreville was supplying Denny's yard with fairly regular orders.[26] Alexander Cochran was living at Glenfield, Town Mill Rd. which was in Springburn, then a suburb of Glasgow and not the industrial mecca that it became.[27] Charles Watson died at his home in Catherine St, Anderson, close by the Pottery, perhaps Verreville House, on 24 December 1848.[28] This, of course, left Robert Cochran and his brother as sole partners.

In 1849 Robert moved house to Verreville House, at the Pottery,[29] and enjoyed a period of great prosperity which continued for the rest of his life. Like the Bell brothers he was amongst the few Scottish potters who never experienced bankruptcy. This may have been partly due to his talent for diversification but much must also have been due to his great acumen and foresight as a businessman. Diversification had by 1851 shown itself again, as he had acquired 16/64ths of the 'Diana of Glasgow', a paddle steamer built at Renfrew in this year.[30] He continued to own shipping from this date until his death and increased his holding somewhat in that time.

According to J Arnold Fleming, Robert Cochran in 1852 patented the 'Cochran down-draught kiln'.[31] Whether this has any connection with the Caledonian Pottery's later gas-fuelled down-draught kiln is a moot point.[32] That Cochran invented anything at all connected with pottery making is a remarkable tribute to his intelligence and education since he had no training as a potter at any time.

At the end of March 1853, Robert Cochran bought land on the west side of Eglinton St from William Dixon of Govan Colliery: the purpose of this transaction is not known but the land was sold on 2 March 1857 to Thomas Gordon in exchange for a ground annual of £92.2s.10d. Thomas Gordon who was a Glasgow writer immediately sold it on to Thomas Alston, warehouseman. It may be that Cochran's original idea was to build Britannia Pottery near the terminus of the canal which ran from Port Eglinton to Paisley and Johnstone but subsequently changed his mind or was persuaded by his brother and partner.[33]

The year 1854 saw momentous events both in the business and private lives of the Cochran family. Alexander began to acquire land in Tennant and Kennedy Streets, near the site of the Glassworks. This could only have been for the Britannia Pottery which must have been already taking shape in Robert's mind.[34] On 15 February of the same year Robert Cochran married, as his second wife, Agnes Gibb who lived in Coldstream and was the daughter of the Rev. George Gibb, minister of the parish of Glenisla, county of Forfar where the couple were

married by the bride's father.[35] At the time of her marriage Agnes Gibb was twenty-six and her husband forty-nine; his sons were seventeen and fifteen. In December 1854 Robert Cochran started a second family with the birth of his daughter Helen, followed in 1859 by the birth of a third son, Frederick W. Cochran.

In 1855, according to Jewitt, Robert Cochran established the Britannia Pottery in Glebe St. in the Townhead area of Glasgow with six biscuit and seven glost kilns.[36] Construction may well have been started in this year but the date of the Pottery's first production of wares is more doubtful and probably somewhat later. This was a thoroughly modern Pottery, unlike Verreville, and was designed to make full use of machinery in all stages of production. According to Fleming it was founded specifically to supply the North American market and may well have done so exclusively for some years.[37]

From a later date we have a description of the Pottery which occupied 7918 square yards with fronts on Glebe St., Tennant St. and Kennedy St.:

> These buildings consist of a handsome three storey range fronting Glebe St. of brick walls with stone basement and dressings moulded cornice and balustrade and slated roof, also ranges of two and three storeys brick and slate buildings to the side streets and along the interior of the works with some one storey brick and slate buildings - the kiln houses have corrugated iron roofs with sky windows therein - there are also twelve large kilns, one small one, and two large furnace stalks - the buildings are some parts out of repair (1875), but generally are in fair working order and seem well suited for the business. In our opinion the fair worth of the property is £12,417 sterling.[38]

Recently also two views of the Pottery have come to light, part of the decoration on a manuscript recording a presentation to Johnston Wardlaw made in 1854. Wardlaw had worked at the Verreville Pottery and it seems likely that he was transferred to Britannia Pottery on its inception or shortly thereafter. The manuscript, which is in the possession of the family, is signed by Alexander Cochran and extols Wardlaw as a 'Trusted Manager and Valued Advisor to my worthy Father (and equally so to myself and my partner Mr Fleming since his death)'.

Also in 1855 Robert Cochran was a commissioner on the sequestrated estate of John Brinkley Senior, owner of the Larne Pottery in County Antrim and the Northwoodside and Garrioch Mills on the river Kelvin in suburban Glasgow.[39] He formed a partnership with John Brinkley's son John and William Wilson junior,

probably the son of William Wilson of Campbellfield Pottery, and certainly the son in law of John Brinkely senior. These men took over the Northwoodside and Garrioch Mills, the former of which from then on was attached to the Verreville Pottery and supplied it with ground flint until its closure in 1917.[40] Garrioch Mill was taken over by McIntyre & Ferguson, millers, who got into financial difficulties in 1858 and conveyed their funds and effects to a Trustee on behalf of the creditors.[41]

By 1856 china manufacture had entirely ceased at Verreville Pottery and had been replaced by Royal Ironstone China, or White Granite, which had more flint and Cornish stone than the old earthenware bodies. The Britannia Pottery was making wares with the same body. In the same year Robert Cochran sent James Dykes Campbell out to Canada from Britannia Pottery to open a warehouse and build up the trade for the new pottery, which he did from a base in Montreal.[42]

In 1858, the partnership between Cochran, Brinkley and Wilson was dissolved but Cochran leased the Northwoodside mill.[43] Wilson was involved with Campbellfield Pottery in Glasgow's east end but Brinkley disappears from our knowledge at that time. In the same year Cochran sent James Fleming out to Canada to take Campbell's place. Fleming moved the warehouse from Montreal to Toronto and throughout the American Civil War, although serving in the Northern Army, bought up as many depressed dollars as he could. At the end of the Civil War, these dollars regained their old value and the profit made in this way made up for the loss to the Pottery caused by the decline in trade during the War.[44]

In 1858, too, Robert Turnbull Purvis of the Purvis family of potters, 'sometime manager of the Verreville Pottery Works', emigrated to Toronto as a pottery merchant, perhaps to assist James Fleming to set up a retail branch for the firm or on his account. He had borrowed £700, in order to purchase some property in Burnside St. Glasgow. In his absence the Cochran brothers acted as trustees over the property.[45] There is a definite connection between the Cochran and Purvis families, more of which will be seen at a later date. It seems likely that the Cochrans took a paternal attitude towards the Purvises.

In 1859 Robert Cochran & Co supplied Denny's of Dumbarton with crockery for the 'Tantallon' and are mentioned as suppliers again in the Journals for 1860 and in 1862.[46]

In May 1860 Robert Cochran bought from Winchester & McGibbon, Glass & China dealers, their shop in Argyle St., just before the firm went bankrupt in January 1861.[47] To do this either he had borrowed £2000 from the Reverend William Fleming, D.D., Professor of Moral Philosophy at Glasgow University, or had taken on the debt with the shop.[48] Presumably he did this in order to have a retail outlet in the City, but it cannot have been very successful since in May 1866 he resold the shop to George Thornhill, hat and cap manufacturer.[49] Throughout this

period Robert Cochran & Co. made regular but infrequent appearances in Denny's books as suppliers of crockery, though Denny's tended to rely on wholesalers rather than manufacturers for supplies. In the 1861 Census Robert Cochran is shown as living at 9 Elmbank Crescent with his wife Agnes (who was born in Northumberland), four children and three servants.[50]

In 1862 we have first hand knowledge of the Britannia Pottery since Cochran himself talked to the investigator of the Royal Commission on the Employment of Children in Trades and Manufactures not covered by law. He talked of having worked the Pottery for six years, which would give a starting date of 1856. Steam machinery works jiggers, throwers' wheels and turners' lathes. The introduction of steam power, he said, was for 'relieving the children and women. It liberates the boys who turn the jiggers, and the women who turn the throwers' wheels, and those who turn the lathes'. It liberated them by putting them out of work. 'I find now', he said, 'from experience that this machinery is to my advantage'. Another quote describes Verreville Pottery at this period:

> I still have some old works, in which the work is done on the old plan. Those works consist of detached shops, which are not suitable for the introduction of machinery. The hours worked are from 6 o'clock a.m. to 6 o'clock p.m. but some workers appear at 5.30 a.m. to brush the floors. The factory is emptied at 6.30 p.m. by turning out the gas-light. Steam power is also used for making cups and bowls for which women are used. No children are employed.[51]

According to Fleming, Britannia Pottery was still producing exclusively for the American market, which may well be true but cannot be said of the following year when souvenirs for the wedding of the Prince of Wales and Princess Alexandra were found in this country in some quantity.[52] In 1863 also Robert Cochran bought 16/64ths of the sailing ship 'John Phillips' built at Hylton in County Durham.[53] He still owned this at his death.

In 1863 also James Fleming was brought back from Canada to be manager of the Britannia Pottery.[54] Robert Cochran was now fifty-eight years old and may well have been suffering from the illness which eventually killed him. His eldest son, Alexander, was being trained in Britannia Pottery and his younger son, Robert, in Verreville. Frederick was only four years old. It may well be also that Robert Cochran senior wanted more time to himself for his inventions, since he seems around this time to have patented a batting machine, a patent printing machine and the necked 2lb jam jar. Previously jam jars had had straight sides which made it

difficult to give them an airtight cover. [55]

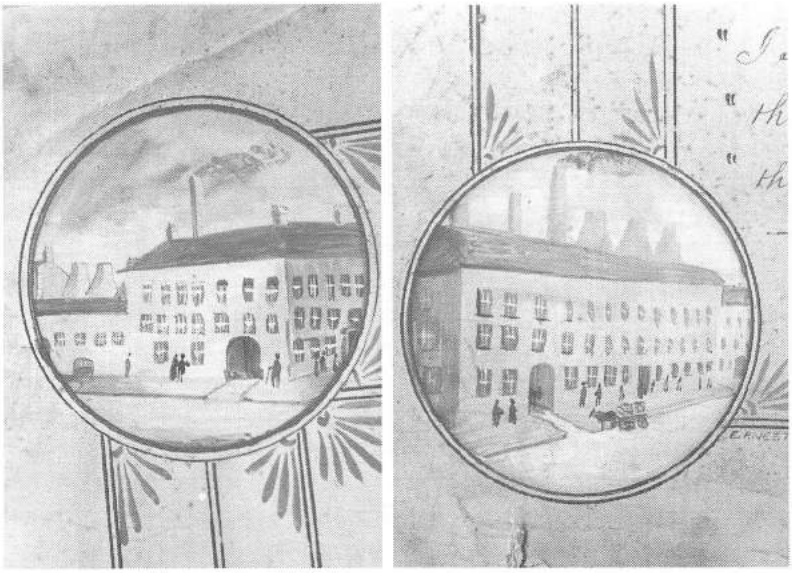
In 1864 or 1865 Robert Cochran retired from Willian Connal & Co. This retiral was more apparent than real. In this year the Company split into two. The general mercantile and colonial interest went with (Sir) Michael Connal who was followed by William Wilson; the pig iron department went with William Connal who was followed by Robert Cochran. This branch retained the name William Connal & Co.[56]

In 1866 Robert Cochran & Co. appears in the books of Donaldson Brothers as exporters of pottery. This may well have been a connection from long before this year since the books of neither firm have survived from an earlier date. The connection continued throughout the rest of the sixties and export wares are known both from this country and from south east Asia.[57]

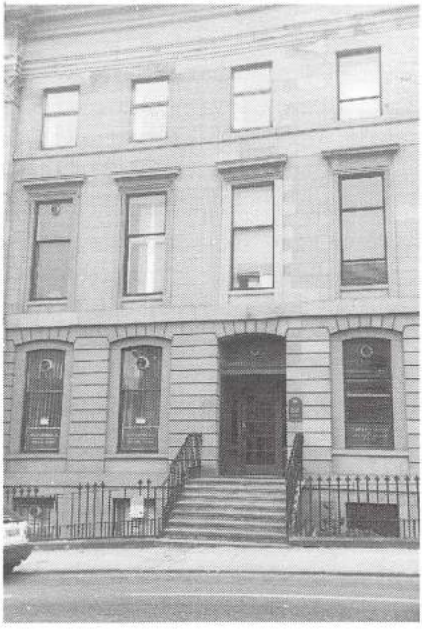
In 1867 Robert Cochran definitely resolved to take things much more easily. He and his brother Alexander mutually withdrew from the businesses in which they were partners; Robert from the glassworks, Alexander from Verreville Pottery.[58] In the same year contracts were signed at both potteries. James Fleming and Alexander Cochran junior were taken as partners in Britannia Pottery, and pledged to give their whole time to it, while Robert was to please himself. It was probably at this time that Johnston Wardlaw was made manager of Britannia. A similar contract at Verreville created partnerships for Robert Cochran junior and Alexander Balfour. The provisions made by Cochran for his sons and their partners and mentors were very generous; a quality that seems to be characteristic of Cochran throughout his life. He gave them most of the money to buy the partnerships.[59]

On 3 April 1867 he bought a house for £740 and he and his wife and the two younger children lived in a terraced house at 216 Adelaide Place, Bath St., Glasgow, now simply 216 Bath St. The furnishings included an organ in the dining room and a piano upstairs in one of the drawing rooms, as well as a music stand so the family must have had a taste for music.[60] The most interesting thing about the house was that already it was in an unfashionable part of town; Robert Cochran junior, like so many other Glasgow businessmen of the period moved further west and lived in Holyrood Crescent and then in Crown Circus in the new West End. When the house in Bath Street came to be let or sold a few years later it could only be disposed of as business premises.

In December 1868 Robert Cochran became paraplegic and remained so until his death a few months later but this did not prevent him from making provision for the future. On 1 June 1869 he formed a Trust which provided for his wife more generously than her marriage contract had, and for the education of his two younger children and which divided his estate equally between his four children. The Trustees were his wife and two eldest sons, his brother Alexander, James Fleming,



Two views of the Britannia Pottery from a manuscript.



The house at 216 Bath St. Glasgow

Robert Denniston of the shipping firm but also included a new name, David Auchinvole, a banker living in Uddingston, just outside Glasgow on the east.[61]

Robert Cochran seems about this time to have lent £2,200 to the Arlington Baths in Glasgow to help them to get started and to have lent £700 to Charles Purvis to allow him to pay for the land on which the Mile-End Pottery was built. When Charles Purvis went bankrupt a few years later, Alexander Cochran of Britannia Pottery took a ten-year lease on the Mile-End Pottery. Robert Purvis had been modeller at the Anderston Pottery and had been brought to Verreville by Robert A. Kidston where he had eventually become manager. At a centenary dinner given in 1877 he was presented with a gold watch for himself and a brooch for his wife - 'Presented to Mr Robert Purvis as a token of respect from his employer and fellow-workers. January 4th 1877'.[62]

About this time, too, Cochran must have bought a share in two ships which were to be built; a quarter share in the barque 'Huntress' which was his usual share but a one third share in another barque, presumably so that he could have it called the 'F.W. Cochran' after his youngest son. At the time of his death, he also had a quarter share in the 'John Philips' and a quarter share in the barque 'Tomogonop'. Unfortunately the 'Tomogonop' sailed from the Black River, Jamaica, on 31 July 1869 and was never heard of again and the Concordia Insurance Company of Amsterdam, the insurer involved for £1,000, had gone bankrupt, so no money was received for it.[63]

Robert Cochran died on 7 August 1869 at 1.30 a.m. in the Manse at Milngavie, north of Glasgow of 'retention of urine and exhaustion'. He had been paraplegic for seven months.[64]

In the inventory of his possessions made for the Trustees at this time we get much information for instance about the Northwoodside Mill which had three flint tubs, one chalk tub, two ship tubs, two large glaze tubs, three small glaze tubs, sixteen colour tubs and a fire clay mill. It had been leased for seven years from 1 January 1867.[65] We also learn that Robert Cochran still had an interest in the Flint Glass Works of £6,193.6s.8d and shares in the Dundee Water company. His share in Verreville amounted to some £19,000 and in Britannia to some £27,000. His share in the four ships amounted with profits to some £18,000.[66] A touching bequest from the Trust was that Robert Conrad Cochran, Robert Cochran's grandson, was to get the large picture of 'Mary Queen of Scots' return to Holyrood Palace' which hung in the dining room of the family home in Bath St.

Robert's son Alexander ran Britannia Pottery which he and James Fleming bought from the Trust and Robert junior ran Verreville which he had bought. Alexander Balfour soon retired from Verreville in order to open his own North British Pottery.[67] Helen Cochran married Robert Cassels, junior, in 1877, a former neigh-

bour in Elmbank Crescent. She died in childbirth in 1878.[68] Frederick W Cochran died on 5 September 1889 at Loken Eiverhoi Sundalen in Norway. Mrs Agnes Cochran died in Edinburgh in 1907.[69]

NOTES

GCA = Glasgow City Archive, Glasgow.
BRC = University of Glasgow Business Record Centre.

1. OPR of marriages - Row parish.
2. OPR of births - Dumbarton parish.
3. Inscriptions in Graveyards of Dunbartonshire - Dumbarton Cemetery 1. Dumbarton Churchyard 59, 171 and Notes.
4. *Glasgow News,* 5 Jan 1877, Verreville Pottery, cutting in the Hill Collection in the Library of the Royal Faculty of Procurators, Nelson Mandela Place, Glasgow.
5. Brian Blench, 'The elusive James Couper senior', *Scottish Pottery Historical Review* 8 pp. 20-27.
6. *ibid.* and *Edinburgh Gazette* 1835, No.4389, p. 167. 1836 No.4490, p. 151.
7. OPR of marriages - Glasgow City parish.
8. OPR of births - Glasgow City parish.
9. *Edinburgh Gazette* 1836, No.4490, p. 151 and ibid. No.4667, p. 42.
10. Post Office Directory for Glasgow 1838 and Brian Blench 'The elusive James Couper senior' *SPHR* 8 pp. 20-27.
11. OPR of births - Glasgow City parish.
12. J Arnold Fleming, *Scottish Pottery* (1923) p. 226.
13. OPR of births - Barony of Glasgow - April 1840.
14. Brian Blench, op.cit. p. 21.
15. *Edinburgh Gazette* 4 Jul 1843, No.5237 p. 235.
16. See Note 4.
17. J Arnold Fleming, *op.cit.* p. 103.
18. *Glasgow Herald* 11 Aug 1845, intimations - Burial Register of Glasgow Necropolis - General Order Book of Wylie & Lochhead; BRC HF 93/1/5.
19. *Edinburgh Gazette* 4 Dec 1846, No.5597 p. 720.
20. *Edinburgh Gazette* 15 May 1846, No.5537 p. 208.
21. *Edinburgh Gazette* 13 Jul 1847, No.5660 p. 365.
22. BRC - Journals of William Denny & Brothers - UGD 3/1/1 p. 240.
23. OPR of births - Barony of Glasgow 8 August 1847.
24. Abridgement of Sasines for the Barony of Glasgow - May 18 1848, No.2195 - P.R.1139.65.

25. *Edinburgh Gazette* 25 Jan 1848 p. 45, '22 Feb pp. 94 & 96 and *Glasgow Herald*, 12 Jan 1848, - intimations.
26. BRC - UGD 3/1/1 pp. 338, 343,379.
27. Glasgow Post Office Directory, 1848.
28. *Glasgow Herald*, 25 Dec 1848, - intimations.
29. Glasgow Post Office Directory, 1849.
30. Register of Shipping for the Port of Glasgow - No.14, folio 50.
31. Fleming *op.cit.* p. 104.
32. W F Murray 'On a New System of Firing Pottery-Ware by the use of Gaseous Fuel' *Proceedings of the Philosophical Society of Glasgow* Vol.xxiv (1892-3).
33. Abridgements of Sasines for the Barony of Glasgow, Apr 1853, G.R.2661.193 - 2 Mar 1857; P.R.1420.139; P.R.1420.146; and P.R.1422.168.
34. GCA Register of Sasines for the burgh of Glasgow B10/6/52 11 Feb 1854, p. 48 B10/6/53 5 Jul 1854. p. 78. Abridgements of Sasines for the Barony of Glasgow, P.R.1323.97, 3 July 1854.
35. OPR of marriages for the Barony of Glasgow 15 Feb 1854.
36. Llewellyn Jewitt, *The Ceramic Art of Great Britain 2nd ed.* (1883) p. 621.
37. Fleming, *op.cit.* p. 108.
38. GCA, Robert Cochran's Trust, T-MS/54/1 pp. 253ff.
39. *Edinburgh Gazette,* 16 Mar 1855 No.6467 p. 329.
40. *Edinburgh Gazette* 22 Jun 1858, No.6816 p. 1233.
41. *Edinburgh Gazette* 1858 October 15 No.6849 p. 1824.
42. Fleming, *op.cit.* pp. 108-9.
43. Abridgements of Sasines for the Barony of Glasgow, Oct 2 1858, P.R. 1495.41.
44. Fleming, op.cit. p. 110.
45. Abridgements of Sasines for the barony of Glasgow, June 30, 1858 P.R.1485.42 and P.R.1485.47; October 2, 1858 - P.R.1495.41.
46. BRC UGD 3/1/4 p. 380. UGD 3/1/5 pp. 63, 230.
47. GCA, - Register of Sasines for Burgh of Glasgow, B10/6/64 pp. 234-5 and *Edinburgh Gazette* 25 Jan 1861, Jan No.7087, p. 131.
48. GCA, Register of Sasines for Burgh of Glasgow, B10/6/77, 15 May 1866 folio 81b.
49. *ibid.* folio 82a.
50. Census of 1861., 644/6 - 52, - p. 13 - 50.
51. British Sessional Papers - House of Commons, 1863 Vols. I-XXV Report of Royal Commissioners on Employment of children in Trades and Manufactures not Regulated by Law. 1st report 1863 pp. 127-129. For a fuller treatment of this Report see the Author's paper in *Scottish Pottery Historical Review* 16 (1994).

52. Fleming *op.cit.* p. 111.
53. Register of Shipping for the Port of Glasgow, vol 4, folio 180.
54. Fleming *op.cit.* p. 111.
55. *ibid.* p. 104.
56. Obituary of Sir Michael Connal. *Proceedings of the Philosophical Society of Glasgow* Vol.XXIV.(1892-3) pp. 211-9.
57. GCA TD49/108, TD 49/1, TD 49/109 and TD 49/110 passim. For more on the export wares, see the Author's paper The Export Trade of J. & M.P. Bell & Co. and other Scottish Potteries' *Scottish Pottery Historical Review* 16 'pp. 49-57.
58. *Edinburgh Gazette,* 24 May 1867, No.7748, p. 590.
59. GCA T-MS/54/1 vol.1, pp. 22-32 and 71-85.
60. *ibid.* pp. 95-103.
61. *ibid.* pp. 6-18.
62. *ibid.* pp. 285-291 & 407-409 for Arlington Baths, pp. 49, 104-110, 188, 192 & 195 for Charles Purvis - *Glasgow News* 5 Jan 1877.
63. GCA T-MS/54/1 pp. 185, 206.
64. Registration of death in Bearsden Registry, Roman Rd., Bearsden.
65. GCA T-MS/54/1 pp. 52-9.
66. ibid. pp. 46-51.
67. *Edinburgh Gazette,* 1874 No.8478, p. 337. See also the Author's article, 'The Jugs of the North British Pottery' *Scottish Pottery Historical Review* 16 (1994).
68. GCA T-MS/54/1 pp. 260-1 & 268-9.
69. *ibid.* p. 338 & pp. 420-7 and T-MS/ 52 for F W Cochran's own Trust.

The Millroad Street Pottery Calton: The Background - Thomas Wyse and his Stoneware Shop 1799 - 1814

Gerard Quail
Glasgow

Most readers of J.A. Fleming's *Scottish Pottery* are now very much aware of the unreliable nature of a considerable portion of the information it contains. The difficulty in separating what is of value and that which is incorrect, in his version of the history of any Scottish pottery is somewhat overwhelming. This problem arises mainly because of the fact that Fleming supplied very few supportive, reference sources. Thus we find, after a study of various primary sources that, in relationship to the background of the foundation of the Millroad Street Pottery Fleming makes two immediately questionable statements. Fleming wrote:

> About a hundred yards east of Bagnall's works stood Millroad Street pottery, established there about 1780. Some of the pottery workshops are still standing at 36 Millroad Street, for the Factory flourished up to the year 1852.

and,

> The proprietor was a man Wyse, one of a well known family in the Calton. Thomas Wyse, the founder of the concern, came as a potter from the celebrated Derby China Works, which may explain the original and artistic work turned out.[1]

Before discussing these points it is of relevance to note that Fleming refers to the Wyse Pottery variously as, 'Mill-road Pottery' and 'Millroad Pottery'. However, by utilizing contemporary trade directories as an accurate pointer to the exact name used by the proprietors, it can be shown that the appellation 'Millroad Street Pottery' is the full and correct form.

Of the period prior to 1791, when the Post Office Directory commenced its continuous, annual run, there exists only two other similar publications. These were, *John Tait's Directory*, which covered the period of 1783 to 1784 only, and *Nathanael Jones's Directory*, that had an equally short run and spanned the years 1787 to 1791. Neither of these sources, in any way, corroborates J A Fleming's contention that the Wyse pottery was active during the date he specifies. Indeed, it can be irrefutably demonstrated that, the Millroad Street Pottery was not even con-

structed until 1818. This event took place about three years after the death of Thomas Wyse, and a remarkable thirty-eight years after the date claimed by Fleming as the year of its establishment.

In addition, it must be made clear, that contrary to the Fleming account, there is no evidence whatsoever, of Thomas Wyse ever having practised his craft as a potter during his domicile in Glasgow. Had Fleming examined McArthur's Map of Glasgow of 1778, and then compared it with David Fleming's 1807 Map, he would immediately have noticed that, at that time, two prominent Glasgow manufacturers of tiles and coarse earthenware - Andrew Creelman and Michael Bogle - had constructed their workshops and were then busily engaged in plying their craft. These ceramic activities took place on the very site where Fleming claims the Millroad Street Pottery was then operating. The Millroad Street Pottery was indeed erected on this location, but at a much later date.

Apart from map references, a reasonably accurate picture of the commercial developments at Millroad Street and of the early business activities of Thomas Wyse, can be found in the entries in Post Office Directories. Utilizing this very rudimentary source, it is still possible to glean some basic facts about the early period of Wyse's life and, wherever possible, attempt to tie-in these findings with the largely oral information which was recorded by J A Fleming.

We find that, by the year 1799, Thomas Wyse was indeed, established in business in the Calton. He was not a potter, but the principal partner of a 'Stoneware shop' at 30 King Street, where he traded under the title 'Thomas Wyse & Co'. Fleming suggests that Wyse arrived in Glasgow as early as 1780. This is difficult to verify, as such few Glasgow Directories which span the years 1783-1891, are renowned for their many omissions and the name Wyse is not contained in any of them. There is also some doubt about Fleming's claim that Thomas Wyse originally came to Glasgow '... as a potter from the celebrated Derby China works.' This contention is formed through evidence already presented by the writer in an article in the *Scottish Pottery Historical Review* entitled 'The Erroneous Wares Attributions in J.A. Fleming's Scottish Pottery'. In that paper it was amply proven that Fleming was often prone to base much of his findings on unreliable oral information, such as that which he recorded from members of pottery-owning families, who were often chronologically, two or three generations removed from the events of which he was writing. Bearing this in mind, it is necessary also to consider that the surname 'Wyse' was a common one in Glasgow in the early nineteenth century. Indeed, several individuals called Wyse were resident in the 'Town' long before the arrival of our character Thomas Wyse.

Making a superficial scrutiny of the 'Index to the Barony Parish Records' held at the Mitchell Library, we find in the 'Baptisms' section for the year 1726,

that there were several children with the surname 'Wise' born in that year. In addition to this, a preliminary examination of Post Office Directories for the period 1801 to 1828, has shown that there were a number of Glasgow shop-keepers and trades people with the name Wyse. Apart from a potter, who appears later, their occupations are listed as Stoneware Dealer; Turner; Provision Merchant; Starcher; Baker; Straw Hat Maker; Innkeeper; Confectioner and Vintner. In the original entry of 1799 the name is spelt 'Thomas Wise.{sic}' thereafter the form of spelling given by J.A. Fleming, which uses the letter 'y', remains consistent in the Directories. This is not only in the case of Thomas Wyse, but also with regard to all the other persons bearing this surname.[2] However it is important to note that long after the demise of Thomas Wyse, the old form of spelling - 'Wise' - was once more adopted by his grandson. One may also conjecture that it could be possible that at least a few of those other persons mentioned in the Directories bearing the name Wyse, were related in some way or another, to Thomas Wyse. This may confirm the passage in Fleming's text where he informs us that James Wise (sic)., the grandson of the founder, was '... one of a well known family in the Calton'. There seems to be an inference in this extract that Thomas Wyse was the dynastic, patriarchal head of a migrant Derbyshire family. This seems to be slimly supported by the fact that the first person bearing this name to appear in the Post Office Directory for the year 1800, was Thomas Wyse himself.

Unfortunately it has been impossible to establish any information at all on Thomas Wyse the stoneware retailer, or his partnership arrangements but, if he had indeed, originally been a Derby potter, as Fleming claims, he would have utilized his discriminative practical knowledge of ceramics to his advantage, by easily establishing connections with various English potteries and wholesale warehouses, to import a regular supply of good 'china' and 'stoneware' for his King Street shop. In addition to this he would, of course, have conducted a certain amount of business with the local Calton and Glasgow potteries.

That Thomas Wyse bought potteryware from at least one east coast Scottish Pottery can be demonstrated with certainty by an archival reference. It comprises a solitary entry in the 'Inventory of the Prestonpans Pottery of William Anderson & Co', dated 24 September 1801. From this we find that the firm of 'Thomas Wyse & Co of Glasgow received 70 dozen creamware, for which was paid £7 : 9: 6, with an additional amount of fifteen shillings charged for ' ...three crates cords and packaging straw'.[3]

Nothing further is known about Thomas Wyse other than the fact that he continued in business as a china and earthenware dealer in the Calton until his death. This took place some time between 1809 and 1811. Fleming provides the date of his demise as 1809, yet the directory still lists the firm until 1811. It could,

of course, be possible that the affairs of Thomas Wyse & Co. were handled by executors of his estate for two years after his death, and that his business then gradually wound down.[4]

The Foundation and First Period

To understand the background behind the establishment of the Millroad Street Pottery, it is of some interest to consider first its historical place within the group of Calton Potteries to which it belongs. To do so we must first look afresh at contemporary maps and see how this pottery was in fact built directly over a site of two earlier well known enterprises. These were once owned by two Calton pan-tile makers and coarse earthenware potters - Andrew Creelman and Michael Bogle - who were in their day prominent citizens and successful craftsmen.

McArthur's Map of 1778 shows, on the south side of the Gallowgate, John Anderson's Brick and Tyle Works and the Kingfield Pottery; immediately to the east can be seen 'Turine Street' which ran north to south, dividing the Kingfield estate, and again, on looking further to the east, two potteries are clearly depicted. The first is described as belonging to Messrs. Thomson & Robertson, who called their premises The Gallowgate Stoneware Manufactory. The second is shown on the map to have belonged to Robert Bagnall, which he named, The Staffordshire Manufactory. Bagnall's premises is remembered for having been burnt down during the Popish Riots in February 1779.

To the south of Turine Street lay King Street, and it was here that Robert Bagnall had his Staffordshire Warehouse which was broken-into and the stock smashed during the Riots. It was also here, in King Street, that Thomas Wyse was later to open his 'Stone Ware' shop. Indeed, it seems possible that Wyse may subsequently have occupied the same shop premises that had been abandoned by Bagnall. If this was not the case, it can be seen that Wyse's shop was very near to Bagnall's former premises.

Of the gradual development of the retail pottery trade in Calton, it may be said, that it was only to begin really to take proper root with the establishment of these two Turine Street Potteries and their 'Warehouses'. But, other factors were soon to indirectly promote a fertile climate which encouraged a general growth of the retail trade in the Calton area in the late eighteenth century. At that time Glasgow had its principle shopping areas around the High Street and the Trongate, but for commercial reasons, the china and earthenware dealers, along, with some other retailers, had begun to open shops in the Calton. Premises in this area tended to be cheaper to rent for at that time the Calton was outwith the Town's boundary.

Many shopkeepers tended, at first, to cluster together in the area of the Caltonmouth, in order to be as near to the centre of population as possible, and

chose locations designed to catch the main pedestrian inflow. For those amongst them who were china and earthenware dealers, it may be said that, more by accident than design, the very proximity of their premises to the emergent Calton potteries, made the location very attractive commercially. The dealers could readily supplement their usual range of expensive, imported, English and Continental potterywares, by purchasing when needed, various quantities of locally manufactured goods.[5]

Orders could often be filled the very same day, or within days; most of all, there was not the burden of the added transport costs, or the problems of the delay in shipments which would often occur when ordering from the English potteries. In addition, to many retailers there would have been a positive appeal in buying locally made pottery as the turnover was quick, and there was also a lucrative, subsidiary trade in 'seconds'. These slightly defective, but useful potteryware, met the requirements of the poorer class of citizen of Glasgow and the Calton and Camlachie. They were purchased by the dealers, and displayed in a designated area of their shop which was set aside for this type of customer. It may also be said, that it was about this time that the class of itinerant doorstep-venders - the hawkers - began to come into their own. 'Seconds' were eagerly bought from the local potteries by the hawkers and then sold at street-markets, and also by knocking at the doors of houses in the various areas of Glasgow and the outlying districts.[6]

Despite our primary interest being the subject of pottery making, it is also very important to keep in mind the fact that, in the Calton at this time, and in Glasgow itself, the principle industry was the weaving of cotton and linen along with all the associated, allied industries of bleaching, carding, dyeing and printing. The writer of the *First Statistical Account* for Glasgow stated:

> What has excited most general attention is the manufacturing of cotton cloths of various kinds. For this purpose Cotton Mills, Bleachfields and Printfields have been erected on almost all the streams in the neighbourhood affording water sufficient to move the machinery. The demand for cotton goods has much diminished the consumption of linen articles.

At this time shipbuilding and engineering were coming to the fore, but essentially, it was the cotton industry which, through the growing mercantile strength of Glasgow, provided the commercial life-blood of the community. It was within this socio-economic background that Thomas Wyse had operated his 'Stone Ware shop' in King Street, Calton.[7]

The Millroad Street Pottery is Built On The Site of Andrew Creelman's Calton Tyleworks

For our purposes, it is most important to note certain features on McArthur's Map. One can see that, Turine Street runs north to south, from the Gallowgate to King Street but, in effect, continues as Green Street when it traverses the old High Street, Calton. The plot of ground immediately to the east, carries the description 'Mr M Bogle's Tilework' and, written on the plan of the property immediately adjoining this, is the name 'A Creelman'.

On the northern perimeter of both of the claybeds of Messrs. Bogle and Creelman, can be seen a very simple outline drawing representing what would have constituted their 'Workshops Drying Sheds and Kilns.' These fronted on to a street which actually was, at that time, a continuation of King Street. It was then in an uncobbled state and no more than a rough track. Indeed, such was its lack of importance at this time, it did not even merit being given a name. But, by the late eighteenth century, a cotton mill was built near the eastern termination of this semi-rural track and although it was not a proper road as such, the name the 'Mill Road' soon came into use locally. Some years later, concurrent with gradual improvements to the thoroughfares in various areas of Glasgow, and as a direct result of the expansion and mechanization of the cotton industry in the Calton, a cobbled street was laid down over the old Mill Road.

At this point it is pertinent to consider that the word 'road' in the late eighteenth and early nineteenth centuries, more often than not, signified a rough, wide, sometimes muddy, un-metaled track. On the other hand the word 'street', particularly to a city dweller of this period, normally conveyed the image of a thoroughfare which, for the convenience of pedestrians and shoppers, had either its surface cobbled, or at least some portion - the pavement area - covered with stone, slate or fireclay paving slabs. So, when eventually the Mill Road was greatly improved and was first included in the Post Office Directory of 1820, the celebration of its upgrading was reflected in the seemingly superfluous appendage of the word 'street'. An added touch of interest is, that its first appearance in print in the directory, also coincided with the first entry for James Wyse the potter. We can also see that the printer must have been rather perplexed about how to present his unusual name, and used the quaint, hyphenated form - 'Mill-road-street'. However, not long after this, the other style better known to us, began to be used, i.e. 'Millroad Street'.

It was directly over an area that once comprised the site occupied by the workshops etc., of the two separate tyleworks and brownware potteries belonging to Andrew Creelman and Michael Bogle, that the Millroad Street Pottery was subsequently to be built. In order to explain this fully, it is necessary to digress

briefly, and trace the interrelationships of the Maxwell, Creelman and Wyse families. This is so that we may understand their connections as potters and pottery retailers, their affiliations through marriage and their interrelated pottery making activities. More importantly one must grasp the significance of the position of importance occupied by these families with regard to the history of the development of pottery making both in the Calton district and at the village of Coats in Lanarkshire.

In order to do this we must recall some of the basic facts that are known about pottery history in eighteenth century Calton. We know that in 1776, Andrew Creelman (Senior) in his capacity as a Church Elder, along with the local Minister Thomas Randal, provided a character testimony for the migrant Staffordshire potter Robert Bagnall, during his Court of Session dispute with his erstwhile partners Thomson & Robertson of the Gallowgate Stoneware Manufactory.[8]

Andrew Creelman (Senior) had probably first worked as an apprentice and later as a Master Potter at the Pig House Pottery Calton, under William Maxwell, prior to setting-up in business on his own account, in premises he had erected on the south side of the Gallowgate, but, on the same claybeds of the Eastern District used by Maxwell. These work buildings are clearly shown on McArthur's Map.

The evidence that Creelman had probably originally worked as a potter for Maxwell is quite strong for we know that he married Isabel, one of William Maxwell's several daughters, and throughout his life he maintained a close social relationship with his in-laws. This link is amply demonstrated by the numerous occasions that his name appears as joint-signatory with members of the Maxwell family in the High Kirk Parish Records.[9]

It may therefore be presumed with confidence that, soon after his arrival in the Calton, circa 1780, Thomas Wyse the stoneware dealer, living within such a small area, would have through his trade, soon made the acquaintance of each and every one of the Calton pottery manufacturers. Thus, we may be virtually certain, he would have known the then owner of the Pig House, who at that time was Andrew Maxwell, the son of William Maxwell, the founder. Through his commercial dealings as a pottery buyer, Wyse would also have made the acquaintance of the proprietors, of the firms of Thomson and Robertson, John Anderson & Co. of the Kingfield Pottery, and Robert Bagnall of Turine Street. Of particular interest to us, is the fact that Thomas Wyse would have known both Andrew Creelman, and his son Andrew. The latter was, for a period, in partnership with Michael Bogle who owned the tyleworks and claybeds which can be seen on McArthur's Map of 1778. These were situated to the east of Creelman's claybeds. However, this partnership arrangement was to last only a brief period for, by 1790, Andrew Creelman (Junior) had more ambitious projects in mind.

The discovery of large deposits of coal and fireclays prompted him to start a new venture on his own account at the village of Coats, near Coatbridge, Lanarkshire. This gave Creelman direct access to the Glasgow market as well as having an important outlet by water to the various industries in the greater Lanarkshire area.

At Coats, Creelman (Junior) had erected a large brickworks to his own specifications. It was unlike his previous ceramic activities at Calton which had essentially comprised the manufacture of terracotta bricks, pantiles and coarse, brown glazed earthenware, using low firing Calton red clays. However, even at Calton, Andrew Creelman (Junior) had, for a brief period, made a certain amount of fireclay goods when he was in partnership with Michael Bogle. Creelman's new venture at Coats was to concentrate entirely on the utilization of 'high-temperature' buff-coloured Lanarkshire fireclays. From these he made a variety of saltglazed refractory bricks and tiles for use in the construction of pottery and glass kilns and also in the fabrication of the furnaces of the iron and steel factories of greater Lanarkshire. In addition to this enterprise Andrew Creelman (Junior) was to gain a prominent place in the history of Scottish pottery when, four years later, in 1794, he established the Coates Pottery, which was the first Scottish pottery to make saltglaze whisky bottles for the export trade to America.[10]

As the Post Office Directories of the period post 1790 make no reference to Andrew Creelman (Junior) as being at the Calton Tyle Works, one is left to believe that he, soon after, abandoned his Calton works to concentrate fully on his new enterprises. At this point it is necessary to look again at the maps and note that the portion of King Street, east of Turine Street, was later renamed Millroad Street and, as we know, this name was later given to the Pottery itself. A scrutiny of the 1807 'Plan of Glasgow' shows the site of the Creelman's Tyleworks, but no owner's name, or any indication of occupation is suggested, other than the delineation of some apparently, abandoned work buildings.

One may assume therefore, that at this period, the former Creelman claybeds were simply leased to the nearby Kingfield Pottery, or to one or other of the local potteries or brickworks. Some time later, possibly around the year 1819, James Wyse the son of Thomas Wyse the 'stoneware dealer', leased an area of this ground from the feudal owners of the Calton - the Orr family, and began to build his pottery. According to the Glasgow historian, Frank Worsdall, James Wyse's lease along with many other such documents lie in the keeping of a firm of Glasgow lawyers who handled the legal business for the Orr family. It is hoped that sometime in the near future, a search can be made, and fresh insight obtained from a study of this material.[11]

Thomas Wyse, as we remember from Fleming's account, was supposed

originally to have been a potter. If this was true, he would no doubt, have encouraged and influenced his son James, and would have had him trained in the craft of pottery making. Most likely James's apprenticeship was served under Andrew Creelman (Junior) or perhaps at the near-by Kingfield Pottery. He would not have been trained at Bagnall's Pottery as it ceased in 1782.

It also appears possible, that on the death of Thomas Wyse his son James continued to run the family business at the King Street shop, then broadened his selling market as a James Wyse is listed as a 'Provision Merchant', at 70 King Street Calton at this time but, it must be pointed out, that there is no positive evidence that this is the same person. What we can however, assume with a degree of certainty, is that Thomas Wyse must have been very successful at his King Street shop for, on his demise, he bequeathed to his son, a considerably large legacy. This is shown by the fact that James Wyse inherited sufficient capital from his father to become a pottery manufacturer. To achieve his aim James Wyse appears to have made arrangements with Andrew Creelman and Michael Bogle to take over the lease of their claybeds in Calton. The old worksheds, drying sheds and kilns of the Calton Tyleworks were demolished and a new commodious, fully equipped, 'modern' pottery was built over the site.[11]

By utilizing such maps that are available, it can be shown that James Wyse's new pottery covered a large area of ground which once had represented about one third of the former Creelman-Bogle claybeds. As well as this, it straddled the ground previously occupied by their workshops and kilns. Indeed, what is most remarkable about Millroad Street Pottery is, that when one examines the plans of Glasgow drawn in 1821 and revised in 1828, and then compares these with the Ordnance Survey Map of 1860, it can be seen that, with the exception of a later addition of one small outhouse, the site plan of the Millroad Street Pottery did not alter from the original layout arrangements made by James Wyse, during its entire existence.[12]

From the period of 1820 onwards, the Post Office Directories show James Wyse as being at the 'Pottery at No.9 Millroad Street'. It is also worth mentioning that during the life-span of the Pottery, the street number denoting the premises altered on several occasions. The first occurred after five years when the number for the Pottery was altered to 13, by 1828 it was changed to number 17. From 1836 the number 32 was used and finally the address of number 36 Millroad Street was employed, in the closing years of the life of the Pottery. These alterations may be seen as only representing a reflection of the re-numbering of various premises in Millroad Street caused by the increase in the building of many other new factories, workshops and tenement houses in the Calton during the first half of the nineteenth century.

At this point we should also note that the compilers of the Post Office Directories of this period were neither inclined towards the speedy and accurate inclusion of any alteration, nor in the active pursuit of the addition of any new inclusions. This may be considered to be due largely to the fact that, at this time, the actual entries in the directories were paid for by those persons, or firms, whose names were shown.[13] By taking this into consideration, it seems probable that James Wyse had erected his pottery and was already established in business a year or two before the first appearance of his name as a pottery manufacturer, in the Post Office Directory listings. The year 1818 may, therefore, be assumed to be the actual date of commencement of James Wyse's Pottery on the basis of a consideration of the Directory entry and the appearance of the depiction of such a completely developed Pottery on the Map of 1821.

In addition, it may be said that the James Wyse's business venture, although important in itself, should nevertheless be viewed as representing only a part of a rapid increase in manufacturing activity that was then taking place in the Calton at this time. This boom was further boosted by the fact that in the year prior to the opening of the Pottery, the Calton altered in status to become a Burgh of Barony. Amongst other privileges its citizens were to obtain, was the right to hold 'street markets' and 'fairs' on certain days. This produced a further impetus in both trade and manufacture in the new Burgh of Calton. Maps of the period show this change and on these there can be seen, to the east of the Millroad Street Pottery, a large and busy Cotton Works had been erected.[14]

At this point, it should be noted that the Fleming version of the date of the foundation of the Pottery is extremely inaccurate and very misleading. He wrongly claimed this event took place nearly forty years before it actually transpired. It is also pertinent at this point to clear up other misleading statements that Fleming made. He informs us that :

> James, unfortunately, did not long survive the death of his father, who died in 1809, as he passed away the following year, a comparatively young man.[15]

James Wyse did indeed, die comparatively young, but not until 1828, after having founded and operated the Pottery for a period of nearly ten years. In the context of the history of the Calton potteries and of Millroad Street Pottery itself, he emerges as a very important character indeed. As we have noted J.A. Fleming mistakenly believed it was his father, Thomas Wyse, who founded the Millroad Street Pottery, but this was not the case. It was James Wyse who conceived the idea of constructing a large potworks and it was he alone, who developed a successful

pottery business which, on his death ten years later, passed into the proprietorship of his widow.[16] However, before discussing the later period of ownership of the Pottery, it is necessary to first, briefly consider certain of its products as, these in turn, can lead us to form some insight into the background of the later owners. By also pausing to re-appraise the date of the manufacture of certain known, specific examples, one can attempt to place these under the correct period of proprietorship. In addition, it is also possible to demonstrate that, in many instances, examples of pottery known now to have been made at Millroad Street Pottery, were initially either wrongly assigned by J.A. Fleming to another factory, or, placed within the wrong period or proprietorship.

The Wares Types of Millroad Street Pottery and Other Calton Potteries

One could be excused for wrongly believing, on account of the examples of white bodied polychrome glazed figurines plaques etc. which are illustrated in J.A. Fleming's book, that the Millroad Street Pottery was primarily given over to the manufacture of whiteware-bodied earthenware. Although it is true that a certain amount of this class of pottery was manufactured during the later period, one should always remember that Millroad Street was one of the larger early nineteenth century Calton brownware potteries. It is believed by the writer, that throughout the greater part of its life-span, the principle range of goods manufactured at Millroad Street would have comprised a variety of lead-glazed, brown earthenware which were on occasions, embellished with simple, slip-trailed decoration in white or cream burning 'pipe clay'. There is strong evidence that essential supplies of red clay for the Millroad Street Pottery, was dug from a claybed which was situated directly opposite the frontage of the potworks. It was on the north side of Millroad Street and extended towards the Gallowgate. In former times, this claybed had supplied the needs of the creamware potters Robert Bagnall and Oliphant and McDonald who made a subsidiary range in brown and black wares. These claybeds were immediately to the east and contiguous with their potteries in the Turine Street.

The Millroad Street Pottery was, of course, only one of several Calton and Camlachie, brownware potteries which during the nineteenth century worked the rich, red, alluvial clays of the 'Hundred Foot Beach', that had been 'laid down' in geologically ancient times, on the recession of the river Clyde. Indeed, it may be said that all the brownware potteries of the Calton and Camlachie and indeed of Glasgow itself, have their pedigree dating from the year 1722. This date saw the arrival in the Calton, of a Stirling potter, William Maxwell, who established the second famous 'Pig-House' Pottery which was located near the site of the very small first Pig House which had been operated by a poor, itinerant potter, circa 1708-1716. Maxwell's position of historical importance is now seen for what it is;

he was the germinator of the brownware pottery trade in Glasgow. Unknowingly he laid the foundations of this industry in the eastern district, which was gradually to flourish to a peak by the second half of the nineteenth century.[17]

With regard to style and appearance, it may be said that the wares of the Calton potteries generally, and of Millroad Street Pottery itself, should really be viewed as if they were the products of country potteries which happened to be situated on the claybeds at the periphery of a slowly expanding town. This can be demonstrated simply by considering that brownware pottery making in the eastern district of Glasgow originally evolved outwith the old boundaries of the town of Glasgow. As Glasgow grew from a town into a city it rapidly spread eastward during the nineteenth century. In so doing, it slowly engorged within its environs this quite idyllic, semi-rural scene, and gradually surrounded the potteries with the smoke, the noise, and noxious odours of the many new workshops and factories of the less romantic crafts and industries.

The products of the Calton potteries were to reflect the changing needs of the society around them and although initially the first potter, William Maxwell, aimed at the domestic market, both he and the later potters, soon oriented and adapted themselves by altering their wares types to meet a new demand for ceramic bottles and containers for local shopkeepers and trades people. Soon a variety of pottery goods were added to the range - sugar moulds, storage vessels and beef salters for grocers, flagons and bottles for wine and spirit merchants, and others, and large quantities of various sizes of vessels including paint pots for holding colours used in the printing and dyeing of cotton in the various workshops that abounded in the Calton and Camlachie.

Peter C.D. Brears, the modern authority on the history and products of the country brownware potteries of England, made the following comment on the wares made by brownware potters and the background in which they were produced. What he says is equally applicable to the wares made by the potters of the Calton and Camlachie districts and of course, the true Scottish country potteries at Sorn, Stevenston Drongan, Cumnock, Drylees and Seaton:

> ...these wares had certain qualities in common. Firstly, they were made entirely with the purely natural raw materials which the potter found ready to hand in his own locality, the clay requiring only the crudest preparation before being used. Secondly, they were made by a man who formed an essential element of his native society, who knew that society and its requirements intimately, and was thus able to produce the precise forms of vessel which it required. Thirdly, they were made by a skilled and sensitive craftsman who, due to a life-

> time of handling clay and a sound background of traditional practice could produce an unmistakable balance of good form, functional shape and technical excellence.[18]

At Millroad Street, as in the other Calton potteries of this period, there was made - apart from the traditional brownwares - an extensive range of Jet-Wares of the Jacksfield type. Although no printed source references in the form of contemporary press notices relating to Millroad Street Pottery, have, as yet, been found to substantiate this thesis, evidence suggests that domestic and utilitarian potteryware, referred to locally as Calton-ware types, were produced in considerable quantity. These shiny, purple-black jet wares of the Calton district have, from personal experience, cropped-up regularly over the last thirty years at the Barrows and at local auctions and jumble sales. Indeed, over the years 1973-77 when the writer was gathering sherds during re-development in the East End of Glasgow, various sherds of jetware and slip decorated brownwares were nearly always thrown up in profusion during site clearance or during the foundation trenching by the J.C.B. excavating machines, as this was the case during work near Millroad Street.

As a generic type Calton-wares, which were nearly all wheel-thrown, have a certain, simple dignity and practicality about their appearance and it is worthwhile at this point to consider certain aspects of the potters craft which can be seen in these wares.

The thrower, when working at the potter's wheel will often bend his head, and closing one eye, looks at the silhouette-profile of the right hand side of the pot as it spins on his wheel. As centrifugal force produces a natural symmetry in all thrown wares, it is only necessary for the thrower to be conscious of the profile of the pot, and its relationship to the varying widths of the vessel he is forming with his hands. Essentially the aesthetic principles behind all well designed wheel-thrown pottery has, since the time of the Ancient Egyptians, been based around the innumerable combinations of the various profile shapes that a potter can use. A careful utilization of the interplay between these profile shapes and their relationship to the width of the vessel, is the basis on which the potter obtains a well balanced, hollow, symmetrical, ceramic form of his choice.

Of equal importance to the potter is the inclusion in the design of the pot of the necessary features reflecting the particular utilitarian function of the article, yet at the same time he is required to produce a durable pot that can be daily used with ease. Good brownware potters tended to adhere to well-tested, traditional shapes; the proportions of these had been acquired from a composite of corporate thought on the subject, which had been passed from father to son, and master potter to his apprentices, over many generations.

In the pottery-wares of the Calton district, these principles can be clearly seen in the particular manner of the throwing and the finishing of such features as the precisely formed, positively functional rims and spouts of the vessels; the liveliness of the natural clayey 'spring' of the handles - which is still evident in the article after firing; and most of all, the curvaceous but simple elegance of the robust 'profile-shapes' of the very wares themselves.

With regard to the variety of the range of ware produced at Millroad Street, it is possible to form a descriptive list of the various types made there, and also at other brownware potteries in the Calton by utilizing information from the many press notices that have been extracted relating to the neighbouring Kingfield Pottery. At Millroad Street there would also have been manufactured a similar variety of domestic and utilitarian goods which were made at Kingfield at that time. This range would have comprised:

> Milk Plates and Honey Cans; Black Tea-pots, Round and Oval; Black and Brown Plates; Butter Crocks, Covered and Uncovered; Vases, Flower and Seed Pots; Dyer's Pots, Pencilling Pots and Printfield Pots; Bottles Mugs and Pitchers, Beef Pots, Salting Pans and Foot Pans; Chimney Cans of all sizes etc. etc.[19]

As demonstrated by J.A. Fleming, a totally different range of wares, using imported white or cream coloured Devon and Dorset clays, was also made at Millroad Street and from the viewpoint of the collector of Scottish Pottery, or the connoisseur of ceramic figurines or 'dabities', these items have a particular appeal. At what exact point this range was first introduced at Millroad Street is uncertain, but it is known from extant examples to have included such items as, press-moulded, white-bodied, earthenware figurines, ornamental smoking pipes and a variety of other 'toys' and 'fancies' with some made in porcelain. There is a vague possibility that some of the above ceramic types may have first been made during the ownership of James Wyse as an addition to his principle range of brown glazed domestic pottery-wares. However, it can now be positively demonstrated that these types were definitely made during the subsequent proprietorship of Wyse's widow and are also known with certainty to have been manufactured by James Wyse (Junior) during the final period of ownership.

The Second Period, Mrs Wyse 1828-36

At the age of thirty-nine Mrs Wyse was left a widow with one son James, who was then still an infant. Having no other means of support, she gallantly took

over the running of the Millroad Street Pottery, and proceeded to operate it in a very competent and businesslike manner for a period of about eight years. Nothing has been discovered about her life. Indeed, her Christian name is a mystery and she simply appears in the Post Office Directory entries as 'Mrs Wyse the Pottery Millroad Street'. Even the Census Returns of 1841, compiled five years after her period of proprietorship, lists her only as 'Mrs Wyse', without giving her any Christian name. Her age is given in that year as sixty and her son James as twenty. However, according to Frank Worsdall who has carried out a considerable work on Census Returns over the years, the age recorded in this, the first Census, was merely an estimate by the Census Officer. Worsdall suggests that one can normally add on about five years to the age noted. Despite this deficiency we can gain an additional general insight into the industrial activity in Calton at this time. Immediately it is evident that cotton was still the dominant industry at this time. The occupations of those other persons living at Millroad Street within the environs of the pottery (apart from Mrs Wyse and her son) are noted as a Cotton Spinner; Millwright; Ropemaker; Bookshop; Wright; Shoemaker; Cotton Carder; and a Powerloom weaver.[20]

Outwith the Calton and immediately prior to 1840, Glasgow had two potteries in the north of the city and three others at Finnieston and Anderston. These made stoneware and white-bodied earthenware, using imported clays. Although large and very important, these potteries had developed independently; their locations having originally been chosen because of the proximity to the River Clyde and the Forth and Clyde Canal. These potteries were totally distinct from those of the original pottery area of the Calton, which had slowly evolved as a direct result of the clay and coal deposits found in the general area; however it was in the Calton and Camlachie districts, in the east end of the city, that the majority of the potteries were to continue to develop and increase in number during the nineteenth century.

Within this group of factories situated on the old estates of Calton, Camlachie, Barrowfield and Mountainblue, there was manufactured Brownwares, Jet, Egyptian Black and Rockingham, along with a certain amount of white bodied wares. Later Saltglaze and then Bristol-glaze stoneware was also produced on a large scale. Even 'China', as we shall find, was for a brief period manufactured in the Calton.

Those interested in the mechanisation of the pottery trade know that it was in the eighteen thirties that various improvements and inventions for steam-power machinery for the grinding of fireclay and the preparation of clay for the brick and tile makers and potters began to take place in Glasgow. This reflected similar trends elsewhere in the United Kingdom. The Calton, with its abundant variety of

skilled craftsmen was to cradle this infant industry. The earliest recorded 'Millwright' operating in Glasgow who applied his talents to making machines for the pottery trade was an interesting and slightly eccentric craftsman called David Niell. His premises were adjacent to the Millroad Street Pottery of Mrs Wyse. Indeed it seems probable that his workshop may have been located on part of her property.

In addition to making pottery machinery, Niell also fabricated a new improved mangle of his own design, and offered it in the press to the housewife and laundress. However, the modern reader cannot fail to raise a smile on reading about one of Niell's peculiarly original. 'Heath Robinsonish' inventions - a cast-iron, folding bed for dogs. Niell's innovative products were offered to the public in the following notice to the press of 1831.

MILLS FOR GRINDING AND CUTTING CLAY
For Potters and Tile Makers

DAVID NIELL takes the liberty of thus ex-pressing his sincere thanks to the Noblemen and Gentlemen in the West Country who have kindly favoured him with their orders for MILLS for CUTTING and GRINDING, and to assure them, and the Public in general, that no exertions shall be wanting on his part, to execute any orders he may receive, to the entire satisfaction of his employers.

D.N. can with confidence recommend a New and greatly improved MANGLE which he has brought forward. It occupies but small space, and not easily put out of order, and does the work in a superior manner.

D.N. has been recommended to draw the attention of those Gentlemen who keep dogs, to a newly constructed IRON BEDSTEAD which, for convenience, can be put up through the day to prevent the bedding from being destroyed, as well as giving so much additional room in the kennel. When folded up, it only occupies about seven inches from the wall.

33 & 31, STRUTHERS STREET
CALTON
Glasgow, 1st Sept 1831

David Niell is an interesting character apart from his importance as an early maker of pottery machinery in Glasgow. We know that twenty-four years later in 1855 a David Neil (sic) made arrangements with James Couper to take over the

lease of the City Pottery at Kyle Street. It seems now possible that David Niell the Calton Millwright, may perhaps have been either the father of the proprietor of the later City Pottery or that he was one and the same person.[21]

But, to return to the story of the Millroad Street Pottery; it is regrettable that all we can say, at this point, about Mrs Wyse was that she competently ran the Pottery until such times as her son James was mature enough, in both years and the necessary skills as a master potter, to eventually carry the burden of full responsibility of his inheritance.

Mrs James Wyse should be remembered in the social history of Glasgow as exemplifying only one of several stalwart potters' widows, who, at a period when women were not accustomed or encouraged to hold positions of authority, competently carried out the daily task of management of their family pottery on the demise of their loved one. The names of several other redoubtable 'pottery ladies' spring to mind. In the eighteenth century there was Mrs Holden of the Gorbals Pottery, and Mrs Pettigrew, widow of Gavin Pettigrew of the Havana Street Tyleworks. By the nineteenth century, Glasgow potters' widows operated for even longer periods. There was Helen Duncan of the Port Dundas Potteries, Mrs Margaret Cubie Williamson of Wellington Pottery and the venerable Granny Brown of the Mount Blue Pottery Camlachie, so lovingly portrayed by J.A. Fleming as a part of his boyhood memories.[22]

The Third Period, James Wyse Junior 1837-51

On taking control of the Pottery in 1837 James Wyse altered the spelling of his name whereby the letter 'Y'was substituted by a letter 'I' making the name spelt henceforth as WISE and this fact is of some considerable importance to collectors of old Scottish ceramics. We may with confidence assume, that such wares that were manufactured at Millroad Street Pottery after 1837, which carried a maker's mark, would be impressed in the form WISE.[23] This snippet of information, in turn, may provide a rough method of dating any marked specimens which may come to light in the future. It is feasible therefore to speculate that examples of wares of the Millroad Street Pottery which may carry a back-stamp with the name spelled 'WYSE', relate to the period of the foundation and ownership of James Wyse (Senior) and also that of his widow. Those possibly marked with the name spelled WISE could represent wares made during the period 1837-57.

A certain amount of creamware potting, using imported English clays, took place under the ownership of James Wyse Senior and later Mrs Wyse, his widow. Nevertheless, such evidence that is available, indicates that it was his son James Wise (sic) Junior, who really fully developed this aspect of production. To explain this in simple terms, it is necessary to look with fresh eyes on the discovery and

provenancing by J.A. Fleming of such few examples that survive, that can be attributed to his pottery. Before doing so, it is pertinent to emphasize that, without Fleming's pioneer interest in local ceramic history and his rescue of various pottery moulds from destruction from the Millroad Street Pottery, we would know little or nothing about its wares. On the other hand many misinterpretations were made by Fleming which have only recently been corrected.

In 1910 when Fleming was investigating this pottery, it seems perhaps possible that he managed to locate a few specimen wares which were still in the possession of the descendants of former pottery workers. These items seem to be made of a cream coloured earthenware body and decorated in bright high temperature underglaze colours in the 'Prattware' manner. Fleming managed to acquire some examples which he later gifted to the Old Glasgow Museum. About this time Fleming and Mr. Thomas Lugton, the Curator of the Peoples Palace Museum, learnt that some of the old pottery workshops were still standing and decided to explore.

Quite remarkably, they discovered about one hundred, old plaster-of-paris, moulds in a garret room of one of these remaining buildings. Under Fleming's direction, clay 'pressings' from these original moulds were made at his Britannia Pottery using a cream-coloured clay 'body' simulating that used in the nineteenth century. The 'pressed' items were then duly decorated and fired in the manner and using a similar pallet of underglaze colours favoured by the nineteenth century 'Prattware' potters. Samples of these reproductions were also later deposited by Fleming at the Old Glasgow Museum where they can still be viewed. They comprise, cameos, plaques and medallions.

The year following the discovery, Fleming, in a published paper to the Old Glasgow Club, initially attributed these specimens to the Millroad Street Pottery. It has already been shown in an article in the *Scottish Pottery Historical Review* how he later altered his opinion and claimed in his book *Scottish Pottery* that the premises he visited was that of Robert Bagnall's Staffordshire Manufactory at Turine Street which was situated very near Millroad Street. It is now known that Fleming's initial provenance for the moulds was indeed correct. Yet even in his book Fleming contradicts himself by illustrating Tassie medallions, copies supposedly made at Bagnall's Pottery, and then later attributing these to Millroad Street Pottery. This can be seen under the section on James Tassie making the statement.

It is supposed that some of the medallions made in the Millroad Pottery (sic), Glasgow, were modelled by the Tassies. A copy of a medallion of David Dale modelled by James Tassie in 1791, was the earliest known mould that was found and it is identical to the original with the exception of a difference in the border moulding. As Robert Bagnall's potworks at Turine Street closed in 1782, the Fleming attribution to Bagnall is obviously incorrect. In addition, moulds for a finely mod-

elled plaque which depicted in relief, an adaptation of the 'Last Supper' by Leonardo, and a plaque commemorating Lord Nelson's victory at Trafalgar were also recovered. Both of these specimens were made at a period long after the closure of the Staffordshire Manufactory of Robert Bagnall. They were all, of course, moulds from the Millroad Street Pottery and were made under the proprietorship of James Wyse or his widow, and perhaps some by his son James Wise (sic) Junior.[24]

Of actual specimens made under the ownership of James Wise, we are fortunate that there remain two tobacco pipes made in glazed earthenware and gaily decorated in underglaze. I noticed that at least one Millroad Street specimen carries the impressed makers mark. Whether it was spelt 'Wyse' or 'Wise' I cannot remember. On inquiry to the Old Glasgow Museum, three years ago, I was informed that the specimens were in storage and not available for inspection. This situation regrettably remains the same.

As to the clay pipes and the various other specimens under discussion which were acquired originally by Fleming, it does seem that they were probably produced at Millroad Street as 'novelties' or 'toys'. It is however important to note that there is no evidence at all, of the manufacture at Millroad Street Pottery, of the everyday tobacco pipes made of white unglazed low-fired pipe-clay.

Of the pipes themselves, one is a clever caricature of Lord Brougham, dressed in his favourite Scottish attire, a pair of shepherd's tartan trews to which the modeller has added a sporran, making a rather iconoclastically humorous ceramic caritcature. Despite the apparent irreverence of the pipe, this famous Edinburgh advocate, author, parliamentarian and later Lord Chancellor, was a well loved character, particularly after his Bill of 1816 which secured the liberty of the press and his later defence of Queen Caroline. Such was his popularity at that time, that the name 'Brougham's Head' became a common tavern sign. However, it was his association with the Reform Bill of 1832 which gained him the affection of many.[25]

Another tobacco pipe, representing an ass with a tail coat, illustrates the saying of Bumble in *Oliver Twist* - 'the Law is an Ass'. As the publication of *Oliver Twist* was 1838 it is possible to date this pipe to the period post 1838 when the Millroad Street Pottery was operated by James Wise (junior). The Brougham pipe may on the other hand date to a period pre-1832 during the build up to the passing of the Reform Bill. In this instance it could be the work of James Wyse senior or his widow. Also held in the Old Glasgow Museum, are three brightly painted figurines depicting a cobbler and his wife, and a tailor sitting crossed legged with his cloth on his 'goose'. These are naively modelled but, nevertheless, are charming characterisations of craftsmen of the period.[26]

In attributing the above specimens one has to be wary, as they fall into the exact category of wares that were made by a potter by the name of William Grant

(Junior). At first glance he appears to be a minor character in the story of the potteries of the Calton district of Glasgow but this is not the case. On close examination we find that his story is closely linked with three different Calton potteries and, more importantly, he specialized in exactly these types of figurines and small decorative ceramic novelties. A brief sketch of the story of Grant's Pottery has already appeared in the S.P.H.R. No.6 of 1981 but this information is worth repeating as new facts have emerged.

Part of Premises Leased by James Wise to William Grant 1842-1844

The firm of William Grant & Sons, first appears in Directories for the year 1838. Their pottery, called the Gallowgate Pottery, can be clearly seen on the 1842 Map as having been situated on the west side of Graham Square near the entrance to the Cattle Market. It seems probable, due to the unreliability of Directories of this period, that this firm may have been in business some years prior to its first appearance in the Directory.

At their Pottery, whose frontage was at 469 Gallowgate, Grant & Sons made a variety of fancy earthenwares. It seems likely that local brown clays, as well as imported white burning clays, were employed at this potworks. One can also assume from the Directory entries that the range of goods made at the Gallowgate Pottery would possibly include such items as fairings, toy tea sets, small candlesticks, vases and various other types of ornaments for the mantel-shelf and dressing table.

The word 'toy' used by potters also applied to small plaques, ornamental figures, china dolls and also items such as toy tea sets, small ceramic shoes, miniature china animals, houses, ceramic bells etc. These items in all their variety were later to be made at Millroad Street by a member of the Grant family, as we find that by 1841 William Grant Junior, one of the sons of the owner of the Gallowgate Pottery, came to an arrangement whereby he leased part of the Millroad Street Pottery.

He appears in the directory for that year as a maker of fancy earthenware and gave his address as at Struthers Street. However, one should not consider this a separate pottery site. By looking at maps of the period, it can be seen that Struthers Street (which had been so named about this time) ran due south from Millroad Street and actually comprised the western boundary of the Millroad Street Pottery. The address of William Grant Junior, one year later, is given as being at 14 Millroad Street which was the same postal address that was then used as the Millroad Street Pottery.

In this year we learn a little more about Grant, as he describes himself as an 'earthenware, toy and marble manufacturer'. Thus it is abundantly clear that William

Grant Junior rented premises from James Wise and occupied work-sheds in the north east corner of the Millroad Street Pottery and had access to Wyse's kilns.[27] Two years later he decided to move premises and he then rented work-space in the nearby Kingfield Pottery. Here he made 'tobacco pipes and ornamental china'. Holding this new information in mind, one may assume that William Grant Junior could actually have been the potter who made at least some of the moulds that were later found by Messrs. Lugton and Fleming.

Thus the Grant family, as makers of fancy earthenwares, may hold a much more important position in the story of the Calton potteries. Indeed it seems probable that it was they who perhaps influenced James Wise to make figurines and ornamental tobacco pipes. William Grant Junior was in business as a potter at Kingfield for another four years then he ceased production and the premises were converted for use as a Cotton Factory. The demise of this famous old Glasgow pottery, which was established in 1770, was followed soon after by its neighbour at Millroad Street which closed in 1851.

Fleming gives the exhaustion of the claybeds as the reason for James Wise deciding to close the pottery production. This was not the case. The Pottery premises were leased two years later to G.& W. Porter Brickmakers and Potters of Bellgrove Street. This is reflected in the Post Office Directory of that year when this firm is listed as at 38 Millroad Street which was the last postal address of the Millroad Street Pottery.

If one accepted J.A. Fleming's account he would have us believe that the Millroad Street Pottery buildings were demolished and that tenement dwelling houses were built on the site by James Wise Junior which provided him with a comfortable living. In his *Scottish Pottery* he also claims Robert Bagnall of Turine Street Pottery was likewise to have become a landlord in the period post 1780 and receive a good income from rents from premises he built on the site of his pottery. However, research has shown that Bagnall was made bankrupt and left Glasgow for Musselburgh, and that he certainly did not build afterwards on the site.

Likewise, at Millroad Street again Fleming appears to resort to folk lore as there is no evidence of Wise ever having built tenements on the site of his pottery. Indeed such a claim seems remarkable when one considers that Fleming and Lugton were actually standing in part of the old Millroad Street Pottery premises when they found the moulds. This fact can be corroborated when we note that the outline structure of the plan of the former Millroad Street Pottery premises can still be seen on Post Office Maps as having survived, more or less unaltered, right into the late 1920s. It is obvious that the premises were used as various workshops over a period of years. However, it is difficult to establish who exactly were the occupants.

From the Fleming and Smith Map of Glasgow 1826 and Martin's Map of

1848 we can see that the Millroad Street Pottery consisted of a series of workshops about thirty feet wide, which formed a U-shaped structure, which had a working area of 2000 square yards. The area of Millroad Street was redeveloped under the G.E.A.R programme in 1977.

NOTES

1. J A Fleming See *Scottish Pottery* (1923) pp. 125 & 126.
2. Tait, *Glasgow Directory* (1799). Thomas Wise (sic) appears only as 'Stone Ware Shop'30 King Street Calton. Also contained in Post Office Directories Glasgow 1800- 1825 are found James Wyse, Provision Merchant, 70 King Street, Calton; George Wyse, Turner, 43 St Mungo Street; Mrs Wyse, Straw Hat Maker, 54 Govan Street; Robert Wyse, Starcher, Eagle Lane, Maxwell Street; William Wyse, Baker, 22 John Street; G Wyse, Innkeeper, Port Dundas; Mathew Wyse, Flesher, Mutton Market.
3. Fleming, *op.cit.* p. 125. 'The Inventory of the Old Kirk Pottery Prestonpans of William Anderson & Co.' (1801-2). Original held at Edinburgh Public Library, access no.9X7P803. A synopsis transcription was published G.Quail 1979, by Central Branch, S.P.S.
4. Post Office Directory Glasgow entry for Thomas Wyse & Co ceases in 1811. See also Fleming, *op.cit.* p. 125 Death of T Wyse 1809 and the erroneous date of death of son James - ... the following year'.
5. For a detailed account of various ceramic activities in the Calton at this time see G Quail, Four Glasgow Potteries *Glasgow Archaeological Society Occasional* I.(1982).
6. For further details on the 'Hawkers' see J A Fleming, *op.cit.* p. 262.
7. For general background to the development of the Calton, see J McFarlane, *Transactions of the Old Glasgow Club, Calton*, 4, Part 4, pp. 36-46, also Dr R H McKinnon *Old Glasgow Club Anniversary* 'Calton' (1975) p. 47. For cotton industry see *Statistical Account of Scotland* Vol.5 (Glasgow, 1895) pp. 501-3.
8. *Ibid.* Source 5 wherein see p.14, Character Testimony for Robert Bagnall signed by Thomas Randal Minister, Andrew Craig, Session Clerk and Andrew Creelman, tylemaker and potter, in his capacity as a Church Elder. The original document is contained in CS229./Bundle 3/24. West Register House, Edin burgh.
9. See McArthur's Map of Glasgow 1778. Mitchell Library Glasgow, showing Creelman and Bogle's Tileworks. Also the link between Creelman & Maxwell families is shown from the following entry in the Glasgow High Kirk Parish

Records Baptisms (A) Year 1757 Chambers James born 30th of January loving son of William Chambers, horse setter and Marion Maxwell, Witnesses. William Maxwell potter; Andrew Creelman potter. (B) 26th Nov. 1766 Creelman Henry L.S of Andrew Creelman and Isobel Maxwell. Witnesses William Creelman potter and Abraham Maxwell potter.inter alia.

10. *Statistical Account Scotland* (Lanarkshire, 1795) - see under 'Coats' provides full details of Andrew Creelman's activities. Also paper G Quail, 'Andrew Creelman of Calton and Coats' publication pending.
11. Plan of Glasgow showing Calton and abandoned Tyleworks David Fleming 1807. Post Office Directory Glasgow 1820 James Wyse Provision Merchant, 70 King Street, Calton. However no positive link with subject. Post Office Directory Glasgow 1820, Trades section shows first entry for James Wyse potter, 9 Millroad Street also information on Calton leases pers. comm. Frank Worsdall, August 1989.
12. Site comparison - see McArthur's Map 1778 showing Creelman and Bogle's Tyle Works and compare with pottery site on David Fleming's Map of Glasgow 1821 and the revised version, the Fleming and Smith Map of 1828. See also Martin's Map of Glasgow 1842 and the O.S. Map 1860. (the latter showing the then vacant premises) held at Mitchell Library. Information on the method of compilation of early directories by subscription only pers comm Joe Fisher, Senior Librarian, Glasgow Room, Mitchell Library.
13. Post Office Directory Glasgow 1820 Trades Section; James Wyse, 9 Millroad Street. The Street numbers then alter on these dates viz. 1825 13 Millroad Street; 1828 Ownership alters to Mrs Wyse, Millroad Street Pottery at 13 Millroad Street; Ownership alters to 1836 James Wise (sic) Millroad Street Pottery, 32 Millroad Street; 1846 36 Millroad Street, Fleming Op.Cit. p. 126.
14. Fleming and Smith Map of Glasgow showing Calton 1828 and seen more clearly delineated on Martin's Map of Glasgow 1842.
15. Fleming, *op.cit.* p.126.
16. James Wyse appears first in the Post Office Directory for 1820 and as Mrs Wyse first appears in the Directory for 1828 her husband James must have died circa 1827. Post Office Directory Glasgow 1827.
17. Mrs Wyse appears at the Pottery in the Post Office Directory from 1828 until 1837. Also, see Mitchell Library Microfilm Census Returns 1841, Gallowgate and Millroad Street. Information on estimates of ages given in Census pers. comm. Frank Worsdall Sept 1989.
18. Peter C D Brears *The Collectors Book of English Country Pottery*, (1974) p. 13.
19. Kingfield Pottery. The information on wares types presented here is a combination of lists of wares noted in various sources. See *Glasgow Courier*, 14 Sept 1816 and

Scots Times 15 Jun 1826, inter alia.

20. Mitchell Library Glasgow Census Returns for Glasgow, Calton covering 1841 Millroad Street (microfilm). Information on Census pers. comm. Frank Worsdall, Aug 1989.
21. Advert for David Niell see *Air Advertiser* 8 Sep 1831. Information on other David Niel (sic) is contained in G Quail, *'The City Pottery' Scottish Pottery Society,* publication pending.
22. (a) Helen Duncan proprietrix of Port Dundas Potteries see *Port Dundas Pottery* G Quail 'Art Work magazine' Dec. 1979 also similar article to S.P.H.R. publication pending (b) For Mrs Holden see 'Holden's Gorbals Pottery' by Michael Donnelly 'Scottish Pottery' No.1 - 'The Journal of the Glasgow Branch of the Scottish Pottery Society' pub 1978, pp. 26 pp Mount Blue Pottery Pottery. See Fleming op.cit. p. 130.
23. Mrs Wyse appears at the Potter in the Post Office Directory from 1828 until 1836. By 1837 entry is James Wise (sic) Millroad Street Pottery, 32 Millroad Street. Post Office Directories Glasgow 1837 - 1851 consistently list the surname in the form Wise (sic).
24. There is no actual documentary evidence of Fleming having had access to former Millroad Street Pottery workers but as at least one specimen at the Old Glasgow Museum a pipe is marked Wyse and other items bear labels with Fleming's name, the theory that he originally found the collection together is probable. See also *Transactions of the Old Glasgow Club* 2 (1911) p. 311, for Fleming's account of the finding of moulds and his original attribution to Millroad Street of these examples. Also *Scottish Pottery* p. 280 attribution of copies of Tassie medal lion made at Millroad Street Pottery. See also 'Medallion of David Dale by James Tassie 1791' *The Memorial Catalogue of the Glasgow Exhibition* 1894 519 (The Glasgow Institute of Fine Art) p. 174. Also Fleming, op.cit. illustrates page 124, page XXX.11 - a medallion, cameo and plaque made at Millroad Street which he wrongly attributes to Bagnall's Pottery. Also Plate L.V. Page 242 correctly shows two figurative glazed earthenware tobacco pipes - one of which carries a mark and attributed by Fleming to Bagnall's Pottery but made at Millroad Street.
25. ed Leslie Stephen *Dictionary of National Biography*, Vol.VI (1886). See Brougham., Henry Peter, Baron Brougham and Vaux (1778-1868).
26. Fleming, *op.cit.* p.126.
27. Post Office Directory Glasgow 1836-1842 shows William Grant as making 'Toys and Fancy Earthenwares' at Struthers Street and at Kingfield Pottery.

James Hunter and His Partners
An example of local investment in the Leadhills mines.

W S Harvey
Glasgow

Introduction.

Lead is found at various places in Scotland but only in the two villages, Leadhills and Wanlockhead did the industry achieve a continuity which compares with mining elsewhere in Britain. The two villages are in the Lowther Hills in the South West, and their mines were worked from the seventeenth century until the 1930s. To begin with the landowner at Leadhills, the Earl of Hopetoun, ran the mines there on his own account, but by the second half of the eighteenth century both the mining grounds were being leased to companies which, it was remarked, could 'command sufficient money to carry on the concern of a large works'.[1]

The situation was paralleled elsewhere in Britain, and it was partnerships of 'wealthy financiers' who provided much of the capital.[2] An exception was Derbyshire where small concerns predominated and even as late as 1872, as Raistick and Jennings point out, the individual output from about seventy per cent of the mines amounted to less than five tons of ore.[3]

In Scotland, there was a scarcity of capital in the early eighteenth century, and Professor Smout notes that most of the investment in lead mining came from landowners and merchants. [4] An exception was found at Wanlockhead where Alexander Telfer, described as 'the son of a common miner' leased some of the mines in the eighteenth century. He built up a workforce of 240 men before quarrelling with his landlord and being forced to give up. [5]

Smout describes him as a 'unique' figure, but Telfer was not alone, for a century later another remarkable individual had a mine near Leadhills. He was James Hunter, an innkeeper in Abington, who opened a mine on Snar Water circa. 1832. He secured the support of 'merchants and manufacturers' in Glasgow, and went on to gain a foothold in Leadhills itself.

Hunter is listed in the 1851 Census as an 'innkeeper', and he is also variously described as a 'vintner' and a 'merchant'.[6] He was born in Crawfordjohn, a village near Abington, and in 1851 he was sixty years of age.

The Snarhead Mine.

The Snar valley is to the north east of Leadhills and, although outwith that ore-field, Gordon's Vein, a string of the Brow Vein, runs into it. Hunter's mine was on Lamb's Knows, (NGR.NS.875145) and is among those noted by Wilson in his survey of Scottish lead ores.[7]

Evidence on the ground suggests that three adits were opened on Lambs Knows, even so Wilson remarks that the mine 'cannot have been of any extent'.[8] In fact it was said that it was worked with 'little profit', not, it seems, 'for the want of lead but of machinery to remove the water'.[9] However Hunter raised eight tons of ore, and was given the use of a smelt mill at Leadhills to turn it into bars.[10] The smelt mill had been built for one of the lessees, The Leadhills Mining Company, which was led by John Horner, an Englishman with lead and coal mines in Yorkshire.

However by 1836 it must have been clear that there was little to be got at Snar, and Hunter and his partners sought an interest in Horner's ground Leadhills. The latter had died two years before; his Company's affairs were in disorder; and the number employed had fallen from around a hundred to sixteen men.[11]

A constant supply of water was essential for powering smelt mills and mine pumps. In 1831 the Scots Mines Company, the major operator, came to an agreement with the Earl of Hopetoun, which, it was claimed, conferred an exclusive right to take water from the Shortcleugh burn.[12] Having switched his interests to Leadhills, Hunter was not disposed to accede to the Scots Mines Company's presumed monopoly, and seems to have continued to use the available leats, for in 1837 the Company petitioned for an interdict to prevent the Snarhead Company from 'interfering with the water'.[13]

By then, the Snarhead Company had a workforce of 'about thirty men', and it was noted that it had a 'pretended authority for, or acted with, the Leadhills Company'.[14] Soon after the partners bought out what was left of the latter and in future would take that title.

Hunter seems to have been the driving force at Snarhead, and was described as 'Managing Partner' for the Company, while still innkeeper at Abington.[15] There is nothing to suggest he had any sort of expertise in lead mining and he must have looked to others for technical direction. The Census records that his wife came from Caithness, so it seems improbable that his in-laws had any knowledge of mining. A William Hunter was among the 'pickmen' working at Leadhills in 1836.[16] There is no record to confirm he was a relative, but the close relationships between the neighbouring villages makes it likely that Hunter had relatives among the miners.

In any event there was no lack of skilled men. The 1820s and 1830s were a time of recession at both Leadhills and Wanlockhead, and at the latter the workforce fell from 250 in 1822 to 150 in 1842.[17] It was a similar story at Leadhills where the number of pickmen, the skilled miners, fell from 168 in 1801 to 141 in 1835, and would go lower still during the years of the dispute between the companies.[18]

The Partners.

Who put money into Hunter's venture? No records remain of the Snarhead company, but the law-suits engendered by the dispute over water rights, and which continued to appeals in the House of Lords in 1859, provide some details of those involved.[19]

When the Scots Mines Company's appeal was heard in 1858, the defendants, the Leadhills Mining Company, consisted of:

> Eagle Henderson Merchant in Leith. William Muir ditto. James Hunter, Merchant in Abington, Robert Wilson, James Broom, manufacturers in Glasgow, and William Ross a merchant there, There was also John Wyld, a banker in Abington and Robert Jeffrey, also described as a manufacturer in Glasgow.[20]

Henderson died soon after and Muir took charge of the operations at Leadhills. Only described as a 'merchant', he had premises at the Wet Dock, Leith, a house and/or offices in Quality Street, and an estate at 'Instrych'. There is nothing to show that he was involved in the original venture at Snarhead. Smout refers to Muir and Henderson's interest as being in Leadhills, and that it was 1847 when they gained a foothold there.[21] Down the years, trading interests in Leith had been the motor for the mining industry at Leadhills and Wanlockhead, and Henderson and Muir were in this context.

Comparing records with those for the re-formed Leadhills Mining Company Ltd., 1867, and with entries in the Glasgow Post Office Directories, the other shareholders can be identified with a fair certainty.[22]

Robert Wilson was a partner in Messrs T & D Wilson, Muslin manufacturers with premises in Ingram Street. His place in the mining partnership was later taken by a David Wilson, perhaps a son, and one of them must have been the 'Mr Wilson, Merchant' who was staying with Hunter on the night of the 1851 Census enumeration.

A James Broom is listed in the Post Office Directories for 1834-1840 as having 'Worsted and Shawl' businesses in Ingram Street and Queen Street. But the Leadhills Mining Company records of 1867 give a James Broom with an address at Dalwhat, Minniehive (Moniave). Comparing entries through previous years, it seems they were one and the same, and Broom retired to the country c.1858.[23]

William Ross has not been identified with certainty, but it could be he was the William Ross who was a partner in Ross Ronald & Co., wine merchants of Glassford Street.

John Wyld had an address in Biggar and he and Hunter seem to have been the only partners living outside Glasgow. Directories show the Wylds had interests as shopkeepers and merchants, and were also agents for the Western Bank and for the Scottish Union Insurance Co.[24]

In his *British Lead Mining Industry*, Roger Burt notes tradesmen and merchants as being among the traditional sources of mining capital in the eighteenth century. He gives details of some of those who invested in ventures in Derbyshire in the second half of the century, and remarks the names read like a 'local trades directory'.[25] Raistick and Jennings find that such groups continued, and note that one of the smaller enterprises on Alston Moor in the 1820s included an inn-keeper.[26] Indeed the authors refer to innkeepers as having a role in several small enterprises, along with 'people engaged in textiles or trade'.[27]

The Leadhills Mining Company.

Mining at Snar seems to have been abandoned because of the need for machinery to remove the water, implying a lack of capital to invest in pumps. The extent of the operations at Leadhills would have needed a large investment. Unfortunately, no record remains of the amount of money Hunter gathered for his enterprise at Snarhead, but the Leadhills Mining Company had a capital of £105,000 in £100 shares, the number subscribed in 1867 being as follows:

William Muir, Merchant	135 shares
Jas Broom, Proprietor, Dalwhat	90 shares
Wm Hinshaw, Manufacturer	60 shares
Wm Brown, Timber Merchant	60 shares
John Proudfoot, Merchant of Liverpool, at Mansfield Place, Glasgow	60 shares
Geo Robson, Accountant	45 shares
David Wilson, Merchant	45 shares
John Murdoch, King Street, Edinburgh	34 shares
Wm Jeffrey, Merchant, Glasgow	30 shares
Robert Jeffrey, do.	30 shares
John Jeffrey, Manufacturer, Kirkcaldy	30 shares
J Boyd, Solicitor, Edinburgh	11 shares [28]

Hunter was not among the partners, for he did not live to see the expansion of the company he initiated. Henderson was also dead by 1861, but Muir and Broom were among those partners listed in 1839, and so was Robert Jeffreys. By 1867 Jeffreys had been joined by relatives, trading as R Jeffrey & Co, spinners and

loom manufacturers with premises in Kirkcaldy as well as Glasgow.

William Hinshaw's business is not recorded, but he had a works at Garscube, an office in the city, and a country house at Barrochan near Houston.

John Proudfoot, had an address in Glasgow but was described as a 'Merchant of Liverpool', perhaps demonstrating the partners' wide interests.

Summary.

What induced Hunter to mine at Snarhead, and how did he secure partners in the enterprise? Scotland had no tradition of the sort of speculation in metalliferous mining found in some English mining grounds. These questions have no clear answers, but aspects can be discussed.

Telfer, who had 'ventured' at Wanlockhead almost a century before, was a miner and would have been lured underground by the miners' 'hopes of great success'. Hunter must have been attracted by the hope of profitable investment.

Although the mines at Leadhills and Wanlockhead dominated the local mineral prospects, lead had been found elsewhere. Evidence of ancient mines can be seen at various places in lower Glengonnar, and about fifteen years before the Snarhead operation, lead was found at Craighead near Abington. [29]

It must have been apparent that the ore which enriched the established companies could extend beyond their fields, and offered others an opportunity to emulate their success. Hunter's inn at Abington was no doubt a clearing house for gossip, and perhaps this included discussion of the mineral prospects in the area. At the same time, his interests as merchant and vintner must have provided connections with Glasgow's business community, and Duckham draws attention to that community's long history of speculation in coal mines.[30]

Snarhead was a small enterprise, but it led Hunter to Leadhills where the partnership was instrumental in effecting the demise of the long established Scots Mines Company. The Leadhills Mining Company Ltd. then had all the ground and this opened the way for the London based Leadhills Silver-Lead Mining and Smelting Company Ltd., which took over the mines in 1876. It was a public company with capital of £120,000, and the first such in the area.[31]

It may be added that a Scottish interest in lead mines returned in recent times, for between 1897 and 1920 a succession of Welsh mining companies made their headquarters in Glasgow, and attracted hundreds of Scottish speculators.[32]

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12. *Ibid.* pp. 10-11.
13. Shields Papers, RH15/2014/96, Bill of Suspension and Interdict.
14. Allan Ramsay Library Leadhills (ARL), Mines Journals. Vol.16, 12th March 1838. Shields Papers, op cit. Statement by David Templeton.
15. HLA Appendix. p. 123.
16. The names of miners working at Leadhills circ. 1836 were listed during a Local History Workshop, 'A Muster of Miners', in 1988. A copy has been lodged with the Scottish Genealogy Society.
17. Smout, T C, 'The Lead Mines at Wanlockhead', *Trans. Dumfriesshire & Galloway Natural History & Antiquarian* Society. 39 (1962) p. 155.
18. Harvey W S, *op,cit.*
19. The dispute began in the Lanark Sheriff Court in 1837 and continued to appeals in the House of Lords in 1859. It generated a great quantity of records and some account of it can be founds in my paper in *British Mining* above.
20. HLA. Part 5 p. 1 The Respondents.
21. Smout T C, *Lead Mining in Scotland* op cit p. 116.
22. SRO, Board of Trade Papers, Records Dissolved Companies. BT2/278, Leadhills Mining Company Ltd. And *Glasgow Post Office (PO) Annual Directories, passim.*

23. Relevant references are: Post Office Directory (1832). James Broom. Worsted and Shawl manufacturer. Pigot (1837). Dalwhat. Proprietor Robert Kennedy. Slater (1852). James Broom Merchant and Shawl Manufacturer. No reference to Dalwhat. Slater (1867). No reference to Broom in Glasgow Dalwhat. Proprietor James Broom.
24. Slater (1852). Biggar.
25. Burt. *op cit* p. 59.
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27. *Ibid.*
28. SRO, BT2/278 *op cit.*
29. New Statistical Account of Scotland. Lanarkshire, p. 500. Crawford.
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The Johnstone Mouse Trap Factory

David Drummond
Dorking

Johnstone is sited four miles from Paisley and eleven miles south-west of Glasgow in the County of Renfrewshire. Now sadly in decline, it grew from practically nothing in the late eighteenth century to become one of Scotland's major industrial centres of the nineteenth. The cotton industry was the first to take root, but later this was largely replaced by engineering.

Factories, both large and small, grew apace, as too did the numbers of workers' dwellings. And, as always happens in such situations, the ubiquitous house mouse found a new and splendid environment in which to thrive. It is therefore not surprising to discover that the output of one of the factories was mostly devoted to the production of mouse traps.

Quite remarkably however the Johnstone Mouse Trap Factory remained the only such factory ever set up in the industrial areas of Scotland. Its uniqueness is undoubtedly a tribute to its success in making and marketing high quality products. It long outlasted many of Johnstone's much larger factories and its final demise in the 1950s was largely due to an unfortunate accident. Thus it certainly deserves a place in Scottish industrial history, even if only a small one.

The Founder, His Company and Family

'The Mouse Trap Factory' was simply a title of convenience conferred by the local inhabitants of Johnstone, including the factory workers. The factory was owned and managed by 'The National Patent Company', that was apparently established by James Hunter in 1872.[1] However, the earliest information we have about the Company starts in 1896, when its first advertisements began to appear in *The Ironmonger*.[2] How and why such a seemingly inappropriate and inscrutable name was chosen for the Company we may never know.

James Hunter was born in Barrhead and first appears on the Johnstone scene in 1868 at the age of 23 when he married Marion Harper of 57 High Street, three years his junior. At this point James was a warehouseman in Johnstone and Marion was a draper. They spent the next twenty or so years raising a family (four daughters and three sons) and developing what appears to have been a prosperous drapery, millinery and dressmaking business at 54 Houston Square. The Hunter family lived away from the business, first in Lyle Building, Kilbarchan, and subsequently in Newfield Terrace.

Then apparently quite suddenly in 1894, when James Hunter was in his late forties, the drapery business was closed and the premises sold. It is tempting to suppose that the drapes and dresses in the Hunter's Houston Square warehouse had

been so damaged by mice and James's attempts to prevent their havoc had been so ineffectual with the then available mouse traps, that he had decided then and there to invent a better mouse trap. Not only that, but he must also surely have thought that there had to be more money to be made in manufacturing the means to destroy mice than in manufacturing goods that they could so easily ruin.

However, whatever the reason, 1894 was the year in which James Hunter patented his first mouse trap and moved into new premises that he had bought at 2 George Street, evidently for the manufacture of traps. His business prospered and in 1903 he was able to move into larger premises at 6 George Street. In 1905 he bought two plots of land in South William Street on which he erected a factory specially designed for the purpose of producing traps. All subsequent trap production of the National Patent Company took place in the building on this site, which as already related, quite naturally came to be known as 'The Mouse Trap Factory'. There were probably several other earlier centres of mouse trap production in Britain, but so far only one has been identified.[3]

In 1918 the Company was registered as a 'Limited Company' with James Hunter (now of Glencreg, Elderslie) and his son James Barr Gibson Hunter (of Morvan, Kilbarchan) as the only two directors and the only two shareholders and it remained as a strictly family controlled concern throughout the remainder of its days. In 1924 Janet Edith Hunter (the eldest daughter of JBGH) replaced her grandfather as director on his death at the age of seventy-nine. In 1928 Joan Walker Hunter (wife of JBGH) and Marion Harper Hunter (youngest daughter and only other child of JBGH) also became directors.

The directorship of the Company then remained the same until its demise in 1956, except that James Barr Gibson Hunter died in 1940 and his daughters became Mrs Janet Edith Judd (1930) and Mrs Marion Harper McDonald (1939). Furthermore, Marion's husband William Robert McDonald became Company Manager.[4]

Trap Designs

Choker Mouse Traps

One of the common mouse traps available in Britain during the late nineteenth century had changed rather little over the previous three centuries.[5] It was made of a block of wood into which were drilled horizontal holes of about one inch in diameter. The holes were placed side by side and the number of holes varied from one to six, very occasionally more, though the preferred number seems to have been three. Just within the entrance to each hole a wire noose was suspended from an overhead wire that was part of a helical spring positioned at the back and on top of the trap. On each side of each overhead wire a small hole was drilled

vertically right through the trap from top to bottom. Each large horizontal hole was set to catch a mouse by inserting thread through each vertical hole and using it to tie down each overhead wire close enough to the top of the trap so that its suspended noose exactly fitted round and within the entrance to each large horizontal hole. At the other end of each hole was placed some attractive bait. To reach the bait a mouse had to remove both vertical pieces of thread that obstructed its passage, but gnawing through just one piece released the spring which raised the wire loop and throttled the mouse.(Figures 1a and 2a).

Such traps with gnaw-thread release mechanisms were often referred to in late nineteenth and early twentieth century English trade catalogues as 'Irish Mouse Traps'. Such catalogues also designated traps with alternative wire release arrangements as 'Improved Irish'. There is, however, no evidence that these traps were ever made in Ireland and the American term 'choker trap' with its graphic reference to the trap's mode of action now seems more appropriate.

James Hunter's first contribution to mouse trap design was to improve greatly the ease with which choker traps with gnaw-thread release mechanisms could be set. He did this by replacing each small vertical hole for the cotton by a slit, made by a saw cut from the back of the trap to the point where the vertical hole would have been. This enabled the trap setter to pull the thread quickly to the right position without the tedious task of threading it through each hole. James also placed a small nail at the front of the trap immediately below, or below but between,[6] each entrance hole so that as the setter set the wire noose at each hole, he only needed to wind the cotton round the nearest nail in order to keep each spring adequately tensioned and its noose in place.(Figures 1b and 2a).

James patented this choker trap setting mechanism in May 1894 (GB 7214) at a time when he still described himself as a draper. He subsequently made it in hardwood and called it the 'Detective', while a softwood version of the same design was named the 'Never Fail'. In a further design, called the 'New Never Fail', and included in the same 1894 Patent, the paired vertical slits for each entrance were replaced by a single slit enlarged at its end into a single vertical hole to take the two strands of thread needed to set each trap entrance.(Figure 4).

Within the next two years James Hunter also manufactured two choker traps without gnaw-thread release mechanisms, the 'Snap Shot' and the 'New Snap Shot'. The 'New Snap Shot' had the noose held down by a narrow rigid strip of metal hinged above the trap entrance. At its other end this metal strip engaged with two hinged downwardly projecting wires that would release the noose when a mouse pushed them forward while trying to reach the bait placed behind them. (Figures 1c and 2b).[7] In the absence of any identified examples, the exact mechanism of the earlier 'Snap Shot' (Figure 3) remains unknown.

All James Hunter's choker traps (Table 1) were made only for the capture of mice and all his five models, except the 'New Never Fail', were mentioned by name in his first advertisement of the products of The National Patent Company that appeared in the *Ironmonger* on 12 December 1896. In all his advertisements the names of the traps are shown printed on the end of each trap.[8]

Breakback or Snap Traps

Just at the time that James Hunter was engaged in improving the British choker trap, William Chauncey Hooker of Abingdon, Illinois was designing a new break-back or snap trap that he patented on 6 November 1894 (US 528,671). Hooker's main innovation was to fix all the parts of the trap in an easily assembled way to a small flat oblong piece of wood. Furthermore, when the trap was set, the striking arm of the trap was held down flat, instead of being at right angles to the base of the trap, as had hitherto been its normal position in most earlier snap traps.

This early flat snap trap was manufactured by the Animal Trap Company of Abingdon, Illinois, of which William Hooker was a founder. This company was the forerunner of what is now the trap-making part of the Woodstream Corporation, who still manufacture Hooker's design in more or less its original form as well as a number of modified versions. When first made Hooker's design was named the 'Out 'o Sight' and was marketed in Britain for a number of years in two sizes, a small one for mice and a larger one for rats.(Figure 4).

James Hunter was obviously quick to recognise the advantages of the Hooker design and may also have seen it as a potential threat to his own business. At any rate he was astute enough to copy it and early in 1899 was producing his own version with an all-steel treadle and even had the temerity to give it a rather similar name, the 'Unseen'.(Figure 3).

However, the National Patent Company subsequently went on to produce a number of variations of its own on the flat snap trap theme, mostly both for rats and for mice (Table 1 and Figures 3 and 5). The earliest, and perhaps the most complicated, was the 'Hero' (Figure 3) patented by James Hunter in 1899 (GB 15,106). In general terms the design of 'Hero' involved using the whole wooden base of the trap as a treadle in such a way that when a mouse trod on the baited end that was raised up on a lever beneath, the lever released the striking frame that then caught the mouse.[9]

Some thirty years later James B.G. Hunter used the same principle but with a simpler design to produce the 'Ace' rat and mouse traps (Figure 5d) that he patented in 1932 (GB 383,051). However he seems to have been no more successful than his father in maintaining the production of such traps for more than a few years. It is perhaps worth noting at this point that, since William Hooker's original

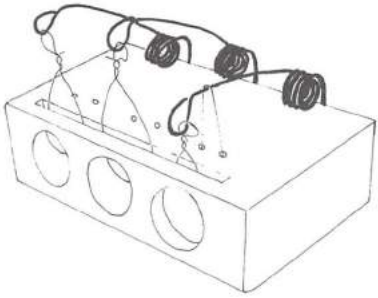


Figure 1a

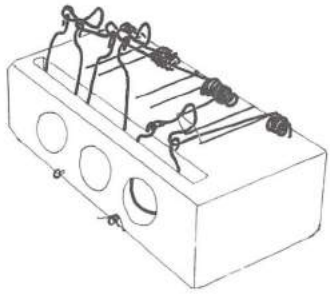


Figure 1b

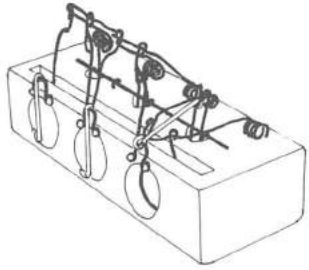


Figure 1c

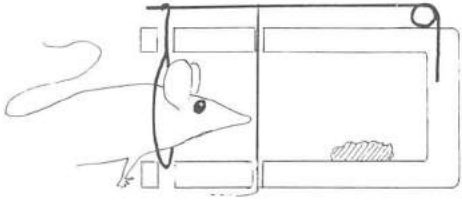


Figure 2a

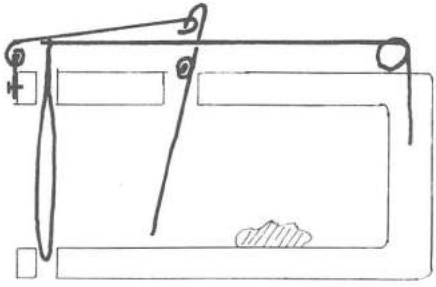


Figure 2b

Figure 3. Advertisement of the National Patent Company showing its first two snap traps, as well as its earlier choker traps, *The Ironmonger Supplement*, 27 January, 1900, p.26.

Figure 4. Advertisement of the Annual Trap Company for its 'out o' sight' rat and mouse traps. The choker traps shown for comparison are the National Patent Company's 'Detective' and 'New Snap Shot', *The Ironmonger*, 14 January, 1905, p.77.

flat snap trap design, a very large number of ingenious and often complex variations have been produced and put on the market, especially in Britain, Germany and the USA. Very few of them have proved any more successful than those of the Hunters. It was, and still is, the simple and cheap snap traps that seem to appeal most to the user.

It will be readily seen (Figures 3 and 5), that apart from the 'Hero' and 'Ace', the 'Allwire' (Figure 5b) and the 'Baitlock' (Figure 5e), the named traps only differed from one another in the shape and arrangement of the treadle or bait holder and only one of these merited a patent. The 'Betta' was patented in 1943 (GB 566,423 and 570,386) by Alexander L.H.Leask (Works Manager).

Of the four snap traps, the 'Unseen', the 'Veto', the 'Million' and the 'Betta', that remained in production until the 1950s, it was the 'Veto' that seems to have been most strongly promoted and successful. The name 'Veto' was a Registered Trademark (No 347,026) from December 1912 until January 1927 and the special conformation of the wire bait hook was a Registered Design (No 610,372) for ten years from November 1912. From 1935 the rat trap version was fitted with a 'Safe-setter', a special wire arrangement that allowed the bait hook to be raised and the trap set without the setter running the risk of trapping his fingers. In addition the lettering and design printed on the trap was changed from time to time.(Figure 6).

The design of the 'Million' was also produced as a mouse trap for Woolworths with the word 'Million' replaced by a 'W' within a lozenge framework, and apparently also for Procter Brothers stamped with the word 'SENTRY' within a circle. A consignment of mouse traps for an Australian firm had the inscription 'specially made in Britain for Mitchell's the Brush People'.

Other traps and products

Apart from the traps already mentioned three others were made by the National Patent Company. The 'Bull's-eye' rat trap was advertised in 1898, but no illustration was provided so we do not know what it was like. 'Captor' mouse traps, small live single-catch wood and wire box traps (Figure 5f), were advertised from 1935-1941, and wooden full-barrelled 'Perfection' mole traps (Figure 5a) from 1905-1941.

The Company also dealt in, if only briefly, aluminium smoke shades (1927-1931) and zinc and glass 'Swan' washboards (1932-1934), as well as wooden clothes pegs and wooden props for clothes lines.[10]

Early Trap Production and Promotion

As with trap designs, virtually all the early information on trap production

and promotion comes from advertisements of the National Patent Company placed annually in Benn's *Encyclopaedia* and more frequently in *The Ironmonger*.

Starting in December 1896 we learn that over 100 tons of traps were sold yearly. Since at this time all the traps being made were choker traps and an average size choker trap with three holes weighs about four ounces, we can convert the tonnage into about 90,000 traps. On the other hand some of the weight given may have been packaging since some of the weights given later are clearly those of packaged traps recorded by an agent at Johnstone Railway station before despatch by train on the Glasgow and South-Western Railway.

In 1899 we discover that 150 tons of traps were exported annually. By March 1900, 260 tons were being sold each year and by February ten tons per week (or say 500 tons per year). During this period however we have an unknown mixture of choker traps and rat and mouse snap traps so conversion into trap numbers is not possible. However, in January 1902 we are told that 100 gross of mouse snap traps are sold daily (ie over five million each year) and eighty gross of rat snap traps are sold each week (ie about 700,000 per year). Furthermore receipts doubled between 1906 and 1907.

Obviously it is difficult to make valid annual comparisons with such varied criteria for the measurement of output, but the message in this early period of ever burgeoning business being purveyed by the National Patent Company came through loud and clear. This message clearly fits in with what is already known about the expanding facilities in terms of factory space. On the question of manpower we only know that already, by 1899, some fifty hands were said to be employed.

It is also worth noting that in this early period the National Patent Company had to compete with imported traps (Figure 4) and especially, from within Britain, with the snap traps produced by Procter Brothers (Figure 7). The Company also made a strong bid for overseas trade.(Figure 8).

Factory and Trap Production - 1946 Onwards.

The Factory building

The Johnstone Mouse Trap Factory was a substantial two-storey building (approximately 150' x 30') occupying much of the east side of South William Street and providing some 9,000 square feet of floor space. With its solid red brick construction, large windows picked out in yellow and its central wrought iron gates, it presented a quite handsome exterior. Although it was continuously occupied from about 1905 to 1951 and was used throughout this period largely for the production of mouse traps, it is only for the post-war years that we have a picture of how the factory was organised and how the traps were made.

Carriage Paid £3 Lots and Upwards.

DEMAND EVER INCREASING

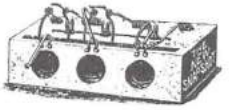
THE TRAPS IN UNIVERSAL USE

RAT TRAP—MOUSE TRAP

RAT TRAP—MOUSE TRAP

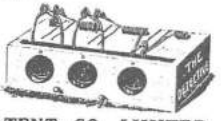
RAT TRAP—MOUSE TRAP

Mouse Traps in 5 gross cases
Rat Traps in 1 & 2 gross cases



CASES ☛ *FREE*

Estd. 50 Years



NATIONAL PATENT CO. LIMITED
WORLD'S TRAP SPECIALISTS

JOHNSTONE
BY
GLASGOW

Figure 5a

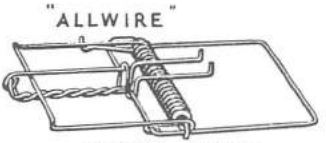


Figure 5b

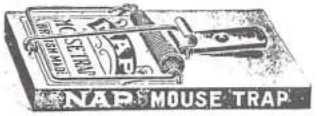


Figure 5c

Figure 5d

This trap is locked in "set" position by bait being firmly fixed. Instantly springs when bait is removed.

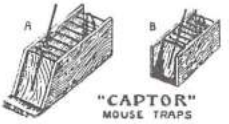


Figure 5e

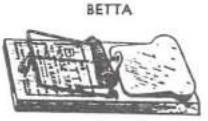


Figure 5f

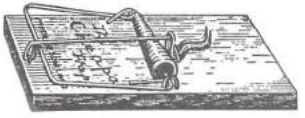


Figure 5g

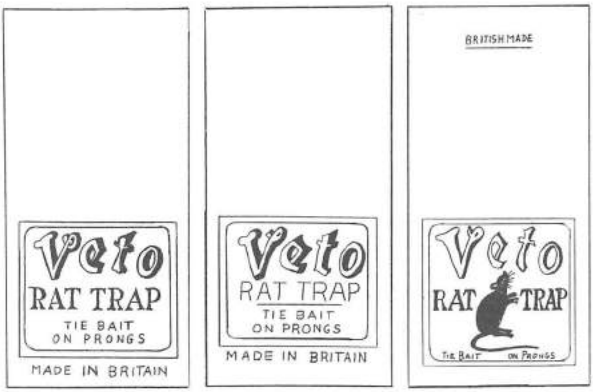


Figure 6. Printing variations on base of Veto rat traps.

Figure 7. Competition between the National Patent Company's Penny Veto and Proctor Brothers' 2d Little Nipper.

Figure 8. The promotion of the National Patent Company's exports.

The ground floor to the left of the main gate was occupied by offices, washrooms, machine workshops and storage areas. To the right was the Wood Department, where all the preliminary work of sawing and planing wood took place. All the rest of the trap manufacturing processes were organised on the open plan second floor.

Making mouse traps

Several different mouse break-back traps were made after the Second World War, but they only differed from one another in the 'tongue' (i.e. treadle or bait hook) with which they were provided and the name they were given. Thus the following general description of the manufacturing process applies to all of them.[11]

a. Preparation of wooden bases.

Downstairs in the Wood Department were prepared strips of wood ¼" thick, 1,7/8" wide and 19.11/16" long, that is to say the dimensions of five trap bases placed end to end. These wood strips were then loaded into tea-chests and carried upstairs.

b. Printing.

Five of the strips of wood were placed side by side on the printer and printed with the name of the trap being produced. Thus the printer processed twenty five traps simultaneously. The printing was generally confined to one end of each trap base.

c. Separating the wooden bases.

Ten lengths of wood were then placed together and sawn across in four places to produce fifty separate printed trap bases.

d. Inserting the 'end pin'.

Each trap base was manually fed into a machine that automatically punched in the 'end pin', a small staple (3/16" wide) that would eventually hold the 'lever', or length of wire, that would restrain the striking frame of the trap when it was set. The end pin was inserted on top of the base at its printed end in such a way that the two ends of the staple were flattened against the underside of the base, thereby providing a very firm anchorage for the lever.

e. Inserting the 'Middle Pin'.

The middle pin, another ½" wide staple, that would eventually hold the tongue of the trap, was inserted by machine exactly like the end pin, but was positioned centrally 1½" from the other end of the trap.

f. Inserting the 'Rocker'.

The 'Rocker' was a much larger wire staple (1½" wide) that was inserted by machine into the underside of the trap almost across its centre so that its two arms were left sticking up about ½" on each side above the top surface of the trap.

These two projecting arms were later bent over to secure the spring and striking frame firmly to the wooden base of the trap. This method of securing these two essential trap components was unique to the Johnstone Mouse Trap Factory and readily identifies any of the snap traps it produced.

g. Fashioning the Spring and the Striking Frame.

The spring and the striking frame were made from a single length of wire. The spring was formed first in a machine called the 'Grinder', which produced a tight helical spring with twenty one coils (25 for rat traps) that tended to be tighter at one end than the other. At the tight end and continuous with the wire of the spring there then a straight 6½" length of wire. Another machine was used to put three bends in this extra wire to form the rectangular striking frame.

h. Fashioning the Lever and the Tongue.

The lever and the various types of tongue needed for different traps were all made by different specially designed machines.

i. Attaching the Tongue.

The end of the tongue that received the free end of the lever was simply slipped by hand under the hoop of the middle pin so that the rest of the tongue lay along the top of the trap and towards the end of the trap on which the middle pin was placed. The tongue had to be attached before the spring and the striking frame, which would otherwise get in the way.

j. Attaching the Spring and Striking Frame.

This operation was also done manually with the trap lying flat on the bench and the tongue pointing away from the operator. Using a special handtool with two small metal points projecting from its end, the right hand end of the rocker was turned down hard towards the operator and into the trap base to form a small hoop. The free end of the striker was then inserted through the hoop and through the hollow tube formed by the coils of the spring, making sure at the same time that the short free length of wire at the right hand end of the spring was pointing backwards and lying along the surface of the trap. The other end of the rocker is then bent over the wire emerging from the left hand aperture of the spring and the emerging wire is pulled tight and bent forwards over the top of the left hand side of the striking frame.

k. Attaching the Lever.

The lever was attached by closing its preformed loop around the wire of the end pin. In the case of traps made from soft wood, it was necessary to protect the surface of the trap during this operation, by inserting a thin sheet of metal around the pin.

l. Inspection and Packing.

The completed traps were then taken to an inspector who checked each trap

and made any adjustments necessary before passing them on to be packed. Packing involved placing pairs of traps face to face in boxes each holding two dozen. Six of these boxes went together into larger boxes, each of which then held one gross of traps.

The assembly line

All except the first of the manufacturing processes described above were laid out on the open plan top floor of the factory in an orderly manner so that each stage of manufacture flowed more or less smoothly on to the next.

Each of the five operations b to f had a single dedicated machine with a single operator. These were followed by four grinders, each with an operator, to make the springs. Then came the frame bending machines and those for fashioning the levers and tongues.

The final manual assembly of each trap (operations i, j and k) was all done by a single operator, but there were ten workers undertaking this final stage of the manufacturing process. They were followed by three inspectors and two packers.

For the manufacture of the much smaller number of rat traps and mole traps only four workers were employed and there was less need for a formal assembly line.

The work force

In the immediate post-war years the work force was largely composed of young lads between fourteen and eighteen years (the period between leaving school and undertaking National Service in the armed forces) and young women in their twenties and thirties. The employment of women in the Factory was apparently fairly new and probably largely due to the war.

A list of the workers and their main tasks are given in Table 2 and a photograph of many of them forms Figure 9. This photograph was taken in 1947 at one end of the timber store sited behind the main factory building.

The Fire and After

Disaster struck on the morning of Friday, 16 March 1951. Catherine McCreadie, a nearby householder in Campbell Street, raised the alarm just after 6 o'clock when she saw the glow of flames from her kitchen window. By the time the fire brigades from Johnstone and Paisley arrived the Factory was well alight. The roof of the factory collapsed and soon afterwards the floor of the second storey gave way, taking some twenty-three machines with it.

The firemen had the blaze under control by 10 am, but by then at least half the building had been gutted. The fire apparently started in the wood store.

Exactly what caused it remains unknown, but it is not inconceivable that it was due to the gnawing of electric wires by the rats and mice that frequently infested the piles of wood. [12]

The factory was repaired and the manufacture of traps resumed, but the National Patent Company was unfortunately unable to regain its former profitability. It was consequently wound up, a process that started on the 27 July 1956, but was not fully completed until 17 August 1960, the official date of dissolution of the Company.

In 1984 the Johnstone Mouse Trap Factory was converted into fourteen apartments and so it remains to this day.

ACKNOWLEDGEMENTS

It is a pleasure to record my thanks; to Ken Hinshelwood of the Paisley Library and to David Roberts of the Paisley Museum for providing me with much material on the early history of James Hunter and his activities; to Roy Brigden of the Museum of English Rural Life, Reading University for allowing me to consult and use copies of advertisements from *The Ironmonger* (Figures 3, 4 and 5); to Rod Adair and George Clarke for their help in discovering examples of traps made by the Johnstone Mouse Trap Factory and to Ricky Seiter for providing an Australian dimension.

I also owe a special debt of gratitude to those Mouse Trap Factory workers, Nancy Campbell, Ina Kerr, Ruby McCrystal and William Boyce, who so kindly shared their memories of the factory with me. In fact had it not been for Willie's splendid memory of the details of mouse trap production, the section on this topic would never have been written.

NOTES

1. The only evidence for giving 1872 as the year of establishment of the National Patent Company is that this is the year claimed on a number of the Company's much later advertisements, for example in *The Ironmonger,* 25 Feb 1899, p. 32.
2. *The Ironmonger*,12 Dec 1896, p. 32.
3. Drummond, David, 'Colin Pullinger and his Perpetual Mouse Trap', *Sussex Industrial History* 24, (1994) p. 2-9.
4. Information about the Hunter family and the National Patent Company have been culled from various documents held by the Scottish Record Office and the Paisley Museum. They include Birth, Marriage and Death Certificates, Wills, National Census Records, Assessment Rolls, Sasine Registers,

Paisley & District Directories, and Company Records. Copies of these documents relevant to the history of the Johnstone Mouse Trap Factory have been collected together and lodged with the Local History Section of the Paisley Museum.

5. Drummond, D C, 'Unmasking Mascall's Mouse Traps'. *Proceedings of the 15th Vertebrate Pest Conference*, (1992). University of California, Davis, USA, pp.229-235. See Figure 2f for a sixteenth century version of a choker mouse trap.
6. In James Hunter's patents and his early advertisements for all his gnaw-thread choker traps the nails at the front of the trap are shown immediately below each hole. In later advertisements and all the known extant examples of these traps the nails are placed below but between the holes. This last arrangement, that also involves one less nail per trap, seems to be the most convenient for the trap setter, if he is setting the nooses at more than one hole.
7. The release mechanism involving pushing against two downwardly projecting wires was already envisaged in a patent of David Gilmore of Belfast (GB 1888 4,185).
8. The names of choker traps and other material printed on the ends of such traps seem to be particularly prone to wear and fading and extant choker traps with any readable printing are extremely rare. The writer only knows of one example, repatriated from Australia, in which the printing is upside down and very faint and reads 'NEW SNAPSHOT. MADE IN SCOTLAND'.
9. James Hunter's patent for the 'Hero' includes two methods of using the whole trap base as a treadle. An examination of various advertisements suggests that one method was used for the Hero rat trap and the other method for the 'Hero' mouse trap. Unfortunately no examples of these two traps seem to have survived, so we have no way of confirming this supposition.
10. Information on clothes pegs and poles was a personal communication from Willie Boyce.
11. The terms used for parts of traps and for the various trap making machines were probably mainly coined by the local work force and may have had no wider application.
12. Willie Boyce personal communication. Willie was serving in Singapore in the army at the time of the fire, but he reports that his mother told him that at the time there had been a cartoon in the *Scottish Daily Express* depicting mice celebrating while the factory burned! Unfortunately this clearly unusual and striking pictorial commentary on the disaster that led to the demise of The Johnstone Mouse Trap Factory has not yet been traced in the paper mentioned, or indeed in the *Glasgow Evening Times, Glasgow Daily Record, Glasgow Herald, Paisley Daily Express, Paisley & Renfrew Gazette,* or the *Johnstone Advertiser*.

13. Figure 5f is taken from the only known advertisement for the 'Betta' mouse trap in 'Rats & Mice on the Farm', *Bulletin of the Ministry of Agriculture & Fisheries 30* 8th Edition (1953) H.M.S.O.

Table 1. Traps made by the National Patent Company

Name of Trap	Production Period		Figures
	Mouse Traps	Rat Traps	
Choker Traps			
Detective	1894-1941		1b, 3
Never Fail	1894-1907		1b
Snap Shot	1896-1907		2b, 3
New Snap Shot	1896-1941		1c,2d,3
New Never Fail	1900-1901		3
Snap Traps			
Unseen	1899-1921	1899-1955	3
Hero	1900-1913	1900-1913	3
Veto	1910-1955	1913-1955	5a
Dart	1922-1927	1922-1927	5a
Million	1922-1955	1922-1955	5a
Allwire	1927		5b
Nap	1928-1941		5c
Ace	1933-1941	1933-1941	5d
Baitlock	1936-1937	1936-1937	5e
Betta	1943-1953	1943-1953	5f
Cheapa	1954-1956	1954-1956	5g
Other Traps			
Bull's Eye Rat Trap - Type of trap unknown (1898)			—
Captor - Single-catch Live Trap (1935-1941)			5e
Perfection Mole Trap (1905-1941)			5a

Table 2. Johnstone Mouse Trap Factory Management and Workers, 1947

Name	Job	Position in photograph (Fig.9) Front, Middle or Back row from Left to Right
William McDonald	Company Manager	—
Alexander Leask	Works Manager	—
Nancy Campbell	Company Secretary	—
Ina Kerr	Secretary	—
Sandy Kerr	Foreman Sawyer	B7
Alec Kerr	Sawyer	B2
Alec Scott	Sawyer	B1
Joseph Kerr	Sawyer	—
Jackie Armstrong	Sawyer	—
James Duffey	Sawpit Labourer	—
'Wee Joe' Burns	Foreman upstairs	—
'Big Nellie' Gray	Printer	M1
Margaret Gallacher	End pin machine	M5
Kathy Law	Middle pin machine	B5
Greta Scobie	Rocker machine	M2
Betty McLaughlin	Grinder machine	M4
Mary Drinnen	Grinder machine	—
Willie Daly (15)	Squarer machine	F2
Alan Murray (14)	Squarer machine	F3
Robert Law	Squarer machine	F4
Michael Tirney (15)	Squarer machine	F5
Mary Patterson	Work distributor	M8
Willie Boyce (15	Mouse trap assembler	F1
Robert Penny (15)	Mouse trap assembler	F6
Willie Green (15)	Mouse trap assembler	F1
Robert Armour (15)	Mouse trap assembler	F8
Cathy Martin	Tester and packer	M3
Lizy McKay	Tester and packer	M6
Ruby McCrystal	Tester and packer	M7
'Big John' Lindstrom	Rat trap maker	F9
Mary Miller	Rat trap maker	B3
Isa Dickey	Rat trap maker	B4
William McLellan	Rat trap maker	B6

Figure 9. Johnstone trap makers 1947. See Table 2

The Clyde Screw Steam Packet Company: An 1850s Venture Part II

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[Please note, Part I of this article appeared in *Scottish Industrial History* Vol.17]

Crimean Interlude

Britain and France declared war on Russia in March 1854, but in anticipation the governments had begun in January to transport troops and supplies towards the Black Sea. The British government recognised to an extent the advantages that steam navigation held for such a distant theatre. Mail contracts issued by the Admiralty gave the government the right to requisition the firms' steamships and this right was quickly exercised. Cunard's *Niagara* was the first - engaged on 13 February 1854 and dispatched from Liverpool on the 23rd with 900 officers and men of the 28th regiment to Malta.[39] By the end of 1854, twenty-six ships had been requisitioned from mail contract companies. This seriously disrupted their services. For example, the Cunard service between Liverpool and New York was abandoned between December 1854 and February 1856, leaving only the fortnightly mail service between Liverpool and Boston. Eleven of The Peninsular and Oriental Steam Navigation Company's fleet of forty-one were taken up on Government service.[40]

In the early months of the war, however, the sailing ship predominated in transport operations. The earliest charter was the ship *Canterbury* which was engaged on 12 January 1854 to convey troops from Queenstown (Cobh) to Malta.[41] But by the end of the year the British government was hiring few sailing ships.[42] This shift in policy was caused in part by fourteen sailings transports being lost on the Crimean coast during a severe gale on 14 November 1854. The same gale dismasted at least six others. On the other hand, only one steamship was wrecked and one other damaged. The loss of the single steamship, *Prince*, however, was a serious blow since she had just arrived from Deptford with the bulk of the winter clothing for the British troops. She also had onboard badly needed medical supplies which had to be carried on past the hospital at Scutari (of Florence Nightingale fame) since they had carelessly been stowed below matériel for Balaklava. Rigging torn loose by the gale had fouled the propeller leaving the ship powerless. The loss of men was severe - out of 150 on *Prince* only six survived.

The lack of good harbours on the Crimean coast and the resulting vulnerability of sailing ships had been highlighted. Also, while the allied troops had landed unopposed on the beach at Eupatoria on 14 September 1854, it became clear

after Balaklava (21 October) and Inkerman (5 November) that the campaign could prove to be drawn out as a siege was laid to Sebastopol. The competence of those responsible for keeping the supply lines open was being subjected to increased public questioning: writing from the field, William Russell reported to the readers of the *London Times*:

> It is right that [the people of England] should know that the wretched beggar who wandered about the streets of London in the rain led the life of a prince compared with the British soldiers who were fighting for their country, and who, we were complacently assured by the home authorities, were the best appointed army in Europe.[43]

The supply situation was exacerbated by the November gale. Russell estimated that food for twenty days was lost.[44]

The Admiralty realised that the ability of a steamship to get from England to Constantinople (Istanbul) in between two and three weeks compared with six weeks or so for a sailing ship was worth the extra payment.[45] (Steam transports were engaged at £2.5/- (£2.25) to £2.10/- (£2.50) per registered ton per month while for sailing transports the rates were usually around £1).

During 1855, the Admiralty did continue to hire a few sailing ships but these appear to have moved mostly under tow. For example, *Northfleet* was towed by the *Golden Fleece* of the General Screw Steam Shipping Co. from Constantinople (24 July) to Marseilles (4 August) while *Argo* of the same firm towed *Northfleet* back from Marseilles (15 August) to Constantinople (30 August).[46] We note in passing that unimpeded steam transports usually completed the passage in nine days.

Among the later hires of the war was the Clyde Screw Steam Packet's *Clyde*. Early in October 1854, reports of *Clyde*'s engagement appeared in the newspapers[47] but *Clyde* was in the hands of Scott Sinclair for major repairs to hull and engines. The date of engagement was actually 20 December 1854 at a monthly hire of £2,920 - a great improvement on her North Atlantic earnings. In addition, the hire was paid in advance, and so on 5 January 1855 the charter account was credited with £5,840, two months' hire.[48]

But *Clyde*'s entry into Government service was not smooth. She was rushed away from Scott Sinclair's yard on Friday 8 December 1854. Captain David Henderson had invited George Jeffery, engineering manager of Scott Sinclair, to accompany the vessel on the voyage south to Portsmouth. (We must assume that relations between Clyde Screw and Scott Sinclair could by now be characterised as

'strained'.) Jeffery was therefore present to witness the devastation caused by a boiler explosion about half past six on the evening of Sunday 10 December while *Clyde* was off the Devonshire coast. Two firemen perished in the explosion. The chief engineer, John Purvis, and the fourth engineer were seriously injured. The galley also filled with steam and some staff there were scalded, though not seriously.

After some hours steam was raised again, and *Clyde* headed for Cowes, Isle of Wight, and anchored at six o'clock on the evening of the 11th. Medical help was now summoned and Captain Henderson sent a brief report to Murray. 'The night has become very dark and we have anchored at Cowes,' wrote Henderson no doubt reflecting his own mood after this latest catastrophe.[49] Soon thereafter, *Clyde* was taken to the Portsmouth Dockyard where an inspection was carried out in preparation for an inquest.

The boilers of *Clyde* consisted of four independent return tube boilers contained within a single rectangular casing. There were three fire doors per boiler, giving six facing aft and six facing forward.[50] It was the starboard forward boiler that had exploded. Under examination at the inquest, Jeffrey remarked:

> We found difficulty with this boiler from the first of the voyage, and we kept the surface blow-off cocks constantly open. From the irregularity of the water level of this boiler, I considered there was some defective action of the check valve, or feed water upon the front of the boiler. The irregularity ... was one which I considered would rectify itself.[51]

Jeffery discussed the boiler's behaviour with chief engineer Purvis who shared Jeffery's opinion. 'That the stop valve was shut was furthest from our thoughts,' concluded Jeffery. In fact the cause of the explosion (and the boiler's behaviour) was very simple: the stop valve was shut.

The design of the boiler placed the stop valve *before* the safety valve, thus rendering the safety valve inoperable. Jeffery claimed this was not unusual. A juror asking why the safety valve was isolated in this way was told by the Chief Engineer of the Portsmouth Dockyard that there was no obvious reason but that the arrangement was quite common. The engineer claimed that cost was not relevant.

Why was the stop valve shut? Henderson rejected a suggestion that it had been closed by a disgruntled member of the crew. More likely was Jeffery's thought that 'the handle of the valve happens to be in a convenient position to form a step'. It was not improbable, he surmised, that during the repairs at Greenock 'someone

like myself stepped on the handle of the valve, and closed it.'

Unlike Scott Sinclair's engineer and the Dockyard engineer, the jury were struck by this indefensible practice and when returning a verdict of manslaughter against John Purvis, *Clyde's* chief engineer, as the individual responsible for checking matters such as the safety valves, argued that extenuating circumstances existed since the accident was caused by the 'peculiar arrangement of the stop and safety valves.' The 'peculiar arrangement' was compounded by the boilers not having individual steam gauges. The coroner was reported 'to be much astonished at this extraordinary verdict', but on being instructed to retire and reconsider, the jury stood their ground and included the criticism of the design in the final verdict.

It is puzzling that a boiler built in 1854 by a reputable and experienced firm should have incorporated the design flaw. Possibly Jeffery is correct in claiming that the arrangement was common but John Bourne in his famous 1846 treatise on the engine stated unequivocally:

> Every boiler should be furnished with a steam gauge ... and the passages leading to the safety valves should have no connection with the pipes leading to the stop valves.[52]

The boiler was quickly repaired. (Strengthening stays were added by the Dockyard but there is nothing to suggest the design defect was rectified). *Clyde*, loaded with clothing, steamed out of Portsmouth Harbour on 4 January 1855, reaching Constantinople on 27 January. The passage was marred by 'repairing engines at Malta.' *Clyde* unloaded her cargo and proceeded through the Bosphorus Strait into the Black Sea and brought back to Constantinople sick troops from Balaklava in the south-east corner of the Crimean peninsula. (Cholera and frostbite were taking their toll among the poorly fed and clothed troops).[53]

Table 3

Employment of **CLYDE** as transport
during the Crimean War

Voyage	Route
1.	Clyde 8 Dec 1854, Portsmouth 11 Dec.
2.	Portsmouth 3 Jan 1855, Malta Jan, Constantinople 27 Jan, Balaklava Feb.
3.	Balaklava Feb 1855, Constantinople 19 Mar, Marseilles 31 Mar.
4.	Marseilles 5 Apr 1855, Constantinople 14 Apr.

Voyage	Route
5.	Constantinople 18 Apr 1855, Malta 23 Apr, Genoa 28 Apr.
6.	Genoa 7 May 1855, Constantinople 16 May.
7.	Constantinople Jun 1855, Varna Jun, Kazatch Jun.
8.	Kazatch Jun 1855, Constantinople Jun.
9.	Constantinople Jul 1855, Kertch Jul.
10.	Kertch Jul 1855, Kazatch Jul, Rasloo Jul.
11.	Rasloo Jul 1855, Constantinople Jul.
12.	Constantinople 1 Aug 1855, Malta Aug, Portsmouth 21 Aug.
13	Deptford 6 Oct 1855, Gibraltar 15 Oct, Malta 21 Oct, Constantinople 28 Oct.
14.	Constantinople 15 Nov 1855, Kazatch 18-20 Nov, Balaklava 21 Nov.
15.	Balaklava 8 Dec 1855, Kazatch 8 Dec, Constantinople 10 Dec.
16.	Constantinople 17 Dec 1855, Malta 22 Dec, Gibraltar 29 Dec-1 Jan 1856, Spithead 9 Jan, Portsmouth 12 Jan, Gravesend 13 Jan, Deptford 14 Jan.
17.	Deptford 26 Jan 1856, Gibraltar 4 Feb, Malta 9-10 Feb, Constantinople 15-17 Feb, Scutari 17 Feb, Balaklava 20 Feb.
18.	Balaklava 8 Mar 1856, Constantinople 10-13 Mar, Scutari 13 Mar, Malta 17-18 Mar, Alexandria 24 Mar, Malta 30 Mar.
19.	Malta 5 Apr 1856, Constantinople 10 Apr.
20	Constantinople 22 Apr 1856, (off) Balaklava 24 Apr-1 May, Balaklava Harbour 1 May.
21.	Balaklava 6 May 1856, Constantinople 8 May, Malta 13-14 May, Gibraltar 21 May, Spithead 28 May, Portsmouth 3 Jun, Southampton 3 Jun.
22.	Southampton 15 Jun 1856, Gibraltar 21 Jun, Algiers 26-27 Jun, Malta 2-4 Jul, Constantinople 9-10 Jul, Balaklava 12 Jul.
23.	Balaklava 13 Jul 1856, Constantinople 15 Jul, Scutari 16-18 Jul, Malta 23-24 Jul,Spithead 5 Aug, Woolwich 6 Aug.
24.	Deptford 22 Aug 1856, Sheerness 2 Aug, Portsmouth 23-27 Aug, Guernsey 27 Aug.
25.	Guernsey 29 Aug 1856, Jersey 29-30 Aug, Portsmouth 30 Aug.
26.	Portsmouth 3 Sep 1856, Guernsey 3-4 Sep, Alderney 4 Sep.
27.	Alderney 6 Sep 1856, Kingston 7 Sep.
28.	Kingston 10 Sep 1856, Jersey 11 Sep.

Voyage	Route
29.	Jersey 14 Sep 1856, Kingston 16 Sep.
30.	Kingston 20 Sep 1856, Jersey 22 Sep.
31.	Jersey 25 Sep 1856, Guernsey 25-26 Sep, Pembroke 29 Sep, Kingston 1 Oct.
32.	Kingston 2 Oct 1856, Spithead 5 Oct.
33.	Spithead 8 Oct 1856, Tail of the Bank 11 Oct, Glasgow 14 Oct.

Sources: MS106/73, Log of **CLYDE**
PP 1856 (345) XLI;
Shipping Intelligence reports.

Table 3 summarises the sailings of *Clyde* as a transport during the war and immediately thereafter. A logbook for part of *Clyde's* time as a transport has survived in the archive and from this we see, incidentally, that the engines were always used with sails being used only occasionally to assist. There are several comments on the poor quality of the coal, and while steam pressure was usually between 6 and 7½ lb p.s.i., there were occasions when pressure was 2½ to 3lb.[54]

The log shows *Clyde* making several calls at Balaklava which became the transhipment port on the Crimea's south west coast for the British forces. It was not an ideal base since it possessed but one wharf. Russell in one of his reports to the *London Times* described the bay as being 'like a highland tarn, some half-mile in length ... and varies from 250 to 120 yards in breadth.'[55] The bay was extremely limited and the gale of 14 November 1854 wrecked havoc among the sailing ships anchored in the bay and off the entrance.

The French authorities selected the bay at Kamiesch as their base. Kamiesch was about eleven miles across the Chersonese peninsula from Balaklava. *Clyde* occasionally used Kazatch Bay, round a headland from Kamiesch. This bay was used by both French and British transports but suffered from poor road connections. Varna, a major seaport in (the then Turkish province of) Bulgaria saw *Clyde* at least once. Set in the estuary of the river Devna, Varna served as a springboard for the Allied invasion of the Crimea.[56]

The employment of *Clyde* illustrates various aspects of the war. On her first trip, *Clyde* carried warm clothing to the Balaklava, bringing back sick troops to Constantinople. Her next duty took her to Marseilles where she embarked French troops for the Black Sea. In order to provide sufficient transportation for its troops and supplies France resorted to both chartering non-French-flag vessels and using Admiralty ships. *Clyde* was in the latter category and, as we shall see shortly, *Petrel*

was in the former. In November 1854, the French Ministry of War advised the Admiralty that 20,000 French troops would be sent to the Crimea if Britain could supply the transport. Between November 1854 and the following January, seventeen sailings were made by British steam transports from either Marseilles or Toulon to the Black Sea. The first to reach Constantinople was the P&O *Ripon* with 1,124 French troops. In February 1855, concern over lack of supplies and the atrocious conditions being endured by the troops caused the Ministry of War once again to seek help from the Admiralty. In April, *Clyde* performed one of the ten sailings made by steam transports from Marseilles to Constantinople between March and May 1855.[57]

Sardinia-Piedmont entered the war on the side of the Allies in January 1855 and the Admiralty supplied transport for the troops. It appears to have been late April before any troops were actually moved with the steam transports *Cleopatra* and *Charity* both leaving Genoa on 26 April 1855 for the nine-day voyage to Constantinople. *Clyde* gave one of the ten sailings in May from Genoa to Constantinople.[58]

Also in May 1855, there was an Allied expedition to capture Kertch, some 150 miles east of Balaklava. The destruction of the base at Kertch would open up the Sea of Azov to Allied warships and disrupt the Russian supply lines. *Clyde* had occasion in July to sail to Kertch.[59]

When *Clyde* returned to England in January 1856 the war was almost over. A preliminary peace treaty would be completed by the end of the month with the Treaty of Paris to be signed on 30 March 1856. *Clyde* was retained as a transport for further work, but the rate was dropped to £2 per ton from £2.10/- (£2.50).[60]

The crews of the transports were not immune to the various diseases which were rampant during the hostilities. William Meiklereid, *Clyde's* chief mate, wrote from Malta in March 1855 informing Murray that David Henderson had been confined to bed for eleven days. Henderson himself wrote in September 1855 asking for a salary increase because of the 'arduous nature of duties and risk to health'. He repeated his plea on 4 October 1855 just before *Clyde* left the Thames again for Constantinople.[61] The archive contains no reply from Murray.

We now pick up the story of *Petrel*. *Petrel* was taken in hand for major repairs after her aborted attempt in September 1854 to reach New York. By early November 1854, a charter party had been brokered between Murray of the Steam Packet Company and Thomas S Begbie, a shipping merchant of London. The charter covered the employment of the ship, complete with crew, within the limits of the English Channel, the Bay of Biscay, the Mediterranean and Black Seas with a monthly rate of £1,300. Begbie clearly had the Crimean hostilities in mind since the charter party on renewal was to extend her area of possible operations by giving

him 'the right of sending her to the Baltic in April, or subsequently while the navigation is open.' [62] The last reference reminds us that the so-called Crimean War had a Baltic aspect to it, aimed mainly against Finland. *Petrel* was never to visit the Baltic but there had been a sudden burst of activity in July and August 1854 when no fewer than eighteen sailing transports carried French troops from Calais for Fårösund in preparation for the assault on the fortress at Bomarsund in the Åland Islands. *Prince*, which was to be lost in the November 1854 gale (see above), was the sole steam transport used.[63]

The ink was hardly dry on this charter party when Begbie entered into an agreement with Pastre Brothers, merchants of London, who were acting under instructions of the French Minister of War. The charter was for six months at £2,160 per month, with the right to renew for a further six months. The second charter party shares much of the boiler plate language of the earlier document but went into considerable detail about the 'sufficient and respectable table' required for any army officers that might travel by *Petrel*. Notice was to be given to the owners at the beginning of the voyage if any officers were to be carried and the owners were to receive 10/- (50p) per day in 'respect of the mess of each such officer'.[64]

Begbie appears to have been acting as a broker and Pastre Brothers made payments to the Clyde Screw Steam Packet Co while Begbie and the London brokers, Smith Sundins & Co., were paid commissions at the rate of £350 and £118.16/- (£118.80p) per month respectively.

William Henderson, youngest brother of David, commanded *Petrel* when she sailed from the Clyde on 7 November 1854 and set a course for the Thames. After lying at London from the 10th to the 19th, she crossed to Le Havre and at 8 a.m. on 29 November sailed for the Black Sea. Calls were made at Malta and Constantinople on the voyage which terminated at the French base of Kamiesch on 21 December 1854.[65]

Petrel left Kamiesch on 18 January 1855 after calling at Constantinople (23 Jan) and Malta (29 Jan), reaching Bône (Annaba), Algeria on 10 February. Two days later, Monday 12 February 1855, *Petrel* was destroyed by fire which started in the cargo hold. The ship was towed into shallow water and scuttled and some equipment salvaged, e.g. anchor and cable, but *Petrel* was handed over to the underwriters and the Steam Packet received £27,000 insurance proceeds.[66]

The half-yearly reports made by Murray reflect a dramatic improvement in the results of the company during the employment of *Clyde* and *Petrel* as transports. So much so that in each of the half-years to 31 July 1855, 31 January and 31 July 1856, a dividend of £100 was paid on each £400 share. Immediately before the payment of the third dividend the profit and loss account showed a credit balance of £9,055.[67]

In the report covering the half-year to 31 July 1855, Murray was able to say that *Clyde* had performed well. He concluded:

> Though we must all deprecate the continuance of the present war, I sincerely hope for the long continuance of the charter as it will afford the pleasure of meeting you half-yearly with a profitable statement. [68]

The war may be best remembered for its gross mis-management, but it was good for the shipowners. The same accident-free record was reported six months later, though reference was made to a major overhaul of hull and machinery following *Clyde*'s return to England in August 1855.[69]

Glasgow - New York II

Clyde was released from government charter on 5 October 1856 and was brought to the Clyde, arriving six days later. It had originally been expected that the engines, which Murray now noted 'had all along been very unsatisfactory,' would have to be replaced. Likewise, it was assumed the boiler would be beyond saving. But Murray was able to report:

> I am happy to state that after they had been thoroughly examined and repaired by Messrs. A. & J. Inglis & Co. of this city they are now working well. The expenses repairing the Clyde after her discharge from the transport service amounted to the large sum of £4,891.2/9d. ($,891.14p) ... I am happy to report that the Clyde when once again placed on the New York station performed the only voyage she has yet had time to make in a most creditable manner. [70]

There was no mention of dividends in the report and while the vessel may have behaved well technically, all was not well financially.

In late December, *Clyde* made a trial trip round the Cumbraes and her speed was reported as averaging 14 m.p.h between the Cloch and Cumbrae Lights. Her chief mate, William Meiklereid, took over as master on her 7 January 1857 departure from Glasgow. *Clyde* left the Tail of the Bank on the evening of 10 January and experienced severe weather before docking at New York on Thursday 29 January. For 19 January, the published abstract of *Clyde*'s log shows winds from SW by W 'blowing a hurricane, with a tremendous sea running - hove to under bare poles, and drifted 32 miles.' There were two days when only eighty miles were covered.

As the ship approached New York a group of grateful passengers presented Captain Meiklereid with an address thanking him for his 'gentlemanly conduct, seamanlike qualifications, indomitable courage and perseverance during the voyage.' [71]

Clyde arrived back at the Tail of the Bank late on 20 February, having completed the crossing in just under thirteen days. She proceeded up-river to berth at Finnieston Quay, Glasgow. Another crossing started on 9 March and occupied 22 days with heavy westerly gales being fought the whole way. The G&NYSCo *New York* left Glasgow three days after *Clyde* and arrived the day before her. *New York* brought 93 passengers against *Clyde*'s three.[72] *Clyde*'s final departure from New York was on 8 April with a 'large cargo and few cabin passengers.' Sixteen days later *Clyde* dropped anchor at the Tail of the Bank.

Clyde made heavy losses on both voyages: the first lost £1,323 and the second £1,426.[73] The economic environment of 1857 was quite different from that of 1854. In 1854 at a time of economic expansion, it had been just *Clyde* and the G&NYSCo's *Glasgow*. After a hiatus of ten months during the Crimean War, the G&NYSCo reopened the route in December 1855 when *Edinburgh*, a new consort for *Glasgow* sailed. Before 1856 was over, *Edinburgh* had been joined by both *Glasgow* and *New York* returning from transport work for the French government. So, the G&NYSCo fleet that *Clyde* was now challenging consisted of three powerful screw steamships offering a frequency that varied between fortnightly and every three weeks from each end. For comparison *Edinburgh* was just over three hundred feet long and measured at 2,197 gross tons, while *Clyde* at 249 feet and 1,169 gross tons was no larger than *Glasgow* the smallest of the G&NYSCo fleet. We also note that while the G&NYSCo showed great boldness in developing the Glasgow-New York trade, the firm remained with proven technology and all three steamships employed the overhead beam engine.

A third player had thrown its hat into the Glasgow-New York ring. Late in 1855, Nicol and Robert Handyside and Robert Henderson (brother of William and David of Clyde Screw Steam Packet Company) decided to enter the North Atlantic trade. At the time the crossing was once again in the hands of sailing ships, though the G&NYSCo *Edinburgh* would appear on the route in December. To provide the first unit of what became the Anchor Line the questionable expedient was followed of converting one of their sailing ships, *Tempest*, to screw propulsion. A second ship, *John Bell*, under charter to Handysides and Henderson went through a similar conversion. Work on *Tempest* was so delayed that it was 11 October 1856 before she sailed from Glasgow for New York, completing the crossing in 28 days. She returned in 24 days. *Tempest's* next westward voyage was no quicker, leaving Glasgow on Christmas Day 1856 and not reaching New York until the first day of February. The weather experienced was severe but by contrast *Glasgow* left Glasgow

on 14 January and reached New York on the same day as *Tempest*, while *Clyde* left Glasgow on 10 January and arrived at New York on 29 January.

Handysides and Henderson had placed an order for an iron screw steamship (launched in July 1857 as *United Kingdom*) and the intention had been to use the new ship, *Tempest* and *John Bell* on a service between Glasgow and Quebec and Montreal during the months the St Lawrence was open for navigation with the New York route being operated only in the winter months. But events postponed the implementation of the plan when, first, *Tempest* on leaving New York 13 February 1857 went missing and so became the Glasgow-New York route's first steamship casualty, and secondly, the opportunity was taken of placing both *John Bell* and *United Kingdom* on transport work for the East India Company during the Indian Mutiny. It was the spring of 1859 before the Anchor Line began trading to the St Lawrence and, when ice closed that route in winter, New York. By that date both the G&NYSCo and Clyde Screw Steam Packet had ceased trading and so the Anchor Line with its unpromising beginnings was left unchallenged between Glasgow and North America.

So when *Clyde* returned to the New York route she had to face competition from two other operators. In times of economic growth the trade might have supported all three, but in 1857 a post-war recession was in place. This recession was experienced in both Britain and the United States and demonstrated how the economies of the two countries were becoming interconnected. By the autumn of 1857 a deep financial crisis had hit Glasgow. A major trading firm in Glasgow, active in American and Australian trade, J. & A. Dennistoun & Co., went bankrupt and helped bring down the Western Bank which had provided credit for developing overseas trade. Letters of credit and bills of exchange are essential parts of a developing trade and early in 1857, the City of Glasgow Bank had opened an agency in New York to ease the handling of these credit facilities. Following the failure of the Western Bank, the City of Glasgow was forced temporarily to stop payments sending another shudder through the commercial community.[74] There were also heavy American failures and bank suspensions. These events took their toll on the Glasgow steamship companies. We are told that *Glasgow* sailed from the Tail of Bank on Saturday 31 October 1857 with about 120 passengers, 'but owing to the prostration of business in the United States, only a small cargo.'[75] Reference was also made to the difficulty of negotiating foreign bills in both countries.

Murray tried to put a good face on the losses arising on the New York route by reporting that:

> ...the sailing of the vessel at the time - during the tremendous gales at the beginning of this year - was not all to-

> gether unprofitable to the company as the vessel previously considered unsafe by the public in general was after this considered superior to most vessels of her size.[76]

Canadian Conclusion

Clyde was withdrawn from the New York crossing since 'an opening was presented in the Canadian trade' and she was advertised to sail from Greenock on 26 May 1857 for Quebec and Montreal. The 'opening' was caused, of course, by the chartering of the Anchor Line's vessels for Indian Mutiny transport work and the loss of *Tempest* in February. *Tempest* had been advertised to sail from Glasgow to Quebec and Montreal on Saturday 11 April 1857. *Clyde* completed the trip to Quebec in 12½ days making her the first steamship to sail directly from Glasgow to the St. Lawrence ports. The first round trip was completed when *Clyde* arrived back in early July and Murray was able no report 'though the freights and passage money were more difficult to obtain than in any former year and the rates much lower, still the vessel was successful.' The voyage earned a profit of £1,500.[77]

Clyde was reported as leaving the Firth again on the forenoon of Wednesday 22 July with a 'full complement of passengers'. The good fortune was not to last. *Clyde* left Quebec for Glasgow on Saturday 22 August 1857 and the following day ran aground on the Mingan Isles on the north coast of the Gulf of St Lawrence and had to be abandoned.[78] Passengers from *Clyde* eventually reached Liverpool on Tuesday 8 September onboard *Anglo Saxon* of the Allan Line.

With the minimum of fuss, the Clyde Screw Steam Packet Company was wound up. Interim returns of capital of £300 per £400 share were made and by the end of April 1858 when Murray made his final report there was £1,543 to be divided among the 64 shares.[79] Thus on an original investment of £400 in 1853, a shareholder would receive dividends totalling £300 together with returns of capital totalling some £324 giving a compound rate of return of around eleven percent.

What about the claim against Scott Sinclair? 'After a tedious law suit and a great deal of negotiation I am glad to state [the claim] has been compromised.' Dividends totalling £900 due to John Scott on his three shares had been withheld and Scott had likewise not received the £900 of capital repayment. Nor would he receive the approximately £72 on the final distribution. In addition Scott Sinclair signed a six-month bill of exchange for £250 and that closed the matter.[80]

Even before *Clyde* slotted neatly into the Anchor Line Montreal sailing in the spring of 1857 and after her loss in August, there were suggestions of connections between the Clyde Screw Steam Packet Company and the Anchor Line. The family connection was surely significant with David and William Henderson being masters and in the former case a shareholder with the Steam Packet Company while

Thomas Henderson was a partner in Handysides and Henderson. Brother number three, John, was a master with the Anchor line and would become a partner in 1859.

The chairman of the Steam Packet Company was William Ewing, a Glasgow insurance broker. He also held eight of the sixty-four shares in *Tempest* after her conversion to a steamship and would hold five of the sixty-four shares in the new Anchor Line steamship, *United Kingdom*, when she was registered in July 1867.[81]

In January 1856 it was reported in *The Glasgow Herald* that *Tempest* was being converted to screw propulsion in order to be consort to *Clyde* when she returned to the Glasgow-New York route.[82] The Steam Packet archive is silent on this possible arrangement except to contain a brief enigmatic letter of 24 April 1856 from Murray to Handysides and Henderson in which Murray reports he had just returned from the premises of Randolph Elder & Co. (builders of the engines for *Tempest*). 'I found all were at sixes and sevens', Murray wrote:

> ...and that the whole transaction was about to go to nothing. I therefore resolved ... to accept the charter on the terms you proposed with this addition that owners have power to sell on giving 4 weeks' notice and the sum per month to be £620. [83]

This reads as if Murray were speaking as the owner rather than the charterer and it seems reasonable to assume that the Anchor Line wished to charter *Clyde* to accompany *Tempest* until *John Bell* and *United Kingdom* were ready.

And the apparent ties continued after the liquidation of the Steam Packet Company. Murray joined the Handysides and Henderson firm and William Meiklereid replaced John Henderson as master of the Anchor Line's *United Kingdom*. David and William Henderson set up the Finnieston Engine Works which did much work for the Anchor Line while in 1872, David and William and the Anchor Line jointly purchased the shipyard and engine-works of Tod & McGregor and traded as D & W Henderson, Ltd.

Concluding comments

The Clyde Screw Steam Packet Company was not alone in being launched with an optimism that expected a rising economic tide to float all ships. Murray with his financial commitment to the sailing ship was probably in agreement with Enoch Train, one of the promoters of the still-born Boston and European Steamship Company. Like Murray, Train had financial interests in sailing ships, but at a public meeting in Boston in July 1855 claimed:

> There is a vast difference between steam and sailing vessels and steam will not interfere with any regular business - the transportation of coarse and weighty commodities, and passengers who cannot afford the luxury of steam passage.[84]

Murray's claim in the 'Scheme' that most of the 'fine goods' manufactured in the south west of Scotland destined for North America travelled via Liverpool was justified. It has been shown that Liverpool's extensive coastal steamship connections had made it a major entrepôt for trade between Britain and overseas markets. As well as fine goods, the 'Scheme' expected a traffic in pig iron. The early 1850s saw a dramatic expansion in the railway system in North America and this created a demand for pig iron and cast iron. Liverpool in 1853 accounted for more than half of Britain's exports of iron and pig iron, and cast iron from Glasgow, a major producer, destined for North America travelled to Liverpool for transhipment.[85] We noted earlier that pig iron was jettisoned from *Petrel* as the vessel struggled to stay afloat in September 1854. The freight list for the voyage shows that 75 tons of pig iron were being carried.[86]

Cotton is a high volume low value cargo but, in the absence of more lucrative items, steamships were willing to carry it as a return cargo from the United States. Like Liverpool, New York was the hub for an extensive coastal steamship network and as a result thirteen per cent of the United States' exports of cotton passed through New York.[87] The cotton industry in the south west of Scotland was beginning to decline by 1850 but remained strong for many more years in the area of 'fancies' or 'fine goods'.[88] There was good reason, therefore, to expect cotton to be available for direct shipment from New York to Glasgow with a return trade in fine goods such as embroidered muslin.[89]

It was recognised that the 'better class' of emigrant traffic would pay a premium to avoid the uncertainties of a crossing to the New World by sailing ship, a voyage which could routinely occupy up to six weeks. Murray was very familiar with the emigrant trade as Reid & Murray were agents for the Universal Emigration and Colonisation Company. (The G&NYSCo initially ignored the emigration market but quickly realised its error).

Two recent studies with quite different perspectives document the growing tourist traffic between the United States and Britain in which Scotland was sharing.[90] The Clyde Screw Steam Packet Company, with access to the established Reid & Murray network in both Britain and North America, was well placed to secure part of the trade. (By contrast, the G&NYSCo started from 'scratch' with, for example, the Glasgow agent, Matthew Langlands being established in only coastal traffic).

The financial crisis of 1857 reflected the intertwining of the economies of the United States and Britain with Scottish interests playing a role that was not minor. The developing commercial links produced an increased need for travel by merchants and bankers as well as the transportation of freight. The emigrant, tourist, and less-affluent business travellers were for the most part ignored by the dominant steamship carriers on the North Atlantic, namely Cunard and Collins, who from 1850 to 1855 operated a secret agreement that set minimum passage rates at levels which not only increased the revenue of the conspirators but also allowed firms such as Inman of Liverpool and the G&NYSCo to undercut and still make a respectable living.[91]

In short, the timing of Murray and his colleagues was sensible and they cannot be dismissed as opportunists who did not know their business. It is quite possible that with two sound ships a symbiotic existence could have been possible with the G&NYSCo. But the ships were not sound. The initial attraction of the Scott Sinclair contract was that the engines were already half-built. The expectation that this would lead to the rapid delivery of *Clyde* proved unfounded with the ship eventually being handed over in an incomplete state fifteen months after the signing of the contract. Certainly the compact engine design left more space for freight but the same goal of minimising fore-and-aft machinery space was achieved in a more satisfactory design by Tod & McGregor who in 1854 installed a steeple geared engine in P&O's *Simla*. Scott Sinclair fitted angular geared engines in at least two other ships in 1853 but these, like *Clyde*, quickly disappeared from the records.[92] The attractiveness of *Petrel* lay, in part, in her almost immediate availability at a time of boom and therefore delay in shipbuilding, but we must question the viability on the North Atlantic of a ship of under 200 feet length.

It is tempting to speculate what could have come of the venture if the energies of Murray and David Henderson had been combined with a pair of ships with sound engines built by, say, Alexander Stephen & Sons. Possibly the report that *Tempest* was being converted to a steamship and consort to *Clyde* on the north Atlantic would have proved accurate; the Clyde Screw Steam Packet Company could have been the parent of the Anchor Line instead of being an orphan taken in from the storm.

NOTES

39. *Transports Parliamentary Papers* XXXIV (1854-55), pp. 270-77.
40. *ibid*; Twenty-ninth half-yearly report ending 31 Mar 1855 of the directors of The Peninsular and Oriental Steam Navigation Company, p. 4.
41. PP (283) XXXIV (1854-55), pp. 257f.
42. Between 1 Oct 1853 and 1 Mar 1855 , 217 vessels were hired - 108 sailing and

109 steam. By 30 April 1854, of the sailing vessels, 72 or two-thirds had been engaged, but only 23 steam vessels or a fifth of the steamships had been en gaged. After the end of October 1854, only three more sailing vessels were engaged while 65 or 65% of the steam vessels were engaged. *Transports* PP (517) XXXIV (1854-55).

43. Nicolas Bentley ed, *Russell's Despatches from Crimea, 1854-1856,* , (New York; Hill and Wang, 1966) p. 151.
44. *ibid.* p. 153.
45. P&O's *Simla* was credited with completing a Constantinople-Spithead run in 11 Days, in 'Reply [9 Jul 1856] of the Directors of The Peninsular and Oriental Steam Navigation Company to a letter from a Shareholder relative to the Com pany's tender for the Australian Postal Service.' p.6. Author's collection.
46. *Transports* PP (345) XLI (1856), pp. 12f, 15f.
47. *Scottish Guardian*, 6 Oct 1854.
48. MS.106/60, Charter account for *Clyde*.
49. MS.106/50, letter D Henderson to Murray.
50. Plans of the boilers are in the Rare Books and Manuscripts Department Mitchell Library item 598623.
51. MS.106/51, newscutting of report of the inquest, *Portsmouth Times and Naval Gazette*, 23 Dec 1854. Plans of the boilers are in the Rare Books and Manu scripts Department, Mitchell Library item 598623.
52. John Bourne, ed. *Treatise on the Screw Engine* (London: Longman, Brown, Green, and Longman, 1846) p. 83.
53. *Transports* PP (345) XLI (1856), pp. 24f.
54. MS.106/73, Logbook of *Clyde*, 5 Oct 1855 - 15 Oct 1856.
55. Russell, p.105.
56. *Scottish Guardian*, 26 Jun 1855.
57. Captain Murracciole, 'La Guerre de Crimée' *Revue Historique des Armees* 4 (1987), p.10; *Transports* PP (283) XXXIV (1845-55), *passim*, '*Transports*', PP (345) XLI (1856), pp. 24f.
58. *Transports* PP (345) XLI (1856), pp. 24f.
59. *Scottish Guardian*, 27 Jul 1855.
60. *Transports* PP (345) XLI (1856), p. 24.
61. MS.106/64, Letter Meiklereid to Murray, 24 Mar 185; MS.106/69, Letters D. Henderson to Murray, 18 Sep 1855 and 4 Oct 1855.
62. MS.106/46, Charter Party between Clyde Screw Steam Packet Company and Thomas Sterling Begbie of Mansion House, London, dated 3 Nov 1854.
63. *Transports* PP(285) XXXIV (1854-55) *passim*.

64. MS.106/47, Charter Party between Thomas Sterling Begbie and Pastre Brothers, dated 6 Nov 1854.
65. MS.106/48, Logbook of *Petrel*; MS.106/65, Owners of *Petrel* in account with William Henderson.
66. MS.106/48, Logbook of *Petrel*; MS.106/63, Report for the half-year to 31 Jan 1855 given at the general meeting of shareholders held 13 Mar 1855.
67. MS.106/68, Report for half-year to 31 Jul 1855; MS.106/82, Report for half-year to 31 Jan 1856; MS.106/89, Report for half-year to 31 Jul 1856.
68. MS.106/68, Report for half-year to 31 Jul 1855.
69. MS.106/82, Report for half-year to 31 Jan 1856.
70. MS.106/102, Report for half-year to 31 Jan 1857.
71. MS.106/80, *Daily News*, 31 Dec 1856, *The Glasgow Herald*, 16 Feb 1857, *Daily News,* 18 Feb 1857.
72. Shipping Intelligence, *New York Daily Times,* 31 Mar 1857 and 1 Apr 1857.
73. MS.106/123, Report for half-year to 31 Jul 1857.
74. On the 1857 financial crisis see J.R.T. Hughes, *Fluctuations in Trade, Industry and Finance A Study of British Economic Development 1850-1860* (Oxford : Oxford University Press, 1960), also S. G. Checkland, *Scottish Banking: A His tory, 1695-1975* (Glasgow: Collins, 1975) pp.466-469, Norio Tamaski, *The Life Cycle of The Union Bank of Scotland*, 1830-1954 (Aberdeen: Aberdeen University Press, 1983), pp. 69-74. For an American perspective, see G.W. van Vleck, *The Panic of 1857*: An Analytic Study (New York: AMS Press, Inc., 1967).
75. *Scottish Guardian*, 3 Nov 1857.
76. MS.106/123, Report for half-year to 31 Jul 1857. 'Very' has been scratched out in the original before 'superior'.
77. MS.106/123, Report for half-year to 31 Jul 1857.
78. MS.106/122 is a set of water colours by E Sewell of the Wreck of *Clyde*. These show the vessel at different states of the tide. Her funnel is depicted as pink.
79. MS.106/132, Report by the Manager, dated 28 Apr 1858. The 1857 crisis found Murray himself over-extended. He was involved in personal bankruptcy and his final settlement from the Steam Packet was paid to the 'Estate of D.A.B. Murray'.
80. *ibid.*
81. Strathclyde Archives, Mitchell Library, Glasgow; *Tempest*: Port of Glasgow, Register number 98 of 1856, dated 3 Oct 1856, official number 10529; *United Kingdom*,: Port of Glasgow, Register Number 85 of 1857 dated 23 Jul 1857, official number 15485. An intriguing piece of trivia emerges from MS.106/ 60, Charter account for *Clyde*, the significance of which is difficult to assess.

A Nicol Handyside sailed as 3rd engineer with *Clyde* when she began her transport work in the Crimean War. Was this the son of Nicol Handyside of Handysides and Henderson?

82. *The Glasgow Herald*, 25 Jan 1856.
83. MS.106/84, Letter Murray to Handysides & Henderson, 24 Apr 1856.
84. Quoted in A.J. Henderson, 'Eleven Decades of Maritime Service' *Sea Breezes* 9 (1950) p. 356.
85. Valerie Burton 'Liverpool's Mid-nineteenth Century Coasting Trade' Valerie Burton ed. *Liverpool Shipping, Trade and Industry: Essays in the Maritime History of Merseyside 1780-1860,* ed. (Liverpool: Trustees of National Museums and Galleries on Merseyside, 1989) p. 36.
86. MS.106/41, Freight lists for *Petrel.*
87. David M. Williams 'The Shipping of the North Atlantic Cotton Trade in the Mid-nineteenth Century' David Alexander and Rosemary Ommer, eds. *Volumes not Values: Canadian Sailing Ships and World Trades,* (St John's N'fld: Maritime History Group, Memorial University of Newfoundland, 1979) p. 308.
88. A. J. Robertson 'The Decline of the Scottish Cotton Industry 1860-1914' *Business History* XII, 2 (July 1970) p. 118.
89. For example, the bulk of the cargo of *City of Glasgow* on her first voyage from Glasgow to New York in 1850 was cotton and woollens with a value in excess of £25,000, *Clyde Bill of Entry* 18 Apr 1850.
90. Raymond L. Cohn, 'Transatlantic U.S. Passenger Travel at the Dawn of the Steamship Era' *International Journal of Maritime History* IV, 1 (June 1992) especially pp. 58-59; Alastair Durie, 'Tourism in Victorian Scotland' *Scottish Economic & Social History* 12 (1992) especially pp. 50-51.
91. For a recent discussion of the price-fixing and revenue-sharing agreement see Edward W Sloan, 'Collins versus Cunard: the Realities of a North Atlantic Steamship Rivalry, 1850-1858' *International Journal of Maritime History* IV, 1 (June 1992) especially pp. 95-97.
92. The other ships were *Ebro* and *Scindian* identified by *The Practical Mechanic's Journal* VI (1853-54) p. 110 as being for the Liverpool-Barcelona and Bombay routes respectively.

Drydock disaster : Hanna Donald and Wilson and the floating drydocks in Java, 1873-1879.

W Donald
Bracknell

In 1873, Hanna Donald and Wilson of Paisley entered into a contract with the Netherlands India Drydock Co. for the provision of shipping docks, repair and storage facilities, workshops, administration and housing buildings at two sites in Java, Dutch East Indies. The contract was marked by delays, quarrels and confusion, and in the end only one of the two drydocks was put into use and only one of the two sites proved suitable. The story of this contract provides a classic example of the difficulties of international marine construction in the late nineteenth century.

The opening of the Suez Canal in November 1869 was a milestone in the history of maritime activities and of commercial interests. Among the many influential people attending the opening ceremonies was Prince Henry of the Netherlands, who was impressed with its potential effect on the trading development of the Dutch East Indies. As a prime supporter of the newly formed Nederland Shipping Co., Prince Henry was sympathetic to calls for the urgent improvement and extension of the docking and ship repairing facilities in the Dutch East Indies to meet the anticipated rapid expansion of trade.

In 1871, led by a former sea captain, A G Bosch, a group submitted a proposal for the establishment of two private docks with full support facilities near the roadsteads of Batavia to the Governor General of the Dutch East Indies. The docks were to include floating dry docks at each site, one at the island of Middelburg or the island of Amsterdam, and the other at or near Sourabaya. The proposal also included the condition that the existing Dutch Naval Docks would cease to accept private shipping once the new facilities were established.

Prince Henry joined the group and wrote to the Governor General in support of the plan, expressing his view that the existing facilities would not cope with the huge potential demand, including that of his Nederland Shipping Co., for repairs, storage and docking of large steamships. Without such a facility, there would be costly delays in the turnround and consequently longer voyage times. There were already many complaints being made. Prince Henry therefore advocated a speedy, economical plan, and the proposals submitted by A G Bosch which avoided the preparation of the usual dock basins and tidal gates seemed suitable.

The proposals were approved in principle by the Governor and committees, and a small group duly made a market flotation of 2.4 million guilders in

October 1872 for the establishment of a new company, to be known as the Netherlands India Drydock Co. of Amsterdam. The flotation failed, despite being available for subscribers in both the Netherlands and the Dutch East Indies, as the mainly Netherlands subscribers only provided 600,000 guilders. The failure to raise local interest in Java appears to have been due to lack of faith in the calculations submitted by A G Bosch.

An approach was then made to British banks for the balance of the capital. They agreed to participate subject to certain conditions, one of which was that the contract or contracts were to be placed with a British company and supplied and built in Britain. A second condition proposed that the Dry Dock design should be to the James Scott system which had been recently used in the construction of the Victoria Docks, London and which had the support of Prince Henry. Although the agreement was settled, the Dutch in the person of A G Bosch proceeded with a different design of a floating dry dock, choosing a new design of Tower Dock by Dr B J Tideman, Chief Naval Constructor of the Dutch Navy, (1834-1883) despite the wishes of Prince Henry. Presumably the British banks agreed to the change, but of this no evidence has yet been traced.

Dr Tideman had designed a floating dry dock for a private Dutch company on the island of Onrust near Batavia and another of similar design was built at Vlissingen in Holland late in 1873. This latter dock took ten years to complete. It would appear that A G Bosch had already discussed these designs with Dr Tideman and included this design and costs in his original proposals, the construction costs being less than other current designs.

The new company was formed on 18 April 1873 with A G Bosch as Managing Director and seven other Board members, all Dutch, as Prince Henry insisted that the Dutch must retain full control.

In order to comply with the British Bank's requirements, A G Bosch made an agreement with Raalte Behrend & Co. of Glasgow to act on behalf of the new company and obtain specifications and quotations. Jaques Van Raalte, of Raalte Behrend & Co was the Dutch consul in Glasgow and was also a relative of Dr Tideman.

Tenders having been submitted, Raalte Behrend recommended that the contract be awarded to Messrs Hanna, Donald & Wilson, Paisley, in September 1873. The Netherlands India Drydock Board then gave A G Bosch permission to ratify the agreement and contract with Raalte Behrend & Co. and Hanna Donald & Wilson. All three parties signed the agreements and contracts on 8 October 1873. The signatories for Hanna Donald & Wilson were James Donald, Robert Wilson and Watson & Campbell and John Reid, the latter two as equal cautioners, sureties and full debtors for Hanna Donald & Wilson.

The total value of the contract was £124,500 at an agreed rate of 12 guilders to £1 sterling. Payments were by delineated instalments with a final payment to Raalte Behrend and Hanna Donald and Wilson three months after completion of the work.

The responsibilities were clearly defined as far as the Netherlands India Drydock Co. were concerned. A G Bosch was to select and prepare the sites and Dr B J Tideman was to approve all tracings, specifications, data and dimensions as well as construction of all named articles. A G Bosch could appoint an alternative engineer subject to the approval of Dr B J Tideman. Raalte Behrend & Co. were responsible for the oversight of the work and material supplied and shipped from Scotland and they also had responsibility for the assembly and construction works on site. Their site engineer was however under the supervision of A G Bosch, although paid by and reporting independently to Raalte Behrend.

The Contract - items to be constructed and placed in working order on the spots determined by A G Bosch were:

A: Near Batavia

1.One iron floating dock capable of lifting vessels of 4,000 tons weight, 18ft draught when supporting along a keel length of 350ft; or of a vessel longer than this, being constructed with balancing towers arranged such that paddle steamers having a beam of 100ft over the paddle boxes could be lifted. The dock had to cope with waves that occur on Batavia roadstead and was to be sunk to a depth of 24ft. The balancing towers were to be 25ft above the iron deck and the main body and plating was to be not less than 0.5" thickness and strengthened to a safe working stress of 9 tones per square inch. The stability of the dock was to be such that it would carry a rigged Man-of-War in a gale force, producing a force of 30lbs per square foot blowing from one side. The dock was to have four pumps, four steam engines with boiler units of a SWP of 25 psi, plus one spare unit and be complete with all fittings, mooring gear, seating blocks, jetties, gangways or bridges to unite the dock with the shore.

2.The supply and erection of repairing shops with landing stage and jetty suitable for loading or unloading, and coaling vessels with derricks and cranes, and with tramway with waggons or trucks, cargo and coal storage sheds, houses for workmen and officers of the company, workshops complete with boilers, engines, machine tools and handling gear, for repair of wooden as well as iron vessels. The cranes and handling gear were to be capable of the shipping and unshipping as well as the repairing of steam boilers of large steamers 'such as now visit Batavia Roadsteads'.

B. At or near Sourabaya

1.One Floating Dry Dock capable of lifting and carrying safely a vessel of 2000 tons weight and 18ft fraught when supporting a 200ft length of its keel. This dock was to be of an approved system, dependent on the still undecided site of the docks operation but would require a depth of water of 7 fathoms (42 ft), built mainly of iron, of strong and durable construction with dimensions capable of admitting paddle steamers with paddle boxes of up to 72ft breadth and of size for admitting and raising the larger floating dry dock. The dock was to be complete with two sets of pumping units, mooring gear, access, equipment etc as specified for the dock at Batavia.

2.Complete storage, handling, accesses, housing, offices, repair facilities and so forth, all as specified for the site near Batavia.

In addition the contract specified:

1.A mobile fire engine with hand pump and hoses mounted of a chariot suitable for land and on board vessels.

2.A steamer capable of towing the two dry docks as well as other vessels in the Roadstead of Batavia, capable of 9 statue miles per hour, with passenger cabins, saloon and with steam pump and hoses suitable for use as a fire pump.

A G Bosch was to give the contractors possession of the sites for the purpose of the works within four months of the date of the contract. Completion date for the dock near Batavia was 27 May 1875. The smaller dock could be chosen for this purpose and then replaced by the larger one and the whole contract completed within thirty-six calendar months exclusive of a reasonable time for removing the smaller dock to Sourabaya which made the completion date 30 October 1876. The non-completion penalty was set at £300 per month but time extension clauses were included. The contractor was given free use of any materials, water, tools, machines and steamer which existed and was available on the sites owned by the Netherlands India Drydock Co., subject to the interests of the company.

Hanna Donald and Wilson commenced work in November 1873 after three weeks hectic planning. They were still operating from their original Abbey Works in Smith Hills, Paisley. They also had the Abercorn Ship Yard in operation for some four years. The decision was made to fabricate the larger dock, cranes and storages at Abbey Works and the smaller dock and pieces at the ship yard and at Atlas Works in Back Sneddon St. Castings were made at their Abercorn foundry at North Croft. Their wide experience in a variety of engineering construction work proved invaluable.

An early decision was made to give priority to the smaller floating dry dock and build her to the design proposed by Dr Tideman. As this design incorporated a conventional ship hull form this was adapted to give a reasonable bow and stern shape and rigged with tripod iron and timber masts and spars as a barque, with the intention to sail her out to Java. Her cargo was the remaining assembly pieces; ie: towers, tie girders, wings, outriggers and other prefabricated sections, rivets, bolts, coal, steam pump units, valves and pipework. She was launched in April 1874 and named 'Sourabaya'.

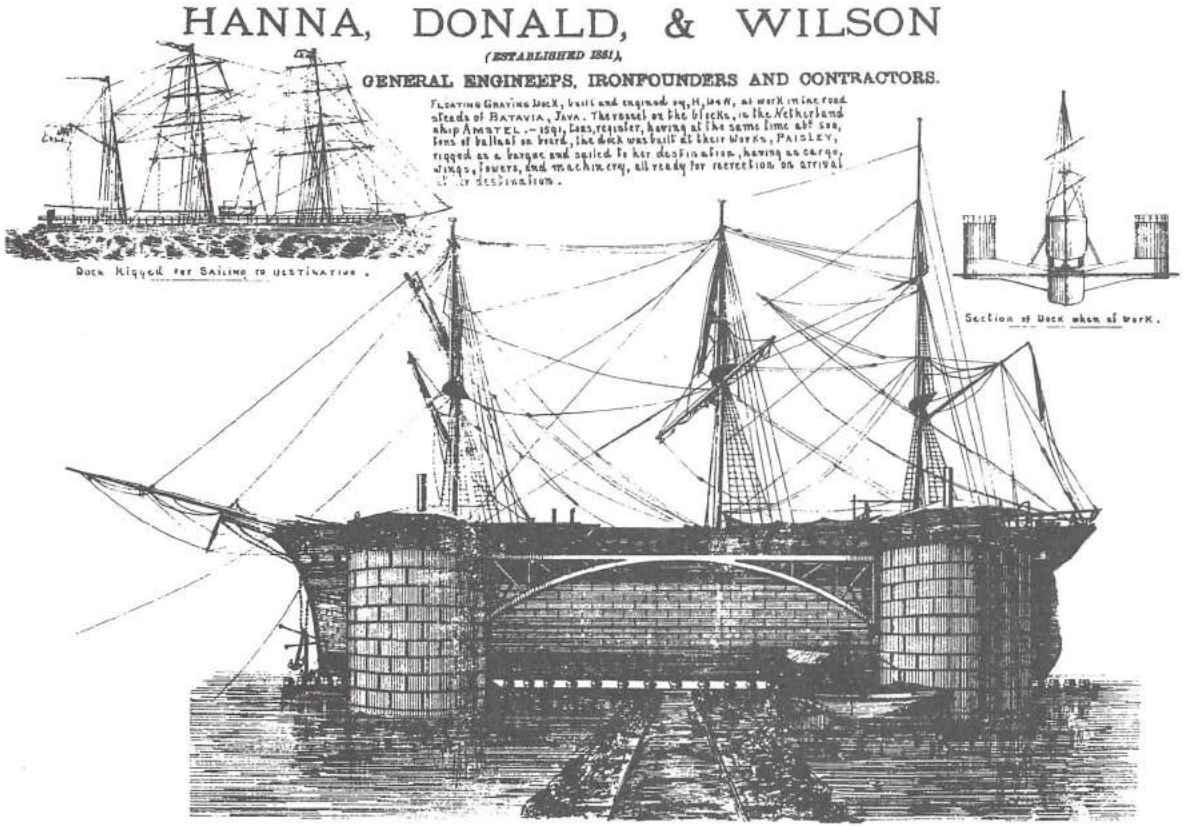
On 26 August 1874 'Sourabaya' left Greenock on the Clyde for trials but had to return under tow as her Captain, G. MacNab, found her steering unsatisfactory in the open sea. The rig was altered and a new, larger rudder made and fitted and trials showed her more manageable.

On 14 October 1874 she was towed to the Tail of the Bank at the mouth of the river Clyde in a rising storm and anchored pending the storm abatement. At that time there was ample time to reach Java and meet the completion date of May 1875. Voyages were then taking eighty-five to ninety days via the Suez Canal. She could not be towed out as there were no large ocean-going tugs at that time. The following day, still anchored, with the storm still raging, the 'Sourabaya' was run down by the barque 'Isabella', closely followed by the barques 'Marinham' and 'Anna'. At the height of the danger and confusion of the second and third collision, Captain MacNab decided to cut his anchor cable and to let his ship run ashore to avoid loss of life and further damage. The 'Sourabaya' was driven ashore on the rocky shallows off Ardmore Point east of Helensburgh on the north side of the estuary.

The reaction of Hanna Donald and Wilson was positive and immediate. Within a few days they had organised lighters and labour to remove the cargo and return all to Paisley for cleaning and restoration. Accommodation for the men was provided locally. On 2 December the 'Sourabaya' supported by lighters and fitted with pumps was towed back to Greenock for repair.

In a resultant court action on 2 June 1875 Hanna Donald & Wilson were awarded damages of £4,750 and expenses against a claim of £11,000. The Lord Ordinary gave a decree for the reduced sum on the grounds that he thought the defendants not fully liable as the cutting of the anchor cable had been rash and unnecessary. The insured value of the 'Sourabaya' in September 1874 was £12,000 and her cargo £4,500. The weight of the cargo was 1,600 tons. The registered tonnage of the "Sourabaya" was 800 tons and her dimensions were 200ft x 56ft x20ft.

The 'Sourabaya' finally set sail for Java on 24 July 1875 under command of a new Master, Captain Zwaneveld. Her route was not as one would have ex-


HANNA, DONALD, & WILSON
(ESTABLISHED 1851),
GENERAL ENGINEERS, IRONFOUNDERS AND CONTRACTORS.
FLOATING GRAVING DOCK, built and engined by, H, W & W, at work in the road steads of BATAVIA, JAVA. The vessel on the blocks, is the Netherland ship AMSTEL.—1591, tons, register, having at the same time abt 500, tons of ballast on board, the dock was built at their Works, PAISLEY, rigged as a barque and sailed to her destination, having as cargo, wings, towers, and machinery, all ready for recreation on arrival at her destination.
Dock Rigged for Sailing to Destination.
Section of Dock when at work.

pected via the Mediterranean, Suez Canal and Indian Ocean, the normal commercial route. Instead it was across the Atlantic to Rio de Janeiro, across again to the Indian Ocean to the Sunda Strait, ending at the Krakatua Roads on 1 June 1876. An epic voyage of over ten months. She was then towed to Amsterdam Island, cleaned, repaired, assembled and tested but was not completed until late 1878.

Meanwhile the drawings of all the other items and of the large dock and steamer had been approved as per the contract. Shipment of finished prefabricated and assembled items, stores, supplies and materials was arranged and shipping secured. No drawings or details now exist other than of the main deck of the large dock plus a photograph of this dock under construction in Hanna Donald & Wilson works, nor do any of the site details survive.

The various sub-assembly items of the large dry dock were completed on schedule as were all the sets of steam pump units, boilers, pipework, valves and fittings.

James Donald, the senior partner, with his wife, Agnes, and their second son, James, brought a party of skilled Scots engineers to Amsterdam Island. On their arrival, however, they found that the site had not been prepared and some areas were not even suitable for the works to be undertaken or goods to be stored. The site near Sourabaya had still not been chosen, resulting in further delay.

The initial settling in and adapting to difficult working conditions; negotiating with local labour, nearly all of whom were unskilled in metal working; insanitary and inadequate accommodation; and dealing with very difficult site situations created problems, friction and delays. By the time the main shipment of materials started to arrive, dockside construction was just about adequate but differences of opinion between A G Bosch and Hanna Donald & Wilson were increasing due to the original choice of site for the assembly and launch of the larger 1680 ton floating dry dock. A G Bosch had no practical experience in the building of iron ships, their weight and ground stability, fall to the water and the depth of water required. A compromise site was finally agreed but again time was lost.

The records of sailing ship departures from the Clyde indicate that by the end of 1875 all materials, sub-assemblies, machinery and parts had been delivered. The delivery vessels were mainly R G Craigs County Line sailing ships, the 'County of Forfar', 'Stirling', 'Peebles', 'Elgin', 'Berwick', and 'Lancaster' along with the 'Princess Amalia' of France and the 'Staadscraad Van Euryck' of Holland. All of these ships had voyages to Batavia in the period July 1874 to December 1875 and are recorded in the Hanna Donald & Wilson ledgers. Most were four masted barques.

Meanwhile, the steamer 'Amsterdam' had been launched in 1874. She was 80ft x 10ft 6" x 9ft 6", of 80 registered tons and fitted with twin screw compound engines, fire pump and dry back boiler of 120lbs per square inch WP. She was

steamed out and arrived in 1875 after first being dispatched to Amsterdam. She was used there and in addition to her invaluable site assistance was hired out on Netherlands India Drydock Co. contracts.

James Donald Jnr was put in charge of the Hanna Donald & Wilson works at the Sourabaya site where materials had been shipped and partly erected. But the site chosen by A G Bosch proved to be so swampy that work had to be stopped pending further discussions.

Assembly work on the large dock, the 'Batavia' started in early 1875, already behind schedule because of the site problems. In August 1875 the Netherlands India Drydock Co. announced that it was ready for launching. They expected that the dock would be put into use in the near future. All the dockside facilities, storage, cranes and other equipment were ready for use at the site on Amsterdam Island.

The launch of the large dock however confirmed the concern over the unstable ground conditions. Conditions near the water caused uneven launch ways and these had to be reinforced to prevent misalignment of the upper slide on the bottom slide. The ground slope to the water was greater than desirable and when the chocks were removed freeing the way the dock started to move. Fortunately she was being restrained and no damage was done but the additional inner guides failed to hold and the dock had to be re-supported and the bottom slides re-aligned, resulting in yet another delay.

When at last the dock slid down to the sea, to the delight of the 800 odd workforce, in January 1877, the excessive incline proved to have another surprise in store. The pressure on the bow cradle protecting the shore end of the dock from the upward surge of the leading end moving fast into the water caused the cradle to break up and the rear of the dock got stuck at the tail end of the launching way. It was fortunate that the shorebed was soft and no serious damage was done but the pressure strained some of the plates and rivets causing hull leaks. Again there was a delay, while repairs and re-testing were carried out, but only of one month.

The repairs and re-testing completed, the Dock was floated off successfully in February 1877, complete with its outrigger connections but without its outrigger and towers to reduce weight and help stability during the actual launch. The wings, towers, boilers, pipework and pumps were to be assembled once she was afloat. It is not clear if a rounded hull form below the working deck was included. The drawing of the working deck (platform) shows no connections for a hull. Fitting out still had to be completed and the attachment of the four towers to the wings could only have been made in a dead calm sea. It is unfortunate that the smaller dock was also still being cleaned and repaired at that time. Its completion date had been extended to November 1877.

The cause of the delay between launching the large dock in February 1877 and the test of August 1878 is unknown, as is the cause of the seemingly excessive period of well over two years between the arrival of the small dock and its handover. However, there is no doubt that the docks proved difficult to assemble amid the considerable friction between A G Bosch and the contractors.

A further site problem arose when soundings were taken of the sea bed at the planned operational site of the large dock. The Netherlands India Drydock Co. were concerned that if the dock sank she would be too deep to recover. A case had already occurred and this dock sank into the volcanic ash silt forming the sea floor, making recovery almost impossible.

Bosch was therefore instructed to provide a safe platform to reduce the sea depth by forming a reef using coral stones before dock site tests commenced. As the dock was almost ready for test trials this caused yet another delay. The use of coral stones was also questionable. There were further arguments over the depth, extent and siting of the reef and Hanna Donald & Wilson wished to carry out their own tests. It should be noted that the specified depth of water required by the small dock was 42ft while that for the larger dock was 24ft. The reef therefore to suit the large dock would have fouled the small dock, It also seems to support the view that the large dock had a flat or shallower hull form.

The late delivery of the docks, despite reasonable extension of time without penalty; the problems in the preparation of the terrains at both sites; the stoppage of work at Sourabaya due to the swampy ground; and worsening relations with Hanna Donald & Wilson resulted in a revised contract agreement being signed on 9 February 1878 by all three parties. All payment stoppages and fines for late delivery were removed, the work near Sourabaya was abandoned and A G Bosch who had shown 'little tactful behaviour in the negotiations and had dealt badly with the contractors and the Dutch East India government', was dismissed.

The payment stoppages had indeed caused cash flow problems for Hanna Donald & Wilson, who eventually in 1880 had to get a loan of £7,000 from the British Linen Bank using the assets of the Company and its partners (James Donald and three of his sons) as security. The large dock was to be completed by 31 March 1878 and the reef bed fourteen days later. The small dock and all site work was to be completed by 30 June 1878 and both docks tested thereafter to specification subject to the Netherlands India Drydock Co. obtaining use of suitable vessels.

As the Netherlands India Drydock Co. were unable to provide a suitable vessel for the tests, to meet the completion dates, while waiting Hanna Donald & Wilson decided to carry out their own test of the large dock in August 1878. No official reports of this, or any other test, including that of the small dock have yet been traced. The only details come from a somewhat prejudiced local newspaper

account, which admitted 'abundance of rumour, gossip of poor materials and workmanship including riveting but no proof'.

According to this newspaper account, the test was carried out close to the shore or quayside in 30ft of water with 60ft of water at the sea-side of the dock. This at least implies that the coral reef built by A G Bosch was intended to level the deep shelving sea bed and form a safe platform, presumably at 30ft depth. However, the details of the reef, its position, length, width or even if it was finished were not given. No mention of the state of weather or tide was given.

> The test started with the apparent opening of the water inlet sluice on the quay side of the dock to fill the floatation compartments slowly. This was done successfully' ... which implies that the dock had tilted. 'The valves on the same side were opened slowly. Suddenly the water rushed from one end to the other and the dock sank slowly away (probably because the internal bulkheads had collapsed)

Bearing in mind that all water or floatation compartments would have been pressure tested in accordance with normal shipbuilding practice (even in those times) and that the dock had been afloat for over a year during the difficult job of fitting the wings, outriggers and towers, and that the deck was already filled and covered with water, it seems unlikely that the bulkheads failed.

A more reasonable explanation is more complex. First, the test was carried out at low tide to safeguard against any control problems, such as blocked or seized valves, hydraulic failure or outrigger failure, when the dock would sink slowly without damage on to the coral reef leaving the towers with their controls, steam pumps, boilers, fueld and personnel safely above the water level. Thus the description suggests that the dock had already sunk some way and the deck was well awash and tilting when the valves on the seaward side of the dock were opened. It could be that it had sunk to just above the reef. The opening of the seaward side valves levelled the dock and it went further down, with the shore side landing on the reef. If the dock had been accurately located along the reef the dock would then have levelled and stopped sinking on a good flat firm base. However, this did not happen, so the dock must have been badly moored or alternatively the position or dimensions of the reef had not been checked or incorrectly given to the contractors the reef was badly constructed. The seaward side of the dock did not land on the reef but tumbled over the edge, so causing the sudden rush of water. It would also suggest that there could have been some difficulty opening some of the valves on the seaward side and in the confusion and perhaps panic at the time of the surge

they were unable to close them. There was no reason to operate initially on one side only. Perhaps poor co-ordination also occurred. No loss of life or injury was reported.

The dock as the tide rose slowly slid down the side of the reef into the 60ft of water, the inlet valves being still open. Clearly had the dock been properly moored it would have settled on the reef. The newspaper report concluded by stating that 'The Dock lay on a steep slope in 60ft of water'. The value of the dock was given as £41,650 (500,000 Guilders)

Dr Tideman was quoted as saying that the loss was due to the ignorance of the contractors, who operated the dock without proper technical supervision. It is to be noted he made no reference to faulty construction. It is more likely that incorrect information on the position and dimensions of the reef was the cause and these were not checked. One also wonders why technical supervision was not to hand.

In 1879, despite Dr Tideman's confidence that the dock could be recovered, there was a failed attempt to raise it with equipment from Britain. This was probably due to the inaccessability and perhaps fouling of the valve inlets. All was not lost, however. The smaller dock, the 'Sourabaya' was successfully cleaned, repaired, assembled and tested. She was put to work in 1879 and ended her working life in 1894 with different owners. The bank loan was cleared by 1883.

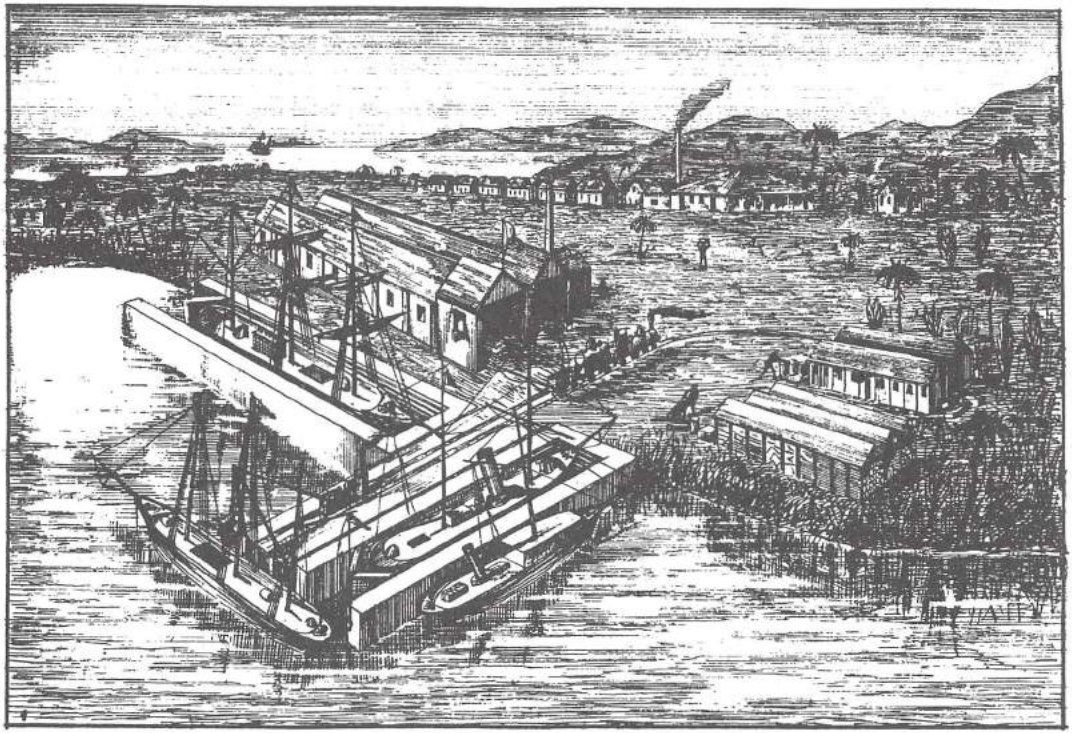
NOTES

The author would like to express his thanks to Dr J M Donald, Dr J M Dirkzwager, J L Meyer, L L Von Munching, M S Moss and R Stewart. Thanks are also due to the Mitchell Library, the Greenock Customs House Library, to Greenock and Paisley Press and to J Donald for providing access to, and permitting use of, all the remaining business records of Hanna Donald and Wilson.

HANNA, DONALD, & WILSON

(ESTABLISHED 1851).

GAS AND GENERAL ENGINEERS, IRONFOUNDERS AND CONTRACTORS.



Donald & Waddle's Patent Graving Dock, in Working Order.

ABERCORN FOUNDRY AND ABBEY WORKS, PAISLEY, N.B.

Archive Report Number 11
Falkirk Museums History Research Centre

Elspeth Reid

Falkirk Museums History Research Centre was opened in 1994 to accommodate the archives, photographic collection, reference library and information resources of Falkirk Museums. The collections have been accumulated since the opening of the first Falkirk Burgh Museum in 1926 and have doubled in quantity recently as a result of the 1996 local government re-organisation. The History Research Centre now provides the archives service for the area served by the new unitary authority, Falkirk Council.

Falkirk Museums has its roots in Falkirk Burgh Museum which was located in Arnotdale House, in Dollar Park, Falkirk and was supported by volunteers and by the Falkirk Archaeological and Natural History Society. The service was re-established in 1975 as part of local government re-organisation and Falkirk Museum was set up in 'temporary premises' in a semi-detached Victorian house. The museum service expanded to serve the whole District, renovating the stables of Kinneil House in Bo'ness to provide a local museum with exhibitions reflecting the Roman and seafaring heritage of the area, as well as space for a developing education service to schools. A part of the Victoria Public Library in Grangemouth was adapted to provide exhibition space to display some of the local artefacts, archives and photographs in the collections. A large industrial unit was acquired on the site of the Central Scotland Airfield in Grangemouth to house the nationally significant industrial collections and to provide workshop space for cast iron working and craft and conservation work. More recently, the historic mansion of Callendar House, which had been owned by the Council since 1963, was transferred to Falkirk Museums after the Council accepted the vision of restoring the A-listed building and turning it into a modern working museum with exhibitions, activities and a well-resourced History Research Centre.

The History Research Centre stands out from other comparable local authority archives services because it was established as part of a vibrant and growing museums service. Since the local authority records were held by Central Regional Archives, the collecting policy has concentrated on business records and records of local organisations. In particular there is more emphasis on the visual interest of items which may have little information or evidential value, such as letterheads and certificates. The visual theme is also the basis for the collection of over 24,000 photographs which is a major resource for the local area and incidentally a useful income generator. There is also an emphasis on material which supports the work

of the different sections of the museums service. These include a developing computerised Sites and Monuments Record, records of archaeological digs, a photographic record of the area, material accumulated in the course of research for permanent and temporary exhibitions and fieldwork from Manpower Services Commission projects. The archives also contain the instruction manuals for machinery and other working items in the object collections. These are supplemented by the careful acquisition of published technical manuals and periodicals and a few rare books relating to the main strengths of the industrial object collections.

The collection of business records reflects the industrial past of Falkirk and the surrounding area. There are records of ironfounding companies, engineering companies, timber merchants, tar distillers, refractories and clay mines. Quite a number of these records came to Falkirk Museums following the liquidation of the company, but there has also been an attempt to maintain contemporary collecting of printed records of local businesses. The industries are best represented by the extensive catalogue collections for individual companies which are in regular use by researchers for the identification of products and are often also used for art and design work. One prime example is the H E Hoole Number Book, which contains detailed watercolour and pencil sketches of the many fireplaces and grates and other products of this ironfounding company. There is no information about how the Number Book was used but the internal evidence suggests that it was an early master record of the company's products, while later volumes in the same series used photographs and copies from the published catalogues and leaflets instead of hand-drawn illustrations.

The business collection includes part of the records of the Grangemouth Dockyard Company. Other dockyard records are held by Glasgow City Archives (formerly Strathclyde Regional Archives) as the company became part of the Grangemouth and Greenock Dockyard Co. Falkirk holds general arrangement plans of ships built at Grangemouth along with the specifications and there are also records from the joiners' department.

In addition to the business records, the History Research Centre holds a number of trade union records. Not surprisingly these include the Falkirk branches of the Amalgamated Union of Engineering Workers and the National Union of Sheet Metal Workers and Braziers. The information in these records provides another side to local ironfounding history. The membership rolls have also occasionally proved useful for family historians, but it is the proverbial needle in the haystack hunt. Supplementing the written records are a number of taped oral history interviews produced between 1979 and 1981 during ironfounding and refractories projects.

Another strength of the holdings is the collection of records of local organi-

sations. These are as diverse as canine clubs, friendly societies, curling clubs, ski clubs and merchants' associations. Together with war memorabilia, ration books, school certificates and family memorabilia, they provide an insight into the daily lives and interests of people of the area over the last century and a half.

Until 1996 the major gap in the collections was the lack of any significant local authority records. At local government re-organisation in 1975 although Falkirk Museums had a small archive collection, it was Central Region which established an archives service with an archivist, and Falkirk District availed itself of the advice and storage which the Region provided. Most of the local authority archival records which were no longer needed by the District Council departments were transferred to Stirling. However, as there was no formal policy requiring the use of Central Regional Archives, local interests in the four former burghs of Falkirk District ensured that quite a number of records were not deposited in Stirling in 1975. Several years later, Falkirk Museums identified and rescued some burgh archives from inadequate storage conditions, and stored the material safely.

At this point the museum was part of the Libraries & Museums Department of Falkirk District Council and had only one curator. Over the twenty years of Falkirk District Council's existence, the museum emerged out of the Libraries & Museums Department into a separate section of the Leisure Services Department. In the process the staff increased to a team of twenty-eight with various specialist skills. The appointment of an archivist in 1992 was part of the process of consolidating the expanding service. The other key element was the conversion of Callendar House, which provided premises for appropriate storage and a public search room facility. This gave Falkirk Council the basis for an archives service and allowed the transfer of local authority records from Stirling to Falkirk.

To date, the records of the four former burghs - Bo'ness, Denny, Falkirk and Grangemouth - have been transferred, along with the parish records and the records of the old districts of the County of Stirling which fall wholly or mainly within the boundaries of Falkirk Council. The records of individual schools have also been transferred as have the valuation and electoral rolls, all of which were county or regional responsibilities but are capable of being disaggregated without damaging the integrity of the collections. The records of Stirling County Council will remain in Stirling as it was the county seat. Other records are under review to determine the most appropriate location, bearing in mind both the structure and integrity of the records and the needs of researchers.

A new element in the Falkirk Council provision for archives is a proposal to run a records management unit in the Law and Administration Service. This is still in its embryonic stage but it is intended that the archivist will be involved in the end stage of the records management cycle, in identifying local authority records

with archival significance and advising on disposal schedules.

Falkirk Museums History Research Centre provides an interesting example of the development of an archives service in a local authority. As part of a museums service the archives benefit from the work of a related profession which has the same basic goals of preserving the past and making it available to researchers. The object and the non-object collections share a common point of access for researchers and the computer database contains the item cataloguing for all the object and non-object collections. A search on the database can find cataloguing information on machines, photographs, archives, unpublished research notes, rare books, manuals, tools, invertebrates, botanical specimens, archaeological finds and newspapers. There is considerable value for researchers in this juxtaposition of different types of sources.

The archives, photographs and reference library are held in Falkirk Museums History Research Centre, Callendar House, Callendar Park, Falkirk FK1 1YR. Admission to the History Research Centre is free, but as there is an admission charge for Callendar House, researchers should identify themselves at reception. Callendar House opening hours are 10.00 am - 5 pm, Monday to Saturday, but the History Research Centre is open Monday to Friday, 10 am - 12.30 pm and 1.30 pm to 5 pm.

'Business broadly conceived ...'

Report of the Business Archives Council of Scotland Surveying Officer 1994-1995

Francis Rankin

Despite a change in personnel, the surveying work of the BACS has continued apace this year and has been aided by the introduction of technology: the purchase of a portable computer. This has greatly speeded up surveying work and reduced the amount of time spent in the Glasgow office.

In addition, thanks to the work of Neil Leitch of Glasgow University Archives, the Council shall soon have a presence on the Internet, advertising its work to academics throughout the world, and to the increasing number of businesses who use this communication tool. The Surveying Officer will be glad to receive input from members on the suggested content and format of our page.

The strong links between BACS and the national drink continued with the extensive survey of the records of **Macdonald and Muir Limited** at Leith, which resulted in a company archive being established in-house for historical and marketing purposes. Most famous today for Glenmorangie, the firm's Martin's blends were among the market leaders in the United States for decades. The recent relaunch of the Baillie Nichol Jarvie blend reveals just how important the accessible archive of a firm can be for brand support. The Council gratefully acknowledges Macdonald and Muir's generous financial support.

Livingston Development Corporation has been the subject of a large scale records management programme jointly managed by the BACS and Glasgow University Archives. With Alice Stewart[2] at the helm, the Livingston Records Management Unit has converted an industrial unit piled high with unsorted paper into a fully functional records centre with special provision for the historically significant archives of the New Town. Since the Corporation is due to wind-up in December 1996, this programme will help to ensure the future of the records of the most significant experiment in town planning in twentieth century Scotland.

The upheaval in the dairy industry saw the demise of both the Scottish Milk Publicity Council (commonly known as the **Scottish Dairy Council**) and the **Company of Scottish Cheesemakers** and their archives were surveyed by BACS before deposit at the Glasgow University Business Records Centre. Both give a detailed picture of the unified marketing approach from the 1950s until de-regulation,

and the thinking behind the familiar Scottish Cheese and Scottish Pride identities.

The geographical reach of the Survey has been extended by several 'cross-border raids' this year. In addition to the survey of Simpson's maltsters at Berwick, an attempt to survey the archival records of the Scots community in London has so far resulted in three significant surveys. **The Caledonian Club** archive bears witness to the social life of affluent male Scots in London this century while the **Royal Scottish Corporation**, giving aid to Scots since the time of James VI and I, records in its archive charitable work on behalf of elderly and destitute Scots. Similarly, the records of **St Columba's Church of Scotland, Knightsbridge**, show the parish to have been a focus of life for Scots from Earl Haig to the hotel residents of Columba House.

The Royal Faculty of Procurators in Glasgow is home to a large and hitherto unlisted collection of archives. Of medieval establishment, the Faculty's archive records its role as the representative body of solicitors from the eighteenth century onwards. Not solely concerned with legislation and legal practice, the Faculty's Benevolent Fund has left a wealth of records. Also of note are the minutes of the Particular Register of Sasines for Glasgow and Renfrew. The archive has now been surveyed by the BACS and its future is under review .

The Council's long and fruitful relationship with the Scottish insurance industry continued. Additional records were listed for the archive at Scottish Widows and a significant new company archive was established at **Scottish Life Assurance Co**, whose generous financial support is gratefully acknowledged. The surviving financial and policy records of the firm from 1881 onwards are now safely kept, together with a wealth of actuarial and marketing records.

Scotland's textile industry was not neglected, and assistance was given to **Holland & Sherry Ltd** of Peebles in establishing a company archive for the preservation and exploitation of its own records and those of successors in Peebles, Lowe & Donald, and of several subsidiary companies.

Finally, some attention was paid to the archives of the **Business Archives Council of Scotland** itself. The minutes from 1960 onwards are now located at the Glasgow University Records Centre (UGD 359). Very few financial accounts survive, and the early coverage of this Journal is very poor. Any member who can help fill these gaps in the Council's archive is asked to contact the Surveying Officer. After all with thirty-five years of sterling work in the preservation of business archives behind it, the BACS has surely earned its place in the history books.

1. Kelvin Wilbraham left in September 1994 to take up the post of Assistant Archivist for the City of Edinburgh.
2. Alice Stewart is now Records Manager and Archivist for West Lothian

Business Archives Council of Scotland Surveys 1994-1995

With National Register of Archives (Scotland) survey numbers where these were available at the time of writing, and in the case of deposited records, showing the repository in brackets.

Association of Underwriters and Insurance Brokers, Glasgow (Business Records Centre, Glasgow, additional).
British Alcan Power and Smelting UK, aluminium works, Kinlochleven (Business Records Centre, Glasgow) NRAS 354.
Brotherhood of Journeymen Coopers of Leith, trade union (Edinburgh City Archives) NRAS 3570.
Bruce Lindsay & Co Ltd, coal merchants, Edinburgh.
Business Archives Council of Scotland, charity (Business Records Centre, Glasgow).
Caledonian Club, London NRAS 3560.
Clyde Shaw Steelworks, Craigneuk (Strathclyde Regional Archives) NRAS 3549.
The Company of Scottish Cheesemakers Ltd, Glasgow (Business Records Centre, Glasgow) NRAS 3551.
Dobbie's Ltd, gardeners and nurserymen, Dalkeith.
Edinburgh Chess Club NRAS 3558.
Thomas Gibson & Company, brick and tilemakers, Carluke (Strathclyde Regional Archives) NRAS 3550.
Glasgow Royal Philosophical Society (Glasgow University Archives).
A Goldberg & Sons Ltd, retailers, Glasgow (Business Records Centre, Glasgow) NRAS 3553.
Holland & Sherry, cloth merchants, Peebles.
House of Fraser, retailers, Glasgow (Business Records Centre, Glasgow, additional).
Lawrie & Symington Ltd, livestock auctioneers, Lanark NRAS 3556.
Levenmouth Trades Council, Methil.
Macdonald & Muir Ltd, whisky distillers and blenders, Leith.
McVittie Guest & Co, bakers, Edinburgh (Edinburgh City Archives) NRAS 3555.
David Mitchell, decorator, Peebles.
RNVR Club, Glasgow (Scottish Maritime Museum).

Royal Faculty of Procurators in Glasgow, solicitors' body.
Royal Scottish Corporation, charity, London.
St Andrew's Preservation Trust Museum, St Andrews NRAS 3562.
St Columba's Church of Scotland, London.
Scottish Building Society, Edinburgh NRAS 3557.
Scottish Life Assurance Company Limited, Edinburgh.
Scottish Milk Publicity Council Ltd (Scottish Dairy Council), Glasgow.
(Business Records Centre, Glasgow) NRAS 3552.
Scottish Widows Fund and Life Assurance Society, Edinburgh (*additional*).
J P Simpson (Alnwick) Ltd, maltsters, Berwick.
Smith Anderson & Co Ltd, papermakers, Glenrothes.
Steedman & Ramage WS, solicitors, Edinburgh.
Strathclyde Building Society, Glasgow.
Summerlee Heritage Trust, Coatbridge.
Toffolo Jackson Limited, terrazzo and marble contractors, Glasgow.
TSB Bank plc, Glasgow (Business Records Centre, Glasgow, *additional, temporary deposit*).
Veitch's Corner Shop, drapers, Peebles.
Whytock & Reid, interior designers and furnishers, Edinburgh.
Younger & Melrose Ltd, dairy wholesalers, Leith NRAS 3561.

The Joan Auld Training Day

Pamela Milligan
Heriot-Watt University Archives

On 16 March 1996, The Joan Auld Memorial Training Day was held at the Scottish College of Textiles, Galashiels. Resulting from an idea of the Business Archives Council of Scotland, its intention was to attempt to repay the debt owed to Joan for her great dedication and enthusiasm in preserving the records of the textile industry and for her work with the Council. The day was thus devoted to textile records, with speakers discussing the records of the wool, jute, linen and cotton industries.

Michael Moss began the day by presenting a wonderful and touching portrait of Joan, an appreciation of her as an Archivist and a friend. This set the scene for a day which was to be both useful and entertaining for all those who attended.

Janet McBain from the Scottish Film Archive presented an introduction to the use of film as a source material for industry, and in particular the textile industry, from 1890s advertising, 1940s staff training and education right up to the present day with the production of the corporate video. This introduction was followed by wonderful films from the Archive, including the 'Romance of Pesco Underwear', which proved most amusing.

Pamela Milligan from Heriot-Watt University and Helen Douglas from the Scottish College of Textiles, then went on to discuss the records of woollen manufacturers using those held at the Scottish College of Textiles. The problems of such records were demonstrated, in particular the difficulties of interpretation caused by the use of technical language. Helen Douglas then showed how the specialist can use these records, drawing on slides of the fabric samples held at S.C.O.T. from the 1880s up to the 1970s.

David Swinfen, University of Dundee discussed the use of jute records held at Dundee University to demonstrate the relations between Dundee and Calcutta. Mill records, records of managing agents, manufacturers' associations, oral history and photographs, were all shown to be a rich source especially for those concerned with social and labour history. The records also chronicle the establishment of an industry which elevated Dundee to the major linen manufacturing centre in the early twentieth century.

Lunch was followed by a screening of 'The Great Mill Race' a film scripted by Alistair Gray, and made in the 1970s as part of a Scottish woollen manufacturers publicity campaign. Alastair Durie, from the University of Glasgow, went on to discuss the records of the Scottish linen industry - the significance, use and prob-

lems of these records. Records of the Board of Trustees, Central Government - namely Export Subsidies, and the British Linen Company were all cited and the wealth of information found within were discussed.

Lastly Michael Moss and Lesley Richmond, from the University of Glasgow Archive, gave a comprehensive talk on the records of the cotton industry held at the Business Records Centre, including a full range of production and business records, from dye recipe books, to sales and birth, deaths and marriage registers. They explained the value of using records of associated practices. The chemistry classes taught at Glasgow College, for example, were attended by textile manufacturers who needed to know about dyes. Samples of the cotton fabrics were used to indicate differing fashion tastes both at home and abroad. In addition the predominance of the bandanna as an export product was also shown - in the 1870s, using patent technology one man could produce 4,000 handkerchiefs in a ten hour day!

At the end of the day, several conclusions were reached. The records of the wool, jute, linen and cotton industries provide a wealth of information for researchers. However, much research still needs to be done. Indeed, this training day exposed areas of potential - but also highlighted the need for technical historians and specialists to work together to access this wealth of information.

There was also agreement that Joan would have loved the day - both for its intellectual stimulation, and for the laughter that accompanied it. A great day was had by all, and hopefully the calls to see The Joan Auld Memorial Training Day established as an annual event will be realised.

SUMMARY LIST OF ARCHIVE SURVEYS AND DEPOSITS 1994.

1. National Register of Archives (Scotland)

This edited list contains brief summaries of surveys of business archives and other records of interest to business and industrial history. Full details of these surveys and of other surveys not listed here are available from the National Register of Archives (Scotland). All enquiries and requests for access to material in private hands should be addressed to the Secretary, The National Register of Archives (Scotland), Scottish Record Office, HM General Register House, Edinburgh EH1 3YY.

ARCHITECTS & SURVEYORS

3528. **Glasgow University Archives.** W H Dinsmore & Sons, chartered surveyors, Glasgow: Accounting records, 1875-1972; scroll schedules for Sheffield United Cricket and Football Club stand and pavilion, 1901, Holy Trinity Church, St Andrews, 1907, St Margaret's Episcopal Church, Newlands, 1908-34 and Iona Cathedral restoration, 1909-12.

AGRICULTURE AND ESTATE

3442. **Borders Region Archive.** Border Union Agricultural Society, Kelso. Minutes, 1813-1955; accounting records, 1876-1974; subscriptions, 1844-1954; letter books, 1877-1907. Border Association for the Encouragement of Agriculture: minutes, 1834-46. Melrose Agricultural Society: minutes, 1840-65. *Replaces Survey 2378.*

3474. **Dumfries Archive Centre.** Photocopies of papers relating to the tenancies of farms in the Maxwell estates of Terregles and Nithsdale owned by Lord Herries, c.1857-c.1894.

ASSOCIATIONS

3448. **Dundee University Library.** British Association for the Advancement of Science: Tayside and Fife Branch. Minutes, 1968-74; financial records, 1960-83; correspondence and miscellaneous papers, 1959-84; annual reports, 1967/68-84/85; programmes, handbooks, lecture lists and publicity material relating to BA branch meetings,

excursions, 1966-85; British Association of Young Scientists, schools lecture service, science fairs and symposia, 1960-86.

3471. **Shetland Archives.** Shetland Literary and Scientific Society. Minutes, 1861-1948; accounting records, 1862-1943; letter book, 1915-41; Miscellaneous printed and MSS items, 1854-1946, including regulations of society, 1862, printed correspondence between society and Arthur Anderson about his Educational Institute, 1862. *Replaces Survey 1940.*

3499. **Glasgow University Archives.** Glasgow University Engineering Society. Minutes, 1892-1980; accounting records, 1911-80; miscellaneous papers, 1894-1991; photographs, 1897-1914.

3482. **Glasgow University Archives.** Property Owners' and Factors' Association of Glasgow Ltd. Minutes and annual reports, 1918-82; legal papers, 1929-37. Association of House Factors and Property Agents in Glasgow: minutes, 1875-1918.

3516. **Dundee City District Archives and Record Centre.** Stirling Park Allotments Association. Minutes, 1899-1981; rules and regulations, 1978.

3508. **Strathclyde Regional Archives.** Clyde Foundry Employees Masonic Association: Minutes 1917-25; register of members, from c.1919. Kincaids' Employees Masonic Association: Minutes, 1925-70; register of members, 1968-77.

3515. **Alexander Laing Esq, Dundee.** Minutes of the Operative Masons Lodge of Dundee: No.47, 1801-1900.

3493. **Highland Regional Archive.** The Northern Meeting, Inverness. Minutes, 1788-1957; accounting records, 1852-1948; correspondence and financial papers concerning rooms, balls and games, 1791-1903.

BANKING

3485. **Committee of Scottish Clearing Bankers, Edinburgh.** Executive committee minutes, 1945-81; chief accountant's committee minutes, 1933-77; various sub-committee minutes, 1957-80; general circulars, 1945-63. Federation of Scottish Bank Employees: executive committee minutes, 1944-79; executive committee working papers, 1972-80; joint negotiating council minutes and working papers, 1970-79; miscellaneous working papers, 1959-76.

3489. **Airdrie Savings Bank.** Minutes, 1835-1993; customer ledgers, 1841-

1963; customer address/signature books, c.1860-1965; loan records, 1917-73; investment records, 1907-61; premises records, 1895-1970; miscellaneous records, 1835-1983. Broomknoll Free Church records, 1806-1914. *Replaces Survey 981.*

CHEMISTS

3487. **R R Tatlock & Thomson**, analytical chemists, Glasgow. Correspondence, technical reports etc, 1887-1960; experiment books, 1893-1951; published articles, 1888-1944; obituary notices, 1907-c.1993; miscellaneous papers, c.1890-c.1940.

CINEMA

3486. **J & A Mitchell & Co Ltd. Campbeltown.** The Picture House, Campbeltown Ltd. Letter books, 1920-28.

ENGINEERS

3444. **Dundee University Library.** Ashwell & Nesbitt Ltd, warming and ventilation engineers, London and Leicester. Plans of University College (Dundee) Engineering Laboratories and Dundee (Teacher) Training College (Dundee College of Education) and practising (Demonstration) School, 1910-1916 (40).

3446. **Dundee University Library.** D J MacDonald Ltd, engineers, Dundee. Personnel records, 1892-1984; drawing office indices, c.1920s; stock books, 1956-89; job books/order books, 1894-1986; costing records, part lists, instructions, 1861-1984; miscellaneous papers, samples and memorabilia, c.1920s-c.1930s; family papers, 1884-c.1933; photographs, 1892-c.1933; plans and drawings, c.1893-1962.

FISHING INDUSTRY

3492. **North West Coast Fishing Industry Records.** Kinlochbervie Harbour: accounting records, 1977-87; vessel summary reports (daily landings), 1984-92; diaries, 1971-92. Lochinver Harbour: diaries, 1974-92. Lochinver Fish Selling Co: minutes, 1938-50; yearly profit and loss accounts, 1949-56. Ullapool Pier Trustees: minutes, 1912-83; accounting records, 1960-69; legal papers, etc. 1786-1962. Scot-

tish Fisheries Protection Agency (Ullapool): fishing boat registers, 1869-1928; monthly landing books, 1963-78; miscellaneous records, 1957-91. Gairloch harbour: accounting records, 1973-76; landing records, 1985-93; miscellaneous records, 1977-89. Kyle & Lochalsh Harbour: accounting records, 1990-93; diaries, 1990-93; photographic material detailing development of harbour and boats using the facilities, c.1900-93. Portree Pier: accounting records, 1993; diaries, 1986-93; miscellaneous records, 1991-93. Uig Harbour: accounting records, 1986-91; diaries, 1987-91; miscellaneous records, 1898-92. Mallaig Harbour Authority: files relating to creation of harbour authority, 1950-69; minutes, 1968-93 annual reports, 1968-93; accounting records, 1968-83; wages books, 1968-83; diaries, 1970-89; register of boats using harbour, 1968; administrative files, 1968-85; papers on harbour development, 1972-84.

FOOD AND DRINK

3488. **J & A Mitchell & Co Ltd, Campbeltown.** Springbank Distillery. Board minutes, 1897-1947; Board papers, 1897-1970; accounting records, 1828-1958; letter books, 1847-48; production records, 1882-1978; staff records, 1875-1959.

3490. **Glenlivet Distillers Plc.** Glen Grant Distillery, Rothes. Accounting records, 1916-71; invoice books, 1882-1971; wage records, 1965-78; warehouse and stock records, 1883-1982; delivery/order records, 1910-49; letter books, 1881-1976; administrative papers, c.1930-77. Grant family papers, 1733-1872.

3491. **Glenlivet Distillers Plc**. Longmorn Distillery, Elgin. Board and legal papers, 1904-50; accounting records, 1894-1983; warehouse and stock records, 1894-c.1960; administrative papers, 1899-1970.

3527. **Glasgow University Archives.** Allied Distillers Ltd. Long John International Ltd. Long John Distilleries Ltd: minutes, 1921-70; register of members, 1928-34; share certificate books, 1963-91; production records etc, 1957-82; label albums, 1930s-77; photographs of various distilleries etc, n.d. D Johnston & Co (Laphroaig) Ltd: board papers, 1942-91; bond books, 1919-67; accounting records, 1884-29; wage books, 1906-28; purchase and sales daybooks, 1921-39; correspondence, 1840-1980; photographs of Laphroaig distillery etc, 1886-1983; plans of distillery and machinery; 1889-1980s. Seagar

Evans & Co Ltd: minutes, 1906-68; register of directors, 1936-63 accounting records, 1819-1978; label album, n.d. Also includes records of the following companies: Alta Ltd: Andrews Mitchell (Whisky Blenders) Ltd; Edward Archer & Co Ltd; Argyll Bonding Co Ltd; Ballindollich Feed Products Ltd; Beverly's Ltd; British Wine Association Ltd; J & W Bulmer Ltd (Angus Mitchell Ltd); Bowen & Mackechnie Ltd; The Bursot Whisky Co Ltd; Cannon Wine Co Ltd; W H Chaplin & Co Ltd; W H Chaplin (Scotland) & Co Ltd; W H Chaplin & Co (Overseas) Ltd; Coats & Co (Plymouth) Ltd; Courtney & Co Ltd; Cowe & Allan Ltd; Craighall Bonding Co Ltd; Dingle, Son & Edward; Divi Cash Tills Ltd; Charles Edwards (Worcester) Ltd; Sandy Fraiser Ltd; Glenloth Wines Ltd; Glenugie Distillery Ltd; Gordon Graham & Co Ltd; Grant, MacDonald & Co Ltd; P Hickey & Nephews Ltd; Stanley Holt & Son Ltd; Holland & Co (Depford) Ltd; House of Schenley Ltd; Import Wine & Spirit Company Ltd; Industrial Solvents (London) Ltd; D Johnston & Co (Laphroaig) Ltd; Khoosh Bitters Proprietary; Kinclaith Distillery; Kintore Distillery Ltd; Lins of London Ltd; May & Street Ltd; MacDuff Distilleries Ltd; McIvor's Distillery Ltd; McNab Distilleries; New MacKay Taverns; New Process Solvents Ltd; New Zealand Distillery Co Ltd; J & G Oldfield Ltd; Park & Tilford Scotch Whisky Ltd; Park Lane Whisky Ltd; Robert Preston Distilleries Ltd; Reid Stewart & Co Ltd; Rouyer Guillet & Co Ltd; Ian Scott & Sons Ltd; Scottish Grain Distilling Co Ltd; Scottish Majesty Distilling Co; Seager Evans (Holdings) Ltd; Seager's (Marketing & Distribution) Ltd; Seager Evans (Northern Sales) Ltd; Seagers (Overseas) Ltd; Sherbrand (Wines & Spirits) Ltd; Silverwood Blending Co Ltd; J(osiah) Stallard & Sons Ltd; South African Viticultural Association Ltd; Strathclyde Distilleries Inc; Sugar Bowl Ltd; C & W Stewart (Aberdeen) Ltd; Tanfield Bonding Co Ltd; Tormore Distillery; Vino Vitae Ltd; Westthorn Farm Distillery; Whitebread & Co plc; Julius Wile Sons & Co Ltd (Fleet Wines & Spirits Ltd).

3524. **Borders Region Archive**. Miscellaneous accessions: Roxburghshire. Includes Walter Ballantyne & Son, wine merchants, St Boswells: wine lists, 1938-73.

FRIENDLY SOCIETIES

3502. **Dundee City District Archive and Record Centre**. Loyal Order of Ancient Shepherds (Ashton Unity) Friendly Society. Dundee District: minutes, 1917-70; accounting records, 1912-82; membership records, 1881-1947; photographs, c.1895-c.1933; miscellaneous, 1878-1983. Bonnie Dundee Lodge No. 1966: minutes, 1912-52; miscellaneous, 1911-88. Caledonia Lodge No.2806: minutes, 1921-40; membership records, 1918-67; accounting records, 1945-66. Crook and Plaid Lodge No.1991: minutes, 1899-1936; accounting records, 1942-67; Ettrick Lodge No.2025; minutes, 1906-61; membership records, 1884-c.1915; accounting records, 1919-51. Heather Bell Lodge No.2002: minutes, 1883-1959; annual reports, 1916-27; accounting records, 1884-1975; correspondence, 1891-1910; membership records, 1883-1935. Hilton Lodge No.2262: minutes, 1924-36; membership records, 1891-1967; accounting records, 1923-77. Lorne Lodge No.2203: minutes, 1889-1955; accounting records, 1889-1946. Pride of the Tay Lodge No.1944: minutes, 1881-1955; accounting records, 1881-1949. Robbie Burns Lodge No.2191: minutes, 1889-1949; accounting records, 1889-1956; membership records, 1889-1967. Thistle Lodge No.2009; minutes, 1883-1948; accounting records, 1902-78; membership records, 1883-1920.

HACKLEMAKERS

3451. **Dundee University Library**. William R Stewart & Sons (Hacklemakers) Ltd. Company files, 1946-87; letter books, 1904-52; correspondence files and boxes (UK and foreign), 1961-76; purchase records, 1915-67; order records, 1908-65; completed orders and related correspondence, 1960-81; sales ledgers, 1900-66; general sales correspondence, 1956-76; specification cards and pinorder records, 1952-77; copy order records, 1971-73; technical papers, 1964-75; repair invoices, 1961-68; wages books, 1963-74; work studies, 1959-73.

HARBOURS

3433. **Strathclyde Regional Archives**. Greenock Harbour Trust. Pay-lists of tradesmen, labourers etc, 1873-95; salaries lists, 1889-1895.

INSURANCE

3494. **The Standard Life Assurance Society, Edinburgh.** Minutes: Edinburgh, 1825-1984; London, 1844-1913; private, 1833-1984; general purpose committee, 1932-79; miscellaneous committees, 1837-1973; Montreal, 1903-37; Canada, 1961-76; Calcutta, 1890-1939; Bombay, 1890-1921; Buenos Aires, 1900-18; Montevideo, 1927-41; Budapest, 1899-1906; Shanghai, 1886-1932. Manager's private letter books: home, 1845-1937; foreign, 1906-28; London, 1907-21. Colonial department letter books, 1869-82. Reports on branches at home and abroad, 1843-1978; press cuttings, 1893-1973; publicity material, 1911-73; policy registers etc, 1825-1977; accounting records, 1825-1960; investigation and investment records, 1832-1983; legal papers, 1832-1939; actuarial records, 1829-1962; amalgamation papers, 1846-66. Minerva Life Assurance company: minutes, 1836-1964; assurance registers, 1875-1956. Colonial Life Assurance company: minutes, 1852-92. Experience Life Association Company: minutes, 1843-48. Legal and Commercial Life Assurance Society: minutes, 1847-57; assurance register, 1840-46; accounting records, 1845-57. Victoria Life Assurance Company: minutes, 1864-65; accounting records, 1838- 60. East of Scotland Life Assurance Revisionary Interest and Annuity Company: minutes, 1844-51. Edinburgh Friendly Insurance Society: minutes, 1846-50. Heritable Securities Investment Association Ltd: minutes, 1869-1909. Heritable Securities and Mortgage Investment Association Ltd: minutes, 1876-1968; accounting records, 1893-1955; title deeds etc, 1876-1958. Bridgeton Land Company Ltd: minutes, 1893-1953; miscellaneous 1903-53. Indian Company: accounting records, 1877-79; policy register 1870-78. *Replaces Survey 2928.*

IRONFOUNDING

3441. **Norcros plc.** Lion Foundry, Kirkintilloch. Minutes, 1893-x.1969; dividend register, 1933-42. (List supplied by the Company.) *Replaces Survey 2425.*

LEGAL FIRMS

3483. **Glasgow University Archives.** Biggart, Baillie & Gifford, solici-

tors, Glasgow. Legal papers. Trust sederunt books, 1883-1986. Chartularies and miscellaneous papers for the following estates: Bardowie, 1824-1975; Caldarvan, 1693-1968; Gartmore, 1823-1968; Glenreasdell, 1903-73; miscellaneous estates, 1779-1968. Miscellaneous papers relating to the following companies: William Beardmore & Co, 1797-1978; Biggart & Lumsden, 1939-49; Cochrane, Stout & Dunlop, 1956-74; East Park Transport Ltd, 1920-40; William Gibson & Co, 1908-70; Fairfield Shipping Co Ltd, c.1966-71; National Shipbuilders Security Ltd, 1885-1966; North British Locomotive Co Ltd, 1903-62; Overnewton Building Co, 1906; Alexander Stephen & Sons Ltd, 1789-1964. Trade associations, etc British Nautical Instrument Trade Association: accounting records, 1932-61; circulars, 1920-60. Clyde Ship Plumbers' Association: accounting records, 1919-62. Clyde Ship Repairers' Association: minutes 1925-36. Clyde Ship Riggers' Association: minutes, 1920-24. Committee of Scottish Rivet, Bolt and Nut Manufacturers: minutes, 1920-62; case register, 1920-54. Dry Dock Owners' and Repairers' Insurance Association; accounting records, 1958-73; claims register, 1920-72. Glasgow District Engine, Boiler and Ship Repairers' Association: minutes, 1891-1966; case register, 1897-1941. Glasgow Master Boiler & Pipe Coverers' Association: minutes, 1924-52. National Organisation of Welding Employers: minutes, 1921-49; accounting records, 1922-52. National Welding Employers' Association: minutes, 1951-67. Scottish Welding Employers' Association: minutes, 1920-58; accounting records, 1920-38. Scottish Association of Controlled Establishments: accounting records, 1916-21. Insurance. RCC Insurance: accounting records, 1920-68; insurance ledgers, 1920-58. Repairers' Liability Insurance Committee: wages return and premium register, 1919-43. Tenants' associations, etc. Hillington Estates Association: minutes, 1939-62. Queenslie and Carntyne Industrial Estate Tenants' Association: minutes, 1960-65; accounting records, 1951-69. Scottish Industrial Estates Tenants' Association: minutes, 19551-78; accounting records, 1950-57.

MERCHANTS

3469. **Shetland Archives.,** Leog House papers. Legal and financial papers relating to Laurence Laurenson, merchant in Lerwick, and his family, 1853-1906. Correspondence and papers of Arthur Laurenson

of Leog, mainly concerning local history, philology and folklore, 1767-1890, including translations by Laurenson of medieval Scandinavian texts, n.d.; letters from Arthur Anderson about his 'Educational Institute', c.1860, 1862. Miscellaneous printed material, including early issues of Shetland Advertiser, 1862-63. Photographs (mainly undated) of members of the Laurenson family and others, including Lerwick harbour scenes. *Replaces Survey 1937.*

3470. **Shetland Archives**. Hay of Laxfirth papers. Family, business and legal correspondence and papers of Hay family, especially James and William Hay, merchants in Lerwick, and Andrew Hay in Singapore, 1741-1840, including James Hay's notebook concerning his smuggling voyages, 1814, n.d. and journal of schooner Mary, 1829. *Replaces Survey 1938.*

RETAILING

3434. **Strathclyde Regional Archives**. Newmilns Co-operative Society. minutes, 1889-1968; Educational committee minutes, 1918-28; bi-annual reports and balance sheets, 1892-1961.

3484. **Grampian Regional Archives.** William Spence (Huntly) Ltd. tailors. Stock book, 1970-78; pattern/order books, 1925-41; cloth sample books, 1927 & n.d.

3507. **Edinburgh City Archives**. Alex Ferguson Ltd, confectioners, Edinburgh. Accounting records, 1923-72; purchase books, 1926-52; sales records, 1922-64; wages book, c.1937-64. *Replaces Survey 1971.*

3518 **Whytock & Reid**, decorators and furnishers, Edinburgh. Contract drawings, 1879-1984.

SHIPPING

3480. **Glasgow University Archives.** The Ellerman Lines. City Line: minutes, 1892-1969; conference minutes, 1892-1903; trade agreements, 1877-1976; accounting records, 1879-1966; correspondence files, 1912-60; sailing books, 1883-1952; registers of certificated officers, 1836-c.1906; apprentices, 1854-1965, engineers, 1874-1918; war service etc, 1939-45; papers on Dundee jute imports, 1861-1966; fleet particulars, 1875-1950; files containing specifications and historical notes concerning ships, 1839-1970; agency agreements, 1905-

55; conference minimum rates books, 1934-44; reports and correspondence relating to war losses, 1940-48; prints and photographs of ships, 1839-70; war time security microfilm, 1938-45; George Smith (1777-1867) and family papers, 1808-1894. Ellerman Lines Ltd: minutes, 1901-22; share registers, 1901-35; accounting records, 1938-68; voyage record books, 1936-58; presscuttings and publicity material, c.1920-c.80; cabin plans and photographs, 1934-54; photographs, postcards and posters of ships, 1839-1978. Ellerman & Bucknall Steamships Co Ltd: minutes, 1949-70; accounting records, 1898-1971; trade agreements, 1893-1938; staff records, 1907-31; voyage records, 1892-1943; publicity material, c.1892-c.1968. Ellerman & Papayanni Lines Ltd: minutes, 1930-50; accounting records, 1968-72; voyage records, 1884-1932; photographs of ships, c.1940-c.1950. Ellerman's Arracan Rice & Trading Co Ltd: minutes, 1884-1975; share registers 1889-1949; accounting records, 1885-1976; staff records 1937-69. Hall Line Ltd: minutes, 1899-1968; share registers, 1899-1972; ship lists, 1853-1900; publicity material, n.d.; photographs of ships, 1882-1907. Montgomerie & Workman (1920) Ltd: agreements, 1900-62; ship records, 1881-1946; correspondence files, 1920-51. Mossgiel Steamship Co Ltd: minutes, 1907-75; papers concerning the purchase and registration etc of ships, 1921-51. Westcott Laurence Line Ltd: minutes, 1924-61. *Replaces Survey 2476.*

3481. **Scottish Maritime Museum.** Ayrshire Dockyard Co Ltd. Specification books, 1917-30; plans, 1915-49; miscellaneous records, 1912-68.

3530. **Glasgow University Archives.** Clyde Shipping Company Ltd. Directors' minutes, 1893-1976; minutes of annual and extraordinary general meetings, 1948-81; share records, 1893-1974; agreements, 1868-1959; accounting records, 1858-1986; investment records, 1947-80; wages records, 1856-1981; correspondence on all aspects of labour, including strikes, wages agreements, union representation, accidents etc, 1925-45; trade, freight and towing records; 1859-1977; vessel records, 1840-1972; Ministry of Transport records of charter parties, voyage accounts, vessel journals etc, 1940-73; registers of sailings etc, 1856-1968; rates department correspondence, 1909-58; secretary's correspondence, 1873-1983. Includes records of the following associated companies: R L Alpine & Co Ltd; Neil Beaton (Portree) Ltd; William Campbell (Port Glasgow) Ltd;

Cargo International (Cork) Ltd; Cargo Services Ltd; Carnlough Whiting (Export) Ltd; Casey Travel Ltd; Channel Marine (Sales) Ltd; Clyde Shipping Ireland Ltd; Clyde Shipping Tugs Ltd; Cooper Brothers Ltd; Cork Offshore Services Ltd; Cork Seabase Ltd; Dencom Freight Holdings Ltd; Dencom Investment Ltd; Eglinton Limestone Co Ltd; Eglinton Store Group; FACE Ltd (Freight & Cargo Express); Matthew Farrell & Son (Waterford) Ltd; Forth Tugs Ltd; Franco Irish Food Industries Study Group Ltd; Fraser & Borthwick Ltd; Grangemouth and Forth Towing Ltd; G Heyn & Sons Ltd; Hipavia SA; S & M Hunt (Transport) Ltd; Irish Mainport Holdings Ltd; Irish Offshore Driving Contracts Ltd; Irish Stand-by Boats Ltd; Irvine Shipping and Trading Co Ltd; Kenny (Stevedores) Ltd; LAS Air Cargo Ltd; LAS Chartering Ltd; LAS Group; LAS Overseas Ltd; LAS Transport Co Ltd; Lawson-Batey Tugs Ltd; Line 3 Ltd; London Scottish Lines Ltd; Mannia Oil Distributors Ltd; Marine Transport Services Ltd; Martrans Engineering Co Ltd; J A Peden Ltd; Plastic Rotational Mouldings Ltd; Powers Coal Ltd; Quarry Industries (Belfast) Ltd; Ronayne Shipping Co Ltd; Rossman Renovo Ltd; Rastrom Forwarding Ltd; Salvesen Casings Crews (Ireland) Ltd; James Scott & Co (Cobh) Ltd; James Scott & Co (Cork) Ltd; Seahorse Ltd; Shetland Towage Ltd; Shetland Tugs Ltd; Simpson-Lawrence Ltd; Toriginol (UK) Ltd; Tralee Seabase Ltd; Waterford Steamship Co Ltd; Waterford Stevedores Ltd; Wear Tugs Ltd; Williames Airfreight (Ireland) Ltd; Williames Transport Group (Ireland) Ltd. Glenlight Shipping Ltd. Annual report and accounts, 1970-81; board papers and agreements, 1949-76; vessel diaries, 1880-1970. Ross & Marshall Ltd: minutes, 1907-72; board papers, 1907-64; accounting records, 1879-1981; private letter books, 1883-1942. Light Shipping Co Ltd: accounting records, 1951-68. Waterford Consortium: accounting records, 1965-74; board papers etc, 1963-70; miscellaneous, 1964-74. *Replaces Survey Nos. 1649-2550.*

TEXTILES

3443. **Dundee University Library.** Association of Jute Spinners and Manufacturers. Rules and byelaws, 1915-64; annual reports, 1919-82; minutes of members, general committee and various sub-committees, 1918-78; minutes of joint meetings with trade unions, 1952-68; subject files, c.1942-78; papers relating to Restrictive Trade Practices,

1942-64; miscellaneous statistics, 1945-82; papers relating to jute wages structure, 1952-74; miscellaneous papers and volumes, 1915-79; scrapbooks, 1961-68; photographs, 1921-c.1968.

3445. **Dundee University Library.** A & S Henry & Co Ltd. Samnuggur Jute Factory Co Ltd, spinners and manufacturers, Calcutta. Minute books, 1874-1976; shareholding records, 1912-66; accounting records, 1919-76; annual reports 1904-58; memoranda and articles of association, 1874-1976; employees' records, 1913-50; order books, 1926-64; specifications, quotations and price lists, 1874-c.1900; plans, c.1874-1977; technical drawings, 1874-96; photographs, c.1890-1971. Victoria Jute Factory Co Ltd, spinners and manufacturers, Calcutta. minute books, 1892-1976; shareholding records 1883-1906; accounting records, 1918-77; annual reports, 1884-1958, 1965; memoranda and articles of association, 1883-1979; letter books, 1928-82; employees' records, 1952-61; order books, 1922-64; plans 1928, 1941-73; photographs, c.1890 and 1957. Titaghur Factory Co Ltd, spinners and manufacturers, Calcutta. Minute books, 1883-1974; shareholding records, 1918-69; accounting records, 1884-1979; annual reports, 1900-58; memoranda and articles of association, 1883-1979; letter books, 1928-82; employees' records, 1913-56; miscellaneous technical records, 1890-97; plans, 1878-1976; technical drawings, 1887-97; photographs, c.1890-1910, c.1930-50. Angus Company Ltd, jute spinners and manufacturers, textile engineers, Calcutta. Accounting records, 1933-72; annual reports, 1913-70; memoranda and articles of association, 1913-69; letter book, 1953-67; employees' records, 1933-65; order books, 1933-63; sales notes, 1956-76; miscellaneous records, c.1928-77; plans and technical drawings, 1968-77; photographs 1945-57. Thomas Duff & Co Ltd, managing agents, Dundee and Calcutta. Minute books, 1883-1945; accounting records, 1918-73; memoranda and articles of association, 1883-1964; letter books and files, 1929-68; managers' reports to directors, 1930-74; employees' records, c.1913-70; sales and production records, 1945-76; files relating to modernisation and electrification, 1942-71, and to company reconstruction, 1947-50; miscellaneous records, 1880-1977; plans 1865-1923; photographs, c.1900-70. Hardie & Smith Ltd, jute spinners and manufacturers, Dundee. Minute books 1917-83; shareholding records, 1917-83; memoranda and articles of association 1917; letter books, 1938-55; time/wages books, 1938-84; order books, 1911-65; sales and purchase books, 1941-54; miscella-

neous production records, 1934-57; stock records, 1935-60; work study reports and schemes, 1953-57; accident books, 1959-60; miscellaneous records, 1859-1987; plan c.1966; photographs 1934-c.1960. Dundee Brattice Cloth and Waterproofing Co Ltd. Minute books, 1914-83; shareholding records 1914-83; accounting records, 1915-83; memoranda and articles of association, 1914; personnel records, 1960-83; sales/production records, 1969-80; order books, 1976-83; stock book, 1963-73; specifications, 1935-73; insurance plan, n.d. Victoria Road Calendering Co, Dundee. Accounting records, 1907-62; pricelists (including other Dundee calenders) 1890-1921; insurance plan, 1960; photographs c.1930-55. Moore & Weinberg (Dundee) Ltd, jute merchants. Minute books, 1923-53; accounting records, 1932-59, 1970-72; annual reports, 1923-81; photograph, 1933. Jaffe Brothers & Co (Dundee) Ltd, linen and yarn merchants. Minute book, 1920-53; accounting records, 1909-59; annual reports, 1923-81. Cargill & Co Ltd, bleachers, Dundee. Minute books, 1895-1976; shareholding records, 1895-1972; accounting records, 1936-76; papers relating to apprentices, 1915-34; accident register, 1951-74; insurance plans, 1933-74. William Watson (Dundee) Ltd, bleachers and dyers, Dundee. Minute books, 1925-78; shareholding records, 1925-79; accounting records, 1925-83; memoranda and articles of association, 1925-69; accident registers, 1974-80; sales/production records, 1975-80; valuation of Forebank Dyeworks, 1962; winding book 1856-59 (company unclear). James Stiven Ltd, bobbin manufacturers, Tayport and Dundee. Minute books, 1910-44; annual accounts, 1935-47; shareholding records, 1910, 1921-48. English Spinners Ltd, spinners, Blackburn. Minute book, 1947-58; accounting records, 1949-81. Arctic Leather Goods Company, Dundee. Minute book, 1931-57; shareholding records, 1950-83; annual accounts, 1961-81. E Carr & Sons Ltd, London. Annual accounts, 1918-31, 1961. Joseph Grave & Co Ltd, manufacturers of waterproof paper, Manchester. Accounting records, 1911-30. Hillbank Bag Factory, Dundee. Accounting records, 1916-22; order book, 1923-28. A & S Henry & Co (Dundee) Ltd. Minute books, 1953-72; shareholding records, 1953-72; accounting records, 1930-83; letters/correspondence, c.1921-72; miscellaneous records, 1906-76; work study reports and schemes 1966-69; photographs 1903-c.1930. A & S Henry & Co, merchants, shippers and manufacturers, Manchester, Bradford, Dundee. Annual reports, 1907-70; memoranda

of association, 1889-1951; miscellaneous papers, 1858-1968; photographs c.1920-30. United Kingdom Jute Goods Association Ltd. Memoranda and articles of association, 1909-48. Indian Jute Mills Association. Reports of Committee, 1935-77. Research Institute: reports of committee 1943-64; miscellaneous reports, 1949-66; statistics, 1853-1964; chairman's addresses to AGMs, 1973-78; miscellaneous papers, 1949-72. Bengal Chamber of Commerce and Industry. Reports of committee, 1949-78; proceedings of annual general meetings, 1953-76; miscellaneous papers, 1853-1975. British Jute Trade Research Association. Publications including annual reports, technical notes, news, 1948-69. Tay Spinners Ltd, Viewfield Estate, Glenrothes. Miscellaneous files, papers, reports, 1964-70; plans, 1962-65.

3447. **Dundee University Library.** Thomson Shepherd & Co Ltd, jute spinners and manufacturers, Dundee; Thomson Shepherd (Yarns) Ltd (formerly Mayfair Fabrics Ltd); Thomson Shepherd (Carpets) Ltd (formerly Seafield Carpets Ltd). Registers of directors, 1901-43; minute books, 1896-1965; shareholding records, 1896-1963; balance sheets, 1904-67; ledgers, 1897-1966; journal 1938-57; bank pass books, 1947-51; jute purchase books, 1945-65; stock books, 1883-1948; records relating to wages, salaries and pensions, 1932-61; production records, 1876-1906, 1932-61; miscellaneous legal and general company records, 1896-1964; patents, 1852, 1888; factory school registers, 1868-70; miscellaneous papers, 1855-1986; photographs, 1852-1951 (14); plan, 1869.

3449. **Dundee University Library**. Don & Low (Holdings) Ltd (incorporating Don Bros, Buist & Co Ltd, spinners and manufacturers, Dundee and Forfar). Letter books, 1795-1940; accounting records, 1840-1965; ages and salaries records, 1805-11, 1865-1946; production records, 1933-39, 1952-53; order books, 1843-49; contract and specification book, 1926-40; miscellaneous legal and business papers, 1881-1930; miscellaneous printed books and reports, 1909-84; scrapbooks, 1881-87, 1967-69; photographs, 1986-19; plans and diagrams, 1877-1928, 1955-c.65. Dundee Calendering Co Ltd. Shareholding records, 1898-1950; rent books, 1912-60. Moffat & Son Ltd, manufacturers, Forfar. Minute book, 1926-49; ledger, 1926-41; journal, 1926-57; salaries book, 1939-48. James Scott Jnr, merchant, Forfar. Ledgers, 1804-32. Alexander Henderson & Son, Ltd, spinners, Dundee. Letter book, 1915-33; private ledger, 1892-1945; papers relat-

ing to lease and development of land at Dundhope Park, 1895-1955.

3453. **Dundee University Library.** H & A Scott Ltd, textile manufacturers, Dundee (incorporating Alexander Laurie & Co, Rothes Plastics Lomax & Smith Ltd, A & P Mathewson & Co). Accounting records, 1914-68; jute purchases records, 1882-1928, 1967-77; time and wages records, 1880-1952; order books, 1861-1942; miscellaneous records mainly relating to charities, 1917-86.

3455. **Dundee University Library**. The Made-up Textiles Association. Minute books, 1918-76; accounting records, 1913-69; correspondence, 1959-66; and photographs c.1969-70.

3456. **Dundee University Library**. Association of Jute Spinners and Manufacturers. Rules and byelaws, 1915-64; annual reports, 1919-82; minutes of members, general committee and various sub-committees, 1918-78; minutes of joint meetings with trade unions, 1952-68; subject files c.1942-78; papers relating to Restrictive Trade Practices, 1942-64; miscellaneous statistics, 1945-82; papers relating to jute wages structure, 1952-74; miscellaneous papers and volumes, 1915-79; scrapbooks, 1961-68; photographs, 1921-c.68.

3459. **Dundee University Library.** Jute Importers Association. Minute books, 1892-1968; balance sheets, 1907-49; cash books, 1949-74; journal, 1960-69; warehouse account book, 1920-55; correspondence and papers relating to the importation of jute to Dundee, including disputes and arbitration, restrictive practices, insurance, National Dock Strike (1970), 1909-75. Also includes Calcutta Baled Jute Association: reports, 1933-37; jute marks and assortment books, 1930-49; Pakistan Jute Association: jute marks and assortment books, 1955-68; miscellaneous papers and pamphlets, 1960-71; photographs c.1900-72.

2747. **Dundee University Library**. James F Low & Co Ltd, textile machinery manufacturers and construction engineers, Monifieth. Drawings and plans of machinery, 1857-1968.

3529. **Strathclyde Regional Archives**. Walker of Braxfield and New Lanark. Legal papers and property writs relating to New Lanark and Lanarkshire, 17th-20th centuries, including contract between Robert Owen, one of the partners of the Lanark Twist Company and John Richmond, merchant in Lanark, whereby John Richmond is engaged as keeper of the store of the company at its works at New Lanark for seven years, 1810; contract between David Dale, merchant in Glasgow and the partners of the Lanark Twist Company, whereby said

David Dale dispones to the company his mills, machinery, houses and buildings at New Lanark, 29 July 1799 and contract between the provost, baillies and council of the burgh of Lanark and David Dale, merchant in Glasgow, whereby the burgh dispones to David Dale part of the lands of Bankhead, Over and Nether Crosslaws and Wrightshouses, 17 November 1786; discharge and assignment by Dr John Bowring, executor of Jeremy Bentham, in favour of Messrs. Walker and Co, 24 December 1833.

MISCELLANEOUS

3438. **Hamilton District Libraries.** Duke of Hamilton. Includes Commercial papers. Accounts of Aven Banks, Avonbridge, Law, Littlegill, Middlerig, Quarter, Skellyton, Auchenheath, Woods, Little Carrieden, Kinneil, Wellshot, Bo'ness, Cockpen and Prestongrange collieries, 1611-1843; accounts of Redding, Brighton and Parkhall collieries, 1829-41; mineral accounts for Lanarkshire, West Lothian and Stirlingshire, 1840-94; accounts of Wellshott quarry, 1840-43; accounts of Boghead and Snab limeworks, 1842-43; mining industry accidents, 1877-91; leases, reports and correspondence relating to minerals in Hamilton and Quarter district, 1856-1931; papers relating to employment of women in coal mines at Carriden and Bo'ness, 1843. Estate papers. Hamilton and Kinneil estates: accounts, 1670-1916; vouchers, 1801-19; letter books, 1773-1897; rentals of baronies of Hamilton, Kinneil, Carriden, Polmont and Kettleston, 1670-97; rental of barony of Hamilton, 1637; rental of Arran, 1816; rental of Strathaven, 1783-1804; rentals of the burgh of Hamilton, 1814-1927; rental of island of Lewis, 1870; wages of labourers etc, 1698, 1788-1896. English estates. *Partly replaces Survey 332.*

3464. **Highland Regional Archive.** Christie and Ferguson, solicitors, Portree, Isle of Skye. Correspondence, rentals, accounts and other papers arising from factoring the following estates: Kilmuir (including papers relating to crofters' agitation, 1881-88). 1854-88: Glendale, Colbost and Skinidin, 1809-1904; Skeabost and Bernisdale, 1875-88; Strathaird, 1855-1952; MacLeod estate, 1839-80; Macdonald estate, 1850-87; Raasay, 1854-66; Lyndale and Treaslane, 1855-74; Treaslane, 1876-1946; Eigg, 1897-98; Duisdale, 1929-33; Waternish, 1874; miscellaneous papers concerning crofters' agitation, 1884-89. Skye Farming Society: minutes, 1863-78. Skye Agricultural Soci-

ety: minutes, 1903-19; accounting records, 1903-17. British Diatomite Company Kilmuir. Correspondence, 1902-04; accounting records, 1900-06; staff records, 1902-04; leases, agreements and other papers, 1900-04. Donald Macdonald of Tormore. Correspondence concerning the valuation and sale of the Lyndale estate, Skye, 1882-1902; annual reports and correspondence concerning the Highland Mexican Land and Livestock Company Ltd, 1884-1907. Mackinnon Memorial Hospital Broadford. Cash books (including names of early subscribers) 1888-1949; financial and legal papers, 1905-46. 8th Invernesss-shire Highland Rifle Volunteers, Portree Company. Papers concerning formation of company, 1867-68; correspondence on various subjects, including the Edinburgh Royal Review, 1881, and resignations in protest at the military action in Skye in 1886, 1870-86; annual returns etc, 1867-73; accounting records, 1867-77.

3520. **North East of Scotland Library Service**. Oldmeldrum, Aberdeenshire. Includes : Strichen Estate Papers. Rentals etc, 1777-1925; accounting records, 1859-89; home farm work books, 1793-1872; estate plans, 1846-88; rentals etc of Auchmedden estate, 1837-92; minutes of Buchan Agricultural Society Insurance Company and Aberdeenshire Farmers Insurance Company, 1895-1922; minutes of Strichen Agricultural Society, 1882-95; accounts of Strichen Thread Manufacturers Association, 1799-1810.

ADDITIONS TO EXISTING SURVEYS

396. **Strathclyde Regional Archives.** Miscellaneous Minor Accessions, including: Fyfe & Fyfe Ltd, entertainment caterers, Glasgow, wages books for Forfar Pavilion, 1954-55, and Partick Roller Skating Rink, 1944-47. Glasgow & District Branch of the Electrical Association for Women Inc, minutes etc, 1953-87. Kilbarchan Seventh Friendly Society, minutes, 1909-60. Diaries of James Russell, architect, containing architectural sketches, 1867-71. Papers of James Renwick, civil engineer, Glasgow, 1897-c.1932. Papers and photographs concerning the firm of Smith Rodger, shipbuilders, Govan, and the Gow family, shipowners in Glasgow, n.d. Photographs of the Clyde River Patrol during the Second World War and of the Marjara undergoing repairs, c.1947. Trust papers etc of Alexander Gray Edington, engineer, Phoenix Iron Works, Glasgow, 1846-66. Barclay & Robertson, solicitors, Glasgow, account book, 1770-73. Aircraft movement log

books (Glasgow, Islay, Prestwick, Abbotsinch), 1958-91. Pollokshields Resident Association, community newspapers etc, 1790-82. Simshill/Old Cathcart Community Council, minutes, correspondence, etc: 1989-91. Photograph albums of the Scottish Special Housing Association, Erskine, 1983, and Calton, 1983.

885. **Earl of Strathmore**. Includes: Papers relating to collieries and mineral rights in Co Durham, 1816-1903, leases of Ramshaw and Norwood collieries, Co Durham, 1849-74. Correspondence and other papers concerning the Exmouth Water Works Company and District Water Bill, 1865-92. Cash book of Strathmore Rabbit Clearance Society Ltd, 1959-80. Policy books of the Scottish Union Insurance Company, 1827-1960 and of the North British & Mercantile Insurance company, 1861-1934. Factor's letter books, 1915-51, factor's account books, 1906-64, accounts of charge and discharge for home farms, 1933-51.

3404. **West Lothian District Library**. Miscellaneous accessions. Loyal Order of Ancient Shepherds (Ashton Unity) Friendly Society, John Newland Lodge 2089. Bathgate: minutes, 1892-1945; accounting records, 1886-98. Accounting records of George Wolfe & Sons Ltd, spade and shovelmakers, Bathgate, c.1900-30; papers relating to Uphall public hall and cinema, 1875-1962.

2. Royal Commission on Historical Manuscripts

The Royal Commission on Historical Manuscripts has supplied the following information on accessions to repositories relating to deposits of Scottish industrial, commercial and business collections. It should be noted that collections may not yet be available for research and all enquiries should be directed to the appropriate repository.

ARCHITECTS

British Architectural Library, London. Records of Philip Speakmen Webb (1831-1915). Specification of works and correspondence for the Village Room, Arisaig, 1891-92.

Strathclyde Regional Archives, Glasgow. F Wordsall: architectural plans, Glasgow and Scotland, nineteenth and twentieth century (TD 1309).

AGRICULTURE AND ESTATE

National Library of Scotland, Department of Manuscripts. Charles Blythe and family, Barberfield, Pencaitland, East Lothian: agricultural papers, 1880-1994, including a series of seventy farm diaries, 1900-1978 (Acc 11021).

National Library of Scotland, Department of Manuscripts. Hunter and Bertram families, Kirkliston and East Lothian: papers 1791-1878 including a farm account book, 1816-1834 and letters of the Marquess of Tweeddale 1856-1866 (Acc 11102).

National Library of Scotland, Department of Manuscripts. Willison family, Perthshire and Lanarkshire: family and business papers, 1757-1947 (Acc 11049).

COMMERCE

Highland Regional Archive. William Dallas, merchant, Inverness: account book 1685-1693 (HRA/R83) (Formally accessioned in 1994 although received earlier).

Strathclyde Regional Archives, Glasgow. W & D Ramsay, drapers and clothiers, Glasgow: records twentieth century (TD 1315).

ENGINEERING

Strathclyde Regional Archives, Glasgow. W A Fairhurst & partners, structural engineers, Glasgow: photographs of projects, twentieth century (TD 1306).

Strathclyde Regional Archives, Glasgow. George Galloway & Co Ltd, engineers' stud mfrs and ferrule makers, Glasgow: records, twentieth century (TD 1310).

Strathclyde Regional Archives, Glasgow. Kelvin Construction Co Ltd, constructional engineers, Glasgow : records, twentieth century (TD 1315).

Perth & Kinross District Archive. Sir M MacDonald & partners, civil engineers, Perth: drawings, files and photographs relating to various contracts in Perthshire, c1950-1980.

FINANCIAL

Aberdeen City Archives. Crombie Ross Grandholm Works Trust and Benevolent Fund: records 1920-80.

FOOD AND DRINK

Strathclyde University Archives. International Union of Food Science and Technology: papers c.1970 to present.

INDUSTRY

Glasgow University Archives Business Records Centre. British Alcan, aluminium smelters records (UGD 347).

Glasgow University Archives Business Records Centre. Ferguson Shaw & Sons Ltd, grease refiners and soap manufacturers, Glasgow: financial, staff and production records, plans 1926-1980.

Strathclyde University Archives. William Baird & Co Ltd, iron and coal masters, Glasgow: papers c.1840-1960.

Orkney Library. Samuel Baikie & Co, timber merchants, Kirkwall (add): records (D6).

LEGAL FIRMS

Scottish Record Office. Strathearn & Blair, solicitors, Edinburgh (add): business and clients' papers, 19th cent. including correspondence with Capt Samuel Brown RN and James Gillespie Graham architect (GD 314).

PUBLISHERS

National Library of Scotland, Department of Manuscripts. Gairm Publications Ltd, Gaelic publishers, Glasgow (add): editorial correspondence and papers, 1991-1993 (Acc 11028).

RETAILING

National Library of Scotland, Department of Manuscripts. James Dickson, wholesale stationer, Edinburgh: stock book, 1804-1807 (Acc 11149).
National Library of Scotland, Department of Manuscripts. Robert Macadam, baker, Gifford: family and business correspondence and papers 1836-1907 (Acc 11127).
Edinburgh City Archives. Alex Ferguson Ltd, confectioners, Edinburgh: records 1920-1960 (Acc 255).

SHIPPING

Glasgow University Archives. Papers of Robert Napier (1791-1876), marine engineer (add);
family and other correspondence, lists of vessels and engineers and other papers, 1814-1874 (DC90).
Glasgow University Archives Business Records Centre. Court Line Ltd, shipowners and holiday operators, London: records (UGD 350).
Glasgow University Archives Business Records Centre. Scott Lithgow Ltd, shipbuilders, Greenock and Port Glasgow (add); records, including records of subsidiaries 1949-1992 (GD 323).

SOCIETIES

Borders Region Archive and Local History Centre. Selkirkshire Farmers Club records 1806-1896 (SC/S/69).
Borders Region Archive and Local History Centre. Selkirkshire Pastoral Society records 1819-1900 (SC/S/71).
Borders Region Archive and Local History Centre. Yarrow and Ettrick Pastoral Society records 1906-1962 (SC/S/70).
City of Dundee District Archive and Record Centre. Stirling Park Allotments Association: minutes, rules and regulations, 1899-1981 (GDX/265).

Highland Regional Archive. Highland Horticultural Society: minutes 1906-65 (HRA/D234) (Formally accessioned in 1994 although received earlier).
Highland Regional Archive. Scottish Meteorological Society: Culloden observations, 1863-1895 (HRA/D233) (Formally accessioned in 1994 although received earlier).
Strathclyde Regional Archives, Glasgow. Kincaird's Employees Masonic Association: records, twentieth century (TD 1319).

SURVEYORS

Glasgow University Archives Business Records Centre. W H Dinsmore & Sons, chartered surveyors, Glasgow: financial and production records, 1875-1912 (UGD 351).
Glasgow University Archives Business Records Centre. Doig & Smith, chartered surveyors, Glasgow: bills of quantity, 1897-1955 (UGD 344).

TEXTILES

Dundee University Library. Sidlaw Group (add): drawing of Camperdown Works, 1955-1979 (MS 66).

THEATRE

National Library of Scotland, Department of Manuscripts. TAG Theatre Company, Glasgow: papers relating to production of Lewis Grassic Gibbon's 'A Scots Quair', 1993 (Acc 10939).

TRANSPORT

Borders Region Archive and Local History Centre. Belses Railway Station: records (SC/S/85).
Highland Regional Archive. Inverness registers of ships and fishing boats, 1786-1985 (HRA/D217).

MISCELLANEOUS

Perth & Kinross District Archive. Morrison's Academy Boarding Houses Association Ltd, Crieff: records 1931-1977 (transferred from Dundee Archives and Record Centre).

Edinburgh City Archives. Edinburgh Cemetery Co Ltd: records 1840-1961 (Acc 272).

Edinburgh City Archives. Edinburgh Merchant Co: records 1681-1960 (Acc 264).

Glasgow University Archives Business Records Centre. Scottish Milk Publicity Council: records (UGD 352).

Glasgow University Archives Business Records Centre. Property Owners & Factors' Association, Glasgow Ltd, (including Association of House Factors & Property Agents in Glasgow Ltd) : minutes 1875-1972, legal papers 1929-1937 (UGD 342).

Strathclyde Regional Archives, Glasgow. Pig Iron Trade of Scotland : minute book 1833-1839 (TD 1317).

The British Insurance Business: A Guide to its History and Records

(2nd edition: Sheffield Academic Press 1994, pp.217, £8.95)

H A L Cockerell & Green

This revised volume comprises a thorough survey of business insurance records, including a guide to the holdings and location of some 300 companies. Since the first edition in 1976 many changes have taken place within the industry and greater focus has been placed on the co-ordination and centralisation of insurance record collections. The increase in the appointment of archivists, in England and Wales at any rate, has facilitated the identification and accessibility of insurance archives and, as a result, this updated volume features a net increase of thirty-four percent more companies in its survey. The purpose of the book is to draw attention to, and exploit the historical value of, insurance archives, whilst enabling users and historians to easily identify those archives relevant to their research.

In Part I of the book, the first four chapters examine the origin, historical development and experience of marine, fire, life and accident insurance. The surviving records shed light on, not only the growth of insurance and the development of insurance practice from the sixteenth century, but in a wider context, reflect the British economic, social and political climate of the time. This is an important area for the student of Scottish business history as the insurance industry has been a key player in Scotland's economic fortunes over the last 180 years (Edinburgh is today second only to London as an important financial centre in Britain). Chapter 5 examines the institutional framework of the insurance industry and attention is drawn to the alliances, amalgamations and the financial role of insurance companies both at home and overseas.

Part II provides the researcher with a comprehensive guide to insurance sources and introduces the history and archival holdings of many British insurance companies. Listed alphabetically, the guide is divided into four sections. The first, and main, section introduces the history and records of 370 operational and defunct companies. The guide describes the business involvement of each company as well as changes in ownership which are defined as 'linkages'. The records of each company are detailed and are classified into nine groups: accounts, actuarial records, agents' records, board and committee minutes and correspondence, claims registers, investment records, policy registers, shareholders records and staff records. Such records can prove an invaluable (and perhaps unexpected) source for the business historian, a fact demonstrated by Cockerell and Green in the case of George Ord, a Glasgow accountant, who acted as the West of Scotland agent for the Edin-

burgh based *Insurance Company of Scotland*, between 1836 and 1848. Ord's register gives detailed descriptions of a wide range of businesses including power loom factories, distillers, dyers, tobacconists and iron works.

Section two of the guide is a chronological list of marine underwriter's risk books which offer rich information for historians of marine business or insurance history. Section three lists the records of insurance agents and section four describes insurance institutions, summarised in a similar way to section one.

Insurance heritage is a valuable source of study that has already yielded a great contribution to business as well as insurance history and this book also gives a fair coverage to the Scottish perspective (although an index which calls Victoria 'Queen of England' is somewhat frustrating!). This is an important and informative publication which reveals to the prospective historian/researcher the wealth of historical information to be mined from within the insurance industry.

Shona Galloway and Andrew McLean The Royal Bank of Scotland

Records of British Business 1760-1914 *Metal Processing and Engineering*

(Royal Commission on Historical Manuscripts, HMSO London, 1994, pp.196, £17.95)

Royal Commission on Historical Manuscripts

This is the ninth book in the Commission's series of 'Guides to Sources for British History' and the second to cater specifically for the interests of historians of industry.

The book could easily have ended up as a dry list of facts and obscure abbreviations, but instead it succeeds in guiding the enquirer on a fascinating treasure hunt for information.

Professor R H Campbell's eminently readable introduction sets a broad context for the body of the book and prompts a full and analytical use of records. If used with discernment these business archives reveal information beyond the tub-thumping glories of a past industrial era - to more mundane but potentially much more valuable information about underlying business practices and the thinking of customers, entrepreneurs and work people.

Individual companies are listed alphabetically according to their main business activity under Metal processing; Mechanical Engineering; Instrument and Scientific Engineering; and Electrical Engineering. One might expect to find records relating to other subjects, such as civil engineering in metal, the bridge building firm of Sir William Arrol, for example. However, this would lead the book into a whole area which is hopefully deemed worthy of a volume in its own right. Companies are listed 'under the name which they were known for the longest period covered by the surviving records' and geopolitical boundaries predate the 1974 local government re-organisation. Some may quibble with these editorial decisions but, given that some parameters have to be drawn, these seem as workable as any. The subject sections are supplemented by alphabetical and geographical indexes which make the book particularly easy to use.

Some records are deposited in places apparently unrelated to the geographical location of the business, for example, records from Avonside Engine Co. Ltd., locomotive builders of Bristol can be found in Leeds Industrial Museum. Some company records are deposited in several different places - those of Wigan Coal and Iron Company can be found at the British Steel Records Centre, Shotton; Wigan Archives Service; Lancashire Record Office and Cumbria Record office. Whilst the logic of these locations may be clear to some researchers, this book provides a guide to what is deposited in each repository, especially valuable if they are hun-

dreds of miles apart. Others deposits are quite intriguing; for example, how did 'corresp, memoranda and other papers of Sir A E Herbert' (of machine tool fame) come to be lodged with the Shakespeare Birthplace Trust? This actually illustrates a potential difficulty of using this book, and at the same time a potential attraction - in searching for specific records, something like this catches the eye and before you know it you've discovered all sorts of interesting companies you never knew existed, and forgotten about the one you started looking for.

In these days when expenditure on everything has to be justified and performance targets met, the actual use to which these records are put could determine their fate. If historians, industrial archaeologists and others do not use these records, repositories will find it difficult to justify their retention. This book makes efficient use of these records possible, and whilst there may undoubtedly be unavoidable omissions, it is an invaluable finding aid as well as a fascinating read.

Carol Whittaker Falkirk Museums

Cheesemaking in Scotland: A History

(Scottish Dairy Association 1995, pp1x + 216, 22 plates)

J. Smith

When I was given the task of reading and commenting on this book I had only a basic knowledge of the art of cheesemaking gleaned from a young man I had met as a pupil during my teaching career. He was a member of the McLelland family of cheesemakers. I was delighted to receive right away confirmation of the story he had told me of the origin of cheese. His account was more appealing. It involved a nomadic Arab who accidentally discovered the value of the solid portion of the curdled milk in the skin bag carried by his camel. So my interest was engaged immediately.

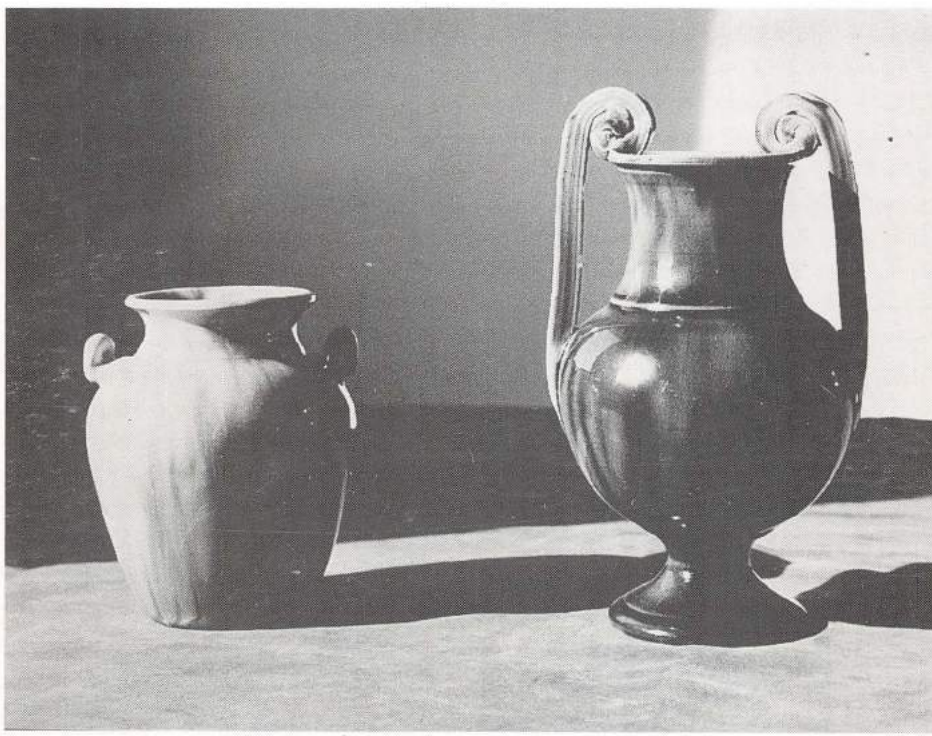
The book is a straightforward history of dairy farming and cheese-making, travelling from its introduction to Scotland possibly in the eleventh century right up to the sophisticated methods used today and its place in the world market now. There are explanations of the techniques of cheese making, histories of the businesses involved in cheese making and related industries, and descriptions of different cheeses. There is also some social history content with descriptions of the work and conditions.

The early history chapter was of great interest because of the information it conveyed about dairy farming and the life of the people engaged in that occupation as well as the story of the gradual development of the cheese making industry. This interest was sustained throughout in spite of the fact that it became a bit too technical for the lay reader at times. I learned a great deal about the skills of cheesemaking, the pressing, the marketing, the reasons for some places being more suited to the process than others. For the serious student of the subject this is a useful work. The author has considerable first hand knowledge of the cheese-making process, has read widely and knows many who have been active in the development of the industry in Scotland and elsewhere.

It is disappointing that the end-notes do not contain enough detail to permit the references to be found easily. There are no page numbers for monographs, although the issue and page numbers are given for references from journals. The space-saving decision to omit the title of McQueen's unpublished 1961 thesis will undoubtedly provide extra work for librarians in their efforts to trace it.

Style is simple, some little lapses in spelling and grammar here and there. I have one reservation about the lay-out of the book. It is a mistake to print the long quotations in such very small italic letters. A lot of interest is contained in the quotations but the close, small print is very off-putting. I also do not like the book's binding. It is difficult to open such a book without damaging the spine so it is not comfortable to hold and impossible to lay flat on a desk for reading.

The index is accurate and helpful. The chapter headings are useful since they clearly indicate the content and thus make it easy to find any specific point. The author also supplies a comprehensive list of publications for further study through the end-notes.

For the lay reader there is much of interest in this book, though the technical details are too numerous to allow it to be a popular choice of casual reading. The scope of the text is fairly wide and the whole subject is well presented. It is a useful reference work providing a comprehensive view of its subject.

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