

TRANSACTIONS  
OF THE  
EAST LOTHIAN  
ANTIQUARIAN AND FIELD  
NATURALISTS' SOCIETY



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TRANSACTIONS  
OF THE  
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welcomes contributions for the next *Transactions* (VOL. XXIX)

*Front cover illustration: West Pans porcelain;  
coffee pot bearing the arms and motto of Pringle of Stitchill, Roxburghshire.  
(Courtesy of National Museums Scotland)*

*Back cover illustration: West Pans porcelain;  
figures of musicians decorated with flower sprays by the manufactory's  
'trembly rose painter'.  
(Courtesy of National Museums Scotland)*

Further information about the society can be found on the website:  
<http://eastlothianantiquarians.org.uk/site/>

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*Figure 1: The Earl of Wemyss and March, KT.  
(Courtesy of the Dowager Countess of Wemyss and March)*

OBITUARY:  
THE EARL OF WEMYSS AND MARCH, KT

*Born 19 January 1912 – Died 12 December 2008*

*by* **STEPHEN BUNYAN**

*President*

*East Lothian Antiquarian and Field Naturalists' Society*

David, 12th Earl of Wemyss and 8th Earl of March, succeeded his grandfather in 1937, his father, Lord Elcho, having been killed in action in 1916. Lord Wemyss was educated at Eton and Balliol College, Oxford. He was awarded an Hon. LL.D by St Andrews University in 1953. He served in the Colonial Administrative service in Basutoland between 1937 and 1944. He was a member of the Royal Company of Archers (the Queen's Bodyguard in Scotland), and was, before World War II, a lieutenant in the Lovat Scouts T.A. He served during World War II, with the rank of major, in the Union Defence Force with Basuto troops in the Middle East.

After the War he returned to Scotland and took on a wide range of responsibilities. He was greatly interested in Scotland's historical heritage. His principal contribution was as chairman of the council of the National Trust for Scotland (1947 to 1969) and its president from 1967-1991. He chaired the Royal Commission on the Ancient and Historical Monuments of Scotland from 1949. He was Lord Clerk Register of Scotland and Keeper of the Signet from 1974 until May 2007. He was created a Knight of the Most Ancient and Most Noble Order of the Thistle in 1966. He was Lord High Commissioner to the General Assembly of the Church of Scotland on three occasions - in 1959, 1960 and 1977. He took on many other responsibilities in the church and with charities. In East Lothian he was H.M.'s Lord Lieutenant from 1967 to 1987.

He joined the East Lothian Antiquarian and Field Naturalists' Society and became a member of council of the society in 1946. He was elected vice-president in 1949, an office he continued to hold until his death. The society marked its own 80th anniversary in 2004 by conferring Honorary Life Membership on Lord Wemyss at its A.G.M. held at Gosford House, the family residence, on 22 May that year. At the conclusion of the business, Lord Wemyss outlined the history of his family, and thereafter Lord and Lady Wemyss showed members round the restoration work they had in hand at the house. Members were privileged to see part of the collection of pictures and works of art, including those which were being rehung in the restored rooms.

## OBITUARY: THE EARL OF WEMYSS AND MARCH, KT

Lord Wemyss' main contribution to the affairs of the society was to make it possible for them to realise the ambition of securing the future of Haddington House. The question of Haddington House had concerned the society from 1942. In 1948 an option to purchase for £1500 was given to the society. This was beyond its means but various possibilities were discussed. In December the Earl offered to put up the money on behalf of the Wemyss and March landed estates and purchase the house until the society could raise the money. This was done but problems still remained. The house was tenanted, and it also needed frequent expensive repairs. A complicated arrangement was made in 1965 when part of the garden was sold to the Haddington Cottage Society for incapacitated people, and an agreement was reached to involve the National Trust for Scotland with the society. The tenant opportunistly died. However, before the plan was implemented, an agreement was reached, in 1966, with the Duke and Duchess of Hamilton to sell the house and part of the garden to the Hamilton and Kinneil Estates to form part of The Lamp of Lothian Project. This was concluded in 1967. The society continued to have some interest in the house and was consulted on its restoration. It continued to have a room there as a base until the Lamp found it had to vacate the building.

During the period of over 60 years of his membership of the society, Lord Wemyss regularly attended meetings of council and gave much useful advice and other help. The society greatly valued his long tenure of the office of vice president.

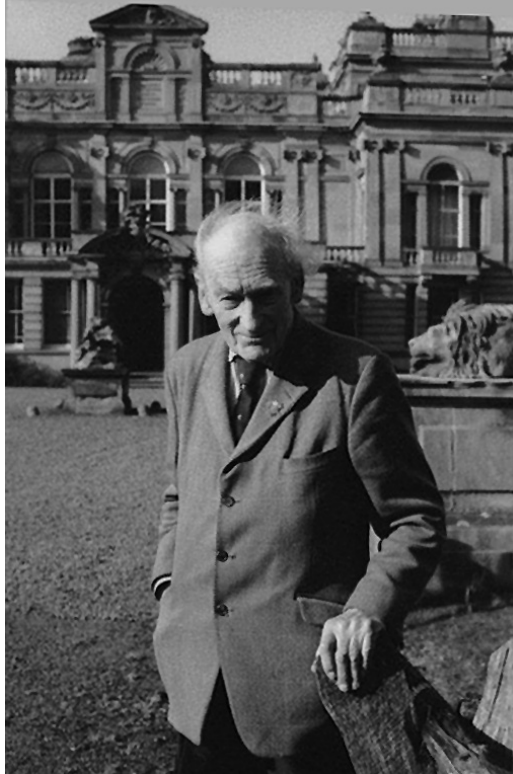
Lord Wemyss was also, for many years, a trustee of the Lamp of Lothian Collegiate Trust, where his input was greatly valued. He made a huge contribution to raising awareness of the importance of Scotland's heritage of buildings and landscapes. He also carried out a great deal of restoration on his family properties - at Gosford, Redhouse, Seton, Neidpath and elsewhere.

Lord Wemyss married Mavis L Gordon (known as 'Babs'), of Capetown, South Africa, in 1940. She died in 1988. By her he had two sons and two daughters. The elder son, Lord Elcho, died in 1954 as the result of an accident. The younger daughter, Caroline, was born and died in November 1946. His second son, Lord Neidpath, succeeds to his father's titles. His surviving daughter is Lady Elizabeth Benson.

Lord Wemyss married, secondly, Shelagh Kennedy (née Thrift) in 1995, and following their marriage the Earl and Countess took on the immense task of restoring Gosford, and researching and co-ordinating the display of the art collection.

The passing of the Earl of Wemyss closes an important chapter in the life of East Lothian. He will be greatly missed by all who knew him and who benefited from his friendship, his wisdom, his interest and generosity. We shall not see his like again.

OBITUARY: THE EARL OF WEMYSS AND MARCH, KT



*Figure 2: Lord Wemyss outside his beloved Gosford House.  
(Courtesy of the Dowager Countess of Wemyss and March)*





*Figure 1: West Pans porcelain:  
Coffee pot bearing the arms and motto of Pringle of Stichill, Roxburghshire.  
(Courtesy of National Museums Scotland)*

# POTS AT THE PANS: WILLIAM LITTLER'S PORCELAIN FACTORY AT WEST PANS

by *GEORGE R. HAGGARTY*

## ABSTRACT

Between 1981 and 1991 archaeological excavations, sponsored by Historic Scotland and National Museums Scotland, uncovered substantial remains of a number of potteries operating during the eighteenth and nineteenth centuries in West Pans, a coastal hamlet midway between Musselburgh and Prestonpans (fig 2). In particular, the work cast important light on the little-understood but hugely important porcelain manufactory established c.1764 by a potter from Staffordshire, William Littler.

The writer has previously co-authored two comprehensive articles on the history of the West Pans potteries (Forbes & Haggarty 2005; 2006), and published detailed examination of the products of William Littler's porcelain works in particular (Haggarty 2008). The full excavation report is also shortly to be published by the Society of Antiquaries of Scotland (Lewis forthcoming). However, the author and editor of this *Transactions* felt that as much of this work is little known outside the ceramic fraternity, and in view of the fact that William Littler's West Pans porcelain wares were undoubtedly among the most important products of Scotland's ceramic industry, a paper in these *Transactions* dealing with this East Lothian product would be entirely appropriate (see fig 1).



Figure 2: The author (crouching) supervising the archaeological excavations at West Pans.

POTS AT THE PANS:  
WILLIAM LITTLER'S PORCELAIN FACTORY AT WEST PANS

## INTRODUCTION

By the second quarter of the 1700s the Forth littoral had a blossoming economy based principally on the profits from its numerous coalmines. Salt panning, fishing and whaling, agriculture and the manufacture of bricks, tiles and glass, were economically of major importance. The area also accommodated a number of small redware potteries. Around this time the local gentry began to seek opportunities to invest the profits from their mines. For example, three of the main landholders in the West Pans area - William Binning of Wallyford, Oliver Coult of Inveresk, and Hew Dalrymple of Drummorie - were keen to benefit from the generous government 'bounties' available, and began investing in the thriving, but heavily subsidised, linen trade (NAS, NG1/24/3).

Scotland's indigenous pottery industry, which had scarcely changed for hundreds of years (Haggarty 1980), was transformed in the second half of the 1700s. There can be no doubt that, in the east of Scotland, foremost among those spearheading this revolution was William Cadell, who founded a pottery in 1750 in Prestonpans, just along the coast east of West Pans. This pottery, producing creamware and white salt-glazed stoneware, had the advantage of abundant coal, salt and clays for the production of saggars (clay boxes in which fragile ceramic wares were placed during firing in the kiln). The pottery also had the convenience of nearby harbours at Fisherrow and Morrison's Haven, where flint and white firing clays could be landed and finished products shipped out. Within 20 years a number of other important white-ware potteries had been established along the south coast of the Forth. These included a works at West Pans.

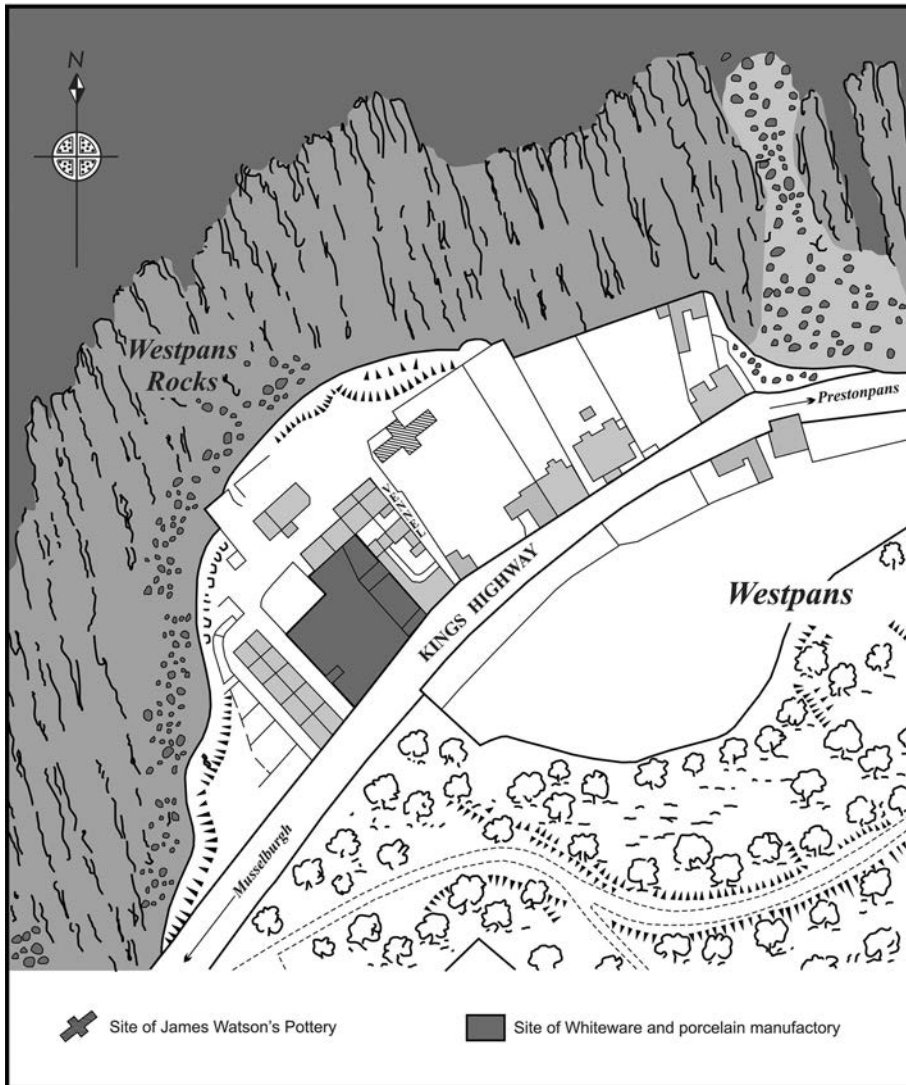
## WILLIAM LITTLER'S WEST PANS PORCELAIN WORKS

The village of West Pans, 1¼ miles ENE of Musselburgh, derives its name from the salt pans that were once situated on the rocky foreshore. But it is not salt that identifies West Pans as one of Scotland's most important, small-scale industrial sites, but the production of seventeenth-century glass (Turnbull 2001, 110-13) and significant ceramic production (fig 3).

Between 1749 and c.1832 a number of potteries were known to be active in West Pans. These included the works of James Thomson, Samuel Lambas, Anthony Hilcoat, Adam Cubie, William Littler, John Watson, Joseph Read, Robert Bagnall, William Reid, the William Smith/David Wilson/James Gibson & John Smiles partnership, and the probable partnership of John Rodger & Henry Davidson. William Littler (1724-84) alone is known to have produced soft-paste porcelain.

William Littler's previous life in England, his successes, failures and wares, has been the subject of research for more than a century (Bemrose 1906; Watney 1957; Tait & Cherry 1978; Cherry & Tait 1980; Watney 1993; Barker & Cole 1998,

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*Figure 3: West Pans, showing the location of William Littler's porcelain manufactory.*

POTS AT THE PANS:  
WILLIAM LITTLER'S PORCELAIN FACTORY AT WEST PANS

35-39; Adams 1998). Littler's ill-fated undertaking at Longton Hall, Staffordshire, ended in bankruptcy in 1760, and his whereabouts from then until he turns up in West Pans in 1764 remain a mystery. Until recently, only limited work had been carried out on the history of West Pans and Littler's years in Scotland. This has now been rectified by a major programme of documentary research which, taken in tandem with the archaeological investigations, almost certainly now makes it the most studied ceramic-producing site in Scotland (Holdaway 1998; 1999a & 1999b; Forbes & Haggarty 2005 & 2006; Haggarty 2006 & 2008).

On 30 October 1764 William Littler was made an honorary burghess of Musselburgh (SRO, B52/11/1), a date previously considered to have coincided with his arrival at West Pans. However, an advertisement had appeared six months earlier, in the *Edinburgh Advertiser* for 3 April of that year, which is important because it implies two things: that William Littler's West Pans pottery was already in production, and that he was also producing creamware:

*This is to acquaint all gentlemen, ladies, and others that THOMAS SHELLEY, Potter, is just come from England to this town [Leith], and has brought an assortment of all kinds of fashionable STONEWARE. He likewise sells all kinds of ORNAMENTAL and USEFUL CHINA and enamelled cream colour, as is now made at the West Pans near Musselburgh in Scotland which is finished in the most elegant taste ever done in England...*

Shelley was not only a potter and dealer in stoneware; he was also clearly an enterprising businessman. It is entirely credible that it was he who saw the potential for Littler in the then-vacant West Pans pottery, and that he was the instigator of Littler's move there. Although it is interesting to speculate that he worked in the pottery with Littler, and could conceivably also have had some financial involvement, there is absolutely no proof of this.

William Littler, long considered the pioneer potter of West Pans, took over the lease of an area that had been used as a pottery for some years by successive potters. Abundant coal and clay were nearby, while cobalt could be obtained from Lord Alva's silver mines across the River Forth in Clackmannanshire. China clay and flint could be landed at Morrison's Haven close by, or at Fisherrow in Musselburgh, which in recent years had been modified to accommodate large vessels (NAS, B52/3/2).

In order to get the pottery up and running, Littler needed a nucleus of experienced workers, preferably persons with tried skills. Jane Littler, née Shaw, his wife, was almost certainly a decorator, so would be invaluable here. Another decorator, William Dallaway, is associated with West Pans, as is Edward Ackers, a china painter.



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On 30 October 1764 William Dallaway's name was entered in the roll of honorary burgesses of Musselburgh, along with William Littler's. It is possible that Dallaway had worked with Littler previously, perhaps at Longton Hall, but nothing is known of his career before he came to West Pans. Although the date of his arrival is uncertain, the baptismal records of Inveresk parish (OPR, 689), which have him as a witness, show he was in Scotland by March 1764 at the latest.

William Dallaway had been baptised in the parish of St Martin's, in Birmingham (Forbes 2009, 13), and subsequently married Margaret Henderson, daughter of an Edinburgh merchant burgess. We do not know when, or where, the marriage took place, but the baptisms of their children are recorded in the parish registers of Inveresk and Canongate. Between 1766 and 1783 they had ten children, and William Littler was a witness to the baptisms of the eldest sons - William (1766), Patrick (1768), and Alexander (1769). A 'protest' served in February 1771 directed to 'Mr. William Dallaway, painter at West Pans', indicates that he was by then in debt, but confirms that he was then still working for Littler at West Pans. This is the last reference to link him with West Pans. At some point he settled in the burgh of Canongate, where he became involved in decorating clocks, and prospered (*ibid* 2009). He died on 26 February 1810, aged 74, and was buried in Canongate Churchyard (OPR, 685/3). William Dallaway was clearly an important figure in the history of West Pans, and research is ongoing in a bid to identify his decorative style.

Edward Ackers' name was found in the archives of the Grand Lodge of Scotland, Freemasons' Hall, Edinburgh, and recorded in the register of Musselburgh Lodge Kilwinning, alongside that of Thomas Shelley. Fortuitously, the entries were made by a conscientious secretary who also recorded vocations - Edward Ackers, who served his apprenticeship in a Liverpool pottery producing tin-glazed earthenware, is identified as 'china painter'. Shelley, Ackers and Littler were all Staffordshire men who had grown up in the close-knit community of Staffordshire potters and it is a strong possibility that they knew, or were aware of, each other before West Pans. Interestingly, by 1771 Ackers and Shelley were in Dublin, where they tried to open a creamware pottery (Francis 2001, 66).

It is probable that the West Pans pottery now had the basis of a successful workforce, with William Littler at the helm. He had at least three decorators - Ackers, Dallaway and his own wife, Jane. Shelley's role, assuming he had one, is an enigma, but it is significant that he no longer advertised his goods for sale and always kept the designation of 'potter', and indeed was enrolled as a member of the Prestonpans Potters' Box Society (a charitable organisation). The Prestonpans Potters' Box notebook (NAS, CS 96/299) gives a contemporary list of potters' names from 1766 to 1803, together with their signatures, or marks. William Hunter, James Swan, and William Watson were boxmasters during the period of Littler's china manufactory at West Pans (1764-77). All are names associated with West

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Pans. Other potters living in the area could have been employed. They might have included: John Halk, William Walker and Thomas Walker, all named potters in Inveresk parish records (OPR, 689).

When the lease of the burgh clay was auctioned in December 1765, the highest bidder was William Nesbit, stonemason in West Pans (NAS, B52/14/4) and the councillors agreed: 'to sett in tack for two nineteen years at a publick roup the clay on the Pan Braes except what is sett to William Littler, china manufacturer'. Littler had clearly secured his lease at a previous roup. Musselburgh burgh records, although extensive, are not complete and there is no extant record of a roup with the date of Littler's original feu of the clay. In November 1765 Littler applied to the burgh council for permission to feu 'a small piece of ground on the south side of the high road opposite to his present possession. And there to build houses for his servants. As also to erect a windmill upon the top of the Pan Braes.' The Council acceded, and agreed a rent of 18/6d on condition that at the end of the 38-year lease all the buildings and machinery on the tack (excepting the mill machinery) 'left wind and water tight, should revert to the Burgh' (NAS, B52/14/4). It is interesting that three of the four councillors delegated to measure out Littler's plot of ground were members of Musselburgh Lodge Kilwinning.

On 4 February 1765, the *Caledonian Mercury* informed the public that William Littler had rented a 'commodious room in the Palace of Holyroodhouse' where he intended to sell 'a neat collection of the production of Scotland



Figure 4: Small chamber-stick.  
(Courtesy of The City of Edinburgh Council)



Figure 5: Rococo vase ornament with flowers.  
(Private Collection)

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Manufactory China ware as being made at West Pans near Musselburgh; and a good part of the china is not inferior to the foreign china, both in transparency, beautiful colours and uses.' The list of wares for sale included: 'Fine mazzarine (cobalt) blue jars and beakers, neatly enamelled and gilded; a great variety of figures, candlesticks (fig 4), flowers mounted in flower pots, representing natural flowers (fig 5), various sorts of beautiful leaves richly enamelled being calculated for the use of dessert services.'

On 8 May 1766, Jane Littler gave birth to their only child, Mary, who was baptised on 31 May in Inveresk Church (OPR, 689). William Dallaway was one of the two witnesses.

In a disposition dated 13 June 1766 (NAS, RS27/173/247), James Gray, Writer in Edinburgh, and his mother, Janet Forrest (or Gray), sold their West Pans property to Lord Hailes, which included the area 'all presently possessed by William Littler.' The document cited Archibald Scott, bailie of Musselburgh, and William Littler, china manufacturer at West Pans, as procurators, and was witnessed by 'William Dallaway, china painter in West Pans.' In Scotland, 'possession' did not imply ownership, and Littler did not own land in West Pans. He rented his property from the Grays, and when they sold out, acquired a new landlord in Lord Hailes, but was still obliged to pay feu duty, or ground rent, to the superior, Musselburgh Burgh.

On 7 July 1766 an advertisement appeared in *The Aberdeen Journal*:

*On Wednesday the 9<sup>th</sup> inst. will be exposed for sale in the Mason-hall, New Inn Castlegate, Aberdeen: A neat collection of Scots made China, brought here by the manufacturer from West Pans, near Musselburgh, consisting of all Kinds of useful ware, such as tea pots, sugar boxes, basons [basins], cups and saucers, coffee-cans, milk pots, sauce-boats, porter mugs, potting pots, pickle leaves, all these sorts either fine Mazzarine blue and gold china, or neatly enamelled; also, various kinds of toilet candlesticks, desert and supper services of plates and dishes, with beautiful decorations for chimney pieces, such as figures, jars, and essence pots, with great variety of all kinds too tedious here to mention.*

Sailing from either Fisherrow or Morrison's Haven, the sea journey north would have taken one to two days. With the packing, unpacking and a six-day sale, a trip like this must have involved at least ten days' work.

On 22 November that same year a lengthy advertisement in the *Caledonian Mercury* informed the reader that William Littler, china-maker at West Pans, would open his warehouse on 27 November in a room within the Abbey Strand, at the foot of the Canongate. There he would sell at reasonable rates to the public, and at special rates to merchants. The list of wares echoed his Aberdeen sale.



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Clearly, a wide range of high-quality goods, elegantly decorated in enamels, and in extravagant mazzarine blue and gold, was on offer, and all made at West Pans. It appears that Littler made every effort to manufacture a fairly comprehensive range to attract the middle and upper classes.

The Aberdeen trip must have been a success for Littler returned the following year, this time staying for 12 days. He must have carried a sizeable stock on that occasion, as his advertisement in the *Aberdeen Journal*, dated 29 September 1767, indicates:

*. . . consisting of all kinds of useful Ware, such as tea pots [fig 6], sugar boxes, basons, cups and saucers, coffee pots of different sizes, and coffee cans, milk pots, sauce boats, butter plates of various sizes and patterns, tart pans, sweet-meat cups, salts, mustard pots, punch bowls, porter mugs: all these kinds enamelled white and gold, and fine mazzarine-blue and gold. Also various kinds of figure candlesticks, and beautiful essence pots for decorations of chimney pieces, desert services, with variety of all kinds, too tedious here to mention.*



*Figure 6: Teapot bearing the crest and motto of John Manners, 3rd Duke of Rutland (died 1779).  
(Courtesy of The City of Edinburgh Council)*

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In May 1767 Jane Littler wrote a letter on her husband's behalf: 'Unto the Honourable the Bailies and Town Council of Musselburgh' (NAS, B52/14/40). Jane Littler was obviously still playing an active part in managing the business:

*The Petition of William Littler, china manufacturer in West Pans, humbly sheweth that sometime ago your petitioner applyd to Your Honours for a feu or a very long tack of a part of the Pan Braes opposite to my manufactory in West Pans for erecting a miln on the said Braes for grinding of flint to enable me to carry on my said manufactory. That accordingly Your Honours were pleased to grant me a feu of part of said Braes for erecting the said miln, but as the time allowed is very short, and the expense of erecting such a miln will be very great, your petitioner humbly hopes that Your Honours will be so good as to grant me a feu of the said piece of ground whereby I may be enabled to carry on the manufactory with spirit, or otherwise I must give up the same, and as you have already granted a feu of the like nature for carrying on the tyle and brick manufactory, I flatter myself that you will give all one encouragement also to my manufactory of china.*

*May it therefore please Your Honours to consider my petition and to grant me a feu of the said piece of ground at what reasonable feu duty you shall think proper. And your petitioner shall ever pray.*

The Council replied on 8 May 1767 saying: 'As the Town has not, nor does not intend to feu any of the Pan Braes on account of the clay and rock in the said Braes therefore the Bailies and Councill refuse the desire of the petition.' Undaunted, on 8 July 1768, the Littlers made a plausible approach to the Council (NAS, B52/14/5):

*That I have at a very great expence erected my manufactory at West Pans within Your Honours' jurisdiction and employ a great number of people in the said manufactory whereby considerable sums are expended within the Burgh and places adjacent.*

*That sometime ago I applied to Your Honours for a feu or a very long tack of part of the Commonty of Musselburgh called the Pan Braes opposite to my possession there in order to build houses etc. for my servants. But at that time you only granted me two nineteen years tack of the said ground whereby I was incapacitated to build thereon. That as my business in the china manufactory seems to be in a flourishing way and I cannot carry it on without a good number of hands near my work houses, and as the same is of great benefit to the nation in general and to the Town in particular, I am advised again to apply to Your Honours for a feu of the said piece of ground so as I may be enabled to build houses thereof for my servants.*

*May it therefore please Your Honours to grant me a feu of the said ground at the present rent in order to encourage to beneficiall a manufactory not only for your petitioner but every individuall within the Burgh and your petitioner shall ever pray.*

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They were rebuffed once more: 'In regard that the ground petitioned for contains a great quantity of clay and rock most beneficial to the Town's interest, therefore they unanimously refused the desire of the petition.'

Although to all appearances denial of this short-term tack, or lease, for 38 years was a major stumbling block in Littler's plans, it must be doubted if he had the resources to implement them. Certainly there is no evidence that he built either the windmill or the houses for his workers on the Pan Braes. He had, however, extended the pottery premises, as claimed, but partly with money from his landlord, for when Lord Hailes bought the Grays' West Pans property in 1766, as Littler's new landlord he advanced him a sum for that purpose. This was not an altruistic gesture, for any improvements to the pottery buildings would ultimately benefit the Newhailes estate.

William Littler's optimistic letter may have painted a rosy picture of his business affairs in mid-1768, but by his own admission he was not in a strong financial position. An account rendered in August 1770 to the duke of Gordon (NAS, GD44/43/29) goes:

*Sir, I should be greatly obliged to you if you would be so kind as to pay the bearer five pounds eleven shillings and six pence, being balance of an account for china due from Her Grace the Duchess of Gordon. I sent my Lord Duke the account and also the shipmaster's receipt and requested the favour of an order for payment, but I imagine it has escaped his memory --- I am greatly stretched for money or would not have asked and hope you will excuse.*

*Your most Humble Servant, Wm. Littler*

Another invoice, this time to the duchess of Buccleuch for £5.18s. 6d, including a 'balance left unpaid - Sept 1768,' was presented in October 1769, and finally settled in June 1771 (NAS, GD224/208/118). Yet another bill for goods supplied to the duke of Buccleuch in 1771, after requests for payment in September, October, and December that year, was paid in January 1772. Among items purchased by the duke and duchess were: 'Two large decanters neatly enamelled with flowers and a duke's coronet on each decantor,' and '6 cornett pattern plates with groups of flowers'.

This extended credit must have been a major complication. Perhaps not all his important clients were slow in settling, but they made up his prestigious market, which should have been profitable. It appears that he was wary of causing offence by pressing for payment, no matter the exigency. Lord Hailes' account book notes all payments made to Littler. Small sums - £4.7s in November 1766, £2.10s in May 1768, and £3.7s.6d - are recorded 'to Littler, china man' (NLS, MS25820), defining Littler in the same way as other suppliers of goods to the estate. All other payments

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and receipts refer to 'William Littler' or simply 'Littler'. The payment on 13 October 1768 to 'Littler in West Pans to account of buildings - £10' was followed by a second for £23 in November 1768, and, not recorded as loans, were likely to be advances to Littler for building improvements.

The account book shows that Littler had paid his rent in full until Whitsun 1767, then fell into arrears. At this point Lord Hailes implemented legal proceedings against him (NLS, MS 25838 251/28), probably between 1770 and 1771; the relevant document is undated. Failure to comply would have resulted in a 'protest' being served against him, and in the event of Lord Hailes not recovering the full amount from the poinding, a further 'protest' would be served for the balance. As there is no record of either, we presume that Littler paid up, probably with borrowed money, thus avoiding the indignity of the bailiff and subsequent public auction of his worldly goods. It is worth noting that Lord Hailes lent a considerable amount of money to others at an interest rate of 4½ per cent, but Littler was charged 6 per cent. All this suggests that by 1768 Littler was struggling to survive. Letting his rent fall into arrears for two years signalled serious financial straits.

Although Littler at this time avoided litigation, William Dallaway did not. He was served with a 'protest' on 7 November 1770 for £5. 2s. 3½d, followed by another in February 1771 (NAS, B52/13/2), surely proof of insolvency. This is the last reference to Dallaway in West Pans, and as it seems that Thomas Shelley and Edward Ackers had left by 1771, we may guess that Littler's enterprise was floundering. However, despite losing key workers, and sinking deeper into debt, he managed to survive right up to the time of his sequestration in 1773, and paid his yearly feu of the clay on the Pan Braes to Musselburgh Council in that year (NAS, B52/10/1).

Seven documents, numbered accordingly, appertain to William Littler's sequestration (NAS, C/2311 Seq LI/Box 313) in June 1773 and make uncomfortable reading. In the first document, addressed to the Lords of Court and Session, Littler states that he had:

*. . . for several years past carried on the trade of making and selling china at West Pans in the County of Midlothian and however unfortunate in this event he flatters himself with a fair and unblemished character that from several misfortunes, ill health and other cross accidents the petitioner appoints --- such a situation that he cannot with propriety carry on his business as formerly and besides he is threatened with personal diligence and by others with having his effects carried away by poindings and being desirous to do equal justice to his whole creditors he must humbly --- this application to your Lordship for an immediate sequestration of his personal estate and effects . . . etc.*

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The fourth document shows that Littler's debts were £1,327.14s.1d, whilst the money owed to him was £65.7s.1d. Littler, through Archibald Nibblie, proposed that he continue to run the pottery at West Pans for the benefit of his creditors, who:

*... were unanimously of the opinion that it would be most conducive to the interest of the creditors that the said Archibald Nibblie be continued factor upon the personal sequestered estate of the said Mr. Littler under the authority of the Court of Session and they hereby continue him factor accordingly and the meeting were also unanimously of the opinion that the said Mr. Littler should be allowed a personal protection from diligence for the space of 12 months and consent to his obtaining such protection from the Court of Session and recommended to Mr. Littler to compleat the china in hand and dispose thereof at the sight of the factor.*

In other words, Littler would try to recompense his creditors by continuing at the pottery, selling off the stock, but would always be subject to supervision by Archibald Nibblie. Importantly for Littler, he was assured protection from the bailiff. Although it seems incredible that William Littler escaped sequestration for so long, it is possible that this was because he was a freemason. The close-knit brotherhood would have done everything possible to help a fellow freemason in trouble, and be reluctant to foreclose until there was no other option. Several creditors were Lodge members.

In April 1774, the Littlers suffered a further blow when their only child died aged eight years. This must have been a tragedy for the Littlers, given their circumstances, and could only have added to their misfortunes. Inveresk Church records of deaths are lacking the years between 1763 and 1780, hence it is opportune that Musselburgh Council kept this account.

Presumably with the approval of Archibald Nibblie, an advert was placed in the *Caledonian Mercury* on 31 August 1774 with a list of goods for sale, ending: 'N.B. Good allowance to merchants who please to favour him with their orders. A partner in this work, on proper terms, will be admitted.' There is no proof of any response from a prospective partner.

On 20 January 1775 Littler wrote to Lord Alva (NLS MS5099 f147): 'My Lord, I beg you will be so kind to let me have some cobalt. I have none at all for the kill [kiln] I am making. Whatever your Lordship pleases to send me to Edinburgh I will call for at your house their and hope Your Lordship will extend the further favour which with all others is most gratefully acknowledged, and still hope it will be in my power some time to repay.'

It may have been in Lord Alva's best interest, as a creditor, to comply. Littler, tenacious as ever, had certainly not conceded defeat when, in the *Caledonian Mercury* of 11 June 1777, he again sought a business partner:

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WANTED

*A partner into the china manufactory at West Pans who will advance a sum of money to be agreed upon; a large sum is not required. As this manufactory has not succeeded it will no doubt be a great disadvantage and prevent many from giving attention to this advertisement. Notwithstanding it may be depended upon, that the proprietor has found a way to make and carry on the china work on a different plan, at a far less expence, makes upwards of 40 per cent profit. Also any quantity of the china he proposes to make will be readily disposed of. Any person that is inclined to be concerned will be admitted on proper terms. Please to enquire at the said manufactory: and the proprietor will show the proposals: and as this is the season for trade, he begs they will not lose time.*

It seems that Littler never found the investment he needed for his 'china manufactory', and there is no evidence to show that he was still in West Pans after 1777. At some point he returned to his native Staffordshire, where he is believed to have managed a porcelain factory in Shelton for Messrs Baddeley. He died in 1784, seemingly infirm, at an advanced age and in reduced circumstances (Shaw 1829, 1990). He was buried in Burslem, Staffordshire (Goodby 1998, 57-62).

WILLIAM LITTLER'S PORCELAIN PRODUCTS

The porcelain wares produced at West Pans were many and varied, as Littler's advertisement in the *Caledonian Mercury* of 30 September 1767 makes abundantly clear:

*Wm. Littler, China Manufactory, near Musselburgh. Being now brought to such great perfection and variety of patterns, such that are not made at any other manufactory either abroad or in Britain, and are sold at very reasonable rates. Also, any gentleman may have his crest or arms put on the china, either on mazzareen and gold or enamel colours, whose beauty and colours never fades.*

*The sorts of china made there are too tedious here to mention. However, any sort of useful or ornamental ware that is ordered, may be had. The general run of goods now made is tea and coffee equipages, punch bowls, porter mugs, butter boats and plates. Also figures and essence pots for decoration of chimney pieces, and a variety of desert services.*

*And as the maker has lately found out a new method of making and glazing the china, to have the richness, colour, and smoothness of the Saxon china, the public may depend on the china bearing use equal to the foreign.*

Identifying many of the porcelain products made by William Littler at West Pans, as distinct from Longton Hall, had hitherto been far from easy. Not only are they superficially identical, but at both works Littler used a distinctive type of kiln furniture, which often left marks on the base of vessels that are unique to both factories. The archaeological excavations at West Pans recovered numerous



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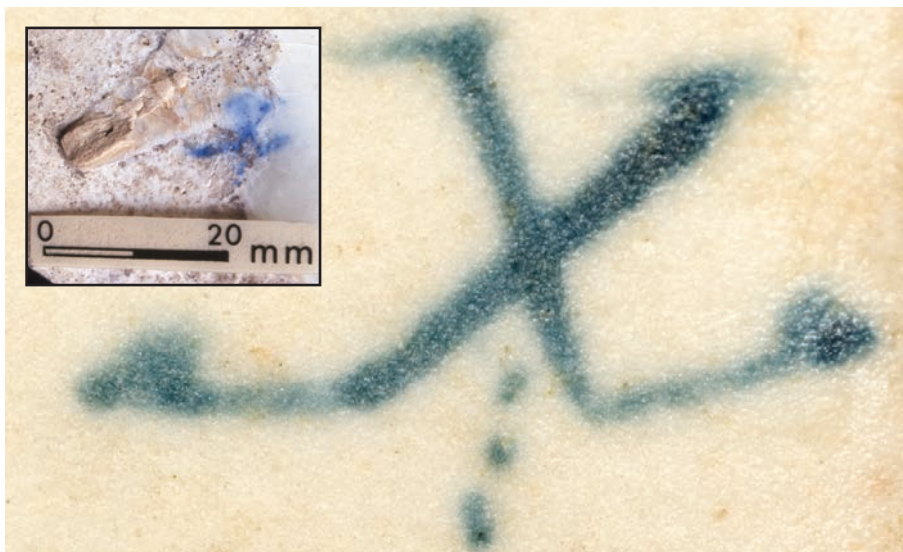
*Figure 7: Tankard (left), and (right) its base bearing Littler's distinctive kiln stilt marks.  
(Private Collection)*

examples of this distinctive kiln furniture (fig 7). However, the archaeological excavations at West Pans went a considerable way to resolving the problem of distinguishing the wares produced at both sites.

A graphic illustration of this was the discovery of a waster marked with Littler's cobalt-blue mark of crossed 'L's', painted underglaze (fig 8), which supports the now widely-held belief that this mark was used only at West Pans. The crossed 'L's' also appear with the addition of one to four dots or a dash. Given the undoubted contribution of Jane Littler to her husband's West Pans venture, we can speculate that the intertwined 'L's' are a reflection of their marital relationship and her undoubted importance to the enterprise.

Close examination of the West Pans and Longton Hall porcelain shows further differences. For instance, the bright ultramarine, fluid cobalt, together with the distinctive shades of yellow, pink, green and orange enamelling seen on many West Pans examples, is markedly different from that found on wares from Longton Hall. Scientific analysis by Middleton & Cowell for the British Museum (1993) has shown that the cobalt used to decorate the material from West Pans was chemically different from that used at Longton Hall, which contains small amounts of bismuth that suggest a source(s) in Eastern Europe. As presented above, documentary evidence exists that Littler was procuring cobalt for his West Pans venture from Lord Alva's silver mines in Clackmannanshire.

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*Figure 8: William and Jane Littler's distinctive crossed 'L's' mark, and (inset) a waster from West Pans bearing the same mark.*

Another distinctive feature of the West Pans material are the knops on the lids of teapots and coffeepots, which are often tipped with red enamel and occasionally pierced for steam (see figs 1 & 6). The typical West Pans thick, glassy glaze is also of inferior quality to the glaze produced at Longton Hall, having more blemishes and imperfections. Furthermore, where the thick West Pans glaze has run and formed dribbles along the base this has often been ground away. When a light is shone through most late Longton Hall porcelain a pale greenish tone is seen. This is in contrast to most West Pans examples which have a rather dirty, yellow-orange translucency. Some large pieces attributed to West Pans have been thickly potted and are almost totally lacking in translucency.

Although raised white enamel overglaze decoration is common on eighteenth-century enamelling, it is rare on English porcelain of that date. It is, however, not uncommon on porcelain attributed to West Pans.

Problems of accurate identification still occur, but generally these are confined to small moulded pieces which are often decorated with cobalt blue. This is particularly interesting, as sherds decorated with cobalt from excavations at both Longton Hall and West Pans exhibit several different, frequently diagnostic, design elements. For example, a crisply-moulded sauce boat with cobalt-blue painting from West Pans is closely akin to the colour of a Longton Hall piece; however, the simple handle, firing cracks, glaze blemishes and black kiln spotting on the former are all typical of West Pans.



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*Figure 9: The fine decorative work of 'the trembly rose painter' on a sweetmeat dish (see fig 11).  
(Courtesy of National Museums Scotland)*

Pieces decorated with open sprays of competently painted chrysanthemums, tulips and roses in polychrome colours occasionally pose problems. All were executed in a similar palette and style by a decorator, termed by collectors 'the trembly rose painter'. Malowney (1999, 29-35) argues convincingly, but with no absolute proof, that this painter was Jane Littler. A fine example of the 'trembly rose' painter's work can be seen on a sweetmeat dish (figs 9 & 11).

Porcelain figures present one of the major problems relating to Littler's production at West Pans. The advertisements in contemporary newspapers (see page 11), along with the few small sherds recovered from excavations, indicate that these were being produced during his time in Scotland. Bradshaw (1981, 235) lists no figures as West Pans, but he does illustrate crossed 'L's' found on figures which he dates to 1754-60. However, these could equally be later and Scottish. Bradshaw also suggests that several late Longton Hall figures with complex bases were

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*Figure 10: Two superbly moulded figures of musicians.  
Although similar fragments have been found at Longton Hall (Staffs), the use of unstable cobalt blue  
and decoration by 'the trembly rose painter' point to a West Pans origin.  
(Courtesy of National Museums Scotland)*

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created by migrating artists from the London porcelain factories at this period. This interesting observation concurs with an advertisement in the *London Chronicle* of 25-7 December 1764 that states: 'We hear from Edinburgh that some gentlemen are about to establish a porcelain manufactory in Scotland, and have already wrote [sic] to London to engage proper persons to carry it on.'

Six weeks later (13 February 1765) the *Daily Advertiser* reported: 'Four persons, well skilled in the making of British china, were engaged for Scotland, where a new porcelain manufacture is going to be established in the manner of that now carried on at Chelsea, Stratford and Bow.' If these newspaper notices do relate to West Pans, this was at least eight months after Littler began production there. At present he is the sole candidate in the frame.

The National Museums Scotland has in its collections two superb porcelain figures of musicians standing on bases with raised feet (fig 10). These figures, one a lady with a tambourine and the other a man with a lyre, were originally produced as candlesticks and are similar to fragments recovered from Longton Hall. However, they appear to have been partly decorated with what looks like West Pans cobalt, and flower sprays by the 'trembly rose' painter. If these figures were decorated underglaze at West Pans, it may be that Littler brought some Longton Hall moulds with him to West Pans.

The excavated West Pans porcelain sherd material (Haggarty 2006) and Holdaway's paper on the West Pans moulded wares (Holdaway 1998, 22-39) together lay the groundwork for further study of forms produced by Littler in Scotland, and for a comparative study of forms from his Longton Hall production. Among the published sherds are a number of West Pans forms, which appear on present evidence to be unique to Scotland. These include several plates and dishes with leaf-moulded borders (fig 11) (an invoice from Littler to the Duke of Atholl, dated 8 Oct 1766, lists 'cabbage leaves, fine mazareen & gold'), 'osier weave' decoration (seen only on baskets) (fig 12), vessels with 'scale' moulding and teabowls with close vertical reeding. As yet the author has been unable to find comparisons for horned tureens with stands, ladles and covers. Some types appear common to both of Littler's enterprises (Barker & Cole 1998, 36), including wares with the so-called 'tiger lily and bow' moulding (see fig 15). However, most of the extant examples have those crossed 'L's', suggesting a West Pans provenance.

The use of cobalt by Littler at West Pans, confirmed by his link with Lord Alva's cobalt mines in Clackmannanshire, has led to a great deal of conjecture on just how much of the West Pans underglaze blue-decorated output, advertised by Littler as mazarine blue, was produced using cobalt from this source. We know from letters sent by Nicolas Crisp, an important figure in the history of early English porcelain, that Alva cobalt had a fine colour but kept a poor edge (Turnbull 1997, 144). Certainly, much of the cobalt decoration seen on West Pans porcelain is

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Figure 11: Sweetmeat dish with 'leaf-moulded' border.  
(Courtesy of National Museums Scotland)



Figure 12: Basket with 'osier weave' design.  
(Courtesy of the National Trust for Scotland)



Figure 13: Sugar sifter painted  
with 'cold gilding'.  
(Courtesy of The City of  
Edinburgh Council)



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*Figure 14: Large table centre, decorated all over with a cobalt-blue wash, formerly in Dalkeith House (Midlothian).*

*(Courtesy of the Mint Museum of Art, Charlotte, North Carolina)*

bright, almost ultramarine, in appearance and has usually run. This running, which left uneven edges, was generally masked by the use of painted cold gilding as in this fine example of a sugar sifter (fig 13). Unfortunately, this could easily abrade, giving many extant examples a stark appearance.

A class of wares is distinctively decorated all over with a wash of cobalt blue. Numerous suggestions have been put forward on the body of these pieces, including under-fired porcelain, earthenware or creamware. Extensive gilding has survived on many examples, while others show only traces. Several of these moulded items can be linked to both Longton Hall and West Pans, although a lobed dish in the National Museums Scotland has still marks of a type not known to have been used by Littler

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*Figure 15: 'Tiger lily and bow' moulded plate.  
(Courtesy of The City of Edinburgh Council)*

at either site. Ten examples of this group, including a large table centre, now in the Mint Museum of Art, Charlotte, North Carolina (fig 14), and which included a pair of leaf-moulded earthenware bowls with matching stands, were sold by Christies in the 1970s. However, the fact that all were consigned by the Duke of Buccleuch and Queensberry from Dalkeith House, only 4 miles from West Pans, surely strengthens the possibility of an East Lothian provenance.

An invoice, dated 11 October 1769, from Littler to the Duchess of Buccleuch gives us our only evidence for pattern names attributed by Littler - 'partridge', 'coronet' and 'rose' (Horn 1994, 24). 'Rose', the author would suggest, is self-evident, whilst 'partridge', recorded as having been used on a number of forms, is almost certainly known to collectors as the 'two quails' pattern. 'Coronet' is referred to in the invoice as 'coronet pattern plates enamelled with flowers'. A 1771 invoice is more informative and lists two large decanters neatly enamelled with flowers, duke's coronets and cypher Bs. I am at present unaware of any piece of West Pans porcelain decorated with a 'duke's coronet'.

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*Figure 16: Mug bearing the Dalrymple crest and motto and the words 'Over Hails', a farm near East Linton. The mug was one of a pair donated in 1867 to the Royal Scottish Museum by a Mr A Hepburn, probably a descendant of the Hepburn family that leased the farm from the Dalrymples in Littler's time. (Courtesy of National Museums Scotland)*

From newspaper advertisements, surviving invoices and extant pieces, we know that Littler supplied products decorated with crests and motifs to the Scottish gentry as well as to local farmers and families. One of the finest is a coffeepot and domed cover decorated with the arms and motto of Pringle of Stichill, in Roxburghshire (see fig 1). Another is a pair of mugs (fig 16) bearing the crest of the Dalrymple family, the family motto 'FIRM', and the words 'Over Hails', which is a farm beside East Linton then owned by the Dalrymples of Newhailes House.

Considering the large number of extant 'tiger lily and bow' moulded items from what is presently known as the 'Rutland Service', this could well have been William Littler's largest, and by far his most important, commission during his time in West Pans. Some 60 pieces of this service were sold by Sotheby's in 1959. Considered at one time to have been produced at Longton Hall, but more recently ascribed to West Pans, the general consensus is that the 'Rutland Service' was made for the 3rd Duke of Rutland, who died in 1779. It is more likely that the porcelain, decorated with the crest and motto of the 3rd duke 'POUR Y PARVENIR' ('in order to achieve'), was commissioned to mark the occasion of the marriage on 4 September 1765, at Old Cambus Church, near Dunbar, of John Manners (1730-1792), illegitimate son of Lord William Manners, the 3rd duke's brother, to Louisa Tollemache, Countess of Dysart (fig 17).

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*Figure 17: Coffee pot stand with 'tiger lily and bow' moulding and decorated with the crest and motto of John Manners, 3rd Duke of Rutland. The stand, one of 43 pieces sold by Sotherby's in 1959, was probably commissioned from Littler by the family to mark the marriage of John Manners, son of the 3rd duke's brother, to Louisa Tollemache, Countess of Dysart. The ceremony took place at Old Cambus Church, near Dunbar, on 4 September 1765, the year after William Littler established his porcelain manufactory at West Pans.  
(Private Collection)*



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### ACKNOWLEDGEMENTS

At a recent conference in Birmingham, after lecturing to a group of friendly porcelain aficionados, I made a promise to the audience: I had finished with West Pans and its porcelain and intended to concentrate on publishing excavated pottery assemblages from other industrial potteries in the Forth littoral. It is however extremely difficult to say 'no' to Chris Tabraham, your editor, but he promised to make the task of producing a paper for the *Transactions* as easy as possible, and I am exceedingly grateful to him for keeping his word.

I also have to thank a private collector, who wishes to remain anonymous but who is always willing to let me use images from his wonderful collection of 18th-century Scottish porcelain. Helen Edwards and David Scarratt, at the City of Edinburgh Museum (Huntly House), have as always been incredibly helpful. Without the support of David Caldwell, George Dagleish and the staff of the Department of Scotland and Europe in the National Museums Scotland, it would have been impossible for me to carry out much of my research on the industrial potteries of Scotland, and for their continued support I am extremely grateful. Finally no paper which includes the history of West Pans should be published without acknowledging the work of Sheila Forbes, a volunteer on the National Museums Scotland 'shard project' and tenacious documentary researcher, without whose efforts the history of West Pans as we know it could not have been written.

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Figure 18: Mural in Prestonpans painted in 2002 by students from Preston Lodge High School to commemorate the area's distinguished ceramic industrial heritage.

(Photo. Chris Tabraham)

*The Society is grateful to Historic Scotland for a grant towards  
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*Figure 1: Sir John Sinclair of Ulbster, 1791: Portrait by John Kay.  
(Courtesy of S & J Szatkowski)*

# ALL THE PRESIDENT'S MEN: 'HORTICULTURAL SIR JOHN' AND THE EAST LOTHIAN CONNECTION

by DAVID K. AFFLECK

## INTRODUCTION

In 1962 the late Professor Rosalind Mitchison published *Agricultural Sir John*, her account of the life of Sir John Sinclair of Ulbster (1754-1835), the noted agriculturalist and statistician (Mitchison 1962). Rosalind was a former president of the East Lothian Antiquarian and Field Naturalists' Society and served as honorary editor of its *Transactions* from 1977 to 1991. Her work on Sir John Sinclair was thorough and significant. However, time has passed, and new material has emerged which could almost justify the epithet 'Horticultural Sir John'. And because this material involves an East Lothian network of estate owners and farmers between the period 1790-1820, it is appropriate that the updated account should be published in these *Transactions*.

## SIR JOHN, SIR GEORGE AND THE PRESTONKIRK MEN

In 1793 Sir John Sinclair (fig 1) rescued the government and the country from a financial disaster. As a result, he was granted his wish by Prime Minister William Pitt to set up the Board of Agriculture and Internal Improvement (NAS, GD 103/2/456). He had already shown his zest for the gathering of useful information by getting parish ministers throughout Scotland to compile an informative account of their area, a project he personally pursued from 1790 and which resulted in the invaluable 20 - volume *Statistical Account of Scotland*, published between 1791 and 1798. This mission, according to Mitchison, was secondary to his favourite occupation in the 1790s, that of economic development, or in Sinclair's own words: 'the promotion of improvement'. In later years, Sir Walter Scott would describe him as 'of projects rife ... but they were all for the public good.' (Sinclair 1838)

One of these 'projects rife' commenced in 1796, when Sinclair published a paper with two parts, the first relating to 'Agents which are necessary or useful to vegetation' and the second on 'Agents which are Destructive, or Injurious to Vegetation' (Sinclair 1796). Several questions were asked about practice and results, and their responses sent to Sinclair at the Board of Agriculture. The conclusions contained the following explanation:

ALL THE PRESIDENT'S MEN:  
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*It is in vain that the philosophers draw up their Theories in their closets; unless their systems are founded upon the experience of practical men they will never stand the test of discussion and experiment; and as a number of important facts and observations, not only to Farmers but to that numerous and intelligent body of men, the Nurserymen and Gardeners, who are scattered over the kingdom; their assistance in answering the following Questions as to the most likely means of illustrating those abstruse but most important objects of inquiry is earnestly requested.*

One of those who responded was Sir George Buchan-Hepburn of Smeaton, in the parish of Prestonkirk. The copy of Sir John's reply to Sir George, contained in the letter-books of the Board, has the words 'I remain with great regard' added in pencil. Another respondent was a Mr Robert Somerville, of Haddington, who wrote about his experience of seed selection to improve quality. Sinclair encouraged him to continue the experiment and write up the results for later publication.

Sinclair's first period of office as president of the Board of Agriculture and Internal Improvement was to last for only four years. The Board was structured as a 'closed corporation'. Mitchison (1962, 141) writes: 'There were to be thirty-one 'Ordinary Members' who were the real governing body, meeting weekly, and a large group of subscription-paying 'Honorary Members'. The Ordinary Members were to be drawn from the two houses of Parliament; the Honorary were to include others of this class and stretch down to the smaller gentry. . . To keep the Board on the right political lines, there was a group of 'Official Members', mostly not at all interested in agriculture but who might be expected to vote as instructed by the minister.'

It was a unique model for its time. The existence of the official members prevented it from being a voluntary organisation. Honorary members paid £10, five were to go off the Board every year, and these were selected on the grounds of non-attendance. Sir George Buchan-Hepburn was elected an honorary member on 16 February 1796.

Sinclair clearly had freedom to act in a way that few could today. Mitchison refers to him as having a strong position, able to decide when the Board should be called and so able to decide issues in the absence of his opponents. It was a situation Sinclair used to his advantage, even starting work 'on its own behalf on his own initiative', according to Mitchison, before the Board had its charter sealed, and while some officials were still trying to sabotage this unusual structure. It is this background that helps us understand how the system could not keep up with

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Sinclair's drive to get things done. Again, according to Mitchison, 'he did not anticipate divisions . . . he expected right-minded men to agree with him.'

Even before the Board held its first meeting, in August 1793, surveyors were undertaking work at Sinclair's request. He started with county surveys, expecting these to be done through voluntary effort with just a small payment from the Board for expenses. Sir George Buchan-Hepburn himself produced the one for East Lothian, published in 1794. Arthur Young, appointed secretary to the Board, later complained: 'these were appointed without the knowledge or approval of the Board, which in any case had not met, and a lot of the work was scrappy and inadequate' (Mitchison 1962, 149).

This then was the background to the survey undertaken for the Board in 1793 on the West Riding of Yorkshire by three other Prestonkirk men - Robert Brown of Markle, George Rennie of Phantassie, and John Shirreff of Captainhead, at the request of Sinclair (Brown 1799). In 1797, to Sinclair's great surprise, his annual re-election as president of the Board was lost by one vote. All surveys had been cancelled that summer, when Sinclair had gone north to help his 13-year-old daughter recover from ill-health. Sadly, she died. His opponents planned their strategy to control the annual election, and Sinclair's power to make things happen as president was ended. The new president, Lord Somerville, was not interested in surveys: 'For the most part, he preferred to leave the initiative to local societies and to keep the Board from publishing at all costs.' (Mitchison 1962, 180).

Meanwhile, back in the parish of Prestonkirk, the three surveyors, Brown, Rennie and Shirreff, had still not been paid their expenses for the West Yorkshire survey. In addition, a poor harvest in 1799 had led to a severe food shortage. The three men, with Sir George Buchan-Hepburn, chief heritor of the parish, believed action was urgently needed to improve crop production, and had decided to publish their own journal to report on experiments to improve the rural economy. The resulting *Farmer's Magazine* was launched in January 1800, with Robert Brown as editor. It was dedicated to Sir John Sinclair, whom Brown described as a personal friend. The *Magazine's* stated purpose was 'to collect and disseminate ingenious theories, important and well-authenticated facts and accurate experiments which relate to the different branches of rural economy.' The words have a Sinclair flavour to them.

On 26 December 1799, the Prestonkirk kirk session, led by Sir George, decided to form a committee to provide oatmeal to the widows, single women, aged persons and those in distress at a reduced rate. This was also to include labourers



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with families earning less than 16 pence per day. On 2 January 1800, the committee started to sell the oatmeal at an agreed reduced price, and distribute it, together with six loads of coal, to 21 people. The parish records show that 128 people were still getting help on 15 December 1800 (NAS, HR 113/1).

On 9 April 1800 Robert Brown wrote to the Board of Agriculture on the need for action to grow better crops throughout the country, something Sir John Sinclair had been promoting for the previous six years, chiefly through more experimentation and better knowledge of husbandry. The letter was replied to on 6 May by the new president, Lord Carrington, who had taken over from Lord Somerville in 1800, in a diplomatic way. The full correspondence is not available, but the need for enclosures of land for agricultural improvement, a change in practice that Sinclair had tried to promote, is clearly referred to. Brown was told that his sentiments on that subject would be extremely welcome. Carrington's reply continued: 'I am persuaded that you have mistaken the opinion of the very respectable nobleman [ie, Somerville] who recently presided at this Board, when you imagined that your correspondence was not acceptable to him.'

There are earlier references to a letter of 29 May 1798, suspending all surveys, and referring to the fact that the Board could not enter into any contract with Brown for any further examination of Derbyshire, while in March 1799, there is reference to an issue about the reprinting of the report on the West Riding, which had to be approved 'before any work goes into the world under the sanction of the Board.' In June 1800, a letter was sent to Brown in the following terms:

*In consequence of complaints which have been made to the Board by several members in which you have animadverted upon remarks . . . (line crossed out), with which they were favoured by Mr. Yorke and several other Gentlemen, the subject was remitted to the consideration of a committee and upon their report, the Board unanimously resolved that the enclosed Paper should be prefixed to every copy of the Report.*

Study of the second edition of the West Riding report adds a new awareness to the conflict regarding the process and aims of the Board under the presidency of Lord Somerville (1799 -1800), compared with the more inspirational and creative approach of Sinclair from its launch in 1793. Robert Brown, in his introduction to the second edition of the West Riding report, refers to the manner in which his fellow authors treated the different subjects as rather contrary to the rules laid down by the secretary to the Board, Arthur Young. Brown (1799, viii - ix) writes:

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*We are aware, the manner in which we have treated the different subjects, is rather contrary to the rules laid down by the secretary of the Board . . . If his rules were strictly adhered to, a survey would be no more than a collection of statistics . . . The perfection of history is to develop the causes which have produced the events recorded, and to accompany the narrative with suitable observations; but if Mr Young's rules were applied to a historical performance, every article ought to be expunged as being out of place and the work would degenerate into a mere body of dry annals, without furnishing instruction or amusement.*

Against that background, the launch of the *Farmer's Magazine*, edited by Robert Brown, avoided this attempt by the Board and its secretary to exercise administrative control. A further section of the West Riding report, and Sinclair's influence, is to be found in chapter IX, which had the title 'Gardens and Orchards'. It only takes up two pages of the report but two excerpts are of particular significance as part of the interface between agriculture and horticulture. The chapter title would feature in later reports commissioned by Sinclair. In it, Brown (1799, 125) writes:

*It is perhaps not our province to enter upon these articles, unless it be so far as respects the kitchen garden. Every farmer ought to have a piece of ground adjoining to his house, properly fenced, for raising pot herbs and other vegetables . . . we see no cause why vegetables of all kinds might not be raised in a garden . . . as well as potatoes, beans and turnips, which are cultivated in the fields. Every cottager ought likewise to have a piece of ground for a garden, upon which he may, at no expense, raise vegetables for his family.*

Eleven years later, Brown was still campaigning, and respecting Sinclair. His book *A Treatise on Rural Affairs*, published in 1811, has the following further dedication of his work to Sir John: '(it) could not with propriety be committed to the protection of any other person than of him who first turned the author's attention to the subjects which it embraces.'

Sinclair remained a member of the Board of Agriculture after his loss of the office as its president, but he never attended another general meeting until he resumed as president in 1806, upon promises of 'good behaviour'. By now there were tighter controls on what could be spent or done in the name of the Board. Nevertheless, he still managed to commission and finance a second series of county reports, acting as both editor and sub-editor, a task finally achieved in 1814. In that year he also resigned from the Board. He had outlived many of its founders and he was no longer a Member of Parliament.



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**HORTICULTURAL SIR JOHN'**

It is now clear that Sinclair turned his attention to other projects, 'the favourite object of my life, the collecting of useful information'. One of these related to horticulture. The Royal Caledonian Horticultural Society (familiarily known as 'the Caley') had been formed on 5 December 1809, when 17 men met in the Physicians' Hall, Edinburgh, and formed the Caledonian Horticultural Society, with the purpose 'of encouraging the Horticulture of Scotland in all its branches, by offering Prizes for the improved cultivation of Culinary Vegetables, Fruits and Flowers' (RCHS). Just before that event, Sinclair asked Walter Nicol, a noted gardener and writer, to submit an essay on gardening to the Board of Agriculture. Nicol, one of the first joint secretaries to the Caley, died in 1811 before he could complete it. The other joint secretary, Patrick Neill, a man with Haddington family links, took on Sinclair's request on behalf of the Board for a survey of Scottish gardens and orchards. Neill's account (1811) specifically refers to his visits to the walled gardens at Archerfield and Smeaton; interestingly, Tynninghame was not included, though Ballencrieff and Luffness get brief mentions. The published survey included Nicol's notes on gardening advice.

There is further evidence of Sinclair's influence with the founders of the new Caledonian Horticultural Society in its formative years. For example, after Nicol's death, Thomas Dickson, an Edinburgh nurseryman, replaced Nicol as joint secretary with Patrick Neill. In March 1810, he had given a paper to the Caley on potato curl and how to avoid it. He acknowledged that the initial observation had been made by Baron Hepburn, whom he described as one of the most significant farmers of the age. Dickson was awarded the Caley's first gold medal for this paper. Dickson was related through marriage to Andrew Howden, a tenant farmer at Lawhead, on the Tynninghame estate, next to Buchan-Hepburn's estate at Smeaton. Howden's obituary of 1851 says he carried out experiments in agriculture for upwards of 60 years.

Another instance of Sinclair's influence concerns his proposal in September 1815 to send a delegation of the Caley to the Low Countries to undertake a study tour. He had carried out an agricultural survey that summer and said that from what he saw there, he was convinced some of the professional gardeners might adopt some of the practices involved. Thomas Dickson, Patrick Neill and John Hay, a landscape architect, were to undertake the study, but Dickson alas died, in 1817, before the tour took place, and was replaced by the duke of Buccleuch's gardener from Dalkeith Palace. The itinerary was extended to France. Patrick Neill made a second trip to Paris in 1821, and an account was published in 1823.

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Then there was the desire of the Caley to have an experimental garden. This was first raised in 1816 by Dr Andrew Duncan, the Caley's permanent vice-president, although experimental planting had taken place from 1811 using, for example, the garden of Lord Wemyss in Queen Street. The initial objective of the experimental garden was to allow 'the means of improving, by judicious experiment, the culture of every esculent vegetable at present used as an article either of food or luxury in Britain.' By 1820, the Caley were still looking at options.

Finally, in 1819 Sinclair wrote to the Board of Agriculture on the subject of an experimental farm. That letter is not available but we know that in 1821 he told the AGM of the Highland Agricultural Society that he was thinking of the need for an experimental farm in the Edinburgh area and that he would work up a plan for the next AGM (Ramsay 1879). It looks as if alternative options were being put in place as nothing seemed to be happening with the Caley's proposed garden.

By this date, Sir George Buchan-Hepburn was dead. However, experimental farming was still actively being pursued by the Howden family at Lawhead and at their leased farms at Traprain and Kippielaw. The Caley finally managed to develop their experimental garden on land they leased at Inverleith, in Edinburgh, in 1823, and Captain William Grant of Congalton, a keen fruit grower, served on their Experimental Garden Committee for the 30 years of its existence. Under the overall guidance of Patrick Neill, it developed the dream of the founders of the Caley, and indirectly Sir John Sinclair, to experiment with new varieties of vegetables and fruit for the benefit of the rural economy.

## CONCLUSION

This paper set out to examine the possible influence of Sir John on the promotion of horticulture, with special reference to the founding of the Royal Caledonian Horticultural Society in 1809. A key part of that process can now be linked to Sinclair's loss of influence with the Board of Agriculture in 1797, and the alternative offered by his friends from the parish of Prestonkirk. The close link between Patrick Neill and Thomas Dickson, joint secretaries of the Caley, George Buchan-Hepburn of Smeaton and the Howdens of Lawhead is also relevant.

In addition, there is the evidence that within weeks of the meeting to form the Caley, James Kirk, gardener at Smeaton, was listed as one of the first corresponding members, followed shortly after by James Gibb of Phantassie, who became a member on 4 October 1810, along with a Mr Ford of the neighbouring estate at Tynninghame. On 27 February 1810, before the second meeting of the Caley to agree its meeting and exhibition structure, James Gibb had submitted a letter on caterpillars that infest gooseberry bushes, and it is likely that Kirk's letter

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on protecting the blossom of greengage plums was also written at this time as it was found in Thomas Dickson's papers after his death in 1817 and published after that date. It indicates that the practice of experimenting and communicating results was already familiar to these men.

There is, however, one further aspect of Sinclair's influence that awaits validation. In March 1804, seven men met in London to form the London Horticultural Society. The objective of the new society was as follows: 'To collect every information respecting the culture and treatment of all plants and trees, as well culinary as ornamental.' The first meeting to propose forming the society was chaired by a John Wedgwood. He is credited with having first proposed such a society in 1801 because of the need to look at gardening which had not been encouraged by the existing agricultural societies, with the exception of those considering orchards (but only as a branch of agriculture). It is highly possible that Wedgwood, a banker, had close links with Sinclair. As Mitchison (1962, 138) notes, it was Sinclair's network with leading bankers in 1793 that helped avoid that financial crisis for Pitt's government.

Wedgwood had attended Edinburgh University in 1785/6 (EUL), but is not listed as a graduate. However, he would have been part of the 'Enlightenment' culture at that time. Edinburgh was a comparatively small world, but Sinclair was active in London politics (although he had a base in his mother's house in Edinburgh's Canongate). There is no evidence to indicate that Sinclair and Wedgwood ever met in Edinburgh in 1785/6; Sinclair had followed a four-year Arts course from 1765, and later trained in law at Glasgow and Oxford. However, the Wedgwood family had their own social network group. John Wedgwood's sister, Susannah, for example, married Robert Darwin, the financier and doctor son of Erasmus Darwin MD FRS, who had published *Phytologia: or the Philosophy of Agriculture and Gardening* in 1800. Darwin, the grandfather of the Charles Darwin, dedicated his work to Sir John Sinclair 'whose unremitted exertions, when President of the Board of Agriculture, many important improvements in the cultivation of the earth were accomplished and recorded; this work which was begun by the instigation of his letters to the author, is dedicated with great respect.'

In his *The Royal Horticultural Society: A History*, Brent Elliott suggests that Wedgwood took as his starting point the deficiencies of the existing agricultural societies, although he identifies two that were more prestigious and influential, including the Highland Society based in Edinburgh and formed in 1784 (Elliott 2004). Wedgwood, he says, wanted to encourage practical improvement and the pooling of regional information, and shows that it had been a project Wedgwood had been writing about since 1801.

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Validating Sinclair’s significance in the formation of the London Horticultural Society, now the Royal Horticultural Society, is a harder task, especially with the much higher profile traditionally given to the renowned Sir Joseph Banks. If, however, John Wedgwood’s interest was kindled by the publications and family network of Erasmus Darwin, then the dedication in the *Phytologia* is significant, the more so when considered alongside the similar dedication written by Robert Brown in the first *Farmer’s Magazine*, published in 1800 - for both praise Sinclair and not the Board of Agriculture and Internal Improvement.

Within Scotland, the link between Sinclair and the development of horticulture is now evident, especially in the period when his mantra for information and experiment was being taken forward by his friends from the parish of Prestonkirk from 1799, and then from 1809 by the founders of the Caley (eg, Shirreff 1810). East Lothian men were to play a significant part in contributing to that activity for at least 20 years after Sinclair’s collaboration with them began in 1793.

### ACKNOWLEDGEMENT

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## APPENDIX 1 SHORT BIOGRAPHIES OF THE ‘EAST LOTHIAN MEN’

### ROBERT BROWN, OF MARKLE AND DRYLAWHILL (1756-1831)

Listed in the *Oxford Dictionary of National Biography* as a writer on agriculture. He was born to a John Brown, of Prestonkirk parish, who married a Margaret Cunningham, of Whitekirk parish, in May 1755. He is buried in Prestonkirk graveyard. The epitaph on his tombstone contains these words:

*‘Distinguished by superior talents, which he diligently cultivated: possessed of extensive knowledge, which he brought to bear with happy effect on the various subjects of which he treated. He engaged chiefly in rural affairs, and rose to eminence not less by his numerous and useful writings of husbandry, than by his skill and success as a practical agriculturist.’*

### SIR GEORGE BUCHAN-HEPBURN OF SMEATON (1739-1819)

The chief heritor of Prestonkirk parish wrote the *General Review of the Agriculture of East Lothian, with observations on the Means of Improvement*, published in 1794. For more about Sir George, see Affleck, D K ‘Advocate and Agriculturalist: Sir George Buchan-Hepburn of Smeaton’, *Trans East Lothian Antiq & Field Naturalists Soc.*, vol. XXVII, (2008), 107-15. He is buried in the family vault attached to Prestonkirk church.

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THOMAS DICKSON (d. 1817)

An Edinburgh nurseryman, he was joint secretary of the Caledonian Horticultural Society from 1811 to 1814. On 3 December 1811 he was awarded the first gold medal from the Society for a paper on 'Curl in the potato', based on his research which he acknowledged arose from observations by Sir George Buchan-Hepburn. Dickson was related through marriage to the Howdens of Lawhead, on the Tynninghame estate. Whether he was related to a James Dickson, of Covent Garden, co-founder of the London Horticultural Society, remains to be discovered.

PATRICK NEILL (1776-1851)

The son of Adam Neill, of Haddington, he joined his second cousin, also Patrick, in a family printing business in Edinburgh. (Interestingly, Adam remarried in 1794, his second wife being Margaret Somerville, who may have a family link with Robert Somerville.) Patrick was educated with the intention of him becoming a surgeon and he obtained an MA from Edinburgh University. Other scientific pursuits, however, became his main interests. In 1804, he visited Orkney and Shetland and wrote a report on his observations. He was a founder member, and appointed joint secretary, of the Caledonian Horticultural Society until 1814, and then secretary until his death. Around 1820 he was involved in draining Edinburgh's Nor Loch and the consequent design of West Princes Street Gardens. His relatives' house at Greenknowe, in Haddington, is said to have had similar design features to his Princes Street Gardens.

WALTER NICOL (1769-1811)

Distinguished horticulturalist, landscape consultant, writer and joint secretary until his death in 1811, following a visit to Newton Hall, East Lothian. Shortly before then, he was asked to write the *Planter and Nurseryman's Kalendar* and also a *Treatise on Gardens and Orchards* for the Board of Agriculture. He hoped to have his gardening guide distributed free 'to each village and hamlet', with a recommendation that it should be circulated from house to house.

GEORGE RENNIE (1749-1828)

Tenant in Phantassie, Prestonkirk parish, he was a farmer of international status, noted for his hospitality to visiting agriculturalists from across Europe. Sinclair visited his farm in 1812 while on a tour to look at standards of husbandry. He is buried in Prestonkirk graveyard. His epitaph, written by Robert Brown of Markle, contains these words:

*'Mr Rennie was acknowledged by his contemporaries to be the most skilful and successful agriculturist. Nor was the reputation he so justly merited confined to his native land. He corresponded with, and was visited not only by, the leading agriculturists of England and Ireland, but many noblemen and gentlemen from France, Russia, Germany, Poland, Hungary and other European states seeking information to improve their domains, were hospitably received by him, and instructed in his theories and practise.'*

JOHN SHIRREFF (1759-1818)

Farm manager and agricultural writer. Undertook an agricultural survey of the Orkney and Shetland Islands in 1804. The first edition of the *Memoirs of The Caledonian Horticultural Society* has a paper read on 6 March 1810 by a John Shirreff of Craigside on 'Curl Disorder on Potatoes' which disputed a claim by an Andrew Knight. In 1802 Knight challenged William Forsyth, a founder member of the London Horticultural Society, over a cure for canker in fruit trees. Elliott (2004, 6) identifies the Wedgewood-Forsyth alliance as being in conflict with the Banks-Knight alliance, and indicates this led to Wedgewood's resignation from the London Horticultural Society in 1809. He is buried in Prestonkirk graveyard.

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ROBERT SOMERVILLE (1767-1804?)

The writer of the agricultural report for East Lothian, published in 1805, is described as the late Robert Somerville, surgeon in Haddington. The editor commends the content of this survey 'which is much more detailed and analytical'. There is a letter in the Dundas archives from a Robert Somerville of Haddington, who wrote in February 1798 to Henry Dundas. It starts by indicating he had frequently addressed Dundas about a matter of a public nature but now 'wishes to take the liberty of troubling him on a private subject.' The letter continues: 'Some months ago I had the honour of being recommended to the Army Medical Board by their Royal Highnesses the Prince of Wales and Field Marshall the Duke of York for an appointment upon the British Medical Staff, but owing to some cause of which I am ignorant the appointment has not yet taken place', and he asks for Sir Henry's patronage and recommendation.'

There are also two entries in the Board of Agriculture archives for a Robert Somerville of Haddington. One lists him as a corresponding member of the Board from 7 November 1798. The other is a copy letter of 1800 to Mr Somerville, which indicates that he expected more than £100 for his survey. He is told that it is much more than had ever been given for any report hitherto furnished either in England or Scotland.

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*Figure 1: Andrew Meikle, with the plan of his horse-powered 'Drum Threshing Machine':  
Portrait by A Reddock.*

*(© National Portrait Gallery, London)*

MAN OF INVENTION:  
BI-CENTENARY OF ANDREW MEIKLE  
1719 -1811  
CIVIL ENGINEER AND MILLWRIGHT

*by WILLIAM & JOY DODD*

ABSTRACT

The year 2011 marks the bi-centenary of the death of Andrew Meikle, the inventor of a safer spring-controlled sail for windmills, and of the drum threshing machine for which he is chiefly celebrated. By comparing accepted biography with parish and tax records, this study corrects his chronology, and outlines a new order. It traces his interactions with the Rennie family of Phantassie, his move from Houston Mill to Knowes Mill, his invention of spring-controlled shuttered sails and the drum threshing machine, the opposition after patenting the latter in England, the subscription to recognise his genius - and finally his death, followed by that of his son George just two days later.

*Beneath this Stone are deposited  
The Mortal Remains of the late ANDREW MEIKLE  
Civil Engineer at Houston Mill,  
Who died in the year 1811:  
Aged 92 Years.  
-----oOo-----  
Descended from a race of Ingenious Mechanics,  
To whom the country, for ages, had been greatly indebted,  
He steadily followed the Example of his Ancestors,  
And,  
By Inventing and bringing to Perfection  
A MACHINE  
For Separating Corn from the Straw,  
(Constructed upon the Principle of Velocity  
and furnished with fixed Beaters or Skutchers,)  
Rendered, to the Agriculturists of Britain,  
And of other Nations,  
A more Beneficial Service, than any hitherto  
Recorded in the Annals of Ancient or Modern Science.*

## MAN OF INVENTION: BI-CENTENARY OF ANDREW MEIKLE

### INTRODUCTION

Andrew Meikle (fig 1) died at Houston Mill, near East Linton, on 27 November 1811 aged 92. He was laid to rest in Prestonkirk churchyard, just across the River Tyne, where also lie two celebrated East Lothian ‘agriculturists’ who revered his genius and vigorously defended his reputation: George Rennie of Phantassie (1749-1828), friend and neighbour, and Robert Brown of Markle (1757-1831), founding editor of the *Farmer’s Magazine*, the ‘organ’ of the agriculturists from 1800. George Rennie, who had written at length in the *Magazine* upholding Andrew Meikle’s priority in perfecting the drum threshing machine, is said to have erected Andrew Meikle’s headstone (fig 2) and composed its epitaph (Martine 1883, 356). The epitaph (see page 43) reads as a forceful manifesto, defining what was then seen as Andrew Meikle’s outstanding contribution to European agriculture:

The inscription is cut into the back (west) face of the stone, unlike all its neighbours. The front (east) face has a large sunken panel within a moulded frame which remains completely blank. This paper aims, to some extent, to fill this blank by supplementing the work of previous biographers and by evidence from varied parish, tax and other records, to throw further light on his moving story.



*Figure 2: Andrew Meikle’s headstone (right) in Prestonkirk churchyard, East Linton.  
(Courtesy of Garry Menzies)*

MAN OF INVENTION:  
BI-CENTENARY OF ANDREW MEIKLE

## SALTOUN

Andrew Meikle was born in Saltoun parish, in the SW of East Lothian, a few days before he was baptised at Saltoun parish church on 10 May 1719 (OPR Saltoun) (fig 3). His father, James Meikle, was the celebrated expert wright who, in 1710, during a time of hostilities, had travelled to Holland to learn the Dutch technique of manufacturing French and pearl barley. He went under contract to the family of Andrew Fletcher ‘the Patriot’, laird of Saltoun, then in exile in the Low Countries, and who had made the arrangements to facilitate Meikle’s survey (*Farmer’s Magazine* 1800, I, 159). He succeeded, and after having had iron castings for the machinery produced there, returned to build a barley mill beside the Birns Water at West Saltoun, completed in 1712. For decades it was the only such mill in Britain, and the building, now a house, is still known as The Barley Mill.

An extraordinary system of security was imposed by the Fletcher family to guard their industrial secrets, creating an effective monopoly of making ‘Salton Barley’. In the 1710 *Articles of Agreement* (RH4/189/6), James Meikle is referred to as being ‘of Nether Keith’, which was in the adjacent parish of Humble. In the 1712 *Articles of Agreement* (RH4/189/9), by which Meikle became ‘the Master of the work at the new Barley Mill’, special provision was made due to the danger of his being attacked on the way to his relatively remote house, and the mill’s key being stolen. A short while later, on the occasion of the baptism of his son James on 18 January 1713, the family appears to have moved into Saltoun parish (OPR Saltoun), possibly to the house attached to The Barley Mill. James Meikle also brought back from Holland a mechanical winnowing machine, termed a (*pair of*) *fanners*, but a later attempt to copy this did not meet with much commercial success, possibly influenced by the superstition that it raised ‘the Devil’s Wind’. Andrew Meikle later recalled how the machine lay neglected in The Barley Mill. Its principle was later incorporated into his own successful ‘thrashing machine’.

According to the inscription added to the fine headstone James had erected in Humble kirkyard in 1717, to mark his family’s lair, he died on 19 November 1725 aged 55. He had married Janet Alane at Humble Kirk on 20 August 1696 and they had a daughter Janet in the same year (OPR Humble). In the 1710 *Articles of Agreement*, provision was made for James Meikle’s wife and children should he die abroad, but the Saltoun parish records show no further children born to them there until they had James (baptised 18 January 1713), Margaret (10 April 1715 but died 7 June 1720) and Andrew Meikle himself (10 May 1719). Robert Meikle, who played an important part in Andrew’s early life and career, may have been an older brother, born early in the marriage, or more probably a close cousin. On 6 June 1735 he married Jannet Maffet at Saltoun Church, where he also had his three children baptised. He subsequently remarried, and died at The Barley Mill in 1780.

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BI-CENTENARY OF ANDREW MEIKLE

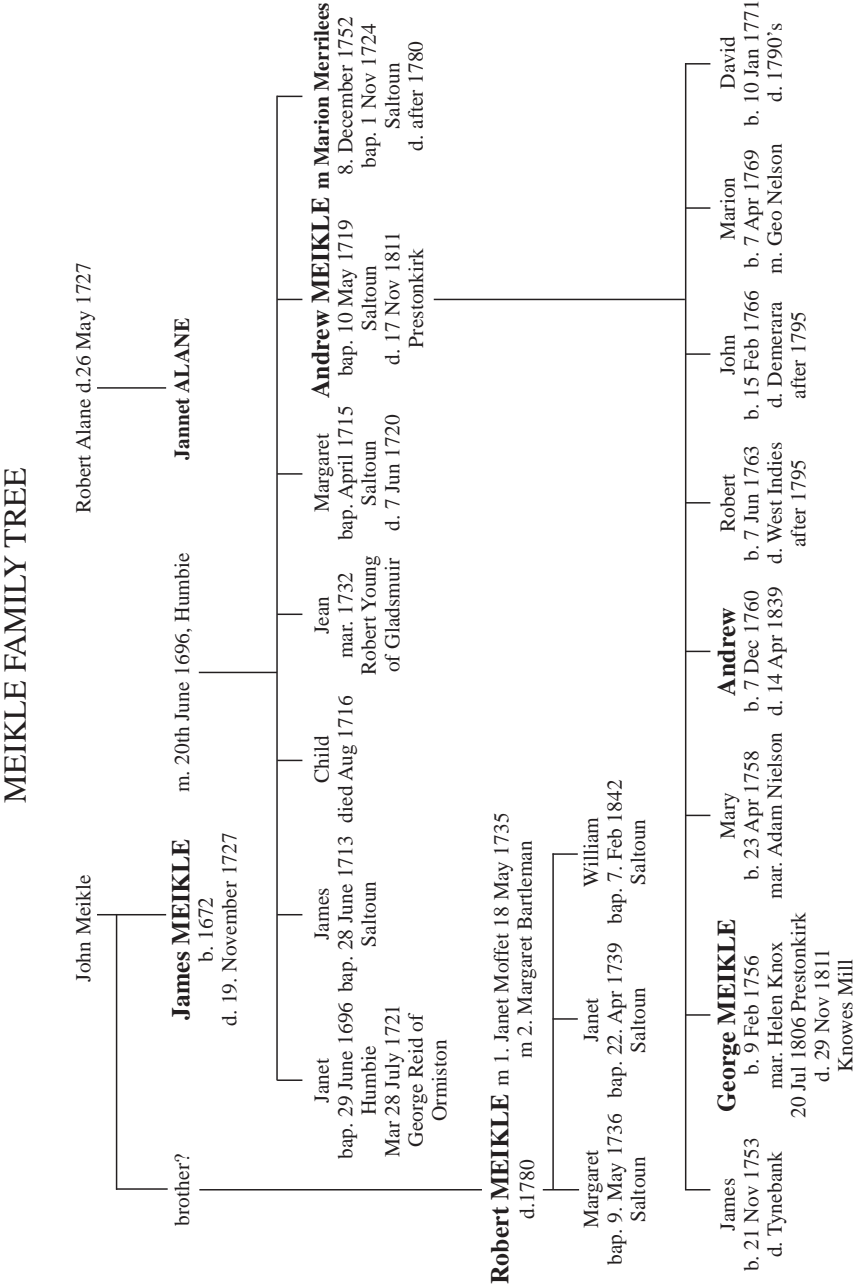


Figure 3: Family Tree of Andrew Meikle, compiled by Joy Dodd.

## MAN OF INVENTION: BI-CENTENARY OF ANDREW MEIKLE

The education of an eighteenth-century millwright required steady application over a period of years, and would normally have involved at the least a lengthy apprenticeship with workshop practice complemented by geometrical and mathematical training at a burgh school. When James Meikle died, Andrew was just eight years old. There can have been a very limited opportunity for the father to have directly communicated much of his fund of knowledge to his child. Yet despite this drawback, Andrew later showed he had had a thorough grounding in all aspects of the millwright's business, both theoretical and practical, and he went on to develop a peculiar genius, and one of an original cast. John Shaw (1984, 104-6) has traced the chronology of the activities of the Meikle family and found James Meikle, with a brother, working in 1712 in Glasgow and Edinburgh. In 1715 and 1725 he was doing mill repairs for Lord and Lady Pencaitland (RH4/189/1). In 1715 he is said to have made a second visit to Holland, as one of the two wrights accompanying Margaret Carnegie, wife of Henry Fletcher, disguised as servants, to learn the techniques of producing the fine linen cloth known as *Hollands*, which led to the establishment of a bleachfield and works near The Barley Mill at Saltoun. Andrew Fletcher entrusted the mill to Margaret Carnegie, whose husband Henry succeeded to the estate in turn. He died in 1733, and was followed by his son Andrew, Lord Milton, who subsequently became deputy-governor of the British Linen Bank and who greatly enlarged his family's commercial enterprises. This connection will have provided repeated opportunities for the Meikles, and continuity of experience for the emerging millwright and engineer, Andrew Meikle.

In 1746 Lord Milton's newly-founded British Linen Company began building another, more extensive, linen bleachfield and works at Saltoun, which played a crucial part in the growth of the linen-bleaching industry in Scotland. In those days it was essential that the cost of bleaching Scottish-produced linen should be much reduced, so as to be able to combat the import of cheaper Irish and German linen in the main Glasgow and London markets. According to Durie (1976, 51), 'the layout of the field seems to have owed much to John Aitken and the famed brothers Meikle who were paid to make a trip to Perth in July 1747 to view the field there. Robert Meikle did most of the work on the machinery constructed, and by 1748 over £1500 had been expended.' Both of the Meikles worked on the Saltoun Bleachfield until 1749, and were involved in occasional later improvements and changes. Robert next did mill work in Argyll, while Andrew worked on Bonnington Yarn Mill, near Edinburgh, in 1749. Andrew also made a survey of the River Tyne and Coulston Water for the Haddington Tarred Wool Company, and undertook a journey into England to view waulk mill machinery for that company. In 1751 Robert and Andrew Meikle were formally engaged as millwrights to the Board of Trustees for Manufactures, of which Lord Milton was a member, and they were granted a further £20 per annum for taking on apprentices.



## MAN OF INVENTION: BI-CENTENARY OF ANDREW MEIKLE

The survival of a pocket day-book of Andrew Meikle for 1749-56 (RH4/189/2) suggests that it was probably in 1749 that Andrew formally established his engineering business. He moved his legal residence to Prestonkirk parish and set up his workshop at Houston Mill, a waulk mill or fulling mill on the south bank of the Tyne, down-river from the Lynn Cascade (the Linn Rocks) at East Linton (fig. 4).

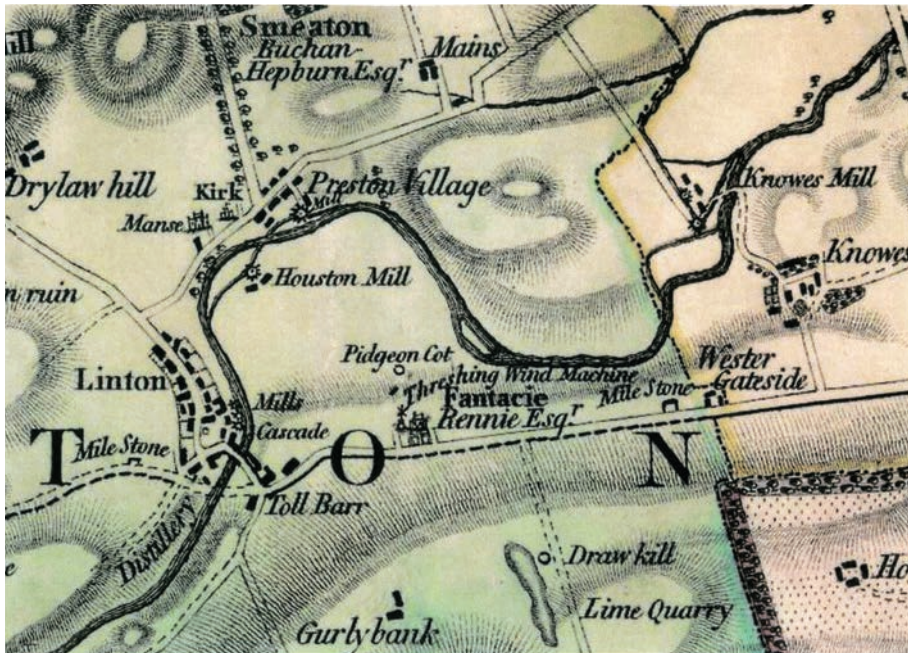


Figure 4: Andrew Meikle's neighbourhood.  
Extract from 'Forrest's Map Surveyed in 1799', and dated 1802.

### HOUSTON MILL

Houston Mill, the mill house, houses and yards, infield and pasture land, all extending to about five and a half acres (RHP 3682), lay within that part of the Earl of Aberdeen's Phantassie estate farmed by James Rennie. James came of a family of energetic East Lothian farmers. His first son, George, was born in 1749, and his youngest son, John, the famous civil engineer, in 1761 (OPR Prestonkirk). For the Rennie boys Andrew Meikle and his workshop became important parts of their childhood and among their earliest memories. George Rennie, for example, wrote in the *Farmer's Magazine* in 1811 (XII, 434), in defence of Andrew Meikle's claim to have originated his threshing machine:

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*‘Probably there is not another person in existence that had so many opportunities of knowing the several facts and circumstances connected with the invention as myself; chiefly owing to the habits of intimacy which I had long maintained with those concerned, particularly with Mr Meikle and his family. During the time I attended school at Prestonkirk, I passed through Mr Meikle’s workshop twice or thrice every day; and as his eldest son [James Meikle] was my schoolfellow, I went often with him, and viewed the machines that were making; in which way I acquired some mechanical knowledge, or at least a disposition to inquire into, and investigate such new inventions as afterwards came under my consideration.’*

As a newcomer, Andrew Meikle will have required a letter of introduction to the kirk session of Prestonkirk from that of his previous parish of Saltoun, to establish his good character, before being accepted into the parish. Having done this, his amiability proved such that on 29 July 1753 the session of Prestonkirk made him an elder (Prestonkirk CH2/306/3,123).

In 1752 Andrew married Marion Merrilies, the youngest child of George Merrilies, tenant in West Saltoun, and Mary Tafts, his wife. Andrew was 33 and his bride 28. The banns were read in Saltoun kirk on 25 November, with John Merrilies, her eldest brother, standing as her cautioner and Robert Meikle as cautioner for the groom. The banns were read in Prestonkirk on 8 December, when they were married. They were to have their eight children between 1753 and 1771 (OPR Saltoun; Prestonkirk) (see fig 3).

When Andrew Meikle set up his base in Houston Mill it was a sound commercial decision. East Linton was central to the county, mid-way between the markets and facilities at Haddington and Dunbar, and beside the great post-road linking Edinburgh with London, hopefully the subject of regular maintenance. The Tyne and its tributaries had the largest concentration of mills, both corn mills on traditional millsteads and an ever-increasing number of millsteads turned over to industrial uses for a variety of frequently changing enterprises (Shaw 1989, 33-58, figs.1 & 2). To be based where the Tyne, locally known as the Lyne River, crossed the post-road was ideal for a millwright’s business. At Linton alone, where the Lynn Cascade provided a prodigious potential source of energy, a cauld (weir) under the bridge filled a mill lade on the north bank, which served five mills in turn, before the water was returned to the Tyne (RHP 3682). Precipitation on the elevated Lammermuir Hills regularly led to spates and damaging floods, and damage to watermills and their sluices would have ensured a continuing demand for a millwright’s services. Also, as a professional consultant in wind and water power, with a growing reputation, Andrew Meikle was well placed, being just 20 miles east of Edinburgh, and within a day’s journey of England.

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Houston Mill (fig 5) was a waulk mill and the regular movement of woollen cloth for fulling must have formed a background to life at Houston. The source of power represented by the millwheel will also have been made available for transmission to the workshop and sawbench with their proliferation of power-driven machinery. This proliferation may explain the plural name 'Houston Mills' on Greenwood & Fowler's map of the early 1800s. There were also some five acres of fertile infield needing to be cultivated, by approved methods, and domestic fowls and animals for the family's sustenance.

The annual rhythm of the farming year will have greatly influenced Meikle's work. His day-book for 1749-56 records several major mill-building jobs when his team of five or six men were committed to working, mainly through the winter months. Repairs or maintenance to mills could be entrusted to two or three experienced workmen, as they arose, and the same was true of the regular demand from landowners for boring new wooden pump barrels and supplying the necessary iron and brass fittings. Meikle's business became a useful training resource for the Board of Trustees for Manufactures from 1752, when it began payments for apprentices being taken on, and the workshop will have become an established environment where journeymen millwrights could progress in their craft and gain experience, before moving on to set up their own businesses.



*Figure 5: Houston Mill, Prestonkirk Parish.  
(By E M Wimperis, after a drawing by J S Smiles)*

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## KNOWES MILL

In the later 1700s the government imposed a succession of occasional and regular taxes on the population, and the returns from these are a valuable source of information which throw a spotlight onto individual tax payers. From these we discover that Andrew Meikle paid window tax and house duty every year from 1758 to 1769 for West Mill, Prestonkirk, the name of Houston Mill for tax purposes. (Preston Mill, the corn mill for the Smeaton estate across the Tyne to the north, was presumably the East Mill.) In 1770 he paid his first window tax and house duty on Knowes Mill, his new residence, mill and engineering works in the adjacent parish of Whitekirk, about one mile down-river from Houston Mill. The records show that he continued paying tax on Knowes Mill until 1799 when the tax system changed. From 1771 to 1786 he regularly paid 14 pence for seven windows at Knowes mill house, whereupon the house must have been altered or extended for he thereafter paid six shillings for nine windows for each year up to 1799. One horse and one cart were paid tax on from 1785, yearly until 1792, but a horse continues to be taxed up to 1799. Occasional taxes were also paid - for one silver or metal watch in 1797; for four work-horses in 1797 and 1799; and for a dog in 1798 and 1799 (E 326).

Knowes Mill was a corn mill on an ancient watermill site, on the north side of the River Tyne, 200 metres outside the eastern boundary of the Phantassie estate, which there coincided with the parish boundary between Prestonkirk and Whitekirk. It served the Tyninghame estate of the Earls of Haddington. Access from the post-road on the south was via the steading of Knowes and thence by a ford across the Tyne. The mill-lade appears to have been altered before 1750, to run northward through the group of mill buildings, the tailrace thereafter sweeping eastwards to capture and enlarge a small tributary to the Tyne to form the lade for a lower mill (possibly a sawmill like its replacement of 1828) beside the Whitekirk road. William Forrest's map (see fig 4) shows two mills at the Knowes millstead, the southern one on the north side of the original line of the lade - presumably the old mill Andrew Meikle took on in 1769 - and another to the north, on the extension of the lade - possibly John Rennie's first independent mill job built in 1779 (see below). Forrest's map also shows improvements in local communications since the time of Roy's *Military Survey* of 1747-55, for a new straight estate road running north from Knowes Mill joined a new minor road linking New Tyninghame, created by 1761, to Prestonkirk. This ensured that even were the Tyne ford impassable, Knowes Mill would be accessible to such of the Earl of Haddington's tenants as were still thirled to the estate mill. As well as being a busy millwright, and a consultant civil engineer, Andrew Meikle was also now officially the resident miller.

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Samuel Smiles (1874, 211) recounts a story which must relate to Meikle's time at Knowes:

*'One day a woman came to the mill to get some barley ground, and was desired to sit down in the cottage hard by, until it was ready. With the first sound of the mill-wheels the cradle and churn at her side began to rock and to churn, as if influenced by some supernatural agency. No one was in the house besides herself at the time, and she rushed from it, frightened almost out of her wits. Such incidents as this brought an ill name on Andrew, and the neighbours declared of him that he was "no canny".'*

Andrew Meikle must have relinquished his position as church elder when he moved out of Prestonkirk parish, but Whitekirk parish kirk was some miles distant, and for convenience and social reasons he and his family probably continued to worship at Preston Kirk. His youngest child, David, was baptised there in January 1771, by which date Andrew was aged 51 (OPR Prestonkirk).

Knowes Mill enjoyed an advantageous geographical position little inferior to that enjoyed at Houston Mill. Added to this were projected plans by the estate to rebuild the mill on the west bank of the diverted mill lade. Of interest also is the fact that the stretch of river from the sea up to Knowes Mill was tidal and might be made navigable at no great expense (OSA 1796, vol. 17, 574-5). Mean high-water spring tides may have regularly impeded the outfall of the old Knowes Mill and occasioned the construction of an alternative in the new mill lade already visible on Roy's *Military Survey*.

Among Andrew Meikle's apprentices at Knowes Mill was John Rennie, George Rennie of Phantassie's youngest brother. Young John showed a marked inclination when a child to frequent Meikle's workshop at Houston Mill, and also to construct models of machines. He had been just five years old when his father died, and became a protégé of Andrew Meikle, his family agreeing to his being apprenticed to the millwright on completing his schooling at Prestonkirk school in 1773, at the age of 12.

John's two years of training involved the practical use of tools and the theory of design in carpentry, stone masonry, and smiths' work, together with the technical and theoretical basis of the craft of millwright. From 1775 he attended Dunbar High School for two years, which broadened his scholastic achievements to the extent that he was invited to become the new school master in his final months! However, he declined and returned to Knowes Mill to work for Andrew Meikle as a journeyman millwright.



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Samuel Smiles (1874, 213-4) recounts that Meikle trusted him to organise repairs to corn mills which he himself found difficult to fit in to his busy schedule. On several occasions Meikle sent him to distant sites to erect machinery. In this way young John Rennie gained experience and developed confidence. He then began to do millwork on his own account. He is said to have undertaken his first job in 1779, designing and building the new three-storey corn mill at Knowes (burned out in 1885 and now a shell). In the following year, aged just 19, he bade farewell to Andrew and Marion Meikle to pursue further studies in mechanical philosophy at Edinburgh University, and in time to become one of the greatest civil engineers of his age.

### THE NEXT GENERATION

Andrew Meikle's six sons - James (born 1753), George (born 1756), Andrew (born 1760), Robert (born 1763), John (born 1766) and David (born 1771) - all followed their father as millwrights, serving their apprenticeships at Houston and Knowes (see fig 3). It is presumed that each became a competent millwright. However, David died as he was about to set out for Grenada, in the West Indies, to join his brothers Robert and John, who had gone out around 1794 and flourished where knowledge of machinery and windmills was invaluable on the sugar plantations. They survived the Fedon Rebellion of 1795/6, following which John moved to Demerara where he built four windmills before his death there before 1801 (RH4/189/28). Robert may be the 'Robert Mitchell' of the colony of Berbice, appointed to handle brother John's affairs in November 1807 (RH4/189/29). Robert too predeceased his father. Young Andrew remained at home to work in the family business, eventually taking over Houston Mill from his father.

George, the second son, proved the most talented engineer, and worked closely with his father on many projects, including the development of the famous 'thrashing machine'. George was then living at Alloa, whence he erected the first commercial water-powered drum threshing machine - at Kilbagie, Clackmannanshire. However, he is best remembered for 'his ingenious water-raising machine at Blairdrummond, of 1787, the sophistication of which drew praise from various quarters.' (Shaw 1984, 103-4). George worked independently on Alloa Burgh Mills in 1790, and on Lanark Burgh Mill in 1795. On 20 July 1806 he married Helen Knox at Prestonkirk, but they had no issue. He seems to have taken over the lease of Knowes Mill when his father moved to live with son Andrew at Houston Mill around 1800. George died at Knowes Mill on 29 November 1811, just two days after the death of his father (*Farmer's Magazine* 1811, XII, 566). The year 2011 will be equally the bi-centenary of the death of George Meikle, millwright.



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BI-CENTENARY OF ANDREW MEIKLE

## IMPROVING WINDMILL SAILS

For seven centuries the sight of windmill sails rotating in the wind was commonplace in Scotland, but no-one now alive has seen a traditional Scottish windmill at work with sails. It takes an effort of historical imagination to grasp the significance of the spring-regulated windmill sails invented by Andrew Meikle in 1772. At that time there were only three sources of power normally available for machinery - draught animals, water and wind - and each had reached a classic stage of efficiency by gradual improvement over centuries. The millwright was expected to be equally familiar with the minutiae of all three traditions, so as to be able to take an unbiased decision as to which best suited any situation. The agricultural revolution had thrown up successive challenges to the ingenuity of inventors. A parallel revolution in technology was also proceeding, whereby traditional wooden machines were being supplemented at places of greatest mechanical stress by cast-iron members, as a preliminary to their radical redesign in metal. By the mid-1700s, improved metallurgical techniques made it possible to accurately cast gears of iron to begin to replace the peg and trundle wooden gearing in use up to that time.

The fundamental scientific investigation of the comparative efficiency of both water mills and windmills was made by John Smeaton (1759, 10), whom Meikle knew well. His paper, read to the Royal Society in 1759, was a great advance in the theoretical basis of traditional forms, which allowed subsequent experiments to be evaluated. The mill gearing of the mills and models used in his enquiry all appear to have been of the traditional wooden pin and trundle wheel type. Such traditional gearing is illustrated in a drawing of a Scottish tower mill dated 1765 (fig 6), but unusually it also has an endless chain (R) turning an iron Y-wheel (S), to turn gearing, and to move the cap and sails to face into the wind. This adjustment was traditionally achieved by heaving on a long pole projecting down from the cap and reaching to near ground level, or as in this case to the cantilevered stage around the mill, required for the miller to adjust the sail area to the fluctuating strength of the wind.

In 1745 Edmund Lee patented his invention of the *fantail* to achieve automatic adjustment of the cap so that every time the wind shifted direction it would blow on one side or the other of the six- or eight-bladed circular wooden fan, the reversible circular rotation of which, through gearing reduction, adjusted the cap to face directly into the eye of the wind. The fantail was positioned axially to the rear of the cap with its blades at right-angles to this direction and it ceased to rotate once the movement of the cap had been achieved. The principle of the automatic fantail was used by Andrew Meikle, and some people have mistakenly suggested that it was his invention, unfortunately compromising for posterity the importance of his true contribution in this field (Shaw 1984,103).

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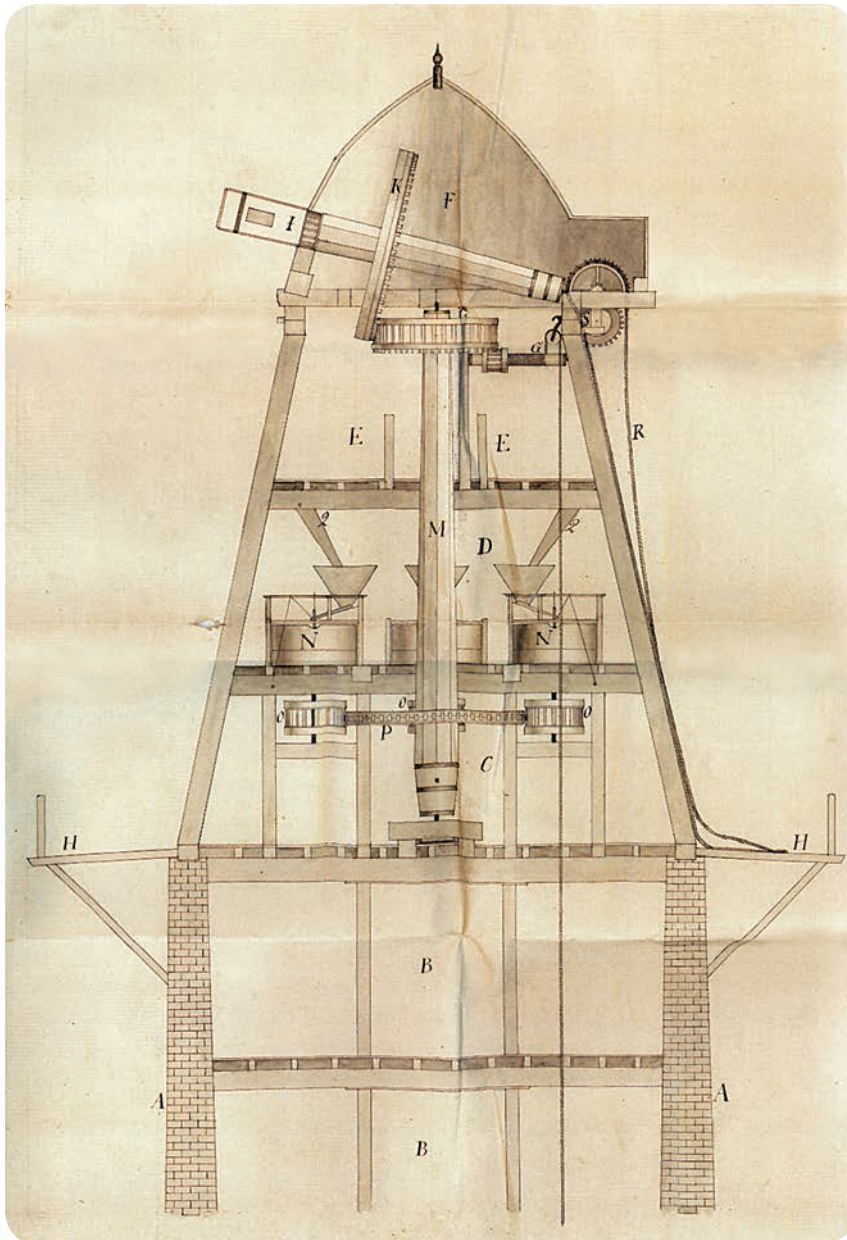


Figure 6: Traditional gearing in a Scottish windmill, 1765 (RHP 42113).  
(Courtesy of the National Archives of Scotland)

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East Lothian still has a large number of stone towers of former windmills (Douglas 1984, fig 1) and these, together with the evidence of the windmill constructed by the Meikles around 1749 for pumping water at the greater Saltoun Bleachfield, and the detailed estimates for building windmills in Andrew Meikle's pocket day-book (RH4/189/3), show that there was a continuing tradition of windmill usage, and by implication a lively appreciation of their utility. Where water power was not available, and the supervision, stabling and feeding arrangements for horse power made it inappropriate, wind power was the logical answer. Whatever the purpose intended, each tower mill had a central revolving upright shaft in the tower ('M' in fig 6), crowned by a projecting gear, and an independent cap revolving on a circular curb fixed down to the top of the tower. The cap enclosed much of the length of the inclined windshaft (I), which projected to carry the sails, and revolved with them, so that the large brakewheel (K) inside the cap could transfer the rotation to the gear on top of the upright shaft by means of wooden cogs projecting from its inner face bearing on the rungs of the trundle gear. Whatever the orientation of the cap, the art of the millwright was to ensure that the cogs from the rotating cap meshed with the trundle gear fixed in the static tower, so as to transfer power. The curb had to be both exactly circular, and centred on the vertical centre-line of the circular tower. A chain of linked wooden blocks was suspended to act as a friction brake on the outer face of the brakewheel when activated by a heavy timber lever applied by a rope control accessible on all floors of the mill. The outer end of the windshaft was pierced by two long timbers, mutually at right-angles, termed 'stocks', projecting equally to each side. To the outer face of these were fixed the four sails, extending almost to ground level, or to the cantilever stage.

A traditional windmill sail was essentially a grid of slender timber members, which provided little resistance to the wind, supporting a rectangular canvas sail, which had ropes attached to allow three stages of reefing before full sail was achieved, with maximum wind resistance. By Meikle's time such sails had reached a stage of considerable aerodynamic sophistication. The principal longitudinal timber, termed the whip or sailback, had a regular series of sailbars mortised through it at right angles, but projecting only a little on what would be the leading edge of the sail, and principally on the following edge which would chiefly generate the power. However, each sail bar was set at a carefully graduated decreasing elevation towards the inner end of the sail, so as to generate a similar twist to that later found in an aeroplane propeller. John Smeaton had made recommendations as to the most efficient curve for sails, termed '*weather*', but individual millwrights often continued to use the forms that their tradition dictated. Laths resting on the sailbars ran along the sail to support the canvas, and a hemlath linked the outer ends of the sailbars. An angled board reduced the wind resistance of the leading edge of the sail.

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Such 'common-sails' required constant vigilance by the miller, to adjust the areas of sail cloths repeatedly to suit changes in the strength of the wind, often in uncertain weather. Each time there was a delay, due to there being four sails to be dealt with in turn, pulling on ropes and tying them off, first using the brake or a long pole to position each sail within reach. A neglected mill with full sail could not be stopped safely by using the brake, without the danger of the friction causing a fire in the cap. In a corn mill the gap between the stones could be choked with excess grain to slow the mill.

To avert this danger Andrew Meikle invented a completely new kind of sail. Its surface comprised canvas-covered wooden frames in bays of three or four, each 'shutter' pivoted near the outer edge and held closed by a crank onto a wooden control bar attached to an adjustable spring at the inner end of each sail. Any gust of wind might overcome the selected degree of resistance of the four springs, and allow the shutters to open, 'spilling the wind', but closing again to resume working once the danger had passed. This safer design of windmill sail was invented in 1772, and examples can be seen in preserved English windmills today. In general arrangement, spring-sails followed the form of the contemporary common-sails, with shutters on the trailing side of the sail, and the more widely spaced sail bars progressively angled to produce a 'weather' towards the inner end of each sail. Adjustment to suit changes in the power of the wind still required each sail in turn to be brought to the lowest position, accessible when standing on the ground (or cantilevered stage), so that the saving in time compared with adjusting common-sails was not great, but the function of the rack and pinion, or strap and stud mechanism, to adjust the spring would have been less gymnastic than adjusting ropes and canvas on common-sails.

In practice, spring-sails proved to have rather less power than common-sails, and some millers chose to fit two spring-sails together with two common-sails to have the advantages of both. When working, spring-sails regularly close with a snap when they reach the lowest position in their rotation, due to the body of the mill blocking the wind flow, so that the breast of the mill may be repeatedly sprayed with rainwater to its detriment. The significance of Meikle's invention is that it introduced a safer automatic model for windmill sails, than the traditional common-sail.

In 1789 an alternative model was invented by Stephen Hooper of Margate, involving sail frames filled by small roller blinds, the operating rods for which were gathered inwards to a spider-coupling next to the end of the windshaft. A central hole was bored the full length of the windshaft, and a striking rod installed, so that even with the sails turning, the spider could be moved by a rack and pinion within

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the cap, and the sail area continually adjusted. An endless chain hanging outside the mill allowed adjustment of the rack and pinion. This system of central control, adjustable while the sails were still turning, inspired William Cubitt to combine it with shuttered sails as used by Meikle, and in 1807 he patented his design. This was the first truly automatic operation, the shutters being controlled by weights hung on one side of the control chain; the greater the weight the greater the wind pressure required to open the shutters and spill the wind. Hung on the other side of the chain the shutters were kept open. This form, called the 'patent sail', is clearly indebted to Andrew Meikle's pioneering invention (Wailes 1957, 100-1).

### THE 'THRASHING MACHINE'

The increasingly greater amounts of grain being grown by the later 1700s made farmers more and more dissatisfied with the procedural bottleneck of teams of 'barnsmen' laboriously separating the grain from the straw by beating on a threshing floor with hand-held flails in the month following harvest. The process bruised much of the grain, and involved considerable losses. In 1768 Andrew Meikle took out a patent, jointly with Robert Meikle, for a machine for dressing and cleaning grain. This machine efficiently prepared the grain once it had been separated from the straw, but did not address the larger problem. Experimental machines, hopefully intended for separating various kinds of grain from its straw, were erected, especially in the Borders, the Central Lowlands and the northern counties of England, having in common a short growing season.

In early experiments multiple flails were fixed to a rotating beam driven by water power. About 1732 Michael Menzies had built such a machine, but the flails were a weak element, and it and similar machines proved dangerous to approach. In 1758 Michael Stirling of Dunblane made a water-driven machine on the principle of a flax mill. It had four horizontally-turning scutchers within a cylinder, into which sheaves were fed; the resulting grain and straw were separated by riddles and fanners. It worked well for oats but less well with other types of grain. The design was improved by advice from George Meikle whilst at Alloa.

The next significant advance came when a Mr Oxley built a horse-driven machine at Flodden, Northumberland. This had the cylinder set horizontally, but instead of scutchers, the sheaves were fed into hinge-hung switchers through two fluted rollers. Mr Ilderton at Alnwick and Mr Smart at Wark made a similar machine in the 1770s, with a fluted threshing drum and small fluted rollers pressed onto it by springs. Unfortunately, the drum bruised the grain as it was pressed or rubbed out (Fenton 1976, 83-4). When travelling through Northumberland, the machines built by Smart and Ilderton so impressed Sir Francis Kinloch of Gilmerton, in East

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Lothian, that he had working models made. He modified the design by enclosing the drum in a fluted cover and adding four sprung pieces of fluted wood on the circumference of the outer cylinder (Shaw 1984, 157). In 1784 he sent the modified model to Andrew Meikle at Knowes Mill for testing by water power.

Meikle was already fully conversant with the machinery of flax mills, and the utility of scutchers in that context, from the time in 1751 when the Board of Trustees for Manufactures called him and Robert Meikle, the most prominent millwrights of the age, to adjudicate between rival inventors of flax-dressing machines. Andrew tested one of the machines at Kevock Mill where he was working, and this proved the better. Soon after, the Trustees engaged the Meikles on a permanent consultative basis on account of their ingenuity 'in inventing, as well as improving, many different kinds of machinery requisite for the cheapening of labour' (Shaw 1984, 172-3). In the intervening years Andrew had travelled extensively in Scotland and England, widening his authority and experience. In 1779 he extended a business trip to London to make calls in Norfolk and Suffolk on behalf of the Fall brothers of Dunbar, with the added prospect of erecting a mill near Norwich. An introductory letter by the Falls to Messrs. Gooch & Cotton suggested he should be shown any mills in the area, as 'He is a very modest intelligent man, [who] knows much more than he expresses' (RH4/189/14/15). Meikle's good nature had previously been recognised by Haddington Burgh Council in October 1762 when they noted that 'Andrew Meikle, milnwright at Houston Waukmiln, has upon several occasions done acts of friendship to this Burgh by his advice in repairing the Town's Milns, and that without demanding any gratuity for his trouble'. They admitted him an heritable burgess at the town's expense (Shaw 1984, 103).

By 1784 Andrew Meikle was 65 years old and working closely with George, his second son, then at Alloa; the two kept in touch by written correspondence. To improve the prompt delivery of mail, previously addressed for delivery via Dunbar, arrangements were made for letters to be left at an inn on the post-road directly south of Knowes Mill, c/o 'Alexander Carrole, Cross Keys, Wester Gateside' (RH4/189/35) (see fig 4). Andrew had taken time out from his professional commitments in 1778 to make a preliminary basic experiment at his works at Knowes into the usefulness of a system with a beam with five flails fixed on each side, striking on two platforms, on which sheaves of corn were spread, all activated by water power through a crank. An invited jury of five improving tenant farmers, including George Rennie of Phantasie, signed a memorandum to record that the machine, with just one attendant, could do more work, and separate more grain, than could a man by hand-threshing, and by its use the saving must be considerable (Smiles 1874, 205).



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The weakness of incorporating standard flails would have been apparent to Meikle and he did not choose to take this machine further, but both he and George must have been asked for advice on improving schemes for threshing machines, wherever business took them. Sir Francis Kinloch's motives in submitting his improved model for a threshing machine to Andrew Meikle may have been mixed. On the one hand, he was simply submitting his brain-child to professional scrutiny to see how it would perform technically; on the other hand the affirmation of this recognised authority could greatly help its commercial success and possibly help to win the premium offered by the Board of Trustees. From Meikle's point of view, he was being asked to test a new design in the form of a working model assembled by someone of unknown competence, modified under the instructions of an amateur member of the local gentry, to determine if its system was mechanically sound, and possibly commercially viable. Even limited or partial success would be given the imprimatur of his name to improve its commercial success. According to the later recollections of George Rennie, the model spent some time in the workshop at Knowes, and Meikle showed no keenness to test it, but it may have been merely that an appropriate series of tests took some time to plan. However, when the machine was finally put to the test 'it was torn to pieces in a matter of minutes; and a like fate befell a full-sized version which Sir Francis installed at Athelstaneford Mains' (Shaw 1984, 157). The destruction of the model could have been put down to inexpert workmanship in its construction, but the destruction of the full-size machine pointed to both having serious design faults.

This affair appears to have been the trigger for the Meikles, father and son, to resolve to use their imaginations and professional experience of the mechanisms employed in many industries, together with the unrivalled facilities of their workshops, to design the ultimate threshing machine, of universal application. In short, they set out to discover the formula for a perfected machine, which would be recognised as such. They approached it as a professional design problem with many contingent parameters. These included: (a) that it must be capable of replacing existing arrangements on a farm, without requiring extensive rebuilding; (b) that it should be able to be constructed, if necessary, by ordinary millwrights on licence from the Meikles; (c) that it should be designed and manufactured in the traditional timber-based technology rather than rely solely on the new cast-metal engineering then still being developed.

With George's prior experience of the limited success of the Stirling tub-type machines, and Andrew's recent experience of the Kinloch type of machine intended for rubbing out the grain (but often bruising it so that it was rendered unfit for market), they developed a quite new concept. This they finally seem to have resolved into the following proposition: that if the sheaves could be fed through

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gripping rollers into a horizontal drum with a close-fitting breastwork (instead of one with a fluted surface) revolving at a much greater speed than usual, then the positioning of short fixed scutchers could make the swollen heads of any type of corn virtually explode, into a rain of grain and chaff, to drop down and be further separated and cleaned, by sieves and fanners below.

The crucial technical problem was to so gear up the speed of rotation from the first large toothed-gear-wheel driven directly by the power source (animals, wind or water), so that a far greater rotative speed could be delivered to the threshing drum but for the power transmitted still to be sufficient to drive the machine; as acceleration is increased the power is reduced by an inverse ratio. Experimentation will have shown the optimum speed, but it had to be achieved by an economical number of the expensive pairs of hand-assembled gears. With a greatly increased speed of rotation came problems of bearings and their lubrication, and the avoidance of fire by ventilation to prevent the build-up of dust. No contemporary engineers were better equipped to recognise and solve this train of problems. Smiles describes the tradition of a 'Eureka!' moment while Andrew was walking home from a mill job in Leith, but that could only be the reward of a long period of experiment and discussion. A scale model was built at Knowes in 1785.

George Meikle, based at Alloa, had the opportunity to build the first full-scale prototype of their novel design in 1786 when James Stein of Kilbagie, owner of a nearby distillery, was unable to obtain sufficient barnsmen to thresh enough straw for his numerous cattle, and asked him to build a threshing mill driven by water power. This mill followed the new formula, with the addition of two solid fluted feeding rollers. It performed well. Other orders soon followed.

In 1787 a good harvest provided the occasion for the first horse-powered Meikle prototype drum threshing machine. It was sited at George Rennie's Phantassie steading, in the west range of the farm courtyard, with its adjacent new horse-mill house jutting out into the stackyard on the west (RHP 3682). The engineering drawings (fig 7), drawn by Andrew's son David and submitted with the 1788 patent application, in the name of Andrew Meikle, appear to have been based on the Phantassie arrangement.

In this drawing, FIG. 1 shows the horse-gang on the left, separated by the barn wall from the drum threshing machine on the right. A rotating horizontal shaft 'B' links the two parts through the wall. The token timber arm projecting from the main upright shaft on the left has twin staves projecting down for harnessing a horse - it could be one of two, four or six horses according to need and the

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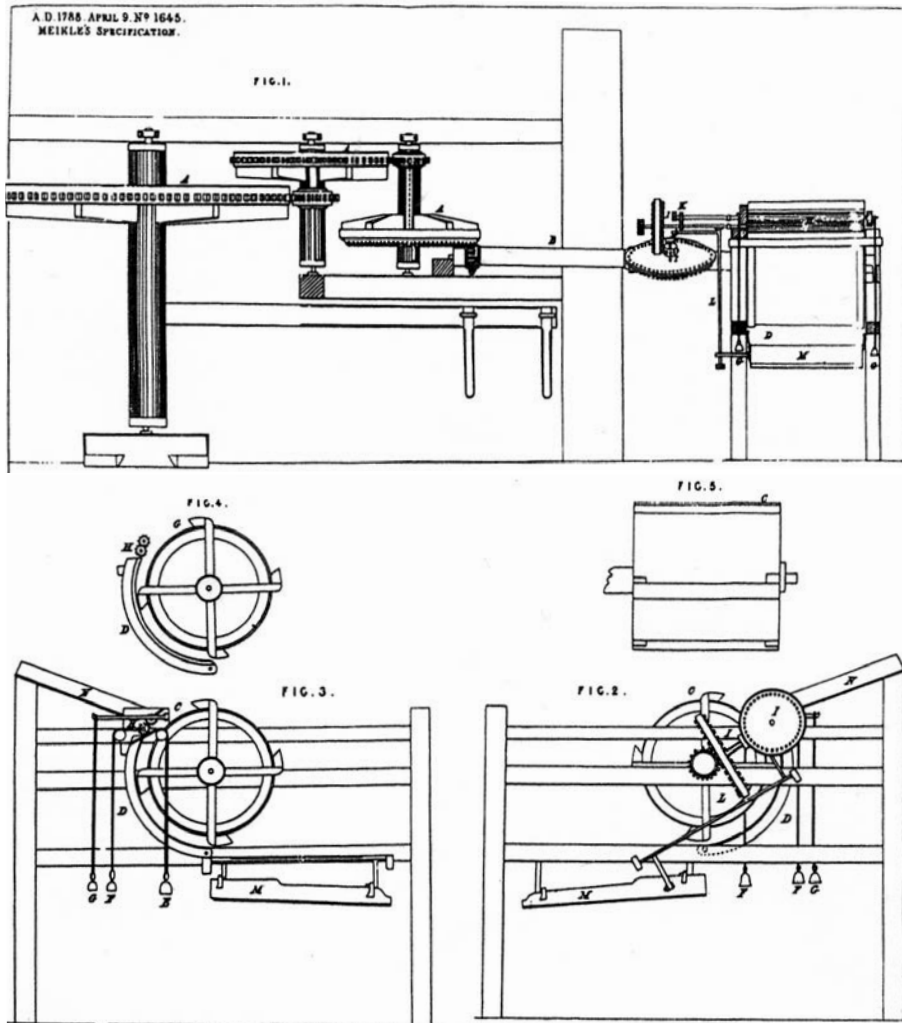


Figure 7: Patent specification drawings for Meikle's Drum Threshing Machine, drawn by his son David Meikle, and dated 9 April 1788.

space provided, but in a balanced formation. By following how a large diameter gear wheel accelerates a small gear on the same spindle as the next large gear, with the last large gear having its cogs on the underside to drive the small gear on the connecting spindle at right angles, it is possible to understand how the required acceleration was to be achieved, so that the requisite velocity would be communicated to the mechanism of the threshing machine in the barn.

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To achieve sufficient power a minimum of two horses was required. The horse mill shown, due to the cumbersome wooden construction of the gears, would need a new building double the normal domestic height, whilst the actual threshing machine merely required operational space around the machine, which occupied a space 3 x 3 metres adjacent to a wall in the normal threshing barn, with the required headroom of one and a half storeys, already that necessary for overhead hand-flailing. Such simple retro-fitting seems always to have been intended as part of the design. By separating the threshing machine from the power source, the specification demonstrated that any form of power could be used - horse, water or wind. The threshing machine also incorporated rakes, shakers and two pairs of fanners. 'These refinements allowed the complete separation of corn, chaff and straw within one machine, thus combining the former processes of threshing, shaking and winnowing (Walker 1975, 53).

It was around this time that a long poem *The Flail and Threshing Mill or, the Tasker's Dream: A Dialogue* - was circulated. It was published in 1810 in the *Farmer's Magazine* (XI, 53-8):

*Twa ghaists appear'd in battle keen,  
but bluidless fight,  
The tane stood on twa timmer  
shanks,  
Just yock't, I thought, wi' bits  
o'branks;  
The tither had baith iron cranks  
An scutchin drum,  
Sae strang that it might play its  
pranks  
For years to come.*



Figure 8:  
Andrew Meikle  
(by T D Scott  
after Reddock).

**THRASHING MILL SPEAKS**

*For now-a-days there's sic ado,  
For men to paddle, delve, and  
plough,  
That a' the hands are scarce enow  
For sic improvements:  
In this light ye may justly view  
My curious movements.  
But who kens na your pedigree,  
Ye sprang out frae the hasle tree;  
Ye did na come o' men like me  
Wi' art and pains:  
I came to life just as ye see,  
Frae **MEIKLE'S** brains.*

*When round my axletree I reel,  
Wi' men, wind, nout or water-wheel,  
In twenty minutes, or I'm a diel  
I'll clean mair straw  
Than you, if ye will thresh it weel  
In a hail day,*

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AGRICULTURE .  
TO THE FARMERS OF GREAT BRITAIN.

**T**HERE is now offered, a new machine for threshing corn, invented, and lately brought to perfection, by Messrs. ANDREW and GEORGE MEIKLE, engineers.

The construction of this machine has been attended with much application, labour, and expence. The invention has not been offered to the public till repeated trials have established the certainty and perfection of its operations.

It is a species of MILL, capable of being worked by two horses, or any power of wind or water equal to that force. The work performed is twenty-four bushels of barley or oats per hour – wheat and other grain in proportion. The corn is not only separated completely from the straw, but made ready for market, by being riddled and cleaned from the chaff. No attendance is needed but that of three men, women, or boys; one to feed the mill, one to hand up the corn to the feeder, and another to remove the straw, with a boy (if necessary) to drive the horses.

It is needless to institute a comparison between this, and the expence of common threshing and cleaning – every person interested in the subject will do it for himself.

The expence is, besides, greatly lessened, by savings arising from the perfect clearing of the straw. This is computed by the best judges to be, upon an average, between three and four bushels per acre. Any common barn will admit of the erection of the machine, as it requires only an area of *ten feet square*.

The first complete one answered so well, in point of expedition and effect, that the proprietor declared he would not take a present of common threshing by the flail.

His Majesty's Patent is obtained, in order to secure the advantage to the inventors: of which notice is hereby given to all whom it may concern.

Gentlemen may either erect the machine themselves, upon a plan furnished by the inventors; or contract with them for the whole at a fixed price.

Application to Andrew Meikle, at Knowsmill, by Dunbar, or George Meikle, at Alloa, will be answered with care and expedition.

Figure 9: Advertisement in The Edinburgh Advertiser, 13 Feb 1789.

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Patent no.1645 (1788): 'Machine for separating Corn from Straw' granted protection in England for 14 years. The Board of Trustees awarded it £20 as a joint winner; its rival is reported to have been soon 'laid aside'. An advertisement triumphantly describing the merits of the new drum threshing machine, and the terms on which it could be acquired, appeared in *The Edinburgh Advertiser* on 13 February 1789 (fig 9).

Once the Meikles had evolved their formula for an efficient drum threshing machine, their invention sprang up all over the country. 'The speed of their adoption', writes Fenton (1976, 84-5) 'testifies strongly to the urgent need that was felt for them, in part because of the increased acreages of cereal crops resulting from improvements in agriculture'. They spread across Britain and Europe in a surprisingly short time. It was estimated that the cost of machine threshing was very much cheaper than threshing by flail, and it was calculated that the use of the machine saved the five per cent of the crop normally lost by hand threshing (Walker 1975, 53). Smiles (1874, 208) states that 'In the course of the twenty years from the date of the patent [ie, to 1808], about three hundred and fifty thrashing-mills were erected in East Lothian.' By 1845 each farm in the county had 'a thrashing machine, of which about 80 are driven by steam (fig 10), 7 by wind, 30 by water, and the rest [269] by horses' (NSA 1845, vol. 2, 374).



*Figure 10: Machine threshing barn with lower steam engine house and brick stalk attached; early 19th-century, Westhall Farm, Innerwick, from SW c. 1980. Steading since rebuilt as housing. (Photo. Liz Whitfeld)*



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### SUCCESS

In 1788, the year he patented his drum threshing machine, Andrew Meikle was aged 68. His portrait (see fig 1), now in the National Portrait Gallery in London, most likely dates from this time, for it depicts, spread on his desk, a plan drawing of a threshing machine connected to a circular horse-mill with open sides, and a detail of the threshing mill construction. The post to his left suggests that the scene was meant to appear as the interior of a mill. He looks to be a vigorous, experienced man in late middle age, soberly dressed, still with his own dark hair, and a quizzical look.

To his portrait should be linked the description given by Smiles (1874, 211) of Meikle's 70th birthday celebrations in 1789: 'He was a capital player on the Northumbrian bagpipes. The instrument he played on was made by himself, the chanter being formed out of a deer's shank-bone. When ninety [correctly seventy] years old, at the family gatherings on 'Auld Hansel Monday', his six sons and their numerous families danced about him to his music.'

In 1785 Andrew Meikle acted as sponsor at the baptism of his granddaughter Marion, the daughter of Mary Meikle and Adam Nielson deceased (*OPR Prestonkirk*). An account of 1786 for family shoes suggests that Mary was living with Andrew and his wife at Knowes Mill (RH4/189/18). Accounts on the back of correspondence show that a threshing machine installed at Knowes Mill was in use for threshing wheat in 1789-90 (RH4/189/22).

### GEARCHANGE ONE

Despite the fact that John Smeaton, in conducting his early scientific research on the power of mills, had considered only traditional wooden peg and trundle-wheel gearing, he later became an exponent of cast iron for gearing and millwork generally. He was the first to design windshafts in iron for windmills. 'Smeaton knew [Andrew] Meikle intimately', writes Smiles (1874, 209), and frequently met him in consultation respecting the arrangement of the Dalry Mills [Edinburgh] and other works; and he was accustomed to say of him, that if he had possessed but one-half the address of other people, he would have rivalled all his contemporaries, and stood forth as one of the first mechanical engineers in the kingdom.' It would be surprising if Smeaton had not communicated to Meikle his conviction as to the great benefits in using cast iron in millwork and gearing; after all, there was a tradition of using cast iron in the Meikle family. Andrew was very proud of the achievements of his father, James, who in 1710 had had cast-iron parts made in Holland for his new barley mill. John Rennie was part of the younger generation who saw cast iron as natural and desirable, and before his

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departure for London in 1784, to design and superintend the all-cast-iron millwork at Albion Mills, he will have done his best to enthuse all the Meikle millwrights as to the benefits of using cast iron. George in particular must have become convinced for by September 1789 he was writing to his father from Leith Walk, Edinburgh, complaining of a want of smiths (RH4/189/22), and another letter has Leith Walk Foundry as his address (RH4/189/35).

The 1788 patent drawings show a cumbersome wooden gear-train to achieve the triple acceleration (see fig 7). This took up much space in the horse engine house, which needed to be a full two storeys high and have extra space for the gears between the horse-gin and the barn wall. A high rectangular building resulted. The Meikles must have radically reappraised this part of the patent, and quickly decided that iron gearing could be designed to nest in a minimal space beside the box of the machine. This became a standard part of the machine within the barn. In this way the horse mill needed only to protect the horse-gin and horses with a close fit, either circular or octagonal, with open sides to disperse the heat from the horses. The upright shaft around which the horses laboured carried a large-diameter gear that drove a small gear on the shaft passing through the barn wall to the new iron gearing. The gearing of the horse-gin was arranged between two parallel wooden beams which also served to restrain any spreading of the steep pyramidal or conical roof. Bruce Walker (1975) has published a detailed study of the variety of construction of the many horse-engine houses that are still a familiar feature of the countryside, most of which were built when a threshing machine was erected in the adjoining barn. It should be emphasised that the drum threshing machine remained a timber-framed, wooden agricultural machine, albeit with a nest of iron gears supported off the wall-side of the machine. This can be observed in the machine recorded at Beltonod, near Dunbar (Cartwright 1968). A typical pantiled pyramidal horse mill in Queen's Road, Dunbar, is associated with Andrew Meikle, but is now neglected, presenting a sorry spectacle to point out to children in the year of the inventor's bi-centenary.

The addition of compact iron gearing to the standard Meikle threshing machine, simplified its use with both water and wind power, as no extra space for gearing was required. It may be that the Meikles recognised the loyalty of those who purchased the early models of their machine, by suggesting replacement by a new powerful windmill as the power source. William Forrest, in his 1799 map, has a distinctive symbol and rubric marking '*Threshing Wind Machine*', and this appears at each of the farms of George Rennie of Phantassie (see fig 4), Robert Brown of Markle and John Shirreff of Captainhead. What such windmills looked like is not certain, but with Andrew Meikle's expertise it is likely that spring-

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controlled shutters were used in the sails, and that a fantail would have been fitted to keep the sails facing into the wind. A drawing of Phantassie farmhouse published by Smiles (1874, 193) appears to be an inaccurate later reconstruction, as Rennie added a wing to the house in 1820. The windmill seen looming over the house roof seems to have the double-shuttered sails more typical of 'patent-sails', and no visible means of turning the cap into the wind.

### GEARCHANGE TWO

Once word emerged that the patent had been granted, and with knowledge of the premium awarded by the Board of Trustees, the general esteem in which Andrew Meikle and his sons were held was changed overnight into a widespread irritation among the many other inventors of all types of threshing machine, coupled with claims that aspects of other machines had been stolen by the Meikles and incorporated into the perfected machine. Interestingly, there seems to have been a general acceptance that the ultimate machine had been made by the Meikles, and that further improvement was not to be expected. However, many people wanted to stake their claim to a share of the machine, and of course its profits. Litigation was mooted. It also became clear that the invention was the subject of unauthorised copying and that the Meikles were not to reap the hoped-for benefits of their invention. In Smiles' words (*ibid*, 208): 'Pirates fell upon him on all sides and deprived him of the fruits of his ingenuity, and even denied him any originality whatever.' A lawyer's instruction to George Meikle, dated 30 March 1799, shows that all the main figures involved in its evolution were to be interviewed, and a model and explanations gathered to brief their advocate (RH/4/189/27). This may have been a preliminary stage to a case before the Court of Session in 1805, at which Andrew Meikle was advised by his advocate not to continue the case when it emerged that the prototype horse-powered machine at Phantassie had not been erected as a normal commercial transaction.

The debate between Meikle's opponents and his supporters (the latter chiefly led by George Rennie and Robert Brown) transferred to the pages of the *Farmer's Magazine* following its founding in 1800, and was still active after Meikle's death 11 years later. The ambivalent attitude in modern Scotland to the reputation of the true inventor of the drum threshing machine seems to be due to the continuing memory of this divisive and partial debate. An interesting sidelight on the attitude of Andrew Meikle to the unexpected furore is that around 1798 he offered to let the Board of Agriculture purchase the rights of the patent from him. Sir John Sinclair, the board's president, wrote back regretting that it was not in the Board's power to give that assistance 'which we should be glad to do to a person of your ingenuity and talents' (RH4/189/26). He added that at the time it was unlikely that Parliament would give pecuniary recompense.

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A more hurtful aspect of the debate seems to have been an attack on the reputation of Andrew's father, James, and his responsibility for building The Barley Mill at Saltoun. Such rumours may have been influenced by the same doubts or ignorance which encouraged John Clerk of Eldin to write about his father-in-law, the architect William Adam, the claim that: 'Mr Adam brought a Modle of a Barley Miln from Holland, and introduced the making of Barley, and also the making of Dutch Pantiles in Scotland.' (quoted in Gifford 1989, 73). That William Adam set up the Linkfield brick and tile company following his visit to Holland was established by Gifford, but he suggests that the visit was unlikely to have taken place before 1713, when the Treaty of Utrecht halted the war with France. He quotes the evidence of the 1710 *Articles of Agreement* with James Meikle and the 1712 *Articles of Agreement* from the Fletcher family papers, and concludes that 'William Adam's part, if any, in the design or construction of the Saltoun barley mill seems to have been only minor.' One result of this canard may have been that Andrew Meikle was prepared to offer for publication selected crucial documents from his family's archive (RH4/189) which established the true history of the origin of The Barley Mill (Buchan-Hepburn 1794, 145; *Farmer's Magazine* 1800, I, 158-61; Somerville 1805, 294), and the sole part played by James Meikle. It is a sad trait in human nature that this canard is occasionally revived.

## BUSINESS AS USUAL

In 1801 Andrew Meikle was busy reconstructing the East Mill at Haddington, and in the following year is recorded as fitting a threshing machine at Biel Mill, near Dunbar (Shaw 1984, 105). He was by then aged 83. Two of his sons, and probably his wife also, were dead. The preparations for the law case to establish some rights to his invention in the Scottish courts will have required an expense of time, energy and money. The collapse of the court case in 1805 ended the prospect of him earning a just return for inventing the drum threshing machine.

Meanwhile, the debate in the *Farmer's Magazine* continued with heat and venom. Andrew Meikle's busiest champion was his long-time friend and neighbour, George Rennie, notably in the letter the latter wrote from Phantassie on 22 July 1811 intended for inclusion in a pamphlet by his friend and fellow agriculturist, John Shirreff of Captainhead. Entitled 'Reply to an Address to the Public, but more particularly to the Landed Interest of Great Britain and Ireland, on the Subject of the Thrashing Machine', it was published in the *Magazine* in 1811. George Rennie concluded his long letter thus:

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*In the first place, it will appear from what is said, that as Mr Kinloch, afterwards Sir Francis Kinloch, never used fixed beaters or scutchers for thrashing corn, he had not the smallest claim to be considered as the author or inventor of the thrashing machine now in use.*

*In the second place, allow me to say a few words on the motives which seem to have actuated the author of the pamphlet, when he took up his pen to attack a worthy old man, who most undoubtedly has benefited the agricultural interest of the country in a far greater degree than any other person of the present age....Is it not the height of cruelty to hurt the feelings of a man who has devoted the whole of his days to useful purposes ---- who has preserved through life an unimpeached moral character with every person who really knows him; and who to say no more, has benefited the public to a far greater extent than his own family, by the unwearied and persevering endeavours of his inventive genius, during nearly three-fourths of a century. Let me add, that the author of the pamphlet cannot possibly serve himself by such a wanton attack; nor will he probably add much honour to the memory of his friend, by the investigation which he has provoked. With a certain description of people, Sir Francis Kinloch might still have been considered as the inventor of the thrashing machine, had the author of the pamphlet remained silent; though I verily believe the number of that class will be very much lessened in consequence of the present discussion.*

*I am, yours, &c.*

GEORGE RENNIE

## THE SUBSCRIPTION

On 23 February 1810 Sir John Sinclair, as president of the Board of Agriculture, wrote from London to the *Farmer's Magazine* (1810, XI, 465-6) enclosing for publication a copy of his letter to the Earl of Haddington, Lord Lieutenant of the County of East Lothian, sent from Edinburgh on 7 December 1809. It read:

### MY LORD

*In the course of some excursions which I have been induced to make, for the purpose of examining the system of husbandry adopted in some of the most improved districts of Scotland, I have found a very general wish expressed, to concur in a sentiment which I understand has been long entertained in the county of East Lothian, that of manifesting, by some public mark of attention, the sense so generally entertained of the services performed by Mr. Andrew Meikle to the agriculture of these Kingdoms.---Several ingenious men had previously directed their attention to the constructing of thrashing-mills; but none have hitherto*

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*stood the test of experience, but those erected on the principles which Mr. Meikle originally suggested. It is unnecessary for me to dwell on the importance of this invention to the agricultural, and to the general interests of these Kingdoms. It would far exceed, indeed, the boundaries of a letter, to detail the advantages which, in various respects, have resulted therefrom. The increasing number of these valuable machines, is the best proof of the high idea entertained of their importance. If, therefore, the county of East Lothian, in consequence of your Lordship's recommendation, at any meeting where you may happen to preside, would take this subject into its consideration, and would suggest the best means of conferring some appropriate marks of gratitude and respect on Mr. Meikle, for his services to the cause of agriculture, (for this ingenious mechanic has contributed to the improvement of other implements of husbandry besides the thrashing mill), I have every reason to believe, that it would meet the cordial support of the most enlightened Proprietors and Farmers in the United Kingdom.*

At a meeting of the landed interest of East Lothian, held in Haddington on 26 December 1809, it was resolved to open a subscription, among proprietors and farmers, for rewarding Andrew Meikle. A committee was appointed which designed and circulated subscription papers. An early list of subscribers was printed on the front page of *The Edinburgh Advertiser* of 13 February 1810, and the committee added that their 'object in the first place is to secure a comfortable provision for Mr. Meikle, and such members of his family as may remain unprovided for; and in the event of sufficient funds being procured, to erect at any after period, a Statue or Monument in the Cornmarket of Haddington, or some other public place, in commemoration of the merits of Mr. Meikle, and the obligation which Agriculturists are under to that Gentleman.'

*The Farmer's Magazine* of December 1810 contained a provisional total and list of subscribers 'for rewarding Mr. Andrew Meikle, Civil Engineer, Houston Mill, near Haddington, who invented and brought to perfection, that valuable and important Implement to Husbandmen,---the Thrashing Machine.' Up to 9 November 1810, a total of £1428 10s 6d had been subscribed. Sub totals were: Highland Society of Scotland - £31 10s; East Lothian - £413 14s; Mid Lothian - £166 11s; West Lothian - £45 3s; Berwickshire - £125 10s; Other Scottish counties - £561; England - £85 1s.

The Highland Society was an association of Highland proprietors based in Edinburgh, in which Sir John Sinclair played a leading part. In East Lothian, the Earl of Haddington and Earl of Wemyss each gave £21. Among those giving 10 guineas were Baron Hepburn of Smeaton, George Rennie of Phantassie, and



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Robert Brown of Markle. In Mid Lothian, the largest sum came from the Dalkeith Farming Club at £26 5s, followed by the Ratho Farmer Society at £10 10s. In West Lothian, the Earl of Hopetoun and West Lothian Agricultural Society each gave £21. In Roxburghshire, the Hawick Farmers' Club contributed £21. In England, John Rennie, James Watt junior, and the Workington Agricultural Society each subscribed 10 guineas. Apparently, the Strathearn Agricultural Society refused to subscribe on the grounds that it was Michael Stirling, and not Meikle, who had invented it (Shaw 1984, 156). The total was rounded up to £1,500, and it was expected that this would be invested, and used for easing the situation of Andrew Meikle and his dependants, and for any surplus to be used to achieve the other stated purposes of the fund.

The success of the subscription seems to have been largely due to the interest of Sir John Sinclair. Remembering the offer by Meikle in 1798, to sell his patent to the Board, to which it could not accede, and that the costs of preparing the subsequent court case had been lost when it was abandoned, it must have been clear to Sinclair that Meikle's finances had reached a very low ebb. Letters to the *Farmer's Magazine* in 1809 suggesting a collection for rewarding the ingenious and venerable mechanist, Andrew Meikle, were presumably the impetus that determined Sinclair to use his specialised resources to help the inventor, at a time when Sinclair himself was facing insolvency on account of a long-delayed legacy, and also pre-occupied with national finances (for Sinclair's life see Mitchison 1962).

Sinclair could have used his church network to encourage every parish minister in Scotland to use his pulpit to ask for contributions for the relief of Andrew Meikle and his dependants, but he no doubt dismissed this avenue, judging that Meikle would find this demeaning and insulting. Instead, he chose to use his network of agriculturists, who could truly appreciate the contribution made by Meikle to their cause, in perfecting the drum threshing machine. The whole subscription was run to involve the clubs and societies, and include local nobility, gentry, proprietors, farmers, and other concerned people. At the top of each subscription sheet was printed the words - 'Subscriptions for Mr Meikle, inventor of the Thrashing Machine' - so that each donation could be regarded as a vote confirming his claim to be the sole inventor. The long lists of influential people published were also public demonstrations of the support for Meikle's position. The published total sum was also a measure of the strength of feeling of the Scottish nation that Meikle had been denied his just recompense. The subscription had been advertised as an entirely Scottish undertaking, but no one objected to concerned agriculturists, one agricultural society and two civil engineers based south of the Border making their contributions.

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Publication of the lists must have been heartening to Andrew Meikle because they demonstrated the extent and the quality of informed public opinion in favour of his claim to have originated the drum threshing machine. He would also no doubt have been relieved by the prospect of financial security for his remaining family - George, aged 54, and his wife, by now residing at Knowes Mill, Andrew, aged 50, at Houston Mill, and his youngest daughter, Marion, aged 41. The subscription list closed in 1811, and the business of setting up a trust seems to have taken time, so that the family may have been looking forward to the benefits in the coming year. Andrew senior had received a legacy of £150 Sterling in 1810 from James Mirrylus (Merrillies) of Upper Bolton, presumably a relative of his late wife. As a pound Sterling was then worth twelve pounds Scots, the family would have been able to settle outstanding debts. With a little left, their immediate worries will have been removed (CC8/8/139).

At this stage in the story Andrew Meikle senior executed an involuntary masterstroke - he died, at Houston Mill on 27 November 1811. He had had a long and a full life, and had exercised his mechanical genius to the benefit of his fellow pilgrims, and not shirked his duty to the truth and his forefathers when latterly he had been assailed by envy and half-truths. Content to go on to the end, he deserved a eulogy such as one of lines selected from Shakespeare's *Cymbeline* (IV, ii, 258):

*Fear no more the heat o' the sun,  
Nor the furious winter's rages;  
Thou thy worldly task hast done,  
Home art gone and ta'en thy wages;  
Fear not slander, censure rash;  
Thou hast finish'd joy or moan;*

*Nothing ill come near thee!  
Quiet consummation have:  
And renowned be thy grave!*

Instead, he received a justificatory manifesto on the threshing machine, for some reason carved on the back of an uninscribed headstone.

## LAST THINGS

Hardly had Robert Brown had time to consider how he was to fit a worthy account of Andrew Meikle onto the last half-page of the obituary section of December's *Farmer's Magazine*, when news came that son George had passed away at Knowes Mill on 29 November, two days after his father and aged just 55.

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The *Magazine* came out with obituaries to them both, but the page was in rather small type.

Of Andrew Meikle it rehearsed the deeds of his family of old, and then, somewhat apologetically, continued:

*To give a character of Mr Meikle would far exceed the small space of this Number which remains unoccupied. Suffice it to say, that his disposition was modest, gentle, and unassuming. His genius was great, and of an original cast; though, in the presence of strangers, from an invincible modesty, it could hardly be discovered. ...He had some enemies; but their hostility to him was amply compensated by the steady attachment of a numerous body of friends --- who, justly considered the agricultural interest of the country to be highly benefited by his talents and exertions, constantly favoured him with their support and countenance.*

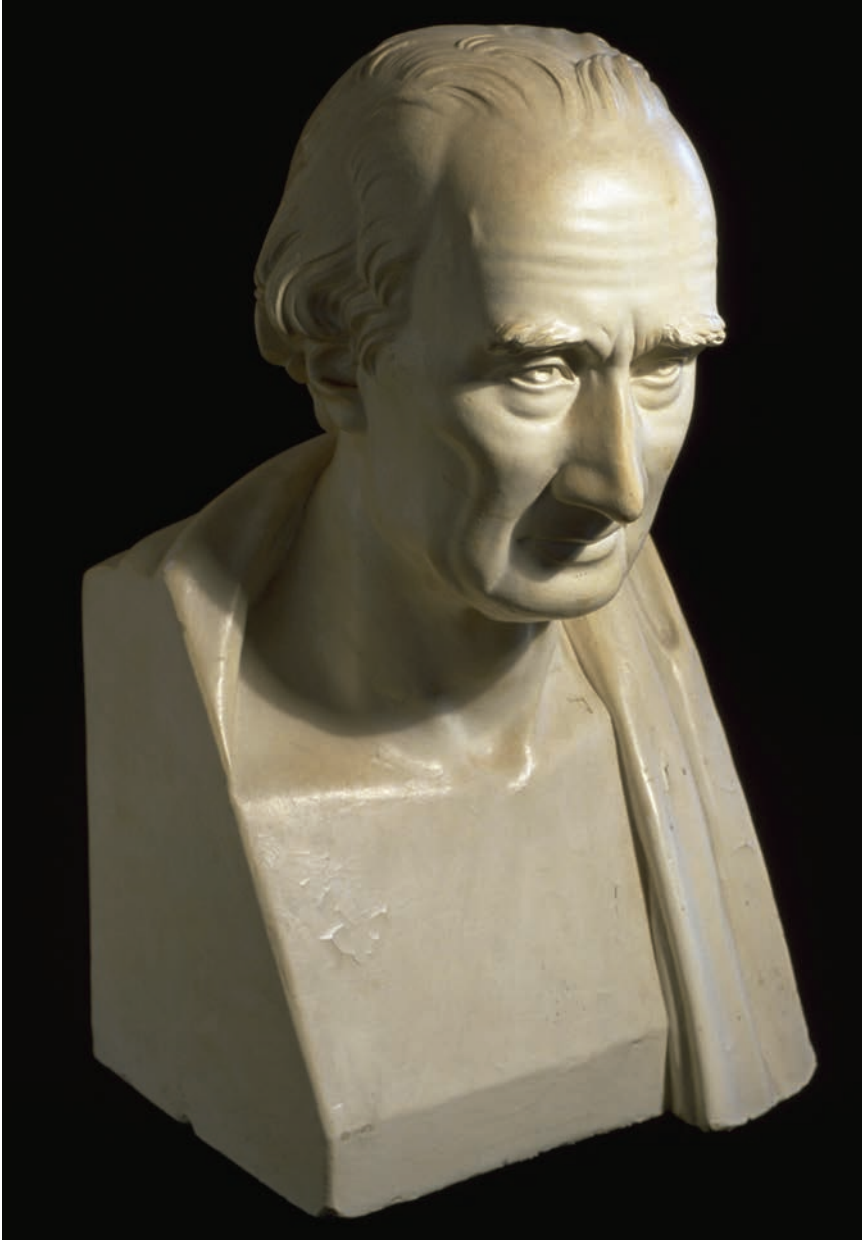
The shorter obituary to George Meikle followed, mentioning Alloa, and repeating the tale of the draining of Blairdrummond Moss by means of George's giant waterwheel, and the compliment paid to this by Robert Whitworth, the English engineer, that it was greatly superior to the machine recommended by himself. It ended: 'Mr George Meikle was married; but has not left any children; ---- of course, the subscriptions obtained for rewarding his father, on account of the Drum Thrashing Machine, will be appropriated to his brother and sister--- the only remaining members of the family.'

No fuller obituaries were published in the *Magazine*. An added irony is that the splendid defensive letter by George Rennie (see above) appeared in the same edition as the obituaries, so that Andrew Meikle may never have had the chance to read it in print. At the hour of his death, this man of invention, who had 'rendered to the agriculturists of Britain, and of other nations, a more beneficial service, than any hitherto recorded in the annals of ancient or modern science', possessed the princely sum of five pounds Sterling (CC8/8/139: Testament of Andrew Meikle).

## POSTSCRIPT

At some date between 1828 and 1837 George Rennie, the sculptor and son of George Rennie of Phantassie, Meikle's friend and neighbour, exhibited busts of Meikle and of his uncle, John Rennie, at the Royal Academy. The former is today in the care of East Lothian Museums Service (fig 11). It might be appropriate, in the bi-centenary of the inventor's death, finally to fulfil an old promise to the public, by placing a cast from this bust, suitably interpreted, in the Corn Exchange at Haddington 'or some other public place'.

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*Figure 11: Portrait bust of Andrew Meikle, by George Rennie junior (1802-60).  
(Courtesy of East Lothian Council)*

# MAN OF INVENTION: BI-CENTENARY OF ANDREW MEIKLE

## ACKNOWLEDGEMENT

The papers of the Meikle family, millwrights, of Dunbar, from the microfilm RH4/189 held by the National Archives of Scotland, were used with the kind permission of the owner, Mrs B. J. Briggs Constable.

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# PAST PLEASURES: LEISURE AND THE WORKING CLASS IN EAST LOTHIAN IN THE LATE VICTORIAN AGE

*by JEAN LINDSAY*

## INTRODUCTION

The poet and supertramp, W H Davies (1871 – 1940), wrote:

*A poor life this, if full of care,*

*We have no time to stand and stare.*

His poem 'Leisure' described the pleasure of contemplating nature in the relaxed manner in which sheep and cows do. His celebration of idleness was in marked contrast to the usual Victorian view, which held that 'Satan finds mischief for idle hands'.

This article is concerned with organised leisure activities in East Lothian, an area of fishing, agriculture and mining communities, which had Edinburgh close by, and in the late Victorian period had road and railway links both to the coast and to inland towns and villages. Most of the leisure pursuits to be considered were of a seasonal nature with a division between winter and summer programmes. Sport has been excluded from this survey as this would deserve a much longer article and more specialist treatment.<sup>1</sup>

Samuel Smiles (1812 – 1904), who was at school in Haddington, published his book *Self-help* in 1859. It achieved long-lasting popularity for its philosophy that the humblest individual could rise in life through industry, sobriety and perseverance. This idea of self-education underlined many of the leisure activities of the young members of the East Lothian population. These young people were usually attenders at local churches where, on weekdays, evening lectures were given on literature, history, politics and religion. Concerts were given by amateur musicians, occasionally with professional performers taking part, and amateur theatrical productions were frequently on offer during the winter months.

## TEMPERANCE SOCIETIES

Apart from the concept of self-help, the other strong influence on organised leisure was the Temperance Society, which aimed at promoting abstinence from all intoxicating drinks. The movement had its origin in America as early as 1826, and in 1850 a Temperance Society was founded in Bradford, England. Societies were established throughout England and Scotland, and the Total Abstinence Society became popular in Edinburgh, Glasgow and Dundee, as well as in most other Scottish towns and villages. The Free Church of Scotland, the Congregationalists

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and the Baptists became noted for their involvement with the temperance movement. <sup>2</sup> The Band of Hope, who were an offshoot of the temperance movement, appealed to children and adults.

Not everyone subscribed to the movement and there were many people of all classes in Victorian times whose pleasure revolved around alcohol consumed in public houses or at home. As the *Haddingtonshire Courier* reported in January 1882, in Prestonpans on New Year's Day, the public works and shops were closed, and the day was observed as a holiday, but not one without alcohol, and evidently there was 'still room for the efforts of our Total Abstinence Society'. <sup>3</sup>

In January 1882, a Total Abstinence Society meeting was held in a public coffee-house in East Linton, at which Lady Baird of Newbyth was present. She expressed her approval of the Society. In a meeting in Haddington in the following February the Rev Beattie of Garvald, convener of the Temperance Committee, laid a report before the audience, which recommended 'the brethren to use their influence in reducing the number of licensed houses, in shortening hours during which intoxicating drink was sold, in establishing temperance coffee-houses, and in discouraging the drinking usages of society.' The Rev Beattie said that 'drunkenness is a kind of disease', and that it was 'more indulged in by private drinking than was commonly supposed.' He voiced a long-standing complaint that 'one cause of intemperance was the sale of intoxicating liquors by grocers.' At the meeting, Mr Mackay of Prestonpans expressed his view that drink was the cause of the five hundred cases of assault recorded in the county crime statistics for 1880. He wished publicans could be forced to close at 8 p.m.

In North Berwick a temperance meeting was held in June 1882, at which Professor Blackie presided. He explained that the meeting had been convened by a 'lady visitor' to North Berwick who had been alarmed by the number of intoxicated persons she saw on the streets, and she had come to him for advice. They were now going to make an effort to form a Gospel Temperance Society in North Berwick. Other speakers hailed from Glasgow or Edinburgh, and Mr Barclay played several pieces on the harmonium during the evening at which 40 people were said to have 'donned the blue ribbon' and taken the pledge not to consume alcohol. The new coffee and recreation rooms, opened in Prestonpans in July 1882, were the first in the town and the result of a legacy left by a Miss Hislop. As a result of this money, the Suttie Company was formed with an issue of 1,200 shares of 5s each, '1,000 of which were taken up'. Major Dulsén, at the opening, spoke optimistically of an improvement in the habits of society. When he was a boy, he said, it was, 'the custom to get tipsy'.

Women were usually advocates of the Temperance Movement, and in North Berwick in February 1883, the British Women's Temperance Association arranged a meeting to be held in the Foresters' Hall on Saturday evening at 7.30 p.m.

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Addresses were given by John Lamont of the Scottish Temperance League among others, followed by a collection to defray expenses.

The link between crime and alcohol was a point often made in letters to the press and one correspondent to the *Haddingtonshire Courier*, writing in March 1883, believed that the 'alarming increase in crime in Dunbar parish and burgh in 1882' sprang in the majority of cases directly or indirectly from the use of strong drink procured and consumed in public houses. This inhabitant of Dunbar lamented that 'these houses' were 'defended and protected' by the authorities 'as if they were great public blessings'. Their reduction, it was claimed, would lessen the crime with which Dunbar was stained.

To counter the lure of the public houses, the Temperance Society advertised its social activities. In December 1883 an advertisement for the Temperance soir   announced that the annual tea meeting of the British Women's Association would take place in the Foresters' Hall, Haddington. Addresses would be given by Miss Elliot Lockhart and Miss White of Glasgow, with 'women only invited'. In January 1884 the Whittinghame Temperance Society, established three years previously, held two meetings on the same night. The early one was for the mothers who met in Whittinghame House, and after tea they were addressed by the Rev George Wilson, of St Michael's, Edinburgh, and the Rev James Robertson, minister of the parish. In the later meeting, Wilson outlined the advantages of temperance, and Robertson spoke of the desirability of invoking a feeling of revulsion at the idea of 'offering strong drink as part of hospitality'. At the same date, Prestonpans had its first meeting of the Band of Hope in the new hall when there was a 'full turnout of members to see an exhibition of their own magic lantern'. Miss McAndrews led the children in hymn-singing, with the words shown on the screen. Scenes from *Robinson Crusoe*, *A Christmas Carol* and 'the Cottar's Saturday Night' were shown and explained to the children.

Entertainment for the children of the Band of Hope frequently consisted of magic lantern shows. At Ormiston in May 1884, the Band of Hope and the Free Church Sunday School attended a magic lantern show of views, mainly of Egypt, presented by Mr Tweedie from Edinburgh. The children were joined by parents and friends and they were given an 'eloquent address' on the evils of intemperance by Mr Gibson of Cousland. In July 1884, the Cockenzie Temperance Public House Co. Ltd. opened 'cheerful premises' facing the harbour of Port Seton. Visitors were assured of accommodation and refreshments on moderate terms. The company's capital was £250, distributed in 1,000 shares of 5s each. The liability of each shareholder was limited to the amount of his or her shares, and there were, it was said, still shares available from the secretary, R Owens.

The parish of Whitekirk was a stronghold of the temperance movement, and in August 1884 two meetings were reported, at Tynninghame and Newbyth.

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The latter was an outdoor treat for about 60 children, provided by Lady Baird. Tea was served on the lawn, and after games, strawberries and gooseberries were provided. Lady Baird spoke to the children on temperance, as did the Rev Waddell.

These examples illustrated the pattern and appeal of the Temperance Movement's social activities. They were usually attended by members of the clergy assisted by the local gentry. How far they challenged the drink problem is only a matter of anecdotal evidence, and it is very likely that many of the children later dropped their adherence to the cause. Inside the movement there was division of opinion about their aims, and the subject of the lecture given by Archibald S Young, lecturer of the Grand Templars of Scotland, in Dunbar, in May 1885 - 'Moderation versus Total Abstinence' - illustrates the differing views which existed among the members.

More challenging ways of spending leisure were offered by the evening classes organised for the 'young lads', when in October 1883, Haddington's burgh school board announced it was offering educational facilities for former pupils who had been withdrawn from the school while 'still very imperfectly educated'. It would seem that girls were not invited to attend, but a fortnight later it was reported that 36 pupils had enrolled.

## THE MUTUAL IMPROVEMENT ASSOCIATION

The Mutual Improvement Association was popular mainly with young men, but women sometimes took part in its weekly meetings where they had talks on a wide range of subjects. In January 1884 the weekly meeting held in Dunbar had a programme of readings and recitations which was 'favourably criticised' by the members present. In January 1885, Tranent's Mutual Improvement Association held a 'Nicht wi Burns', when the evening was spent reciting and singing some of Burns' works. This was followed later in the week by the Association's first public soirée and concert. In February there was a report of this later occasion, which had been successful, with deputations from other societies taking part. Dunbar's Association was said to have 50 members, and at its soirée, the Rev John Paterson gave an address on literature and the humanising influence of books. This was followed by songs, including, 'I dreamt I dwelt in marble halls', and 'Willie's gane to Melville Castle'. At Dunbar's March meeting, William Paterson, a medical student, gave a talk on ventilation, and the necessity for proper ventilation in bedrooms and workshops.

The Mutual Improvement Association meeting in Prestonpans in March 1885 took the form of a debate, when the 40 members debated married life. When put to the vote, 17 were in favour of the single life, 13 against, with 10 abstentions. In 1885 the subjects discussed by members of the Mutual Improvement Association were varied. In November, Tranent members held a debate on whether the parliamentary franchise should be extended to women, with those voting against

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winning the debate. In North Berwick, in December, the debate was on whether Lord Salisbury's government was worthy of the continued confidence of the nation, and the majority of the audience believed it was not. Later in December, Prestonpans members debated the question of whether co-operative societies were beneficial to the community, and the majority did not think they were. In January 1886 Tranent members discussed the question of whether the Church of Scotland should be disestablished, and the majority was in favour of this change.

The year 1886 was one in which the members of the Association discussed, in February, in Prestonpans, the question of money-lending and whether interest should be charged for loans. Their next meeting contained a paper on Darwin, followed by an account of a holiday ramble in the Scottish Highlands. The members of the Dunbar Association in March considered the 'present distress in Dunbar and other places', and various theories were put forward, such as that the improved machinery used by competing nations and the low wages paid to their workmen, took away much local trade. It was unanimously agreed that 'a good deal of work' would be provided by the clearing away of accumulated snow in Dunbar which had occurred after the 'great snowfall'.

In October 1886 the members of Cockenzie's Mutual Improvement and Debating Society heard an account of the 1692 Massacre of Glencoe; and in that month the chairman of Tranent's Association urged all its members 'to improve the shining hour of labour assiduously'. In December, Pencaitland's members heard an essay on James Hogg, the Ettrick shepherd and poet, and later that same month an address was given to the Tranent members on Oliver Cromwell by James Watt, an Edinburgh solicitor.

## SOME OTHER SOCIETIES

Other societies which had a serious purpose included the Young Men's Guild, which held a meeting in Stenton in February 1885, when an assistant teacher traced the earliest efforts at colonisation, describing the advantages of the colonies to the mother country. In April the Young Men's Fellowship of Haddington heard a lecture on the sea given by a Mr Hill. In addition, talks, lectures and social gatherings took place in most of the towns and villages throughout the winter months. North Berwick, in January 1884, enjoyed the second of a course of readings and lectures, which included a 'thrilling story' called *The Jaguar's Cave* and a reading entitled *A Lion's Hunt*, which produced 'roars of laughter'. In Haddington, in March that year, a series of forestry lectures was given by Dr J C Brown, and at Gifford, in April, there was a lecture given by Rev Mackay of Prestonpans, with the title: 'Four months in Cairo with the British troops there'.

The lecture in Stenton, in April 1884, was given by the Rev Marjoribanks of Prestonkirk, whose subject was: 'Women's place and influence on life'. His theme



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was that men had 'a greater call upon the head', whilst the spheres of 'the gentler sex' lay more in the region of the heart and affection. He conceded that there could sometimes be 'a beautiful combination' of these qualities.

The Young Men's Christian Association, or YMCA, had followers in Whittinghame, where, in February 1885, a meeting was held, presided over by the Rev Robertson, with a paper on 'What is Repentance unto life?'. In April, the Young Women's Christian Association, or YWCA, had a soirée and presentation in Prestonpans when a Mrs Mackay was given a 'beautiful set of china' by the members in acknowledgement of her 'unwearied zeal'. The East Linton Young Women's Christian Union held its monthly meeting in the Free Church Hall in April 1886, when a 'huge attendance' heard Mrs Cupples, secretary of the Girls' Home, Edinburgh, give an account of the work done amongst the girls who, while looking for situations, lodged there.

## CONCERTS AND OTHER ENTERTAINMENTS

There were many concerts, usually by amateurs, to while away the winter months. In January 1884, the Army Volunteers gave a 'Grand Amateur Concert' in Tranent public hall, when the band played 'Pride of Scotland', and songs such as 'Looking Back' and 'The Flying Dutchman' were sung. In North Berwick, in the following month, the choristers of St Baldred's gave a 'Grand Evening Concert', tickets costing 2s, 1s 6d, and 6d, and in Innerwick there was a concert of songs, such as 'Scots Wha Hae' and 'Never trouble trouble till trouble troubles you', in aid of the parish church's organ fund. A 'dramatic entertainment' was given in Haddington in March consisting of a 'screaming farce' in one act, called *Dead Shot*, and the popular farce *Good for Nothing Man*. Whitekirk held a concert of sacred music in May, which was attended by Sir David and Lady Baird of Newbyth, and the items included duets, while the organist of St Peter's, Edinburgh, gave several organ solos. A concert of sacred music was given in April 1885 at Garvald, and this was followed by a magic lantern show of biblical scenes given by the Rev Beattie. In North Berwick, in May, an entertainment was given for the benefit of the widows and orphans of the soldiers and sailors who had fallen in the Sudan. The hall was said to have been 'filled to overflowing', and the sum of £15 raised. A concert of sacred music, interspersed with readings, was given in Prestonpans in July, with the headmaster of Merchiston School, Edinburgh, giving some 'excellent and mirth-provoking readings'. In December 1886, the choir of St Baldred's Church, North Berwick, sang the first part of Handel's *Messiah* in the town. In February 1888, East Linton's concert was well-attended, taking into account that it was the evening of the Haddington Fair. In March, Prestongrange held an amateur concert in the Free Church Hall in aid of the Prestongrange brass band, when 'excellent songs and a performance on the clogs was given by twin brothers'. In April, North Berwick held a theatrical entertainment to collect funds for a 'blowing machine' for the church organ; a one-act play, *Barbara*, and a farce, *My turn next*, were presented.

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There were frequent institutional entertainments, usually for the school children. In December 1883 about 50 children in the Dirleton workhouse were given a Christmas tree treat, when a 'most sumptuous tea' was provided and presents given from the tree. This was followed by supper at tables 'literally groaning under the weight of Christmas fare'. The reporter, in a Dickensian manner, claimed 'It did one's heart good to see the little boys and girls thoroughly relishing the feast'. The entertainment concluded with the children dutifully giving three hearty cheers for Miss Palmer and her Dirleton pupils who had provided the treat.

Landowners sometimes gave entertainments for the children on their estates at Christmas time. Mr Mitchell Innes, of Phantassie, treated the children on his estate, in January 1884, to tea and cake in the servants' hall. After tea, the housekeeper organised games, and the evening ended with Mr and Mrs Mitchell Innes presenting each child with a gift.

In summer there was a regular round of Sunday school excursions. In August 1884, Gladsmuir Sunday schools had their annual trip to Gosford. 'Over two hundred children and teachers were conveyed in carts, kindly supplied by farmers in the district to the beautiful grounds of Gosford, thrown open by the Earl of Wemyss.' The children were marched to the 'great park', where they engaged in various games with great spirit for several hours, after which they were supplied with tea 'and other good things'. Three cheers were given for Lord and Lady Wemyss before the party returned home. The 'entire expense of the trip' was paid for by a collection taken in the parish church the previous week, supplemented by subscriptions from friends in the district.

Most villages had their Sunday school treats. In August 1884, Athelstaneford had a picnic on Tynninghame Links, granted by Lord Haddington. Cakes and fruit were provided, including a large supply of gooseberries sent by Sir Alec Kinloch from Gilmerton Gardens and distributed by the Rev J H Tod. After arriving back in Athelstaneford there was dancing on the village green.

These excursions were annual treats, and not only the Sunday schools but other societies organised excursions. In July 1885, the employees of Tranent Store Co., with their wives and girlfriends, had their annual event, which was a visit to Rosslyn. Forty people were taken by a horse-drawn bus and brake, decorated with flowers and evergreens. The party went to the Royal Hotel, Rosslyn, and a 'sumptuous dinner' was provided, followed by a visit to the chapel and the castle grounds, where photographs were taken. The rest of the day was spent in 'rambling through the glen, games and dancing'. Tea was taken, and the party arrived back at Tranent at 10pm. The Band of Hope of North Berwick had its excursion to Gullane in August, and 120 children were taken by carts. Dinner was taken on arrival, followed by games before tea. The 'happy party' arrived home at 9pm.

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The miners of Tranent Collieries had a trip to North Berwick in August, and those of Elphinstone Collieries had an excursion to Glasgow on the same Saturday, 'both of which were greatly enjoyed'.

Pencaitland school treat in August 1885 consisted of a 'bounteous meal of pies, tarts and fine milk', followed by races in a nearby park with an old 'Aunt Sally' providing the boys with 'infinite amusement', all superintended by the teachers. These 'innocent games of all kinds' were rewarded by prizes and plaudits. Tea, prepared under the supervision of Miss Nisbet Hamilton's housekeeper, was served to the children on the bowling green, and 'no trouble or expense had been spared'. A hundred prizes were distributed by Miss Nisbet Hamilton, who also gave 'a bun and a packet of sweets' to every child present. Three hearty cheers were given to the founder of the feast.

Dirleton children too benefited from Miss Nisbet Hamilton's bounty, and 270 pupils of three schools combined to share in the summer treat, and were given the same entertainment. The reported noted: 'It was a beautiful sight to see the throng of prettily dressed children streaming across the village green, and giving vent to their feelings in shouts and laughter'. This paternalistic welfare was accepted without question, and three cheers were given for Miss Nisbet Hamilton whose 'one enjoyment of her life seemed to be administering to the comfort and happiness of all around her, young and old'.

These treats were regarded as the chief events of the year by many of the village people, and all denominations provided a Sunday outing for the children. The end of the summer season was usually marked by 'Harvest Home' parties held on the farms, such as that in October 1885 at Athelstaneford, which consisted of music, songs and dancing till the early hours. 'Harvest Home' at Sheriffhall, near North Berwick, was provided, also in October, by Mr Yule, and his workers had an 'excellent supper in the barn', followed by dancing. The hiring-fairs were another eagerly awaited event, although many regarded them as an opportunity for immorality or the oppression of the agricultural labourer.<sup>4</sup>

### END OF AN ERA

By the end of the century, however, there were hints of changes in the attitudes of the people. In September 1896 there was an open-air lecture on socialism in Tranent, under the auspices of the Edinburgh Independent Labour party, when Beatrice Webb (1858 – 1943) addressed an audience by the town's fountain. She was the wife of Sidney, and together they made a formidable couple as authors of works connected with the investigation of social and economic conditions. They were associated with the Fabian Society and its policy of steady progress rather than revolutionary action. At Tranent, Mrs Webb talked about trade unionism and the effect it had on raising the status of the workman, and she dealt also with the nationalisation of the land, machinery and capital. She argued that

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the 'present condition of the masses' was due to the fact that the interests of the employer and employee were not identical and that the 'social system could not be improved until individualism had been swept from the earth' with the establishment of 'universal socialism'. Questions were asked and answered at the close of the lecture, but the small audience, according to the report, was 'at times a little impatient'. East Lothian, with its strong farming background, was not then a fertile ground for socialism, and innovations such as the campaign for votes for women were generally opposed. Lady Frances Balfour, of Whittinghame, speaking in November 1896 in Edinburgh, called it the 'thin end of the wedge', to be followed by women seeking admission to parliament, which she 'personally did not desire to see'.

Societies such as the Temperance Society, the Band of Hope, the Young Men's Guild and the Mutual Improvement Association were still active at the time of Queen Victoria's death in 1901. Sunday schools and amateur concerts also retained their popularity at least up to the outbreak of World War I in 1914. The slaughter of so many young men in Flanders depleted the towns and villages of much of their former vitality, and, in any case, the growth of mass entertainment, provided by the advent of the cinema and the radio in the 1920s, lessened the attractions of the more innocent pastimes of the Victorian era. Trade depression and the improvement of state education combined to dent the power of the Church and the landed gentry, and the quest for self-improvement and home-spun entertainment no longer appealed so strongly in the more liberated post-war era.

### NOTES

- 1 The subject of leisure as an area of study in the 19th century has been a popular one of recent years. See, amongst other publications, Stella Margetson's *Pleasure and Leisure in the Nineteenth Century* (London, 1969), and John Lowerson & John Myerscough's *Time to Spare in Victorian Britain* (Hassocks, Sussex, 1977).
- 2 See Dawson Burns' *The Temperance Movement in the Victorian Age* (London, 1997).
- 3 Most of the references to leisure activities are taken from the *Haddingtonshire Courier* unless otherwise stated.
- 4 See Jean Lindsay's 'The Feeing Market or Hiring Fair in East Lothian in the Nineteenth Century', *Trans East Lothian Antiq and Field Naturalists' Soc.* Vol. XXV (2002), 33-56.



*Figure 1: Sir Francis Reginald Wingate, GCB, GCVO, GBE, KCMG, DSO, TD.  
1st Baronet of Dunbar and Port Sudan.  
(Courtesy of St Anne's Church, Dunbar)*

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1st BARONET OF DUNBAR & PORT SUDAN,  
DEPUTY LIEUTENANT OF EAST LOTHIAN.

*by STEPHEN BUNYAN*

## INTRODUCTION

This paper was written to commemorate the 50th anniversary of the death, in 1953, of one of the few men, and certainly the most distinguished, to be granted the freedom of Dunbar in the twentieth century. The honour was granted to Reginald Wingate in 1902 (fig 1). He was made a baronet of the UK (of Dunbar and Port Sudan) on 6 July 1920. He died in Dunbar on 28 January 1953, and his funeral, on Tuesday 3 February, must have been the most important event in the history of St Anne's Episcopal Church in Dunbar. Although not born in East Lothian, Wingate had been a freeman of Dunbar for over 50 years and was a deputy lieutenant of East Lothian.

Wingate's military career was legendary. He was at the battle of Omdurman in 1898 and succeeded Lord Kitchener as sirdar (British commander-in-chief of the Egyptian army) in Egypt, as governor-general of the Sudan from 1899-1917, and then as high commissioner of Egypt from 1917-19. He was appointed the colonel commandant, Royal Artillery, in 1917. He was also awarded honorary degrees, by the University of Oxford in 1905, and the University of Edinburgh in 1919. In that year he was also made a knight of the Venerable Order of St John. He was a pasha of Egypt<sup>1</sup>.

One might have expected that Wingate's funeral would have been held in Dunbar Parish Church, if for no other reason than capacity, but also because of Wingate's wider role in Dunbar's civic life. He was vice-president of the RNLI, and had shown an interest in other local organisations. The service, however, was conducted in St Anne's Episcopal Church by the bishop of Edinburgh, the Rt Rev Kenneth Warner, and was attended by a distinguished congregation, including representatives from the British and Sudanese governments, and the British army. The floral tributes included one from the then prime minister, Sir Winston Churchill, who was also at Omdurman, and later recalled lunching at Wingate's HQ and conversing with him on the eve of battle (Churchill 1947, 160-93).



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*Figure 2: General Wingate's funeral cortège en route from St Anne's Episcopal Church to the parish churchyard, Tuesday 3 Feb 1953.  
(Photo: Louise Allen)*

St Anne's location made for a better parade. The Argyll and Sutherland Highlanders' pipe band led the cortège. The coffin, surmounted by a laurel wreath, Sir Reginald's cocked hat and sword, was borne from the church on a gun-carriage by members of 357 (Lothians) Medium Regt., RA, TA, of which Wingate was honorary colonel, to the parish churchyard where the service of interment was conducted by the bishop and the Rev. Edmund Ivens, rector of St Anne's (fig 2). The trumpeters of the Boys' Regiment, RA, played the 'last post', wearing, no doubt, their uniforms dating from 1913, the same pattern as those worn by the King's Troop, RHA. This was almost certainly the last occasion when a military funeral in Scotland involved the use of a gun-carriage. The TA soldiers, who may not have looked like the King's Troop at the Queen Mother's funeral, were, nevertheless, proud to have been there, as I was frequently told later.

Wingate is commemorated in the War Memorial Chapel in St Anne's Church with the epitaph:

*Soldier and Administrator who restored a vast country  
from tyranny and devastation to peace and prosperity.  
Well done thou good and faithful servant;  
enter thou into the joy of thy Lord.*

My intention in this paper is to examine what lies behind the claim in the first part of this epitaph.

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## WINGATE - THE LEGEND

I was introduced to the legend of Wingate in 1959 in the Officers' Mess of what was by then 357 Light (Lowland) Regiment, RA, TA, where a framed photograph of him hung - an historic-looking figure heavily be-medalled (see fig 1). Close by was a case containing a fearsome sword presented by him to the regiment. It had a plate with the inscription: 'The Dervish Sword presented by General Wingate Bt. GCB GCVO GBE KCMG DSO TD, Hon. Col., 1938.' He had been the regiment's honorary colonel since 1922. The date of the presentation is significant as being the 40th anniversary of the battle of Omdurman. The sword is still on display in Artillery House at Colinton, Edinburgh. When I came to Dunbar, I discovered a copy of the same photograph in the vestry of St Anne's Church, and the memorial in the chapel. I soon heard Edmund Iven's account of how the great soldier's coffin had been placed in the small chapel before the funeral service, and covered with all those medals and more had, in Edmund's words 'twinkled like a Christmas Tree'.

His list of honours is almost legendary: The GCVO (Knight Grand Cross of the Royal Victorian Order) 1912; GCB (Knight Grand Cross of the Order of the Bath) 1914; GBE (Knight Grand Cross of the Order of British Empire) 1918; KCMG (Knight Commander of the Order of St Michael and St George) 1898; DSO (Distinguished Service Order) 1880; TD (Territorial Efficiency Decoration) 1935. There were other medals too. He was awarded the Order of Osmanieh 4th Class by the khedive of Egypt in 1883, upgraded to 2nd class in 1900, and to 1st class in 1905; the Order of Medjidieh 4th class in 1887, upgraded in 1891 to 3rd class, to 2nd class in 1900, and finally to 1st class in 1901. He was awarded the Star of Ethiopia (2nd class) for his participation as second in command of the Rennell Rodd mission to Abyssinnia in 1897. In 1915 he was awarded the Grand Cross of the Order of the Nile, and in 1917 the Grand Cordon of the Order of Mohammed Ali. He had other grand cordons and other medals.

Wingate was born on 25 June 1861. He was the son of Andrew Wingate, who was the third son of Andrew Wingate, a shipping and cotton magnate, of Blythwood Square, in Glasgow. The younger Andrew lived in Port Glasgow, Renfrewshire, where Reginald was born. The family originally came from Stirlingshire, where one of the Wingate properties was called Craigengelt. Andrew's nephew, George (Reginald's cousin), was the father of Major-General Orde Wingate, most famous for creating the Chindits in World War II.

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*Figure 3: The Wingates' family home, Knockenhair.*

The Wingate family had some connections with East Lothian. A Captain George Miller Wingate, RA, retd. (not Orde's father) appears on the valuation roll for Craigengelt (now the Rocks Hotel) in 1910/11, and resided in Marine Road before that. There were Wingate Greys at Nunraw about the same time. Reginald Wingate and his wife, Catherine Rundle, whom he had married in 1888, built Knockenhair in 1907 (fig 3), but had previously leased Stafford House, in Bayswell Park, from William Adams, furniture dealer, of 5 Shandwick Place, Edinburgh, since 1901.

## WHY WAS BRITAIN INVOLVED IN EGYPT?

Despite being generally allied to the French throughout the 19th century, Britain became increasingly concerned about the strength of their influence in the Middle East. The British were anxious to use France to limit the ambitions of Russia in the Turkish Empire, but in Egypt, because of the development of the Suez Canal, things were different.

Various British engineers, including James Vetch of Haddington, had contributed to discussions and proposals for the canal, which was eventually built by Ferdinand De Lesseps. Construction was begun in 1859 and completed in 1869. Lord Palmerston opposed it, but supported the idea of a railway, which was also built. In the mid-century, involvement in Egypt was largely civilian. Britain had no military involvement from the campaign of 1801-3, in which Sir David Baird of Newbyth was involved, until the Egyptian campaign of 1882. The situation in Egypt was complicated. Some background is necessary.

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Britain did not want to become involved. However, with the introduction of steam travel the Suez Canal became the key route to India - 'the brightest jewel in the British Crown.' By 1875 Ismail Pasha, the khedive of Egypt, had reached the end of his resources and sold his shares in the Suez Canal to the British Government in 1876. In 1877 Queen Victoria was proclaimed Empress of India. Britain had no desire to be involved in Egyptian affairs if other countries would take a similar line, but affairs were so tangled that this was not possible. Ismail attempted by every means possible to raise money. In 1878 a Briton, Mr Rivers Wilson, became minister of finance, and a Frenchman, de Blignieres, minister of works. The 'dual control' had arrived.

A military rising occurred in 1879, and British and French warships entered Alexandria. Britain and France asked the sultan to depose the khedive, who then went off to Naples with a large retinue and harem. Prince Tewfik became khedive, and Major Evelyn Baring (later Lord Cromer) and de Blignieres became controllers-general. Things looked brighter but Britain was now definitely involved. There were various factions, and a nationalist rising led by Arabi Pasha in 1881. The French and British governments pledged support to the khedive but failed to put enough force on display. The crowd in Alexandria rose with the slogan: 'Death to the Christians', but the Egyptian soldiers and police did nothing. Colonel Arabi, who by now was minister of war, took an ambivalent position. The naval commander hesitated and British subjects were killed within range of the guns of the fleet. On 11 July those same guns opened a fierce bombardment, reducing Alexandria to rubble. The British then occupied it.

This led to a political storm at home. Prime Minister Gladstone was bitterly attacked by Lord Salisbury, and though Britain was not at war, two divisions were sent under Sir Garnet Wolseley. Eventually the force was 40,000 strong, an overwhelming number. Its task was to support the khedive and suppress Colonel Arabi's revolt, he having by now been declared a rebel. A large number of officers, who subsequently achieved high rank, were involved. The vigorous campaign ended with the battle of Tel el-Kebir, on 13 September 1882. The Egyptians held a strong position, which had been laid out by Arabi's engineers. Surprise was essential, and so the British launched a strong frontal attack at dawn. The battle was over in an hour. After this, British involvement in Egypt was definite. The old army of Egypt was disbanded. In its re organisation Sir Evelyn Wood was appointed sirdar. Twenty-six British majors or above were posted in. In addition, there was a British army of occupation. In 1882 there were 12,000 men. By 1892 this had been reduced to 3,000. It was important as a visible sign of British interest. Kitchener<sup>2</sup> appeared on the scene in 1883 as second-in-command of a cavalry regiment (which was not his arm).

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## THE SUDAN

Meanwhile, there were ominous signs in the Sudan. Faced with the emergence of the Mahdi, Egypt could not cope. They re-engaged some of Arabi's troops and sent an expedition under Colonel Hicks in 1883. It was destroyed. The country south of Khartoum was at the mercy of the Mahdi and Khartoum was in danger. Egypt asked for 10,000 Turks. This was not acceptable to Britain and the government felt they had to act. The area of the Red Sea littoral was in ferment. Trouble was being caused by a slave dealer, Osman Digma, who was sympathetic to the Mahdi, and a British-led force was cut to pieces. The British decided they must act to defend the port of Suakin, on the Red Sea.

Sir Gerald Graham was sent to reduce Tokar, 40 miles south of Suakin and close to the Red Sea. He had a victory at El Teb and occupied Tokar, thus opening the route from Suakin to Berber and a fleeting opportunity to get to Khartoum. It was difficult but possible. The commanders in Egypt were willing to try. Graham wished afterwards he had tried without asking. The threat to, and death of, General Gordon caused a great storm at home. Queen Victoria said she would hold Gladstone personally responsible, and in general the British public were behind her, for Gladstone's government had refused permission and General Gordon was sacrificed as a result. In January 1885 the public demanded that he be avenged but this would involve the capture of the Sudan and be very costly. Gladstone wanted any such idea to emanate from Egypt and to be paid for by them. The British government had already spent three million pounds with little to show for it. The British decided to abandon the Sudan. Osman wrote to the Mahdi: 'God struck fear into the hearts of the English and they went away.'

It is now that Wingate comes on the scene. He had been gazetted as a lieutenant in the Royal Artillery in 1880 aged 19, and had served in India and Aden from 1881-83, when he joined the 4th battalion of the Egyptian army with the brevet rank<sup>3</sup> of major. He served as Sir Evelyn Wood's ADC in the Nile expedition which tried to rescue Gordon in 1884/5. He was at the battle of Toski in 1889, following which he was awarded the DSO. He was at Tokar in 1884, and at the capture of Arrafit in 1891, being mentioned in despatches on each occasion. The controller-general, Baring, suggested Kitchener as sirdar in April 1892. Kitchener was a master of economy; at one stage he complained that a steamer was burning coal when wood was available. Lord Salisbury became prime minister and British views about the situation in North Africa changed. Concern grew about French penetration from French Equatorial Africa, as well as the Italians, who were penetrating from the East.

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‘THE SCRAMBLE FOR AFRICA’

So we enter what became known as ‘the Scramble for Africa’. It was decided that a show of force would be in order, and the Italians were defeated at Adowa in 1896. Major Wingate was by now Kitchener’s chief intelligence officer, fluent in Arabic and one of a good team. With his knowledge of the country, his fluency in Arabic, his examination of prisoners and documents made him extremely useful. He published in 1891 *Mahdiism and the Egyptian Sudan*, an authoritative account of the rise of Muhammad Ahmad and subsequent events (Wingate 1891). In 1894 he was appointed governor of Suakin. He was awarded the CB (Companion of the Order of the Bath) in the Queen’s 1895 Birthday Honours list. He was promoted to brevet lieutenant-colonel in 1896, then brevet colonel and extra ADC to Queen Victoria in 1897.

Wingate established an excellent secret service at low cost. The Dongola expedition of 1896 stopped Dervish raids on villages between Aswan and Wadi Halfa. It added 450 miles of the Nile valley to Egyptian territory and relieved the suffering population from the tyranny of fanatical tribesmen. Kitchener saw the occupation of Dongola as a prelude to an advance on Omdurman, which would require British involvement. Kitchener was sure the khalifa could be defeated; the only problem was reaching him. Two important battles followed - Atbara (8 April 1898) and Omdurman (2 September 1898). Wingate acted as press censor. Kitchener had not allowed the press at Dongola but had to on this next campaign. There was a delay after Atbara, and some disturbing news that the French had arrived in the area.

Kitchener had decided, against advice, to build the Desert Railway, which was to prove of immense value. Railway experts told him it was impossible. He entrusted the task to eight Royal Engineer subalterns led by a Canadian, Lieutenant Edouard Girouard. It is amazing to see the tasks entrusted to junior officers and successfully carried out by them. This was to prove a colossal task:

*For a labour force Girouard employed 2,000 Egyptian conscripts, who had first to be taught the skills of plate laying. Every item they required had to be obtained, at best from Cairo or Alexandria, and many essentials, including 15 locomotives and 200 wagons, had to come from England. Even the smallest item of stores was irreplaceable and on one occasion, when a vital nut was mislaid in transit from Wadi Halfa, a squadron of cavalry was detached to search the track until, miraculously, they found it. (Glover 1980, 202-3)*



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The 103-mile railway reached Atbara shortly after the battle. Gunboats were taken up in sections by rail and then assembled. The Anglo-Egyptian force was reinforced with British troops. On 28 August a force of 25,800 men approached Omdurman at the important strategic junction of the White and Blue Nile. Kitchener was at the front leading the most powerful army the Sudan had ever seen - two brigades with horse and field artillery, cavalry and baggage and supply trains in the rear.

It suffered one setback when an awful downpour of rain broke communication. The khalifa was warned to evacuate women and children because Omdurman would be stormed if not surrendered, but he had already decided on a great battle. The Mahdi had prophesied success. The khalifa had made no serious attempt to prevent the advance.

Flocks of vultures were seen flying south. The battle, when it came, was fought almost like Waterloo. The final advance started on 26 August. The army consisted of 25,800 men (of whom 17,600 were from the Egyptian army) with 44 guns (including two 40 pounders) and 20 maxims. The artillery was supplemented by 36 guns and 24 maxims mounted on the gunboats. Despite the reliance on river transport, the army was accompanied by a very large number of animals - 3,524 camels, 2,469 horses, 896 mules, and 229 donkeys. Twenty-seven days' rations were taken for all, each soldier carrying rations for two days. Five more days' rations were carried in boats under regimental arrangements and the remainder in sailing barges. A colonel who later commanded a corps at the battle of Mons described the advance (quoted in Glover, 204-6):

*We moved in battle array, namely echelons of brigades, right refused, left resting as near the river as swamps and thorny shrub would allow, each brigade in attack formation [battalions in line each with two companies in reserve] moving in fours, advancing from the flank in companies—the last time probably any army will move in the presence of an enemy in the close order of the Peninsular and Crimean days.*

The British were armed with 303 Lee Metford rifles and the Egyptians had single-loading Martini Henrys. Orders were relayed by gallopers. The Dervish attack was an instance of the futility of gallantry without up-to-date weapons. Some of the emirs were in chain mail with swords like their ancestors in the Crusades. Yelling Dervishes collapsed under a murderous blizzard of fire from the shrapnel of the 12-pounders. The Grenadier Guards were ordered to fire volleys at 2,000 yards, probably a waste of ammunition, as Kitchener realised when he ordered:

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'cease fire'. It was a slaughter not a battle. Nearly half of the Dervishes were armed only with swords and spears. The second phase against the khalifa was more fierce, but victory brought about the virtual annihilation of his army. Almost 11,000 Dervish bodies were counted, plus 16,000 wounded. The dead expected the wine of heaven and the ministrations of 70 violet-eyed maidens to greet them there. Anglo-Egyptian casualties were 482 killed and wounded, of whom 150 were British. (Another figure gives 48 killed and 382 wounded.) The worst casualties were in 21 Lancers (Churchill 1947, 160-93).

Wingate was with Kitchener at the moment of victory and took down his personal dictation. A ceremony was held at Khartoum shortly after to honour Gordon. The results of the expedition were: the extinction of Mahdism in the Sudan; the submission of the whole country; the avenging of General Gordon's death; the restoration of British prestige; vast territories opened up to peace, civilisation and good government. Meanwhile, Queen Victoria back home had expressed anxiety at the lack of news.



*Figure 4: General Kitchener (second from left) leads his victorious troops  
from the battlefield of Omdurman, 2 Sept 1898.  
(From a photograph in the possession of General Sir Reginald Wingate)*

## THE FASHODA INCIDENT

In September 1898 the British learned from a captured Dervish steamboat, the *Tewfikiya*, that it had come under fire at Fashoda from a party of black soldiers led by a white officer. (A Captain Marchand had arrived at Fashoda on 10 July and persuaded the Shilluk chief to accept the protection of France.) Kitchener, presuming it was Marchand, at once carried out orders he had already received and

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set out in the steamship *Dal*, supported by three gunboats and a force including a company of Cameron Highlanders and two Sudanese battalions. The artillery was an Egyptian battery under Captain Peake, RA. The chief intelligence officer was Wingate, now a brevet lieutenant-colonel. They had a number of Shilluk soldiers in a local tribe and sent some of them to glean information. These brought back a local chief who, in the manner of the area, was stark naked. An orderly gave him a cabin towel to drape around himself to appear decently clad before Kitchener, but on entry to the great man's presence he removed it and draped it round his head, as a mark of respect!

Kitchener, by now convinced that it was Marchand who had appeared, sent a message forward, telling him about Omdurman and the defeat of the khalifa. The expedition proceeded forward with Egyptian flags, not the Union Jack. They duly came to Fashoda and found the French, who had made an agreement with the Shilluk, in possession. However, they lacked enough force to resist Kitchener. Time was taken in negotiation. Kitchener convinced Marchand that his position was impossible, and eventually the French were withdrawn and the Egyptian flag raised. Had Kitchener not won at Omdurman, Marchand would almost certainly have perished at the hands of the Dervishes. Thereafter, Kitchener visited England. Wingate was awarded the KCMG, and thanked by both Houses of Parliament in November 1898. On 8 September he was promoted to the regimental rank of major.

After the battle of Omdurman, Kitchener was anxious to pacify the Sudan but also develop its resources. As part of that programme he wanted to improve the education system to produce men whose services would be of practical value to the government. To this end he visited England in November 1898 to launch an appeal for funds to found and endow a college in Khartoum in memory of Gordon.

Further expeditions were made. Wingate was made adjutant-general. In January, the Anglo-Sudanese agreement was made and Kitchener became governor of the Sudan as well as sirdar of the Egyptian army. He launched a programme of reform, his duties multifarious and his responsibilities heavy. They ranged from pensions to re-planning Khartoum, reconstruction work, and new town building. Irrigation schemes were made and further railways were built. All this was in the event to be largely Wingate's work.

## THE DEFEAT OF THE KHALIFA

Meanwhile, in September 1899 it was reported that the khalifa had established himself with 10,000 men at Jebel Gedir in the Nuba Mountains, 100 miles NW of Fashoda. Kitchener decided he must be dealt with. He and Wingate

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hastened back to the Sudan and pushed up to Omdurman. By 20 October Kitchener had 8,000 men at Kaka, 50 miles north of Fashoda. Wingate led the infantry, screened by cavalry and camels, across 50 miles of desert to Fungor, in the direction of Jebel Gedir. The wily khalifa had moved into dense jungle in the north. However, his end was near.

On 12 November it became known that the khalifa was at Aba Island, 150 miles south of Khartoum. Wingate was in command at Khartoum. Kitchener arrived on 18 November. It might have been expected that Kitchener would wish to administer the coup de grace himself, but he wanted Wingate to succeed him. Wingate had been an excellent director of intelligence but had not as yet commanded troops in the field. So Kitchener entrusted him with the final expedition, which ended in the battle of Umm Debeikerat (also Diwaykarat), Kordofan, on 24 November 1899. It was a scene of carnage. Wingate took charge of 6,000 women and children. The bodies of the khalifa and his emirs were found seated in the manner of the brave who do not flee but disdain surrender. They were given decent burial. General surrender followed. Only one important enemy, Osman Dinga, remained free. Kitchener wrote:

*Col. Sir Reginald Wingate's previous service on the staff are so notable that I need not allude to them. He has now shown himself to be a capable leader of men. The operations under him were carried out with consummate ability, energy and determination, and he has struck the last blow at Mahdism. The country has been finally relieved of military tyranny, which started in a movement of wild religious fanaticism upwards of nineteen years ago. (quoted in Sandes 1931, 301)*

For this achievement Wingate was promoted to Knight Commander of the Order of the Bath (KCB) and awarded the Order of Osmanieh 2nd Class. A few weeks later, the South African War began, and on 18 December 1899 Kitchener received orders to leave Egypt and join Lord Roberts in South Africa.

## WINGATE AS GOVERNOR-GENERAL AND SIRDAR

Sir Reginald Wingate, KCMG, KCB, DSO, succeeded Kitchener as governor-general of the Sudan, and sirdar of the Egyptian army, on 23 December 1899. For the next 17 years he guided the destiny of the Sudan and Egypt.

The date - 23 December 1899 - was significant. It was the threshold of the 20th century which was to be in so many ways a new age. In the case of the Sudan, Wingate was instrumental in bringing it out of the Middle Ages. He guided it from the meanest poverty to financial stability. Excellent government made it possible

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to reduce the military presence and the Egyptian units were sent home. Sudanese soldiers now formed the bulk of the garrison. Some boy prisoners found naked at Omdurman, and who understood no English, were taught English and trained into a good unit. The administration was done by British and Egyptian officers until they could be replaced by civilians. Young Sudanese soldiers were trained to be officers. Before World War I, an equatorial pagan battalion was formed, and in the eastern area Arab companies were formed.

The cities of Khartoum and Omdurman were rebuilt by a Department of Works administered by Royal Engineers. Modernisation came. The first motor car appeared in 1901. Officers usually used donkeys in town and camels in the country, but in 1914 officers in uniform were forbidden to ride donkeys in Khartoum, but as far as possible, even if primitive, everything was cheap and effective.

Wingate took up the idea of railway development, and in particular for a link to the Red Sea. Two RE officers carried out a survey and in 1901 showed that an easily-graded railway could be built from the Nile to the Red Sea. The preliminary route was selected by an Arab camel man. The Engineers did a detailed survey. Cromer and Wingate invited an expert to comment. He reported favourably. Cromer decided in favour of the Royal Engineers doing the work. They built it using Arab labour at a cost of £6,000 per mile. Port Sudan was identified as a suitable point of entry to the country. It was chosen, and so named, and the ancient port of Suakin was superseded.

Port Sudan was a largely uninhabited area. The building of the railway began on 1 September 1904. It was much delayed. By March 1905, it was 50 miles from Suakin, moving through the Red Sea hills at half a mile per day. The opening ceremony was performed on 27 January 1906. There were further developments. Station buildings and such like were built in 1907. A link into the Belgian Congo was also considered. In the period before World War I the whole area was covered with a network of railways. Most of the work was carried out by local labour under the Royal Engineers, of whom the key participant was Lieutenant Russell. They were also involved in irrigation projects and bridge building, as at Atbara. The Royal Engineers were involved in the projects until 1926.

Telegraphs were also introduced for military purposes. Kitchener had wanted them but was mean with supplies - expert telegraphists cost £20 per month! In 1914 wireless telegraphy was introduced but it was in its infancy. This development was initially the responsibility of Wingate. He was succeeded in this role by a most capable officer, Major the Hon M G Talbot, who came from the War Office. He entered the Egyptian army as colonel and became director of military

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intelligence. He was a successful surveyor. He was not allowed to go to South Africa and was responsible for the demarcation of the boundary between the Sudan and Abyssinia. Problems arose because of claims from France, Italy and Abyssinia in the former Egyptian areas. Attempts were made to have regard for tribal areas but this map-making led to actual expeditions in hazardous conditions. These resulted in much loss of life. The mappers had to identify mountains and allocate them. This included locating the villainous Ibrahim of Jebel Jeroh's mountain in the Sudan so that they could deal with him - which they did.

By the end of 1911 the greater part of the inhabited Sudan had been explored and mapped in detail but much remained to be done, especially in the SE zone. Omdurman city had been surveyed and one was contemplated for Khartoum. This work, though, virtually ceased with the outbreak of World War I.

## PUBLIC WORKS

There was a large programme of public works. Kitchener had drawn up designs for the new Khartoum. It was similar to the gridiron plan used by Alexander the Great for Alexandria over 2000 years earlier. Kitchener added diagonals so it looked, unintentionally, like the Union Jack. The diagonals were designed for machine-gun fire and improved access, but these proved inconvenient for building, and also, in due course, for motor junctions. Kitchener visited in 1912 and agreed with Wingate that building them could be discontinued and existing ones closed. The cleaning up of Khartoum was another task for the Engineers. It was done by Lieutenant Gorringe and 1,000 men. The first priority was rebuilding the palace - a visible sign of an intention to stay and govern, and for the conquest to be complete.

The second great project was the building of Gordon Memorial College. £135,000 was collected in Britain for this purpose. Lord Cromer laid the foundation-stone in 1899, and Kitchener opened the new college in 1902. Its subsequent development, though, was Wingate's work. It originally had humble aims - to teach the three 'R's to sheiks who would become teachers. As primary schools multiplied, it became a secondary school and ultimately almost a university. (In Norman Macphie's time as headmaster of Dunbar Grammar (1970-83), the school sponsored a boy there.)

In 1900, Sir Henry Wellcome, of Burroughs, Wellcome & Co., the innovative pharmaceutical company, visited the Sudan and this led to the opening of the Tropical Research Station to rid Khartoum of malaria. Wellcome was also an archaeologist and carried out studies of important sites, leading to the pun 'burrow and welcome'! A Colonel Friend also carried out important works,



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including the river wall, though Wingate had to prevent him from using dressed stone robbed from ancient pyramids. All Saints Anglican Cathedral was also built. The foundation-stone was laid by HRH Princess Henry of Battenberg in February 1904 and it was consecrated in 1912.

## PORT SUDAN

Port Sudan was founded and developed by Wingate. The entrance to the ancient port of Suakin had become blocked by coral, but no change was possible whilst the area was a battlefield and at the mercy of Dervishes. By 1899, Wingate was aware that Suakin was unsuitable as a port for a vast area and undesirable for political reasons, but the Royal Navy hydrographer said it was the best available and suited the railway plan and the financial situation. Captain Kennedy, RE, took the bull by the horns in 1904 and said Suakin would be expensive and at best limited. He suggested a site at Sheik Barud. Wingate was already aware of the advantages of this site and put the whole question to Cromer. (Did his knowledge of Dunbar harbour perhaps help him on this occasion?) Suakin's fate was sealed and the advantages of the new location proclaimed.

The question of a name for the new port arose. Cromer suggested Port Wingate. Wingate suggested Port Cromer, then said: 'why not what it is going to be? Port Sudan'. It was opened on 1 April 1909 by HH Khedive Abba Pasha Hilmi. It was visited by HM King George V and Queen Mary on their return from India on 17 January 1912. Wingate had made the suggestion for the visit whilst at Balmoral in 1911. During the royal visit to Port Sudan, Wingate was invested with the GCVO.

## ADMINISTRATION

Kitchener had dealt with important problems in 1899 but he had only begun when he was called away. Sir Harold MacMichael GCMG DSO, a civil servant in the Anglo-Egyptian Sudan and later senior inspector of Khartoum Province, wrote of Wingate that it would be hard to overestimate the careful skill and diplomacy with which he guided the country's destiny; it passed from infancy to manhood, from meanest poverty to stability if not affluence (MacMichael 1934, 82).

From 1899 to 1909 Wingate built up a system of benevolent autocratic government, wisely organised on military lines, for civil purposes. It kept in touch with the people. Cromer had intended to separate the functions of governor-general and sirdar, but Wingate pointed out the drawbacks of doing so and Cromer abandoned the idea. Wingate gradually introduced more democratic ideas and

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made the governor-general's council an advisory body in 1910. He continued to carry out useful reforms until his appointment as British High Commissioner in Egypt in 1917.

Before he left the Sudan, Wingate felt it would be desirable for a statue of Kitchener to be erected in Khartoum. Arrangements were made to get a replica of one being made for India, but it was proving costly. Wingate rose to the occasion and sent ingots of brass, cleverly made from cartridges salvaged from the battlefields, which, when mixed with tin, would make suitable bronze. The project went ahead but because of difficulties during World War I the statue did not arrive at Port Sudan until 1920. The civil secretary's office was notified that a parcel had arrived. An orderly was sent on a bicycle to collect the parcel and was astonished to be confronted by the enormous statue. It was duly erected in 1921.

On his appointment as governor-general of the Sudan and sirdar of the Egyptian army, Wingate was promoted to the rank of local major general. He was promoted substantive major general in 1903 and lieutenant general in 1908. In 1909, at the request of the British Government, Wingate undertook a special mission to Somaliland to report on the military situation in connection with the proposed evacuation of the interior of the protectorate. He was finally promoted to the rank of general in 1913.

## WORLD WAR I

When World War I broke out in 1914, Turkey allied with Germany. Neither Egypt nor the Sudan had the resources or the finance for extensive military activity. Kitchener had been appointed consul-general and minister-plenipotentiary of Egypt in September 1911 (he was in this post until 1914) and it had prospered; so too had the Sudan under Wingate. There was a British army to safeguard Egypt and a garrison in Khartoum to protect the Sudan. But the problem was that both territories were still nominally Turkish. Wingate held a meeting at Khartoum in November 1914 and explained the situation to the sheiks. He was greeted with an outbreak of spontaneous loyalty. This was not entirely surprising considering the tarnished reputation of the Turkish Empire. Egyptian and Sudanese troops went on to serve in East Africa, Uganda, French Equatorial Africa, Sinai, the Dardanelles, the Western Desert, Palestine, and Arabia, as well as sharing in the defence of the Suez Canal.

The Sudan was more happily placed than Egypt, for it was not in danger of invasion. All that was necessary was to prevent internal trouble; to curtail espionage; to deal with small raids on its borders; to counteract enemy propaganda; and to assist Egypt with transport animals and supplies. For example, in 1915 Wingate was asked to send all available matting to line trenches.

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The Turks, having failed in their attack on the Suez Canal in February 1915, sent emissaries to Sayed Ahmed, leader of the Senussi, urging him to attack Egypt from the west. The main thrust was in the north, but peace was concluded there by 1917. However, Sayed Ahmed arranged for a second attack from the western oases and a third by the sultan of Darfur.

Wingate saw his one major task was to subdue Darfur, a large semi-independent state close to Abyssinia. Early in the war, Ali Dinar, sultan of Darfur, had renounced his nominal allegiance to the Sudan and invaded Kordofan. Initially, Wingate established a cordon round him to prevent a traffic of arms to, and contact with, the Senussi. By early 1916, though, Ali Dinar had become so hostile that action was necessary. A force of 4,000 men was established under Lieutenant-Colonel Kelly of the 3rd Hussars. He went in pursuit and was attacked by about the same number, with great vigour but to no effect. Hundreds of the sultan's force were left dead and wounded. Ali Dinar fled to the Marra Mountains. He was killed on 6 November in a skirmish. Kelly marched into El Fasher on 23 May and accomplished the subjugation of Darfur. This made it possible to co-operate with the French in French Equatorial Africa. This area had huge water problems for which they depended on Tebeldi trees which could hold up to 400 gallons of water. The army hired them from the native proprietors but had to refill them with camel convoys.

## THE ARAB REVOLT

From 1914 Wingate had believed it possible to wean Sunnite Islam from the pan-Islamic Ottoman Empire. In 1915, with Sir Sayer Ali el Morghani, a religious notable of the Sudan, he got in touch with the sherif of Mecca, guardian of the Holy Places, and was able to report freely to Kitchener on the situation in the Hedjaz. In mid 1915, the sherif asked for guarantees of the independence of all Arab lands as the price of revolt against Turkey. This led to prolonged discussion, but eventually an agreement was made, which also led to a pact between Britain and France.

Wingate opened direct communication with the sherif and undertook to send rifles and ammunition. The sherif's sons, Ali and Feisal, however, rebelled in Medina. On 9 June 1916, Wingate heard that the sherif himself had revolted and occupied half of Mecca. He immediately sent two pack batteries and a machine-gun battery under Egyptian officers, and later British officers and aircraft. He himself was appointed GOC Hedjaz operations between 1916 and 1919. At his own request this appointment, and his subsequent mention in dispatches, were not gazetted until December 1919. (T E Lawrence - 'Lawrence of Arabia' - usually gets all the credit for these events, but he was in fact just a minor cog in all this. Lawrence was distantly related to Orde Wingate but not to Reginald.)

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## EGYPT

The position of Egypt was another matter. From 1900 the Egyptian politicians, who were mainly nationalists, were increasingly demanding that the British leave Egypt. The British said they could not do so until a stable government was established, but the nationalists would not cooperate with the British and the khedive to establish one.

In 1914, when Turkey sided with Germany, Britain declared a protectorate over Egypt. The British were heavily involved in the war against the Turkish empire and Egypt was the strategic centre for the whole of the Middle East. At least fifteen divisions of British and Imperial troops were at some time in Egypt, if only en route for somewhere else. The Suez Canal was a vitally important supply route for the British. Troops and equipment of the Australian, New Zealand and Indian forces passed through it on their way to the Western Front, as well as millions of tons of foodstuffs, minerals and other provisions bound for Britain.

The importance of the canal had been recognised long before the war, and steps taken to provide defences for it. It was defended between 26 January and 12 August 1915 against Turkish troops massed in Palestine. To meet the needs of all these troops, conditions worsened and the Egyptians suffered real hardships. Discontent increased as labour animals and provisions were requisitioned. Wingate, who became British high commissioner for Egypt in January 1917, suffered unpopularity. A popular song (quoted in Oliver & Atmore 1961, 180) criticised him:

*Woe on us Wingate,  
Who has carried off our corn,  
Carried off our cotton.  
Carried off our camels,  
Carried off our children,  
Leaving only our lives  
For love of Allah, now leave us alone.*

At the end of World War I, the Ottoman Empire was broken up. There were riots in Egypt incited by Saad Zaghlul and his party and a crisis situation developed. Wingate returned to Britain to discuss the problem, but his proposals were not accepted. He refused to resign, and was instead passed over, replaced by General Allenby. Neither did Wingate receive a peerage, which might have been expected, nor did he hold any further public office. He was created a baronet in 1920, gazetted as Baronet Wingate of Dunbar, in the County of Haddington, and of Port Sudan. He retired from the army on 1 February 1922.

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Britain eventually granted modified independence to Egypt. Fuad (1868-36), who had been the khedive from 1917-22 and had supported independence on the grounds that only he could negotiate with the British, became king.

## THE LATER YEARS

Returning to Dunbar, Wingate continued to have some influence. He had been appointed colonel commandant, Royal Artillery, in 1917, a position he apparently held till his death, for it is mentioned in the report of his funeral. He was honorary colonel of various TA regiments, including 57 Lowland Brigade, RGA, TA, (later 57 Medium Regt., then 357 (Lothians) Medium Regiment, RA, TA, and finally, in 1951, 357 (Lowland) Medium Regiment, RA, TA), based in Edinburgh, Dalkeith and Prestonpans. He also became director of a number of companies. Orde Wingate (who referred to him as 'cousin Rex') made use of his influence.

As a result of his administration in the Sudan it can be said that justice replaced tyranny, freedom drove out slavery, sound economic planning removed poverty and confusion. Wingate is remembered in Dunbar with affection. He took a great interest in local affairs (fig 5). It was said at his funeral that he was the kindest of men, a good raconteur who loved a joke.

Wingate was a man of strong Christian principles: 'I can do nothing by myself'. In his introduction to Lieutenant-Colonel Sandes' book (1937), he writes: 'When the brave and resourceful Dervishes had been overcome and the country resuscitated and made peaceful under British rule, a bond of sympathy, respect and almost affection was established between the inhabitants and their advisers.'

Wingate was clearly touched by the acclamation of loyalty from the sheiks at the outbreak of World War I. He was convinced that it was mainly due to 'the wholehearted devotion to duty of the British officers and officials and their native assistants.' Such attitudes came from the top. He based his policy on the instructions from the Council in Calcutta in 1769 to its officers which said: 'Let access to you be easy and be careful of the conduct of your dependants. Aim at no undue influence yourself, and check it in all others. Great share of integrity, disinterestedness, assiduity and watchfulness is necessary, not only for your own guidance, but as an example, to all others.'

This advice stands the test of time and seems to have guided Wingate's life, both in Egypt and the Sudan, as well as in retirement in his adopted Dunbar. His contribution to the history of the British Empire has been undervalued. He might get due recognition at last, with the revived interest in, and re-evaluation of, the British Empire, which seems at last underway.

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Figure 5: Wingate inspecting the local Boys' Brigade.

NOTES

- 1 The title of pasha was given to Turkish officers who were governors of provinces or held high naval and military commands, in Wingate's case presumably the latter.
- 2 Field Marshall 1st Earl Kitchener of Khartoum, born 24 June 1850, created earl 27 July 1914, died 5 June 1916 when the ship carrying him to Russia, HMS *Hampshire*, was sunk by a mine off Orkney. After service in Egypt and the Sudan, he became General Roberts' chief of staff in the Boer War, succeeding him as commander-in-chief in November 1900. After the Boer surrender in 1902 he served as commander-in-chief in India until 1911 when he returned to Egypt as British consul-general. At the outbreak of World War I he became war minister, and is most famous for the recruitment poster bearing his finger-pointing image and the words: 'Your country needs YOU'.
- 3 Brevet rank was a commission entitling a person to take rank above that for which he was being paid.

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*Figure 1: 'SOS Puffin' volunteers working on the island of Craigleith.  
The islands of Lamb and Fidra lie beyond.  
(Photo. John Hunt)*

# 'SOS PUFFIN': TREE MALLOW AND SEABIRD ISLANDS IN EAST LoTHIAN

*by JOHN HUNT*

## ABSTRACT

The history and current status of tree mallow in the Firth of Forth, and the reasons why it has become invasive on some islands, are described. The impacts that tree mallow has had on two important seabird islands, Craigleith (fig 1) and Fidra, are detailed. Public concern at the decline of the population of a charismatic bird, the Atlantic puffin (fig 2), led to setting up the project 'SOS Puffin' to control tree mallow using volunteer work parties. The work is guided by a programme of ecological monitoring which is outlined. The progress made during the first three years of the project is explained, together with the lessons learnt. The implications for future management are discussed.



*Figure 2: An Atlantic puffin.  
(Courtesy of the Scottish Seabird Centre, North Berwick)*

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## INTRODUCTION

Over 4,000 plant and animal species which are not native to the UK have arrived here by accident or design. Some have become invasive and caused serious economic and environmental problems. Over £2 billion is spent each year in the UK attempting, with limited success, to control these problem species.

The spread of tree mallow on the important seabird islands in East Lothian provides a good example of how an invasive non-native plant can cause serious loss of biodiversity. The conservation project to bring the tree mallow under control using volunteers and thus restore the wildlife interest is in effect an ambitious long-term experiment. This paper explains what has happened so far, and it is hoped that the experience will be of interest and relevance to others involved in ecological restoration projects.

## TREE MALLOW AND ITS SPREAD IN THE FORTH

Tree mallow (*Lavatera arborea*) is a herb of the mallow family (*Malvaceae*). It is native to coastal areas around the Mediterranean and its northern natural limit is the SW coast of the UK and Ireland. However, it has been introduced to coastal areas elsewhere, from which it has spread. An impressive plant growing up to 3 m high, it has large velvety leaves and, in suitable conditions, can form a dense jungle which excludes all other vegetation. It is biennial, growing up to 2 metres in its first year and then flowering and producing a large quantity of seed in its second year before it dies. The woody stem can reach up to 15cm in diameter at the base of the plant. It is very tolerant of salt conditions and does not die back during the winter, growing throughout the year apart from the coldest winter months.

In the Firth of Forth, tree mallow is known to have been present in the 17th century on the Bass Rock, where it was introduced because of its medicinal qualities. Its leaves would have been used as a bandage or poultice by the garrison of the fortress. For many years this was the only location for the plant in Scotland and the ‘Bass mallow’ was regarded as one of the notable features of the island. The Bass Rock was grazed by sheep until World War I, which will have prevented any spread of tree mallow. Since 1960, nesting gannets (*Morus bassanus*) have spread across the top of the island, and their activities have limited any significant expansion of tree mallow away from the lighthouse area. Until the lighthouse became automatic in 1988 the keepers kept the buildings and paths free of the plant, but since their departure tree mallow has spread to cover some of these areas and requires periodic control to allow access.

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It is unclear when exactly tree mallow reached the island of Craigleith (7.7 ha), which is 5 km from the Bass and 1 km from North Berwick. Seeds may have been transported from the Bass Rock by sea or by seed-eating or other birds. Aerial photographs show that the cover of tree mallow on Craigleith was less than 5% before 1960, after which it spread relatively slowly until the colonisation accelerated in the 1990s; by 2006 at least 85% of the island was densely covered. At first the spread of the plant aroused little concern and indeed in 1966 the botanist, Elizabeth Beattie, commented: ‘The glory of Craigleith is the abundance and luxuriant growth of *Lavatera arborea*’. Old maps mark Craigleith as a rabbit warren and presumably rabbits were introduced long ago and exploited for food and skins. However, the rabbits died out as a result of *myxomatosis* in the late 1950s and this probably helped the establishment and subsequent expansion of tree mallow.



Figure 3: Tree mallow on the island of Fidra.  
(Photo. John Hunt)

Tree mallow reached the island of Fidra (4.5 ha), 4 km west of Craigleith, in the early 1990s and subsequently spread rapidly so that by 2006 over 40% of the island was densely covered (fig 3). There have been no rabbits or other grazing animals on Fidra for more than 50 years. Small stands of tree mallow are also present in three locations on the small island of the Lamb (c1 ha), which lies between Craigleith and Fidra (see fig 1). It is not known when it reached the island but is thought to be slowly spreading. There are no grazing animals.



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The only other island in the Forth where tree mallow is present is Inchcolm, near Dalgety Bay, also free of grazing sheep since the 1970s. It is thought to have become established here before 1992 when it was first recorded, though it is not known where it came from. There are several stands along the SW side of the island. Scattered tree-mallow plants are also found along the mainland shoreline of the Forth and in some gardens in East Lothian, but it shows no sign of becoming invasive in these situations.

### WHY HAS TREE MALLOW BECOME INVASIVE?

Within its natural range tree mallow is not an invasive plant and in fact is comparatively rare because of competition from other plants. However, in the Firth of Forth it has become a serious conservation problem on Craigleith and Fidra, and would no doubt have become so on the Bass had it not been for the gannets. There appear to be three main reasons why the plant has become invasive in these island situations:

#### LACK OF GRAZING ANIMALS

The leaves of tree mallow are palatable to grazing animals and field trials have shown that seedlings exposed to rabbits are readily grazed or dug out. The demise of rabbits on Craigleith in the 1950s and their absence from Fidra probably helped the spread of the plant. It may be significant that there is a large rabbit colony on the Isle of May, 13 km from the Bass, but no tree mallow. Rabbit grazing would be confined to the smaller seedling plants but they are also capable of inflicting damage to the roots and stems of larger plants. Other larger grazing animals, such as sheep or goats, would no doubt graze larger plants but they are no longer present on the islands, and the practicalities and potential problems associated with them would rule out any re-introduction.

#### WARMER WINTERS

A rise in winter temperatures in recent years, linked to man-induced climate change, is also thought to have helped the spread of tree mallow. For example, in east Scotland, between 1961/62 and 2004/05, the number of days of ground frost decreased by 25%. Over the same period the mean minimum winter temperature increased by 1.3 degrees C (Met. Office Climate Change Handbook). Field experiments have shown that small tree mallow seedlings are very sensitive to periods of prolonged frost, with few plants surviving more than 90 hours of frost. In recent years there have been no prolonged periods of severe frost on the islands. Even the relatively severe winter of 2009/10 was not sufficiently cold or prolonged to kill any larger plants though it probably killed some small seedlings.

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INCREASES IN SEABIRD NUMBERS

Craigleith is known to have been a nesting site for seabirds since at least the nineteenth century (New Statistical Account of Scotland) but it has only been since 1960 that numbers started an increase which led to a high density of nesting seabirds right across the island. The species which have been of most relevance to tree mallow have been:

HERRING AND LESSER BLACK-BACKED GULLS (*Larus argentatus* and *Larus fuscus*)

These gulls increased enormously in the Forth estuary after 1960 – largely it is thought because of the availability of food during the winter on open landfill sites. From comparatively small numbers nesting prior to 1960, the number of herring gulls peaked at 5,500 pairs on Craigleith in 1969 and continued at levels above 2,000 pairs until the 1990s, after which numbers declined to less than 1,000 pairs, thought in part to be due to the spread of tree mallow reducing available nesting space. Lesser black-backed gulls increased to over 900 pairs on Craigleith in the 1980s and 1990s, after which there has been a modest decline. On Fidra a similar increase was recorded, with total numbers of both species peaking at over 2,000 pairs in the late 1990s. The decline since then has been less marked than on Craigleith, perhaps because the tree mallow has not covered so much of the island.

ATLANTIC PUFFINS, *Fratercula arctica*

The numbers of puffins nesting on the islands have increased enormously over the last 50 years (see details below, on page 114).

The presence of several thousand seabirds on relatively small islands for up to six months each year results in a substantial quantity of phosphates and nitrates being deposited in the form of their guano. For example, on Craigleith the nutrient status of the soils is 60% higher than on Inchcolm where there is a much lower density of nesting seabirds. This favours tree mallow which requires fertile soils.

A further important factor encouraging the spread of tree mallow has been the burrowing behaviour of the puffins themselves. The areas of bare soil they create when excavating their burrows provides excellent conditions for tree mallow seed to germinate. It was noticeable that, as it spread, tree mallow seedlings became established near to burrows rather than in the dense grass swards where it is more difficult for seed to germinate.

Taken together, the changes described above have all contributed to creating conditions on the islands for tree mallow to out-compete other plants and become invasive.



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## IMPACTS OF TREE MALLOW ON WILDLIFE

All four islands near North Berwick (Bass Rock, Craigleith, Fidra and the Lamb) are designated as Sites of Special Scientific Interest for their internationally important seabird colonies. Under EU legislation they are also designated as a Special Protection Area (SPA), as part of the larger Forth Islands SPA. The invasion of tree mallow has become a serious threat to this wildlife interest. On Craigleith and Fidra the spread of tree mallow has had the following impacts:

### IMPACT ON PUFFINS

Atlantic puffins are known to have nested on Craigleith since at least the 1830s, though in relatively small numbers until recent years. In the 1970s numbers started to increase substantially in line with those on the nearby Isle of May. The attendance of puffins at their colonies varies enormously from day to day and hour to hour, and the numbers seen on the island and in the water at any one time is not a meaningful measure of colony size. Puffins nest in burrows which they excavate and an established pair will use the same burrow for many years (fig 4). A reasonable estimate of colony size can only be obtained by counting the number of apparently occupied puffin burrows. For a large colony this requires a team of observers to locate and count every burrow, and for a sample of these to be looked at carefully to assess what proportion is probably occupied - thus giving a correction factor to be applied to the overall count. Counts of apparently occupied puffin burrows (which equates approximately to the number of pairs of breeding birds) on Craigleith have been as follows:

Year of Count	Number of burrows	Comments
1977	1,325	Estimate, methodology unknown
1985	3,361	Estimate, methodology unknown
1999	28,000	Based on sample counts by one individual only
2003	12,100	Used accepted methodology but affected by tree mallow

While there is uncertainty about the precise number of puffins nesting on Craigleith (and the 1999 figure may have been an over-estimate), it is clear that the population increased rapidly in the 1980s and 90s, as happened on the Isle of May (Harris *et al* 2003). By 2003 the island was largely covered with tree mallow which severely restricted access and made a thorough count of burrows impossible. There are therefore doubts about the accuracy of the figure obtained of 12,100 burrows but, whatever the correct number may have been, it was clear that a substantial

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*Figure 4: A pair of Atlantic puffins by their burrow.  
(Courtesy of the Scottish Seabird Centre, North Berwick)*

decline had taken place which probably continued until at least 2006. From 2007 onwards, as tree mallow was cleared, it became evident from the large number of old burrows that were uncovered that there had been a much larger population of puffins present before tree mallow spread.

Tree mallow forms a dense thicket of woody plants which deter puffins from getting access to their burrows and indeed often grows right through the burrow itself. In areas with more than 40% tree mallow cover very few puffins will continue to use their burrows and, unless they are able to find or construct an alternative burrow in the near vicinity, they will not nest. As tree mallow spread to form a dense cover over almost all of Craigleith, the number of nesting puffins declined until birds were restricted to nesting on the fringes of the tree mallow or in crevices amongst rocks where tree mallow could not grow. No counts were carried out from 2003 until 2009, by which time the extent of tree mallow had been significantly reduced (see below), but it is estimated that by 2006, when control of tree mallow began, the population of puffins was well under 5,000 pairs.

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On Fidra, puffins were first recorded nesting in 1967, and counts of birds seen indicated that the population increased in subsequent years. The first full burrow count, using the accepted methodology, was in 2003 when 1,466 apparently occupied burrows were recorded. Puffins only nest on parts of the island, but most of these key areas were covered in tree mallow by 2006 and it seemed probable that the breeding population was declining here as well.

IMPACT ON COMMON EIDER, *Somateria mollissima*

Eiders are resident along the East Lothian coast, which is an important area for them, and they have nested on Craigleith and Fidra for many years. They can nest under tree mallow but appear only to do so reasonably close to the edge of mallow stands. Numbers recorded nesting on Craigleith increased from the 1970s to a peak of 182 eider nests recorded in 1987. Subsequently, numbers declined to single figures as tree mallow spread to cover almost all the island. On Fidra there was a similar increase to a peak in 1985 of 228 nests, with smaller numbers in the range 50 to 100 nests in subsequent years. It is not clear whether the spread of tree mallow since the 1990s has caused a decline in numbers there but if so any decline was probably relatively small.

IMPACT ON NORTHERN FULMAR, *Fulmarus glacialis*

Fulmars have nested on Craigleith and Fidra since the late 1930s, increasing to peak numbers in the mid 1990s of 205 pairs on Craigleith (1997) and 331 pairs on Fidra (1996), following which there have been modest declines which have been experienced elsewhere and are not attributable to tree mallow. Fulmars nest mainly on or near the top of cliffs or on rocky outcrops which tree mallow does not colonise or not in sufficient density to prevent nesting. However, on Craigleith by 2006 the near total spread of tree mallow was affecting a number of fulmar sites which were at risk of being lost.

IMPACT ON GREAT CORMORANT, *Phalacrocorax carbo*

A colony of cormorants was first recorded on Craigleith in 1966 and birds have nested every year since 1977, with numbers varying between 40 and 130 pairs. While there is no clear evidence that numbers nesting have fallen because of tree mallow, it does appear that the encroaching tree mallow has pushed the breeding colony to the eastern edge of the island. Here, there are rocky slopes where the tree mallow is less dense, or relatively short, so that sufficient space remains for them to nest. Cormorants are one of the few species of birds that make use of tree mallow, in that their nests are largely made out of dead mallow stems.

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### IMPACT ON GULLS, *Larus species*

The change in numbers of nesting herring and lesser black-backed gulls on the two islands has been described earlier. These birds can nest amongst tree mallow but their density is much lower than on open ground and the decline in numbers since the 1990s is thought to have been mainly caused by the spread of tree mallow. The larger greater black-backed gull, *Larus marinus*, also nests in much smaller numbers on Craigleith and Fidra, but its slow increase in recent years does not seem to have been affected. This may be because these birds nest on knolls and rocky outcrops which are less densely covered by tree mallow.

### IMPACT ON VEGETATION

The invasion of tree mallow has of course drastically changed the ground vegetation on both islands. Under dense stands of tree mallow the original vegetation cover is completely shaded out, or smothered by the litter from dead mallow plants. Where tree mallow cover is less dense, a sparse cover of annual-meadow grass (*Poa annua*), wall barley (*Hordeum murinum*) and a few perennial species can be present. On Fidra the tree mallow has shaded out and killed some areas of thrift (sea pink), *Armeria maritima*. This attractive plant is not present on Craigleith.

## THE MOVE TOWARDS TREE MALLOW CONTROL

The rapid decline of the important puffin population on Craigleith caused increasing public concern, not just amongst ornithologists and birdwatchers but also in the local community. A focus of this concern was the Scottish Seabird Centre (SSC) in North Berwick, which opened in 2000 and for whom the puffin is a charismatic bird much loved by the visiting public.

In 2004 Scottish Natural Heritage (SNH) commissioned René van der Wal, at that time working for the Centre for Ecology and Hydrology (CEH), to look at the problem and possible means of controlling tree mallow. His work provided valuable ecological information, much of which is summarised above and led in due course to a first management proposal for Craigleith (Van der Wal 2006), which was presented to the North Berwick community at the SSC on 12 September 2006. Prior to that, a survey of public opinion in 2006 identified there was local support for reducing the extent of tree mallow on Craigleith, preferably using less intensive methods such as manual cutting (Fischer *et al* 2007).

In September 2006, RDF Media produced a one-hour TV programme for Channel 4 about the tree mallow problem on Craigleith, broadcast that November. Part of the programme involved volunteers cutting two substantial areas of tree

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mallow, the first attempt at control on the island. Considerable publicity was generated about the whole issue, helping to attract volunteers. The project has continued to attract media interest ever since.

The public meeting in September 2006 confirmed that there was general support for a programme of control measures to be instituted, since doing nothing was likely to lead to a further decline in puffin numbers. It was recognised that control of tree mallow would be a major long-term undertaking requiring a structured approach with proper co-ordination and management. Further discussion between the landowner, Sir Hew Hamilton-Dalrymple, SNH, the SSC, SSC volunteers and CEH, led to setting up the Craigleith Management Group (CMG) in November 2006. Its role is:

- To prepare and approve a management plan for Craigleith, reviewing and revising it as necessary;
- To oversee delivery of the management plan;
- To ensure good communications and public relations.

The CMG is chaired by the author and meets annually, keeping contact at other times by e-mail. A management plan for Craigleith was produced in 2007 and has been reviewed and updated regularly since then. The long-term aim is: ‘To restore Craigleith to a seabird island where the vegetation is mainly composed of native species. This will mean reducing the extent of tree mallow on the island to a level where it no longer has any substantial effect on breeding puffins or other important nesting species and the maritime cliff and slope vegetation cover can be largely restored through natural regeneration.’

Fidra is owned by the Royal Society for the Protection of Birds (RSPB), who were supportive of the control measures being taken on Craigleith and content that similar work should also proceed on Fidra.

## THE ‘SOS PUFFIN’ PROJECT

Under the auspices of the SSC, the ‘SOS Puffin’ project was launched in early 2007 to control tree mallow on the islands of Craigleith and Fidra and restore the puffin population. Substantial funds were raised by the SSC, thanks to the generous support of Viridor Credits (landfill tax money), SNH and other bodies, to help pay for equipment, transport and training costs. From February 2007 volunteer work-parties have been organised whenever the weather allowed, mainly at weekends but also during the week. They have been led mainly by the author

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(occasionally by experienced volunteers) and go out all year round except during the breeding season (mid-April to July), when the risk of disturbance to nesting birds would be too great. Volunteers are taken out from North Berwick to one of the islands and spend about four hours cutting the tree mallow with loppers and shears. A further hour or more will be spent having lunch and looking at the island, so a typical trip lasts about six hours allowing for the time taken getting to and from the island.

Landing on Craigleith can be challenging as there is no jetty and the boat has to come up against the rocks to allow volunteers to scramble ashore. This manoeuvre can only be done safely in calm conditions and a number of trips have to be cancelled because of the wind or the swell. Landing on Fidra is easier as there is a small jetty, but this is difficult to approach at low tides and is exposed to the north and east so is often not useable. As part of the project, the SSC purchased a large inflatable boat in 2008 which can carry 12 passengers and this has made landings easier (fig 5). However, getting people safely to and from the islands is still the main limiting factor in winning the campaign against the tree mallow.



*Figure 5: ‘SOS Puffin’ volunteers arriving at the island of Fidra.  
(Photo. John Hunt)*



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The number of work-parties visiting Craigleith and Fidra each month in the period from 2007 to April 2010 with the number of man/woman days in brackets are given in the table below. On average, each working day is about 4 hours actual work.

Year	Jan	Feb	Mar	Apr	Aug	Sep	Oct	Nov	Dec	TOTAL
2007	0	1(12)	2(17)	3(57)	2(19)	3(28)	5(50)	1(7)	3(24)	20(214)
2008	1(10)	5(59)	1(8)	3(24)	11(103)	5(47)	6(62)	2(18)	1(21)	35(352)
2009	2(14)	2(18)	8(74)	8(102)	10(125)	9(94)	5(45)	3(26)	3(28)	50(526)
2010	0	2(20)	9(100)	5(78)						16(198)

About 75% of visits have been made to Craigleith where the tree mallow problem is greatest, with the remainder going to Fidra though weather conditions may dictate which island is accessible on any particular day. As can be seen, the number in each work party averages nearly 11 volunteers, and the number of work-parties has steadily increased each year, though it is probably nearing a limit.

A remarkable feature of the project has been that all the organisation and practical work is being done by volunteers. Impressive numbers of people have come forward offering their help. The names of nearly 500 volunteers (as at May 2010) are held on a data base who are regularly contacted by e-mail with invitations to attend work-parties and kept informed with periodic progress reports. Some volunteers only come once or twice, but a lot help regularly while a few have been on more than 30 work-parties. They are of all ages, from 12 to over 80, and they clearly enjoy the experience of working in an attractive and interesting environment with the satisfaction of seeing the progress they have made. In addition to the regular volunteers, who come as individuals or family parties, a number of organised groups have also helped, from organisations such as the Edinburgh Green Team, universities (see fig 8) and corporate groups from the business world which is increasingly willing for staff to participate in worthwhile environmental projects.

Education is seen as an important aspect of the whole project, and the involvement of young people is particularly encouraged. Parties of scouts, guides and air cadets have all been out helping at various times as well as groups organised by the Cyrenians (fig 6). A number of school parties have been taken to Fidra (which is easier to land on) as part of a wider educational visit to the SSC. They learn something about the history of the island and the wildlife, as well as having a go at cutting down tree mallow which they really enjoy.

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*Figure 6: ‘SOS Puffin’ volunteers pose for the camera on the island of Craigleith.  
(Photo. John Hunt)*

To date, well over 600 individuals have been on work-parties. As the project has developed and grown, the social benefits of involving so many volunteers have become to seem almost as important as the conservation work being carried out. Helping on a work-party can raise the self-esteem of volunteers, expand their knowledge and interests, improve their skills and CV, help them to make new friends, as well as being enjoyable and satisfying.

## **THE PRACTICALITIES OF TREE MALLOW CONTROL**

Most tree mallow is controlled by hand cutting, using loppers for the bigger plants and shears for the smaller (fig 7). All but the very largest tree mallow plants are easily cut down and, provided the stem is cut close to the ground, the plant is killed and regrowth rarely happens. However, once the canopy of tree mallow is opened up, seedlings then emerge from the soil and there is a continuing need to cut these down. It is not yet known how long the seedbank will last, but complete exhaustion is likely to take a number of years. However, by preventing

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*Figure 7: A volunteer in the tree mallow jungle.  
(Photo. John Hunt)*

seedlings from maturing and setting seed, no further contribution is made to the seedbank and the number of emerging seedlings should decline over time. To completely eradicate tree mallow from either island is unlikely to be achieved, as disproportionate effort is needed to remove the last few plants. Also, there are places on cliffs which are difficult for human access and where plants will escape cutting.

Very small seedlings can be pulled up taking care not to disturb the soil but larger plants should not be uprooted as that encourages seed to germinate. Damage to other plant species should be minimised, as they (particularly grasses) are essential for soil stabilisation and future suppression of tree mallow seedlings. The larger cuttings are piled up in designated heaps, taking care not to cover old or existing puffin burrows. The heaps quickly rot down and this has proved to be an effective way of disposing of the cuttings. Some volunteers have been trained in the use of brushcutters which, when fitted with metal blades, are quick and effective at cutting medium-sized seedlings on reasonably level ground. Brushcutters struggle with the larger plants and cannot be used on steep or rocky ground.

The use of grazing animals to assist in mallow control was considered by the CMG but rejected as being either impractical or too risky. This view applied to rabbits which, though they had been present on the island in the past, are not

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native and can have damaging impacts on soils and vegetation. However, an unknown person or persons released rabbits onto the island during 2008 and a small population is now established. Whether they will have a significant effect on the tree mallow has yet to be seen.

## ECOLOGICAL MONITORING

Monitoring is important to any conservation project to identify whether the objectives are being achieved and to guide future management decisions. On Craigleith, a programme of ecological monitoring was set up at the start of the project and is reviewed annually. It is largely carried out by René van der Wal, from Aberdeen University, and attempts to establish, amongst other things, whether, following tree mallow control, puffin numbers increase and the maritime cliff and slope vegetation expands. While most of the monitoring work is carried out on Craigleith, the results are also helpful in guiding the programme of control work on Fidra. The monitoring work consists of the following:

**Monitoring breeding puffins:** A series of 16 plots, each 5m x 5m, was set up in 2006 in which the number of puffin burrows and occupancy rate is recorded each year. Occupancy rate is assessed over a two-day period through placing out small wooden sticks in the burrow entrances, whereby the number of disrupted sticks indicate use of the burrow.

**Monitoring the development of the vegetation:** The extent of ground cover by different plants is measured in the same 16 plots used for monitoring puffins to determine whether vascular plants, particularly perennial grasses, will regain dominance after cutting takes place. Plant cover of all species present is estimated by eye once a year in early July. Additional monitoring of vegetation in random locations across the island will also be carried out from 2010 onwards to investigate how representative the permanent plots are of the whole island.

**Erosion recording:** Erosion markers were placed along transects running north to south in 2006 to detect under which conditions erosion occurs. Recordings take place in June each year. Particular attention is also now paid to the digging activities of rabbits. To date, relatively little erosion has been recorded.

**Seed longevity determination:** Sets of small netlon bags filled with tree mallow seeds were placed in the ground on Craigleith in 2006 to determine how long tree mallow seeds remain viable. Some of these are taken from the field every September and germination tests run in the laboratory. This indicates what



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proportion of seed remains viable and thus helps to give an estimate of how long tree mallow is likely to germinate from the seed bank in the soil. From 2010 onwards soil samples will also be taken each year to provide an estimate of the size of the seed bank.

**Seabird counts by the Forth Seabird Group:** For many years volunteers from the Forth Seabird Group have visited the islands in the Forth to count nesting birds, though not all species are counted each year. This provides valuable data about the numbers and trends of breeding birds which have been used in this paper.

### WHAT HAS BEEN ACHIEVED?

The first and obvious priority for the project was to cut down the mature tree mallow which covered almost all of Craigleith and over 40% of Fidra. It took just over two years to effectively complete that task, but by the time worked stopped for the breeding season in April 2009 both islands were clear of mature tree mallow except for some small areas of steep ground and cliff. That spring was the first for many years when the returning puffins were able to access their burrows without interference from tree mallow.



*Figure 8: Students from Edinburgh University working on Craigleith in February.  
(Photo. John Hunt)*

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It became apparent during 2007 that the first cut of mature tree mallow was a relatively straightforward (albeit large) undertaking and that the real challenge was to deal with the seedlings which came up rapidly and densely following the initial clearance. These seedlings include those missed in the first cut but mainly arise from newly-germinated seed which can grow very quickly (eg, up to 2 m) during the first season. Growth remains vigorous through to the autumn and continues at a low level through the winter except during cold spells. After this second generation of seedlings is cut, further and subsequent generations appear, and in some areas these continue to be equally vigorous and dense.

Once the mature mallow is cleared from an area, this then needs to be ‘maintained’ - that means cutting the new seedlings at least once a year with the aim of ensuring the mallow is not too long for nesting puffins and that it never flowers and sets seed. Monitoring is showing that in areas which have been repeatedly cut, other vegetation is returning and helping to suppress the tree mallow. This includes grasses such as red fescue, *Festuca rubra*, Yorkshire fog, *Holcus lanatus*, and Italian rye-grass, *Lolium multiflora* as well as plants such as hemp nettle, *Galeopsis tetrahit*, charlock, *Sinapsis arvensis*, and common nettle, *Urtica dioica*. From 2008 onwards an increasing proportion of the control effort went into cutting seedlings. As the mature mallow cover was reduced, the task of carrying out these ‘maintenance’ cuts increased. Since August 2009 almost all the work involves dealing with seedlings which can be anything from 3cm to over 2m high.

Monitoring work suggests that, on average, 70% of seeds in the seedbank remain viable after two years in the ground. While this indicates that there is a natural decline in the seed bank with time, it is too early to know how long it is going to take to deplete this (by cutting and natural wastage) to a sufficiently low level.

Monitoring has also shown that, since tree mallow control started, puffins have been using a significant number of old burrows which were previously smothered in the plant. However, the re-colonisation of the island by puffins is complicated by factors elsewhere. A drop in the numbers of puffins returning in spring 2008 was recorded on the Isle of May (where intensive research on puffins takes place), where only 70% of the breeding birds returned from their wintering grounds that year. This suggested a high mortality of puffins during the winter for reasons which are not known. This decline was reflected in the monitoring of puffins on Craigleith and has probably slowed down their re-colonisation. The numbers recorded returning to the Isle of May in 2009 was similar to 2008, so hopefully that particular decline has halted.



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Full puffin burrow counts were carried out on Craigleith and Fidra by volunteers in May 2009 using the standard methodology described earlier. A total of around 4,500 apparently occupied burrows (aobs) was recorded on Craigleith and 800 on Fidra. These counts were repeated in May 2010 giving figures of 4,800 aobs (6% increase) on Craigleith and 1,150 aobs (44% increase) on Fidra.

The numbers of common eider on Craigleith has increased considerably since tree mallow control began. Numbers nesting in 2006 and 2007 appeared to be relatively small though no nest count was feasible because of the tree mallow. In 2008, when over half the mature mallow had been cleared, a minimum of 120 eider nests were counted, and in 2009, when almost all the island was clear of mature mallow, the figure was 204 nests. In 2010, 213 eider nests were counted. It is possible that other factors played a part, but it does appear that eiders have responded positively to the removal of tree mallow with numbers now back at levels not seen since the 1980s. It is interesting that eiders often nest in or on the edge of the piles of tree mallow cuttings which appear to provide shelter for them. 117 eider nests were counted on Fidra in May 2010.

## DISCUSSION AND CONCLUSION

The project has been running for three years and 121 work-parties have visited the two islands. It is a good time to take stock of what has been done and what may lie ahead.

When the project started it was recognised that not only would it be a major undertaking but also a long-term experiment with an uncertain outcome. There was no relevant previous experience of controlling tree mallow, but other habitat restoration projects in the UK involving control of invasive species such as *Rhododendron ponticum* and Japanese knotweed, *Polygonum cuspidatum* do not have a good track record. All too often it has not been possible to sustain the control effort for long enough to achieve success, and when money and/or enthusiasm has run out the problem species has returned.

Thanks to the original funding from Viridor Credits, there is sufficient funding to enable the project costs to be met for several more years. Whether the support from the volunteers can also be sustained at current levels has yet to be seen but the commitment shown to date has been most encouraging. The management plan for Craigleith envisages that another four years of control effort will be needed before tree mallow can be kept under control with comparatively little management input. Only experience will show whether that prediction is correct. If it is, then the tree mallow on Fidra should similarly be under control by then.

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Work on the two islands is now directed primarily at achieving the following three objectives:

- To ensure that as little tree mallow as possible is allowed to flower and produce more seed. This means cutting all seedlings at least once a year;
- To ensure that when the puffins return in spring their potential nesting areas are in a condition where the tree mallow will not prevent them nesting successfully. This means having all the mallow cut short by mid-April;
- Bringing tree mallow under eventual control (eg, reducing the amount of seedlings which keep coming up so that the control effort required declines to a relatively low level). This means exhausting or suppressing the seed bank in the soil.

The first two objectives were achieved in 2009 and 2010. Provided the volunteers continue to support the work-parties as enthusiastically as they have done to date, it should be possible to maintain that for some time to come. However, the third objective is more problematic. Exhausting the seed bank is essential if tree mallow is to be brought under long-term control but it is not yet known how long that is going to take. As from 2010 additional monitoring will be carried out to provide better information on progress with depleting the seed bank.

The unauthorised re-introduction of rabbits to Craigleith in 2008 adds another factor into the equation. If rabbits survive, they may or may not prove helpful in controlling tree mallow, while they could create additional problems such as soil erosion. Experience on the Isle of May suggests that there is little likelihood that they will compete directly with the puffins for burrows or in other ways. Rabbit impacts will continue to be monitored.

The last three years have shown that it is possible to carry out a large conservation project using volunteers even on islands where access is difficult. The fact that the work takes place in attractive and interesting locations for the benefit of a highly popular species such as puffin has undoubtedly helped to attract and retain volunteers. It would have been impossibly costly to employ contractors to do this work anyway, but the use of volunteers has brought social and other benefits to those involved.

The main reason for starting the project was a desire to help the puffin population. The count in 2009 of 4,500 apparently occupied burrows on Craigleith was the first one carried out using the approved methodology in conditions unaffected by tree mallow. Comparisons with earlier counts are therefore suspect, though it is clear that the population was much higher a few years earlier. The count of 800 apparently occupied burrows on Fidra in 2009 was a significant decline on

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the only previous reliable count of 1,466 in 2003, and is clearly also attributable to the spread of tree mallow. It is encouraging that the counts in 2010 gave 4,800 aobs on Craigleith (6% increase) and 1,150 aobs on Fidra (44% increase). It is intended to repeat these counts as often as possible in future. Suitable conditions have now been created on both islands for puffin numbers to recover, and these counts provide a good baseline figure against which to assess future changes. Whether the puffin populations recover in the years to come will largely depend on what happens in their marine environment where puffins spend most of their lives.

In conclusion, it can be said that a good start has been made to the project, but that it will be necessary to continue with control measures for several more years before tree mallow can be regarded as being under control.

### ACKNOWLEDGEMENTS

The information in this paper originates from the work of many people, particularly that of René van der Wal, of Aberdeen University. The author would like to thank Maggie Sheddan who, as a volunteer with the SSC, did more than anyone to arouse concern about the problem of tree mallow and the need for action. She has also helped to organise and lead the work-parties. It has been a great pleasure to work with the 600+ volunteers who have helped on the islands – their commitment has been an inspiration. It is not possible to mention more than a very few of these but the following have contributed a huge amount of time and hard work: Howard Andrew, Bill Bruce, James Leyden, Nikki MacLeod, David Ross and Margaret Wight.

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Finally, a big ‘thank you’ to the boatmen who have taken everyone safely to and from the islands: Colin Aston, Dougie Ferguson, Neil Sturrock and Tim Wilson.

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## ANNUAL REPORT 2008

The eighty-third annual meeting of the society was held in Prestonkirk Stables on Saturday 26 May 2007. Nineteen members were welcomed by the president. The minutes of the previous year's meeting were approved, as was the treasurer's report. The president thanked Mr Frank Mayo for his work on behalf of the society, and also Mr John Sparksman, who had taken over from Mr Len Chalke, whose death had been reported at the previous AGM. It was noted that there had been exceptional expenditure because the society had funded the publication of Volume 4 of the *Fourth Statistical Account of East Lothian*.

The accounts were approved on the proposal of Vicki Fletcher, seconded by Bill Dodd. The annual report was also accepted. The president reported that the annual dinner had been held in the Maitlandfield Hotel, and that Herbert Coutts, a member of the society, had given a fascinating illustrated talk on some of the exhibitions he had mounted during his period as Director of Culture for Edinburgh City Council.

The office bearers were re-elected, with the exception of Mrs Gristwood, who had indicated that she wished to stand down. The post of press officer remained vacant. Mrs Gristwood was thanked for the work she had done in the year she held the post. Mrs Gristwood and Mrs Crow resigned as members of council. Mrs Kemball was due to retire but was eligible for re-election and was re-elected. Mr Affleck and Mr Dodd were elected as members of council.

Members agreed the following amendment to the constitution: a change to Clause 8 to delete the words 'and an advertisement shall also appear in the local newspaper or newspapers'.

It was also announced that as East Linton Local History Society was being wound up, the society would take over their remaining funds and the remaining stock of *By the Linn Rocks*. Tea was provided, after which Garry Menzies conducted a tour of Prestonkirk graveyard.

## ANNUAL PROGRAMME

On 22 June members visited Innerwick. They assembled in the church where the president gave an outline of its history. This was followed by a tour of the village in heavy rain. Mrs A Younger showed her house and garden, and Mrs E MacGregor entertained members to tea in the village hall, where part of the Innerwick millennium exhibition was on display.

## ANNUAL REPORT 2008

On 14 July a visit was made by coach to Monteviot, the home of the Marquess of Lothian (Michael Ancram). The visit to the fine house and garden was greatly enjoyed.

On 25 August members visited Broxmouth by kind invitation of Mr & Mrs Simon Flame. The president outlined the history of the mansion, and Simon Flame outlined his proposals for the estate. Members were entertained to tea, and then had a comprehensive tour of the house and policies.

On 8 September members visited the Life Science Trust establishment at Pishwanton. The director, Dr Margaret Colquhoun, talked about the trust and led a tour of the areas showing their work.

On 13 October members visited the Kirk of the Canongate where the Rev. Neil Gardner, a member of the society, welcomed them and gave them an outline of the church and of his ministry there. David Affleck gave a brief organ recital so that members could get some idea of the potential of that fine instrument. Members were entertained to tea and then visited the churchyard.

Three lectures were given in the course of the season. On 21 September, as a prelude to East Linton Apple Day, David Affleck gave a lecture in Prestonkirk Parish Church on Sir George Buchan-Hepburn of Smeaton and the development of horticulture in East Lothian. On 8 November John Hunt gave an illustrated lecture in the Scottish Seabird Centre, North Berwick, on the history and recent development of the Centre. The attendance was affected by the North Sea surge that evening but it was much enjoyed by those who had braved the elements. On 7 February Dr Brian Moffat gave a further lecture on Soutra entitled 'More medicine from the mud!', which gave a fascinating insight into hunger-repelling properties of the tubers of bitter vetch (*Lathyrus Linifolius*).

The annual dinner was held in the Maitlandfield Hotel, Haddington, on Friday 18 April, when Mr Ralph Moffat, who has since taken up a position as curator at the Kelvingrove Museum and Art Gallery, Glasgow, gave an illustrated talk entitled 'A hard harness man – the armour of George Dunbar, 9th Earl of Dunbar and March'.

## OTHER MATTERS

Volume XXVII of the *Transactions* is complete and will be issued shortly. The president represents the society as a trustee of the Lamp of Lothian. The president also represents the society on the Traprain Law Advisory group and the

## ANNUAL REPORT 2008

John Muir Park Advisory Group, both of which he chairs. Mr John Hunt represents the society on the Aberlady Bay Advisory Group. The secretary represents the society on the East Lothian Heritage Forum.

The society continues to support the work of the Scottish Local History Forum and the Architectural Heritage Society of Scotland. Volume 6 of the *Fourth Statistical Account of East Lothian* will be published in May.

The society is vigilant in the face of threats to our heritage of buildings and landscape. Membership of the society is steady, and an encouraging number of new members have joined in the course of the year. The *Transactions* are held in high regard. They are lodged in the copyright libraries and are purchased by academic and other libraries. They are also issued free to Queen Margaret University, to all secondary schools in East Lothian, and to Loretto School and Belhaven Hill School. Information about the society has been put on the web and in a number of international directories. Enquiries about the society and about East Lothian continue to be received.



## ANNUAL REPORT 2009

The eighty-fourth annual meeting of the society was held in Humbie Parish Church on Saturday 17 May 2008, by kind invitation of the minister, Rev Malcolm Lyon, and the kirk session. Thirty two members were welcomed by the president. There were several apologies. The minutes of the previous year's meeting were approved, as was the treasurer's report for the year. The president thanked Mr Frank Mayo for his work on behalf of the society, and also Mr John Sparksman, the external examiner.

The annual report, which had been circulated previously, was accepted. The president reported on East Linton Local History Society, which had been wound up and which had nominated the Society to receive its residual funds and copies of the publication *By the Linn Rocks*. He said that the society had promoted events in East Linton from time to time. He drew attention to the Rennie Memorial, which needed some maintenance. He reported on the programme for the previous year, and in particular the annual dinner, which had been held in the Maitlandfield Hotel, in Haddington, on Friday 18 April when Mr Ralph Moffat, who has since taken up a post as curator at the Kelvingrove Museum, gave an illustrated talk entitled 'A hard harnest man': an account of the armour of George Dunbar, 9<sup>th</sup> Earl of Dunbar and March. The president also reported that volume 27 of the *Transactions* was in the hands of the printer and would be issued in June, and that volume 6 of the *Fourth Statistical Account* would be published at the end of the month.

The office bearers were re-elected, with the exception that the office of press officer remained vacant. Mr Ian Hardie and Mr Norman Murphy were due to retire from Council but were both eligible for re-election and were re-elected. At the conclusion of the business, the president gave an outline of the history of the church. Members were able to perambulate in the graveyard, after which tea was provided in the coach house by the ladies of the Guild.

## ANNUAL PROGRAMME

On 31 May members went on an excursion to the Farne Islands, led by Mr John Hunt, an outing memorable both for its ornithological and historic interests.

On 19 July a visit was made to Fountainhall, a fine seventeenth-century house and garden, by kind invitation of Mr & Mrs R Cowe, which was much enjoyed.

On 9 August an expedition was made to Floors Castle, Kelso, the home of the Duke of Roxburghe. After a brief introduction, a tour was made of the stately home and members were able to enjoy the pleasure grounds and visit the market garden.

## ANNUAL REPORT 2009

On 13 September members made an excursion to the Kelvingrove Museum and Art Gallery, Glasgow. They were met by Mr Ralph Moffat, who arranged lunch and talked about the superb armour. Members were able to view other features of the galleries as they chose.

On 12 October members visited Eskmills, in Musselburgh, and saw the impressive work of restoration which had been carried out by Malcolm Gillies.

Two lectures were given in the course of the season. On 13 November David Berry was to have given a lecture on 'Lighthouses of the Forth'. Unfortunately, he was in the USA, and the president, at short notice, gave a lecture on John Hamilton, 2nd Lord Belhaven. On 5 February Sheila Millar gave a lecture on 'Change on the land in East Lothian in the First World War'.

The annual dinner was held in the Maitlandfield Hotel, Haddington, on 24 April. Fifty members attended. Dr Fraser Hunter gave an illustrated talk 'Life and Death in Roman East Lothian' to a most appreciative audience.

### OTHER MATTERS

Volume XXVIII of the *Transactions* is in preparation. The president represents the society as a trustee of the Lamp of Lothian. The president also represents the society on the John Muir Park Advisory Group, which he chairs. A new Laws Advisory Group has been set up to advise on Traprain Law and North Berwick Law; the president represents the society on this new body. Mr John Hunt represents the society on the Aberlady Bay Advisory Group. The secretary represents the society on the East Lothian Heritage Forum.

The society continues to support the work of the Scottish Local History Forum and the Architectural Heritage Society of Scotland. Volume 7 of the *Fourth Statistical Account of East Lothian* will be published in September. Entitled 'Growing Up in East Lothian', this is the final volume of the series.

The society is vigilant in the face of threats to our heritage of buildings and landscape. Membership of the society is steady, and an encouraging number of new members have joined in the course of the year. The *Transactions* are held in high regard. They are lodged in the copyright libraries and are purchased by academic and other libraries. They are also issued free to Queen Margaret University, to all secondary schools in East Lothian, and to Loretto School and Belhaven Hill School. Information about the society has been put on the web and in a number of international directories. Enquiries about the society and about East Lothian continue to be received.

## MEMBERSHIP LIST

### INSTITUTIONAL MEMBERS OF THE SOCIETY

- Ashmolean Library, Oxford
- Berwickshire Naturalists' Society
- Bodleian Library, University of Oxford
- British Museum  
(Department of Natural History)
- City of Edinburgh Council (Central Library)
- Dunbar & District History Society
- Institute of Historical Research,  
University of London
- London Library
- Mitchell Library, Glasgow
- National Archives of Scotland
- Newberry Library, U S A
- Queen Margaret University
- Queen Mother Library, University of  
Aberdeen
- Royal Commission on the Ancient and  
Historical Monuments of Scotland
- School of Scottish Studies,  
University of Edinburgh
- Scottish Genealogy Society
- Scottish Local History Forum
- Society of Antiquaries of Scotland
- Signet Library, Edinburgh
- University of Cambridge
- University of St Andrews
- Yorkshire Archaeological Society

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