Donations/Bequests

Mills and Millers of Ireland is a voluntary organisation with charitable status. The Society is dedicated to assisting in the preservation of that part of our ancient industrial heritage– MILLS and to saving these picturesque buildings and associated features from destruction. To help us achieve these aims, we need your help and support. Membership of the Society is one way of ensuring that our objectives are furthered and kept to the fore. You can if you desire, further support the Society by making a bequest in your legacy. A bequest may be a gift of a specified amount of money, a gift of a specified item, a share in your property or perhaps the legacy of a mill or mill site. These matters can be added to your will in a codicil and your Solicitor will advise. If you have any further queries in this matter, please contact us where your issues and concerns will be addressed in confidence. Your interest, membership and contribution is greatly appreciated and without this expression of support, the Society would cease to function. Our Hon. Treasurer and Membership Secretary is Ms. Stephanie Bourke, Skerries Mills, Skerries, Co. Dublin.

Cut along dotted line

Application form for membership

Name _____

Address _____

_____

_____

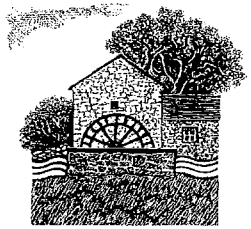
_____

Telephone _____

Cheques/Postal Orders made payable to M.M.O.I. and forward to
Stephanie Bourke, Skerries Mills, Skerries, County Dublin

Charitable Tax No. Chy 14707

Mills & Millers of Ireland



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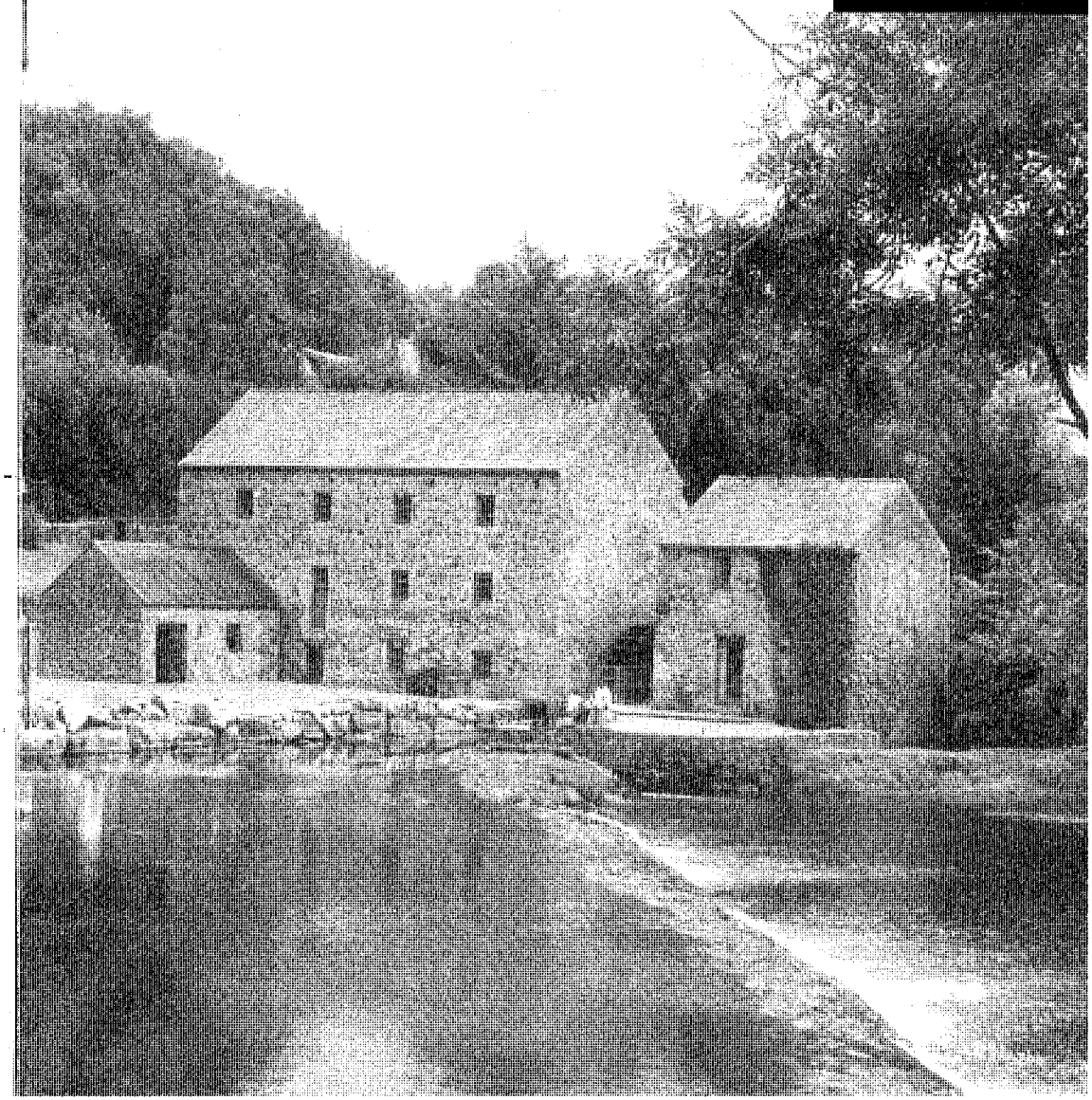
The Society for the Preservation of Traditional and Ancient Irish Mills

October 2002



This new Society was launched in October 2001 to encourage and assist in the preservation of Ireland's old and ancient industrial buildings– MILLS. There are some hundreds of these spread across the nation and while many are beautifully refurbished or put to good use, there are many which could be restored or renovated. The Society aims to encourage and assist in restoration projects and to increase the interest of mill folk and others in this aspect of Ireland's Industrial Heritage.

All editorial enquiries, articles for publication, books for review, photographs, correspondence, etc. should be addressed to the Society's Honorary Editor– John Lynch, Mentrim Mill, Drumconrath, County Meath. Telephone 041 6854426.

Note to contributors: Manuscripts submitted for consideration by the Editor must be the original work of the author. Where photographs are included, which are not the property of the contributor, then permission to reproduce same must have been obtained from the owner of the copyright.

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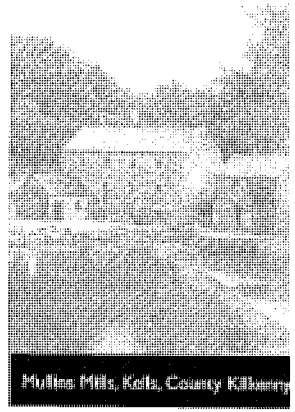

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Editorial

As we go to print in this our second newsletter, our thoughts turn to the Society's forthcoming first AGM. It has indeed been a very busy year for the inaugural committee– nine committee and numerous sub-committee meetings, two outings, the issue of two newsletters, coupled with normal Society correspondence. On the Committee's behalf, I thank you all for your words of encouragement and goodwill that we have received at outings and in correspondence and telephone calls. We are now past the embryo stage in the formation of the Society and it is extremely heartening to see the organisation progressing to its first AGM with a membership of approximately ninety. It is therefore of vital importance that as many members as possible make the effort to attend the AGM. This will ensure that we all have an input into the Society's future running and formation and will allow for your concerns to be heard and addressed. Please note that individuals who are not members are welcome to enrol and pay membership on the day and thus have full voting rights.

Since our last newsletter, the Society had an outing to Mullins Mill, Kells, Co. Kilkenny where the manager Mr. Mat White hosted the event. A capacity attendance listened to two lectures– one by Mr. Norman Campion on 'The rescue of Shackleton's Mill' also known as Annaliffey Mill, Co. Dublin and the second lecture by Dr. Charles Mount of the Heritage Council on 'Heritage Legislation and allied matters'. Following lunch, we visited Killiney Mill (which ceased milling in the early nineties) by kind permission of Mrs. Boland and then proceeded to nearby Bennetsbridge Mill, owned by the Mosse family. Nicholas and William Mosse gave a conducted tour of this exquisite independent flour mill– one of the last remaining in the country. We look forward to similar events being planned for 2003 throughout Ireland.

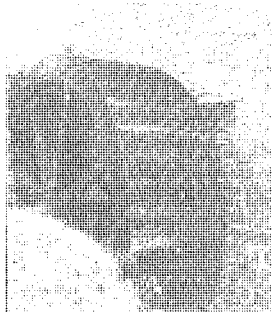
During an interlude at Kells, a discussion raised some interesting matters for further debate and consideration, such as the new EU Directive No. 2000/60/EC on Water Policy and its possible affect on water abstraction

vis a vis water mills– setting up of an archive/library– each County Council asked to restore a mill– access to funding– ESB/Renewable energy and mill sites– historical recording of mill sites– list of mills open to the public. What are your views on these topics of interest?

At our last committee meeting, we were all well aware of the need to raise the profile of the Society nationally as another priority and especially for occasions when we are caught up in matters of legislation, etc. Our future lies with a strong vibrant membership who will ensure that this part of our industrial archaeology is preserved and protected for future generations.

I once again invite our readers to submit an article for publication– a photograph, map, the history of your local mill, etc. Don't worry about grammar, typing or ability to put pen to paper– give the bare facts and we will do the rest. I look forward to meeting as many as possible at our AGM on Saturday, October 19th at 11am in Locke's Distillery, Kilbeggan, Co. Westmeath.

John Lynch
Honorary Editor



Vertical or 'Roman' waterwheels

Donal O'Sullivan

The invention of the 'vertical' or Roman waterwheel is attributed to a Roman engineer named Vitruvius, sometime between 30BC and 10BC. This is the same principle of waterwheel which is still with us– 2000 years later. Its invention or successful construction would not have been possible without the engineering know how of gear operation. It indicates the ingenuity of the Romans at that early period.

This type of waterwheel spread slowly northwards across Europe and reached England by the end of the 8th century A.D. Its arrival in Ireland cannot be established with any degree of certainty but it is believed to have been here before the 12th century A.D. The first waterwheels of the type consisted of a wheel standing in a vertical position with a substantial axle and fitted with paddles made from simple flat boards on its outer extremity. Water was directed at the paddles through a narrow channel from a river or stream and the impact of the water on the paddles caused the wheel to revolve. Thus the greater the force of water against the paddles, the greater the power generated.

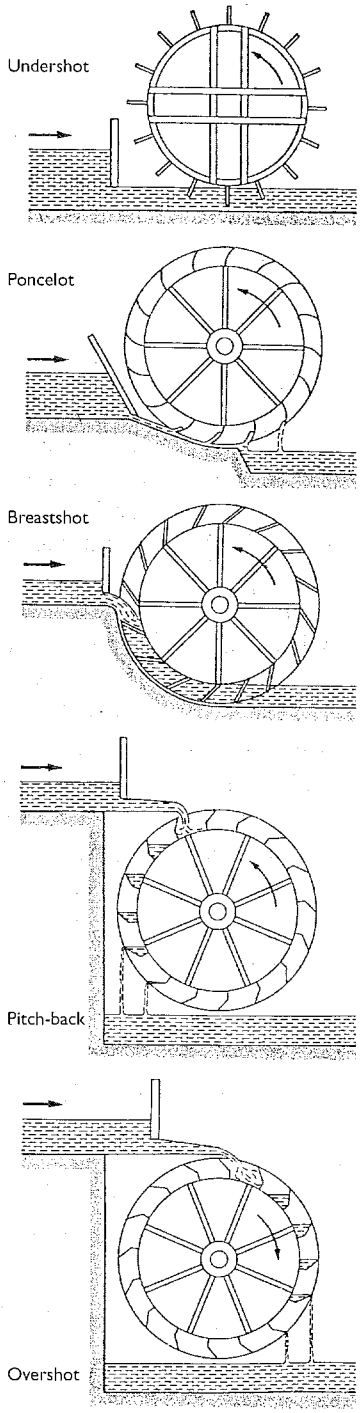
The vertical waterwheel required much more ingenuity than the 'Horizontal' type of wheel. The latter was fixed direct to the revolving millstone and drove it directly, whereas the vertical wheel which powered a horizontal shaft had to be converted to a vertical power source to drive the millstones within the building. This was accomplished through the use of gears fashioned from specially selected woods. The gearing mechanism had the added advantage that through proper utilisation of the gear ratios, the millstone could be rotated a number of times for one complete revolution of the wheel. As time went on and with the further development of the vertical waterwheel, the speed ratio of the wheel to the millstones became even more relative.

The efficiency level of the simple paddle wheel was very low– in the region of 15%. This was mainly due to the fact that the water only came in contact with a very small section of the wheel. Where dams or millponds were not provided to give a steady flow of water to the paddles, the performance of the wheel became erratic.

The output of the vertical waterwheel increased considerably when the paddles on the wheel were boxed in to form 'V' shaped buckets on the wheel. A sluice gate released water from the dam into the buckets at the axle level of the wheel or slightly above it. The buckets filled with water on the downward journey and emptied when reaching the lowest part of the revolution. It was thus the weight of the water on the wheel rather than the force of the water which caused the wheel to revolve. This type of waterwheel was known as the 'breast wheel' or the 'high breast wheel'. The efficiency rating of this wheel was up to 50%.

The next development took place when the level of the water source was raised still higher– almost to the top of the wheel itself. This resulted in almost half of the buckets on the wheel being full of water at any one time and efficiency increased considerably. This wheel became known as the 'pitch back' wheel. With this development, wheel axles were made from tree trunks up to 24 inches in diameter and were essential to take the huge weight and strain of the wheel.

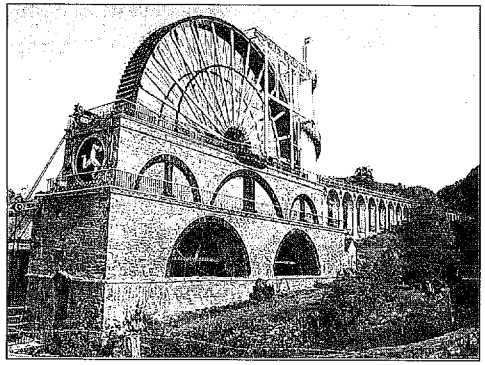
During the last quarter of the 18th century, Mr. John Smeaton (1724–1792) a British engineer invented the cast iron axle shaft for waterwheels and this was a major breakthrough. He is also credited with the invention of metal buckets for waterwheels to replace the wooden buckets.



Types of waterwheel

The final and most revolutionary development came around the year 1800 when the water source for the wheel was raised still further over the wheel. Through an extension of the sluice, the water from the sluice gate was directed out past the centre point of the wheel where it fell into the wheel buckets. This type of wheel became known as the 'overshot' wheel and had an efficiency rating of over 70%. This wheel differed substantially from its predecessors in that it revolved in the opposite direction– outward with the flow of water, whereas all earlier types had revolved inwards towards the water source. Allied to the construction of this wheel was the fitting of a rim gear. This allowed the wheel to rest freely on two substantial pillars while a main-line shaft from the rim gear drove the milling machinery.

The invention of the rim gear and the finer refinements of the waterwheel were brought about by another British engineer, Mr. William Fairbairn (1789 –1874). He also developed very wide waterwheels and one of his finest examples is on display at the Jameson Heritage Centre at Midleton, Co. Cork. It was supplied to the distillery by Mr. Fairbairn in 1852 and it worked up to 1975.

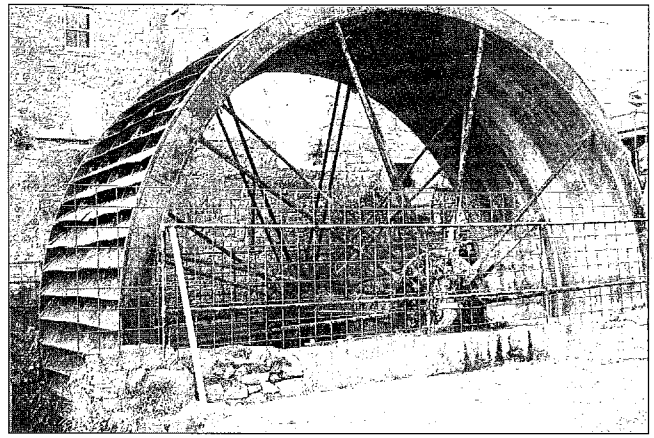


Waterwheel at Laxey, Isle of Man

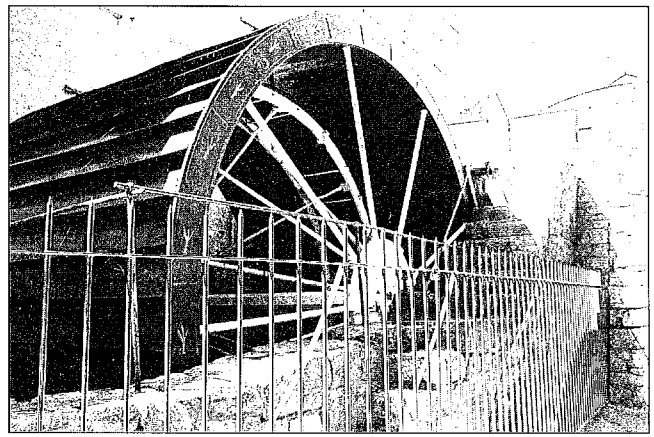
The 'overshot' waterwheels were the ultimate in engineering technology and output. They were normally 20 to 30 feet in diameter and 5 to 7 feet wide. The biggest waterwheel ever built in these islands was located in the Saggart/Tallaght area of Co. Dublin where it powered a paper mill– it was 80 feet in diameter. The largest working waterwheel in the world is situated at Laxey, north of Douglas in the Isle of Man. The following are it's dimensions: diameter 72 feet 6 inches; circumference 228 feet; width 6 feet; horsepower 200 rpm. 2.5; number of buckets 176; weight in excess of 100 tons; axle– hammered iron, 17 feet long and 21 inches thick; work capacity– pumps 200 gallons of water per minute from a depth of 1,800 feet. This wheel must be seen to be appreciated.

One of the finest waterwheels in Ireland is still intact at Bruree Mills in Co. Limerick. It is 32 feet high and 12 feet wide and is a 'pitch back' model. It is fitted with rim gear drive and was constructed by the Vulcan Foundry. Other fine examples of vertical waterwheels are located at Ballyshannon,

Co. Donegal, Macroom, Co. Cork, Croom, Co. Limerick, Kilbeggan, Co. Westmeath, Ennis, Co. Clare and at a number of other locations throughout the country. Regretfully there are far too many other fine waterwheels neglected and gone beyond economical repair. Because of the major contributions which waterwheels made to the economy, trade and commerce of this country during the 19th century and the early part of the 20th century– particularly during two World Wars– they and the buildings to which they are/were attached are our finest examples of industrial archaeology.



Waterwheel at Bruree, County Limerick



Fairbairn Waterwheel at Jamestown Heritage Distillery, Midleton, Co. Cork. Supplied in 1852 and ceased working in 1975

Mills of the King's river valley

The significance of milling in the valley of the King's river and in the Parish of Ennisnag, Stoneyford, Co. Kilkenny in the 17th and 18th centuries

Frances Wallace

'Milling was one of the most extensive industrial activities in the 17th and early 18th centuries' (L.M. Cullen). Nowhere was this more evident than in Kelkenny especially in the valley of the King's river, where on a four mile stretch of the river, between Kells and the joining of the river with the Nore at Norelands, seven mills were powered– four of these mills are situated on the bank of the river as it flows through Ennisnag parish.

The arrival of the Normans brought great vigour to the Irish economy, especially to agriculture. Having secured their supremacy, they looked for suitable land on which to put their advanced methods of agriculture into operation. Their first priority was good tillage land and they found this in abundance in the valleys of the Nore and the Kings rivers. These areas were to remain 'the core of the tillage economy in County Kilkenny up to the present day' (Cullen 1977) and in milling up to the mid 20th century. Today, Boland's mill in Kilkenny is producing wholemeal and flour. There is no modern machinery in the mill, the sole source of power being the water wheel. Almost all the machinery is made of wood and is housed in a separate building attached to the mill. Mullin's mill in Kells is in mint condition– the mill wheel having been re-timbered in 1992. This mill was in use from mid 1700 to 1966.

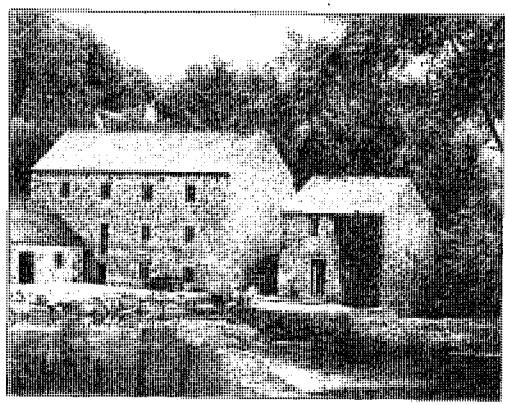
The dominant feature of Co. Kilkenny is its central limestone plain, part of which is drained in this area by the King's river. Indeed, the water power of the Nore, Barrow and King rivers was the power that drove the wheels of the many grain mills around which the economy of the 17th Century evolved (Smyth 1990). L. M. Cullen considers that Kilkenny was the richest agricultural region in Ireland and one of the cradles of Irish flour milling in the 1760s (Cullen 1990).

The flourmills of Ennisnag parish, which were part of the above revolution, were as follows:-

1 Hutchinson's Mill formerly Bradley's, with very little of the structure remaining– the roof and walls having been taken down in the late 1940s, as buildings in the Republic were subject to rates. The floorboards and joists, the drive shafts, gearwheels and mill wheel were sold at auction. The iron for scrap and the timber having been purchased by local farmers lasted for many years on their farms. The weir at this mill is still known as Bradley's and was a favourite for swimming. The last miller at Bradleys was a Mr. Landy of Ennisnag.

2 Rockview Mill this was a fine seven-storied limestone structure. It was well preserved until 1989 when part of the front roof was damaged in a storm. The Griffith Valuation Records show Rockview Mill leased by Robert Pilsworth from Margaret Mc Creery in 1845– the value of the buildings being £113.

The Pilsworth family of Thomastown commenced their milling enterprise in 1845 when Robert leased the above mill and the nearby Merino factory. In 1847, Robert married Ellen, daughter of William Bull, owner of Grennan Mill, Thomastown. William died in 1848 and Robert became owner. He installed his brother Thomas as manager of Grennan Mill and his brother William as manager of Merino Mill. In 1864 Robert took over the management of Grennan Mill which by then had become the more important business, as it was adjacent to the railway in Thomastown. Management of Rockview was given to a relative– Thomas Booth, he was to work the mill for one third of the profits. Robert died in 1870, leaving two sons under 21 years. They were placed under the guardianship of Rev. James Graves, Rector of Ennisnag. By 1876 the two young Pilsworths were suing Booth for mismanagement as Rockview began losing money. Booth was fired and Rockview was closed– the two Pilsworths taking over management of Grennan Mill (Silverman and Gulliver 1986). Later, Rockview Mill and house were owned by Dr. T. O'Brien– the mill being used for storage purposes. In 1986 the King's River Community purchased the house and mill.



Mullin's Mill

3 **Ennisnag Mill** Griffith Valuation Records show this mill (19b on Griffith map) leased by Robert Pilsworth, from Mrs. A. Cormick– valuation of the buildings at £60. This mill would seem to have been used for storage at this time. The mill had been worked in the early 1700s by the Mullin family who later moved to Kells and continued milling there until 1966. Bradley of Ennisnag also worked this mill. Members of both families are buried in Ennisnag graveyard.

4 **Merino Woollen Mills** This mill was leased by Robert Pilsworth from the Briscoe family in the 1850s– one of the conditions being, that £500 be spent on the premises. Robert turned it into a flour mill and it was managed by his brother William until the latter's death in 1870, when it was closed down as a mill, though it continued to be used as a storage depot for Thomastown mills. The mill and eight acres of land remained in Pilsworth hands until 1945, when Rev. Pierce, Rector of Knocktopher, purchased it and set up a milking enterprise there. It is now in the possession of the Harper family, Annamult and is used to house cattle.

Merino Mill was built in 1810 by local landowners M/s Shaw and Nolan, who were determined to provide a progressive woollen mill which would produce first class superfine cloth, together with providing good employment. As soon as work commenced on the building (£40,000 was spent on buildings and machinery), apprentices (boys and girls) were taken on to begin their training under Thomas Shaw Jnr. (who having served his apprenticeship, spent seven years in England learning all aspects of the business). To help him, he had experienced English manufacturers brought over specially for the purpose. Strict discipline was in place at all times– with separate schools for both sexes. Sleeping accommodation was provided for boys and girls and neither was allowed home alone. A spirit of truthfulness, cleanliness, hard dedication to work and school was instilled. No physical punishment was allowed– instead a system of rewards and fines was used. The method of training was successful as the Merino cloth won five first prizes at the Dublin Society Show in 1814. With a grant from the Board of First Fruits, the proprietors had a Protestant Church erected in Ennisnag for their Protectant workforce. The Catholic workers attended Mass in Stoneyford– there was never any religious dissension in the factory. With a workforce of 300/400, it was a great credit to the owners that things ran so smoothly.

To supply the factory with wool, a flock of Merino sheep were imported from Spain (later some of these were exported to Australia to become the origin of the Australian Merino flock today). These sheep were cared for in a very enlightened manner on the farm attached to the mill. Food and milk were also produced for the workforce, together with plants for use in dyeing the cloth and teasels used for brushing the finished product.

In 1819 the RDS held an enquiry into the running of the mill. Numerous witnesses gave evidence as to the excellence of the products and the benefits of the mill, both morally and financially. As a result of this, the RDS passed a resolution to the effect that the Merino mill was a most meritorious institution, highly deserving of public support. Numerous other written testimonials were given about the mill (report on the Fine wooled Flock (Merino) by Rev. Thomas Radcliff). Letters from an English traveller 1817, from a Scottish traveller 1818 and from 'An Irish Tourist', all commented on the good morals, habits, neat appearance, industry, fair wages, good schooling, health care to the workers– indeed, everything about the place met with praise.

The Mill continued to prosper, even supplying cloth for clothes worn by the Prince Regent, later George IV, but in 1822 the firm went bankrupt. No particular reason has been given for its closure, possibly it was a combination of the events that closed many other businesses at this time. Some of these were the abolition of the last of the protective duty on Irish goods to Britain, the worsening economic situation in Ireland with export prices falling and cheaper goods coming in from England, the need, maybe to replace expensive machinery, the local tradition that the mill failed to fulfil an order for mourning cloth on the death of a member of the British Royal Family– whatever the cause, the closure of the mill was a tragedy.

According to Lewis, a Scottish firm started the mill again, but gave up three years later as they were unable to obtain a satisfactory lease. A notice in Finn's Journal (8. 3. 1823) read that the machinery at the Merino, together with 40 acres and the tithes to same were to be set for a term of 3 years by the Lord Treasurer's Remembrancer. The premises remained derelict for almost 30 years until Robert Pilsworth leased them in the 1850s.

Mills were in operation in the area as early as 1191, with the construction of Boland's Mill by the Augustinian Monks at Kells Priory. Around 1600, new floors were added and the whole structure extended to its present size (*O'Meadhra* 1971). As early as 1762–'63, Kilkenny, Meath and Westmeath mills were alone in sending large quantities of flour to Dublin in response to the bounty being granted for carriage. Kilkenny and Meath alone in 1763–64,

same counties again with Limerick added in 1764–'65 and the same counties again with five more added in 1765–'66, with the total quantity of flour rising sharply– this mainly due to quantities being sent from the Kilkenny mills. Indeed, in the first year of the bounty– 1758–'59, Kilkenny was the only county sending oatmeal in any quantity to Dublin. The Return of the Bounties made to Parliament in 1768–'69 stated that 1,569 premiums had been paid to mills and that there are but three of them considerable, viz. Archer's Grove, Warrington and Ennisnag Mills. The Bounty was discontinued in 1796.

The growth of country milling was sustained up to and beyond the mid 1900s but the industry had lost its momentum. With the ending of the subsidy, Kilkenny producers turned to Waterford to take their surplus. Nevertheless, between 1826 and 1835, 34% of the county wheat and 45% of oat sales were made in the city (Dickson 1990). The Ennisnag Mills played a major role in the supply of these items. The area then had a tillage based economy with mills to manufacture the raw material and were generally owned by farmer/merchant class, supplying most of the raw material and catering for local needs and marketing their own product. Mullins Mill, according to account books from 1817, catered for the needs of 225 customers over a wide area from Higginstown to Kilkenny City and from Windgap to Ballylowra. The mill supplied flour, wholemeal flour and bran (to which boiling water was added as an extra ingredient in the diet given to horses), also oatmeal milled from local grain up to 1965. Work in the district was spread between the large tillage farms and the mills, with dairy farms also needing a certain amount of help. Throughout the 1950s, flour milling continued as an industry protected by Government.

In the early 1960s, the economic situation rationalised the industry and as flour consumption declined, so did the use of local mills for grinding, in respect of agricultural and other purposes. Balanced rations as encouraged by the Department of Agriculture for animal feed, together with competition from the larger highly centralised Port Mills close to the sources of imported grain, proved the death knell of the local mill (Silverman and Gulliver 1986).

The Stones

James Tallon

The millwright has to ensure that the heavy millstones stay in position by providing a strong supporting framework to carry their weight. When the stones are positioned, the centre of the runner stone has to coincide exactly with the centre of the stone nut. The stationary bedstone has to be absolutely level and the upper running-stone is very slightly concave. Although the gap between them is paper thin they should never touch– there is a great risk of fire if they do and the surfaces can be badly damaged. The gap between stones which are warmed up while grinding tends to widen, producing unevenly ground flour, therefore this has to be rectified– so everything has to be carefully balanced.

Dressing stones was a full-time specialist occupation in the days when nearly every parish had a mill of some kind. The very heavy runner stone which may weigh almost a ton, is lifted from its position on the stationary bedstone and turned over with very simple aids: rope, pulley blocks and large wooden wedges.

Two types of stones are used for grinding– Derbyshire peak stones are made all in one piece and are used for grinding animal feed. Flour is prepared on French burr stones that are made from several sections of stone cemented together and bound with an iron band. The furrows on the flat surface (lands) dividing them are made with the hardened steel mill bill. To produce a flat stone some four feet in diameter is a difficult task requiring great skill and precision. When the mill bill strikes the stone surface, small particles of steel fly

off as sparks and many of these become embedded in the stone-dresser's hands. There is an old tradition that you can identify an experienced man by looking at his hands and getting him to 'show his steel'.

Mills

Did you know that industrial buildings prior to 1850 were not referred to as factories. Mills were of course common, of every shape and size and they were well spread across the country. Every mill (i.e. factory of the day) was not occupied in the business of grinding.

Old Irish mills were of many varieties:-

Beetling Mill	Spade Mill	Paper Mill
Carding Mill	Bleach Mill	Tuck Mill
Gunpowder Mill	Flax Mill	Corn Mill
Scutch Mill	Mustard Mill	Grist Mill
Bone Mill	Shovel Mill	Spinning Mill
Distillery	Bartley Mill	Etc.
Marble Mill	Flour Mill	

The Miller's Tale

Arthur McDermot

'And the nonne, turning to the miller, asked of him the raison of his desire to make a pilgrimage to a lande so far. "Goode and holy wyfe", sayed he, "hearken to my tale and judge me fayre". Thus, he spake and this is his tale'. Geoffrey Chaucer, *The Canterbury Tales, 1387.*

The Miller's Tale, 1982 version, from Emco Mill, Mutare, Zimbabwe by Arthur Mc Dermot.

In at 8 and note that maize supplies in the shed are running low and no rail wagons yet. Have to draw from the local Grain Marketing Board Depot. Up mill to try to improve meal quality as maize recently received from Concession area is substandard and later harangued with GMB who say that the maize samples are within the prescribed limits of quality. Last of portable sewing machines gives up the ghost and agents say with luck they *might* be able to import within a year.

Inspect sifters which nearly fell to pieces yesterday owing to brutal clamping which sheared a few bolts. Back to GMB arguing about unmillable maize which we refused last October. We claim a credit for seven trucks rejected; they allowed us only six, but we won our point in the end.

Crisis in empty 20 kg bags approaching. Salisbury sent us 10,000 10 kg in error. Typed instructions for shift men about stoppages and proper reporting of causes. Perused four semi literate and midly hilarious applications for "vacants" (about four a week).

Lovemore wants to show me something in the yard. The termites have eaten part of our largest tarpaulin which was wrapped around some of the nine wagons of flour, inexplicably sent by Salisbury a few weeks ago, and which had to be stored in the open for lack of space inside. Diplomatically fend off several customers whose orders are overdue and ruefully discover that we are likely to run out of maize on Saturday. Confrontation again with the local GMB people who say that they cannot uncover stacks of maize because "it looks like raining".

A threat of speedy extinction from higher up changes their minds.

A young man from the tyre re-treaders pops in with the cheerful news that there is no prospect of new tyres within the year, so we go out and have second thoughts about the tyres recently removed from lorries deemed unfit for re-treading. He hopes that he can get enough rubber.

At this juncture, it has been discovered that K. Reed's trailer, with 30 tonnes of the *wrong* flour from Salisbury aboard, is listing rapidly towards the pre-pack shed after one of the props has subsided. A rush for drums and sleepers checks the movement.

Mrs. Santo, our overworked bookkeeper, announces that she will quit if she gets any more nonsense from Accounts in Salisbury. Stephen, stock clerk, reveals that there has been a further loss of 23 bags of meal, bringing the total to date to more than 500 dollars worth in spite of our "watertight" system. The Railways messenger delivers demurrage notes for $1,400 arising out of the nine unwanted wagons of flour, standing for days before being unloaded (following instructions from Salisbury). Which reminds me, I have to get the carpenter to repair two of the gates of Shed N 2 smashed after the men left the doors of one of the wagons open on the siding as the shunter moved in.

After a hurried lunch, I receive an urgent call from Lovemore. The germ sifter elevator band has broken but we keep the mill running while a miniature everest of oily meal piles up during repairs. Several lorries are waiting to be loaded in the yard. I warn the drivers that it may take several hours but they say that they cannot face a hungry mob if they return without meal. One man, in a farm tractor, has driven 116 miles from Chisumbanje. I ask him how long it will take to get back: "ten hours".

I am called to the telephone. The Workmen's Compensation Office have a query about Victor Chigoda who injured himself while loading sacks into an open rail truck from a high platform. In a bizarre but interesting variant on Newtonian laws, Victor left the sack, which he was swinging, behind and threw himself into the wagon.

Then Nicholas Nyamangodo, emergency sifterman on night shift to replace John Bibo down with flu, telephones that he has malaria and cannot come to work. Aaron Jinga, who doesn't know a sifter from a satchel, will have to fill in.

A pleasant discovery. The phones to Inyanga are working again, so I contact a firm acting for the owner of a 30 tonne articulated DAF lorry with 450,000 on the clock but with a fairly new engine selling at $30,000, considered reasonable, as we are paying $10,000 a month hiring clapped-up

wrecks which spend much of their time dodging the police. The man cannot release the vehicle until his new DAF arrives from Salisbury where assembly is held up for lack of essential parts.

Ah well, the end of another day. Mrs. Santo bids a tired "good night"; I pedal home in sweat soaked shirt and take a flu tablet which has a nastier taste than usual. Ruby casually observes that I have downed it from a beaker which contained bleaching liquid. Sorry tum.

EPILOGUE: My assessment of Aaron Jinga's knowledge of sifters was borne out dramatically next morning with the news that he is hors de combat with a very sore head after crawling under the machine and being struck by one of the revolving counterweights. Out come the forms: Accident Report, Workmen's Compensation. . . .

Seatown Place Windmill DUNDALK

Peter Kavanagh

I was delighted to learn recently that the old Windmill at Seatown Place is to be restored to its former glory. It is now nearly 150 years since the old building was used for the purpose for which it was constructed but it has been an important Dundalk landmark since then and was used as an aid to navigation at a time when sailing ships used the nearby port. Indeed, the windmill is one of the first things that Dundalk exiles can recall about the landscape of their home town, even if many of they are not really aware of the purpose for which it was originally used.

This very point was made by George Henry Bassett in his 'Louth County Guide and Directory' (first published in 1886 and re-printed by the Louth Archeological and Historical Society in 1998) when he stated– "The sail-axle protrudes from the dome, but for which visitors not expert in the identification of windmill buildings might fall into the error of regarding the tower as one of the antiquities of Louth". That sail axle has also long since disappeared from the top of the building, which makes identification even more difficult, but I'm told that it and the frames of the sails remained in the yard beside the building for years and, indeed, some parts may still be there.

The entry in Bassett's 'Guide' about the old Windmill is very enlightening– "When windmills were at their zenith of popularity, Dundalk had one of the largest in Ireland. The building still remains in excellent condition. It towers to a height of seven stories and is most conspicuous in the view of the town from the north side of the river". This view has been enhanced in recent years for those approaching from the northern direction along the Inner Relief Road and entering the town over Tain Bridge.

"Thirty years or more have passed" continues the Bassett entry "since the sails were set for milling work. Down to about fifteen years ago the whips and gallery remained. They were removed to prevent the possibility of accident in case of these being carried away in a storm. The lofts are still sound but the machinery is rust eaten. There are five pairs of stones (grinding). Mr Martin, an extensive houseowner in Dundalk, built the windmill and used it for fine flour and oatmeal manufacture, and for the grinding of Indian corn (maize)."

This entry would seem to indicate that the windmill was still in use for milling grain until about 1860 which is borne out by an entry in Paddy Duffy's 'Book of Dundalk', published in 1946, which states– "In 1856 we were boasting of four tanneries, two salt works, two steam corn and flour mills, three soap factories, two rope walks and the largest windmill in Ireland".

The mention of Mr Martin as being the builder of the windmill reminds me that, when the old 'Democrat' building in Earl Street was being sold a couple of years ago, it was stated at the auction that the original owner of that building was a Mr Martin. Could it have been the same man? If it were, this would give us a clue as to when the windmill was built, as it was also mentioned at the auction that the original lease on the Earl Street building dated from the latter part of the eighteenth century, which probably would be about the time of the construction of the windmill at Seatown.

The other uses to which the windmill was put, after it ceased to grind flour, is explained in a further paragraph in the 'Guide'– "Many years ago the property fell under the control of the Court of Chancery pending the disentanglement of legal difficulties. Mr William Tempest received the rent for the Court and Mr Thomas Brown (Messrs. Stephen Brown & Co., millers) has held the mill for storage purposes since 1865. By his permission it has been used as an observatory by the Captain of the Harbour Commissioners' tug boat".

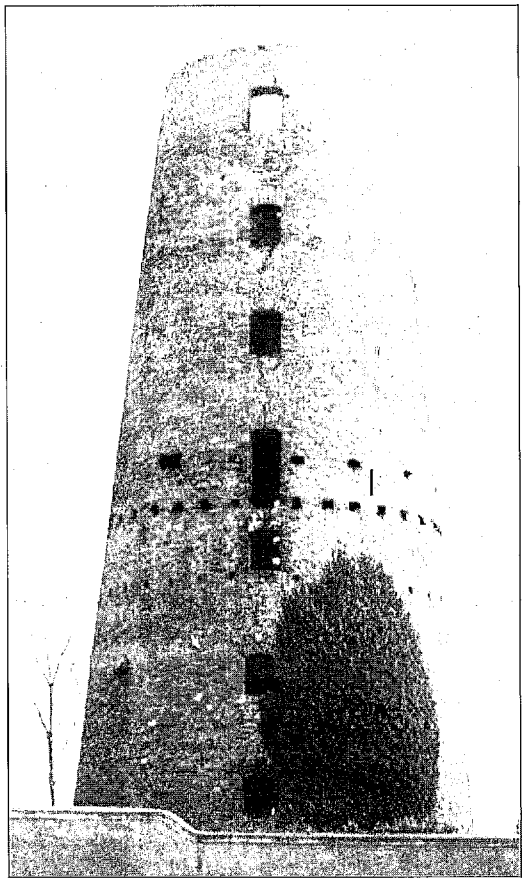
Another windmill

The present St Alphonusus Road used to be called Windmill Road up until about the beginning of the last century. But, in spite of appearances, the windmill after which it was named was not the one located at Seatown. In fact, an old map of Dundalk which I have seen, indicates that there were at least three other windmills, "situated along the coast towards Blackrock".

I am not sure exactly where these windmills were but I am pretty certain that at least one of them stood where the Swimming Pool building is today. There used to be a grassy mound, with some low trees and shrubs on top, in the old railway goods yard where, it seems likely, this old windmill ruin was located until the railway was built down to Barrack Street in the 1840s and there are indications, on old maps, of a path leading over from the bottom of the now demolished railway bridge to this mound.

Early windmills

According to some authorities on the subject, windmills were first erected in Persia in the 7th Century but did not appear in Europe until the 9th Century and it was not until the 12th Century that the first ones were constructed in England. This was about the time the Normans invaded Ireland so it must have been some time later that the first windmills appeared in Ireland. The early windmills must have been fairly crude affairs which had to be turned by hand to face the direction of the wind but by the 18th Century the machinery to operate them had become quite sophisticated, with self-acting control mechanisms which turned them automatically into the wind and also applied a brake when needed. Another development in England was the replacement of canvas sails by pivoted wooden slats that could be altered to suit the strength of the wind. These windmills also had an auxiliary windmill or 'fan-tail' projecting from the side opposite the main sails, not unlike the tail blades on a modern helicopter, which also helped to control the stability of the structure. These windmills usually had from four to six sails and, while I do not know what the Dundalk windmill really looked like, I suspect from an illustration I saw on an old map, that it had five sails and a fan-tail and that there was a wooden gallery about a third of the way up the outside of the structure.



Seatown Place Windmill

Proper restoration will cost a lot of money, a lot more than

was contemplated by a local committee which got together some years ago to try to have this work done but failed for lack of the necessary funds. What is different this time around, and which should ensure its success, is that the project seems to have the full support of the local authorities and they are hopeful that they can obtain sufficient money from cross-border peace and reconciliation funds to carry out the development.

Some people might say that it will be a waste of public money but I do not agree with that point of view as it is bound to be a great tourist attraction which should pay for itself before very long. There are a couple of very attractive re-constructed small windmills at Skerries, which you can see well from a passenger train on the way to or from Dublin. The restored Dundalk windmill should far surpass these in splendour and will be seen for miles around the Town.

Most of the old windmills in Ireland seem to have been constructed in Ireland in the 18th Century, there is another old stump just off the Ardee Road at Haggardstown, but most of them seem to have been located in the old Pale area along the coast between the Wicklow and the Cooley mountains. The strength of the wind along the West and South coasts would probably have been too great to make them a viable proposition in those areas and, in inland areas, the wind might not have been constant enough. Although there were probably some Midland windmills, in those areas the mills were probably more likely to have been driven by water wheels and later by steam engines.

This is what would have made the great Dundalk windmill so important for over one hundred years.

Looking to the future, it is somewhat fitting, that after years of experimenting with large windmills on mountains, the authorities have decided that, for their next development in ecological energy production, they are going to erect a series of wind driven generators built in the sea just off the North county Dublin coastline. You can see this work already started also from the train as it approaches Balbriggan Rail Station. Who knows, maybe the next such project could be located off the County Louth coast?

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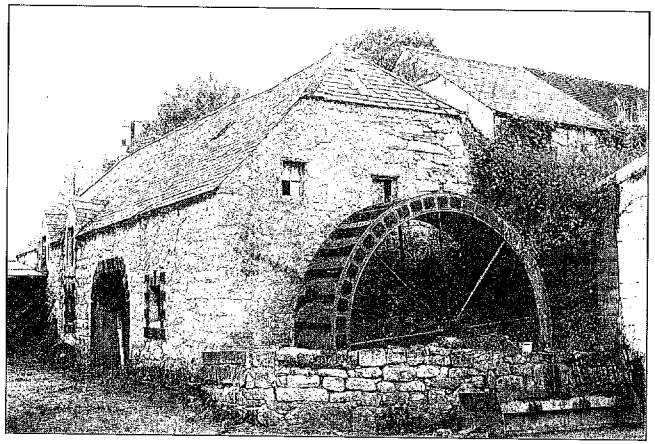
A List of Mills of Ireland which are open to the public

County	Name of Mill	Type	When open
ANTRIM	The Old Mill, Dundonald.	*beetling*	All Year
	Patterson's, Templepatrick	*spade*	Apr/Sept
CORK	Gunpowder Mills, Ballincollig.	*powder*	Apr/Sept Mon/Fri 10-4
	Bealick M.M. Comm		
	Macroom Mills	*corn*	Mon/Sun 10-5
	Glanworth Mills	*woollen*	Guest house
DONEGAL	Newmills, Letterkenny	*corn & flax*	May/Sept
DUBLIN	Skerries Mills	*windmills watermill*	Daily all year
DOWN	Annalong Mill	*corn*	June/Sept
	Ballycoopeland Mill	*windmill*	on request tel 91811491
	Ballyduggan Mill, Downpatrick.	*corn*	Now a hotel
	Castle Ward Mill, Strangford	*corn*	Mon/Sun Apr/Oct
FERMANAGH	Florence Court Mill	*saw*	Apr/Oct
	Mullycovet Mill, Near Enniskillen	*corn*	Apr/Oct
GALWAY	Tuam Little Mill	*corn*	Apr/Oct
KILDARE	Crookstown Mill, Ballytore	*corn*	All year

KERRY	Blennerville, Tralee Bay	*windmill*	Mon/Sun 10-6 Apr/Oct
KILKENNY	Mullin's Mill, Kells	*corn mill*	Mon/Fri 10-5
			Sat/Sun 2-6 Apr/Oct
LIMERICK	Croom Bridge	*the granary*	Mon/Sun 9-6
LOUTH	White River Mill, Dunleer	*corn*	Mon/Fri 10-5 or on request
MAYO	Foxford Mills	*woollen*	Open Daily 10-6
ROSCOMMON	Elphin Windmill	*windmill*	Mon/Sun 10-6
TIPPERARY	Fancroft Millhouse, Kilmeadon.	*cotton*	All year
	Mullinahone Mill	*threshing*	
TYRONE	Grays Mill, Strabane.	*printing press*	Mon/Fri
	Benburb Valley Mill	*cotton*	
	Coalisland Mill	*corn*	All year
	Aghaloo Mill, Dyan.	*flax*	
	Wellbrook Mill, Cookstown.	*beetling*	Mon/Fri 12-6 Apr/Sept
WEXFORD	The Miller's Rest, Castlebridge.	*corn*	now a restaurant
	Craanford Mill, Gorey.	*corn*	Mar/Sept
	Garrylough Mill, Screen	*corn*	All year
WESTMEATH	Lockes Distillery, Kilbeggan	*corn*	Mon/Sun 9-6 All year Pub & Restaurant

European Heritage Week

This was a Europe wide event, which took place during the first week of September. Mills and Millers of Ireland as a Society had one of our stalwart members– William Hogg, deliver a short lecture on the Mills of the River Barrow to an audience in Carlow. The mill depicted in a photograph below is of Kilcloney Woolen Mill, in the Parish of Cloonygoose, Co. Carlow. The Valuation Books of 1850 state that the Miller was James Kealy. Power was provided by an Over-Shot Wheel, Diameter of 13ft, width of bucket 2ft 9in No. of buckets 42 and depth of bucket 10ins. The mill had one pair of stones (Irish) and a single engine for carding. It is recorded as working three months of the year, 12 hours per day. The valuation on the water power was £3.15.00 and buildings £7.9.5. The Valuation Officer, Mr. W Kelly makes the observation that the wool carding business has fallen off perhaps to 1/6th and the mill might be worth £15 per year. Present owners of the complex are Larry and Ellen Kelly.



Woolen Mill at Kilcloney, Co. Carlow on tributary of River Barrow

Obituaries

Sadly, the Society has to report the deaths of two of its members during the year– James Maher of Crookstown Mill, Ballytore, Co. Kildare and Dan Laffan, The Mill House, Greenville, Kilmacon, Co. Kilkenny. James was a stalwart defender of the rights of the miller and the preservation of our heritage. To his wife Anne and family, we extend our sympathies. Dan came from a long line of experienced and well versed millers down the generations. To his wife Catherine and family we also extend our condolences.

Wanted Breastshot water wheel – contact N. Killeen at 04844-811689

Subscription details

Membership type	Subscription
Pensioner/Student	€15
Individual	€25
Associate Membership	€30
Family Membership	€35
Corporate Membership	€125

The Society urgently needs your help and support by way of membership. See application overleaf.