LANCASHIRE POST MILLS: A PRELIMINARY TECHNICAL SUMMARY

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Early windmills have been recorded in Liverpool at Eastham in 1257, as well as in the surrounding villages in the 12th and 13th centuries. These early windmills were probably post mills.

William Yates recorded 95 windmills in his map of Lancashire, which was surveyed between 1775 and 1780 and published in 1786. Although Yates did not distinguish accurately between post and tower mills, it is fairly certain that the majority of them were post mills, and at least 30 of them can be shown to have been post mills from other sources.

It is no longer possible to survey the post mills of Lancashire, as they have all been either blown or burnt down, demolished, or replaced by tower mills in the late 18th or early 19th centuries. The only remains still visible are the sunken post and four quarter bars of Warton mill, which stand next to the former miller's house in Mill Lane.

Photographs of five mills exist; those at Warton, Hambleton, Birkdale, Formby and Wavertree. These five mills were all situated on the western plain of the old county, and were typical of the early timber windmills of the midlands and northwest.

These remains and photographic records make it possible to reconstruct some details of their technical development and history.

Structurally, they consisted of a heavily oak-framed body, cladded with broad elm boards, or the later narrow deal boards shipped from Baltic ports, balanced on a central post or 'peg', supported by a trestle. The later mills were partially supported on a low round house with steeply battered sides.

The most primitive of these five mills was Birkdale, with a narrow body over an open trestle. At Warton, Hambleton and Formby, the trestle was surrounded by a low roundhouse about 1.8 m high. At Wavertree, the trestle was raised about 1.8 m on sandstone piers, to give an extra floor in the the round house and to counter the wind drag of the surrounding trees and houses. The breast of Wavertree was also curved to give the mill less resistance to the wind.

The basic mill body was tall and narrow, generally in the proportion of 2.5:1, with a flat breast and sides. It generally had two floors, with a half floor for bins in the roof. The roof curved over the brake wheel, which required double centered arches at Wavertree, Formby, Birkdale and Hambleton, or slightly ogee shaped gable ends, as at Warton. The gable end at Warton was topped with a finial. The body extended well down over the steeply battered roundhouse, and at Warton the opening was protected by a drip board.

In Lancashire, extra accomodation for auxillary machines such as bolters, which were aquired long after the mill was built, was provided by overhanging aisles or porches. These "panniers", as they have been termed by Rex Wailles (1954) were added to the backs as deep porches or even low on the breast (Birkdale), on one side (Warton), on both sides (Formby, Wavertree and Hambleton), or even at the corners (Hambleton). The side "panniers" gave the mill the very squat appearance which is very characteristic of Lancashire post mills.

The weatherboarding or cladding was fixed horizontally on the sides and the roof. At Warton and Hambleton it was partly of elm boards, which were gradually being replaced by narrow sawn deal boards shipped in from the Baltic. In photographs of Wavertree after its restoration, the sawn boards are particularly noticeable. The openings, apart from the doors, were shuttered hatches, but Warton had one glazed window in the breast. The roofs of Birkdale and Wavertree appear to have been covered with tarred canvas to make them waterproof.

The mill bodies were all black - probably tarred - and roundhouses at Hambleton, Warton and Wavertree appear to have been 'whitewashed' during their working life, whilst that at Formby was plain brick.

The remaining octagonal centre post at Warton is about 4.6 m high. The thicker lower section is about 580 mm in diameter with 380 mm flats and 150mm chamfered corners. The quarter bars are morticed into this thicker lower section, which forms the first 2 m. Above it is a narrow section about 480 mm diameter with flats and chamfers, all 200 mm across. The pintle at the top is not visible as it has been crowned with a wooden bird box. The quarter bars are 280 mm square with narrow chamfered edges. A photograph of Wavertree under demolition in 1916 shows the crown tree balanced on top, and this in turn supports the side girts on which the whole body framework depends. The principle of the post, quarter bars and crosstrees is in effect the reverse of the crown post truss.

The centre post at Warton was sunk into the ground, and documents show this to have been the case at Hambleton, Formby and Birkdale. However, at Wavertree the trestle was raised about 1.8 m above the ground on four sandstone piers, to catch the wind above the encroaching houses, as well as providing additional storage space in the roundhouse. The roundhouses were generally low structures, made of brick and steeply battered, which also gave some support to the timber body above. They were usually whitewashed. At Birkdale there was no roundhouse, the trestle being open to the weather. The only other Lancashire mill to be raised on piers was probably Townsend mill, Liverpool. A painting by

W. G. Herdman, derived from a drawing by P. P. Burdett (the Surveyor of Cheshire in 1777) shows sandstone piers projecting through the walls of the roundhouse. This painting, showing Townsend mill in 1770-72 is probably partly conjectural; certainly the principle of the tailpole, wheel and ladder have been misrepresented.

All five mills were winded by tail trees. Cart wheels were attached to their outer ends to provide balance and assist the turning. A photograph of Warton in its working days also shows supporting wires from the tail tree to both corner posts, instead of the usual single wire to the gable.

All five mills are shown with four common sails. The practice of fitting two common sails and two spring sails used elsewhere, especially in East Anglia and the South, does not appear to have been the practice here. The stocks were morticed through massive wooden windshafts at Warton, Wavertree and Birkdale.

The sail cloths at Little Crosby were replaced annually according to Frank Tyrer (1972), quoting from the Journal of Nicholas Blundell (1702 - 1729) (1738?) The material was either woven by the village tailor, or bought

ready-made at Liverpool, 0rmskirk or Meols (?) markets. Various materials were tried, including 'pole-davy' (a coarse canvas or sacking), 'linsey-wolsey' (a mixture of linen and wool), Holland Duck (linen canvas), or even old ship's sails. At one time Nicholas even experimented with six sails at Little Crosby.

Interior views of these mills are unfortunately not available, but some photographs of the decaying mills reveal a few clues which can be linked with various written accounts.

The brakewheel at Warton drove a vertical shaft by a lantern wallower. Clarke notes that this pinion was made of oak. The vertical shaft carried a wheel (great spur wheel?) which turned the millstones and other machinery. He also tells us that "all the bearings holding the shafts are of ... Blue Soother Stone" at Warton. Myers reports (1914) a single pair of very large millstones here, about 1.5 m diameter and weighing about 1.5 tons. Millstones still at the site are grey or Peak stones with a diameter of 1.73 m.

Records at Little Crosby Hall, investigated by Frank Tyrer in 1972, show that stones from Whittle Mills near Chorley were used at Little Crosby mill. Costs for these stones vary from 14-10-0 in 1723, through 15 in 1733 to 17 in 1769. Millstone grit quarried at Whittle Mills is a coarse-grained stone which varies in hardness in different parts of the quarries or delphs.

Gleaning the above information from sparse records reveals that the Lancashire post mills were similar to other post mills in the West Midlands. The sunken post mill appears to have survived here to a later date than elsewhere. The post mills remained primitive in type, and few improvements were added. The panniers seem to have been a feature peculiar to Lancashire. The

roundhouse which also gave partial support to the body of the mill is typical of the West Midlands and North-West; i.e, Cheshire and Lancashire.

The lack of development is partly due to the small size of the tennant farms, the backwardness of agriculture, and the large amount of waste land in the form of meres, mosses and marshes. The rigid urbanisation of the areas around Liverpool, Preston and the South-western Plain, coupled with the lack of local timber reserves, led to their replacement in the 18th century by brick­ built tower mills with greater capacity. Similarly, improvements in agriculture following the draining of the mosses and subsequent improvement to the land by marling encouraged the building of tower mills in the Fylde

DISCUSSION

L.J Turner reported that he had seen the remains at Warton many years ago, and the cross trees were only just sunk. In Yorks, the blue millstones are known as "Cullin" stones. "Booth" was northern dialect for a monastery farm, and there may be some connection. On the date of tower mills; in Yorks, at least, 1775 would be a little on the early side. Were there tower mills in Lanes before then? D. Paterson answered that there are known dates of Lanes. tower mills from 1725. The term "pannier" seems to have been invented by by Wailes; but the use of "peg" for post? does have local vernacular authority. About Wavertree Mill, if it was built with the panniers, it should have been built to grind wheat, not oats, and so could scarcely have been built much before 1800.

There are insufficient records, and no "feel" to date any of the oldest latterly surviving post mills. These postmills are anticlockwise, which suggests a spurwheel, and therefore two pairs of stones. If so, it suggests a pair for wheat and a pair for oatmeal, with the panniers to house a bolter or the flour. There is no firm evidence, but the panniers obviously accomdated some sort of machine, and this is quite likely. If it is true of Wavertree, it would surely be converted to flour much earlier than any of the other mills. Being a port, it would no doubt deal with shipping, and meet a demand for flour much earlier than country mills, such as Warton. The provision of kilns was questioned; only one picture showed a kiln; there is evidence of othr kilns, but not at the post mills. Possibly at Hambledon; there is a building which could possibly be a kiln, though it is not certain. Pictures which showed enough of the surroundings contained no sign of a kiln, so where was such work done? This remains an open question.