THE WATER-MILLS OF LONDON

By KENNETH C. REID

To-DAY the water-mills of London have disappeared; the shell of only one remains for, what with the work of the speculative builder, the erection of factories, and the wholesale clearance of old quarters, London's water-mills are only a memory and their history must be sought in the records.

In early times the meal for London's bread had to be baked as soon as possible after it had been ground. Cartage was slow and costly and so the mills must be situated near the ovens of the bakers. The numerous branches of the Lea between Stratford and Bow provided easy and convenient sites for water-mills and many arose in Stepney, Leyton and West Ham. Such a concentration may in time have caused the bakers to choose the vicinity of Stratford for their trade. It became the "bread factory" of mediaeval London.

In the middle ages all trades and handicrafts were strictly supervised and commodities produced in the water-mills could claim no immunity, and so it came about that nearly all these mills stood outside the city boundaries and consequently enjoyed a much prized freedom from guild control. No water-mills stood within the City walls, except one at the Tower moat, the nearest being at St. Katherine's, at Clerkenwell, and Westminster. Thorney stood in semi-fenland, that disappeared only with the spread of cultivation and building of dwellings. Here the Tyburn, before entering the Thames, formed the boundaries of St. Peter's Abbey on the north, south and west. The watercourse drove the abbey mill on the south and, until the 18th century, flowed thence open to the sky along Great College Street.

Abbey Mill stood at the end of the cellarer's range of buildings, just within the present gateway connecting Dean's Yard with Tufton Street. In the 13th century the profits arising from the tenants' use of this mill were bestowed upon the monks themselves, the abbot reserving the right to have his grain ground free. Abbot Litlington, among his many benefactions to the monastery, built between 1362 and 1385 the "Molendinum aquaticum" and the mill dam. Underneath a house at the corner of Great College Street excavation uncovered in 1904 some 14th century stonework and a 17th century brick culvert arch. The stonework, of Kentish rag, was in the form of two

abutments about 22 feet apart and 9 feet below the level of the road, no doubt a relic of a footbridge across the mill tail.

Records of an inquest held in 1557 relate that between six and seven o'clock on the night of 22nd January one John Harris, "extens ebrius" (inebriated), was seen wandering about the Abbey "mylne dame," when suddenly he tottered and, falling into the water, was drowned. The parish book of St. Margaret's mentions the mill in 1644, but Kip does not show it in his view of this part of the capital in 1724, by which date it had presumably disappeared.

Norden's map of 16th century London indicates a second mill at the meeting of Abingdon Street and Millbank, and another map of the same date calls it the "Queen's slaughter house and mill," while Ben Jonson mentions it in his "Staple of News." This specimen did not survive the 18th century, though its name lives on in the present Millbank.

Milford Lane off the Strand is suggestive. Did such a name derive from a mill? A stream may have flowed down the hollow, all traces having vanished so long ago that even Stow could not account for the name.

The River Fleet or Holebourne rose at Caen Wood, Hampstead, and the mediaeval citizens named the lower reaches the "Trulmyll, Turnmill or Tre-Mill" Brook, because of the water-mills it drove. The first, belonging to the Nunnery of St. Mary, Clerkenwell, was driven by a lade and stood close to the gardens and fishpool of the Knights Hospitallers. A short distance away stood another with two waterwheels, the property of the latter. About the year 1338 this one was leased for the lucrative rent of £5, which suggests that it enjoyed a large custom. H. W. Brewer depicts these mills in one of his drawings, showing that of the Hospitallers built completely across the Fleet, while for the nuns' mill he shows an undershot wheel attached to some outbuildings of the priory. One would like to know the source of information for this restoration! Excavations in 1855 brought to light some old paving, several thick oak piles black with slime, all probable relics of the Hospitallers' mill.

Edward Cave, the printer of the 18th century, dammed a part of the Fleet at the end of Field Lane, somewhere near the present Charterhouse Street, and there built a mill to house a newly invented machine he had bought. This contraption consisted of one hundred spindles for spinning cotton and wool into threaded yarn and wool. Unfortunately bad management

brought the venture to failure, otherwise this talented man, so typical of his times, might have anticipated Arkwright.

The Fleet passed under the bridge which carried the highway from Holborn to Snow Hill, and on to the Thames along the line of the present Farringdon Road and Bridge Street. Its tidal reaches formed in early days a harbour nearly as wide as the thoroughfares of to-day, resembling the Floating Harbour at Bristol. Opposite Tudor Street a vanished way called Castle Lane led to the river bank. Hereabouts was the "locus super Flete" that King John granted to the Knights Templars, upon which were built the most famous of the Fleet mills. Except at low tide, the complete course of the River Fleet was included for use as a millpool and much litigation ensued. Gates by the side of the mill penned up the water left by high tide for motive power when the tide fell, which meant that all ships had to wait upon the miller's convenience.

The citizens suffered this nuisance until about 1307, when at a parliament held in Carlisle Henry de Lacy, Earl of Lincoln, complained that for years hardly a ship could get to Fleet Bridge, where formerly as many as a dozen could lie abreast. He laid the blame upon dirty tanners and the encroachment of private wharves, but chiefly it was the "diversion of the water made by them of the New Temple for their mills standing without Baynardes Castle." The Constable of the Tower, the Mayor and the City Sheriff were bidden to enquire into the matter with "honest and discreet men" and ensure that the abuse was righted.

Stow states that the Fleet was "now worse cloyed and choken than ever it was before" and, as Aggas' map (1563) shows a building recognisable as a mill built over the river at about the position of the original mills, it seems that the threat of destruction was never carried out. Hoefnagel's map (1572), Faithorne and Newcourt's map (1658) illustrate a two-storeyed building in the same position, the omission of which from Ogilby's map (1678) suggests that it was not rebuilt after the Great Fire.

An obscure mill stood near the Green Lanes, Islington. Its foundations in the field behind the "Pegasus" public house appear to have remained until about 1850.[2] As Rocque does not show it, its destruction may have taken place before the mid-18th century and no sign of it is visible to-day. The stream which drove it was probably affected by the construction of the New River but, since the records were burned in 1769,

no confirmation of this belief can be obtained. It belonged to the Hospitallers of Clerkenwell until the Dissolution.

St. Katherine's Hospital by the Tower, founded by Queen Matilda in 1148, standing where stretch to-day the docks of the same name, possessed a water-mill which occupied the site of the later Iron Gate. William de Longchamp, chancellor of England during Richard I's absence in Palestine, found that the mill stood in the way of his plan for building the outer bailey wall and enlarging the moat of the Tower. It was demolished, much to the "discomodity," as Stow words it, of the hospital brethren. The Crown made no recompence until Edward I's time when, with the reconstruction of this part of the Tower, a new water-mill was provided for the brethren. It was mentioned at the Dissolution and in 1590 was described as "the Abbotis Mill of Tourehill."

An 18th century guide[3] makes reference to a mill wheel for pumping water which stood at Traitors' Gate and a model of the Tower as it stood in 1842[4] shows it in that position. Both these Tower mills derived their motive power from water pent up in the moat by high tide, which flowed out via the wheel into the Thames as the level of the river fell.

As one surveys the scene to-day it is hard to imagine a hermitage and a water-mill at the point of intersection of Wapping Street and Nightingale Lane or, as it is now called, Thomas More Street. The "mill of Crasseine Lane," as it was called in 1233, belonged to Holy Trinity Priory, Aldgate. The last ecclesiastical owner was the abbey of St. Mary Graces upon Tower Hill, the Eastminster founded by Edward III. In 1603 certain starchmakers, tanners and brewers, some seven of them, were charged with obstructing by means of "posts, clay and mud" a certain watercourse which from time immemorial connected the Thames to "divers mills called crash milles." The Crown leased them in 1608 for £16 per annum, but since then both mills and watercourse have vanished.

The great dock construction of the last century removed all traces of the mill. This quarter was previously intersected by dikes, filled at high tide, and one of them, serving the mill, was joined by a stream flowing from the direction of Wellclose Square. The appearance of Crash Mills is known, for a drawing dated about 1590 survives to depict in exquisite detail both mill and surroundings.[5]

Next in order come the mills of the Lea. The massive embankment of the Northern Outfall Sewer crossed the river at Old Ford and hereabouts doubtless lies the site of the "Landmilnes" held by Stephen Asswy in 1344 under the manor of Mile End. The same mill can be identified with one mentioned in 1354 as adjacent to a branch of the Lea. It was leased to a Stratford baker, one Adam Smale, who during rainy weather caused damage to the streamside property of several citizens and also flooded Old Ford common by stopping the course of the river with "mud, turf and water doors." The water-mills shown here in old maps disappeared, no doubt, when the Lea was canalised.

Temple Mills amid railways and factories mark a historic site. This double mill was driven by a branch of the Lea and belonged to the Knights Templars, holders of a manor in Hackney. The Templars were followed by the Hospitallers, who retained possession until the Dissolution, when the mills fell to the Crown. The last ecclesiastical tenant was John Mustyan and a survey and report of his time mentions the mill and lists the internal machinery.

Just before the Civil War Temple Mills had been converted into a boring mill and foundry, where Prince Rupert spent much of his time in that research for which he was noted. Subsequently their water wheels provided power for different industrial processes, boring tree trunks for use as water mains, the cutting and grinding of pins and needles, while at a later date they were adapted for use as a brass foundry, the management of which in 1721 was alternately assailed and defended in a veritable war of pamphlets. In 1814 they manufactured sheet lead and by 1832 had been converted to flock making. The water-mill itself, constructed chiefly of wood, spanned the stream adjoining the "White Hart," a noted resort of anglers, and disappeared in a most casual way for so well recorded a building.

From the days of the Conquest West Ham and Stepney possessed a large number of water-mills. Some survived till recent years in barely recognisable form. One stood not far from Bow Bridge at the corner of Marshgate and Puddingmill Lanes, in a situation that required a vivid imagination to envisage an ancestry of ancient date. This building was of Victorian ugliness, standing among slumdom and squalor, but it has been demolished and the original watercourse filled in.

The desolate surroundings of to-day would hardly have evoked Camden's comment in 1586, when he describes the Lea as ". . . divided into three streams, it washes the green meadows and makes them very charming . . .," while Fuller mentions this mill and a neighbouring one as adjoining several acres of land planted with willow trees. An earlier mill belonged to the Hospital of St. Thomas of Acon in Cheapside.

The alterations which accompanied the building here in 1932–3 of new bridges make difficult the identification, without the aid of old maps, of the two water-mills which belonged to the Cistercian abbey of Stratford Langthorne, called City Mill and Fuller's (or Spielman's) Mill. By 1312 a benefactor had bestowed them upon the Bridge House Estates and thus their rents contributed towards the upkeep of London Bridge. The miller in charge of them in 1361, a certain William Poggere, disputed the regulations of the City authorities and the Assayer of Bread and for his pains found himself sentenced to the hurdle. In 1582 City Mill figured in an argument over the water rights between the City corporation and one Biggs, lessee of Temple Mills upstream.

While crossing the main branch of the Lea, travellers on the trains to Barking will have noticed a large and crudely picturesque group of buildings above the water. It is called Three Mills and is largely the structure of an immense water-mill erected in Georgian times in a style very different from that of to-day. A date panel gives its age—1776. Three storeys of stock brick carry a roof of very wide span. The adjacent clock tower and factory buildings have been added since the days when Three Mills had field and marsh for their neighbours and are of the 19th century. It has been suggested that the tides provided the motive power until the mid-16th century, when alterations to improve navigation on the Lea resulted in the mill becoming partly dependent on the river.

The Abbey of Stratford possessed two water-mills within its precincts. To-day a hideous Victorian building marks their site in close proximity to the outfall pumping station which rises where stood the abbey church. The Cistercians are usually credited with having left behind them the fairest of surroundings and cannot be blamed for the acres of shoddy housing, grim factories, polluted waterways, and all the unvarying accompaniment of the industrialism which hereabouts reigns supreme. These mills were bought from the nunnery of Barking for the

use of his monastery by the abbot, who by this transaction incurred the obligation of keeping in repair the much frequented highway of Bow Causeway. This responsibility arose thus. Queen Maud, wife of Henry I, diverted at her own expense the Roman route out of London which, it is believed, went across the Lea marshes at Old Ford, and built the stupendous array of arches and causeways that survived, much altered, until the rebuilding of 1932–3, as the Stratford High Road. The queen placed the responsibility of its upkeep upon the Abbess of Barking and for the necessary revenue gave her a manor and the above named water-mills. They were known later as Wiggins' mills and with their ownership went the liability of keeping the long causeway in repair.

Four Mills, near to the modern Sun Mills off St. Leonard Street, Bow, formed the last group on the Lea and belonged to the manor of Stepney. In the 18th century the mill building stretched across the river, but a glance at the present uninviting edifice confirms the supposition that within those walls no relics of the earlier mill could survive.[6]

The south suburbs of the City owned several water-mills. Places like Wandsworth with its Wandle mills and Lewisham with those of the Ravensbourne were until the mid-19th century still rural and never formed an integral part of old London as did Stratford and its mills.

Brookmills on the Ravensbourne, in the lane of the same name at Deptford, is represented to-day only by a weir at the entrance to the Kent Waterworks. It belonged to the Crown and was leased to a long line of tenants. Later it was bought by John Evelyn the diarist, whose house, Sayes Court, stood nearby. Brookmill was used for grinding colour in 1677, but was destroyed by fire in the 18th century. After rebuilding, it served the double function of grinding corn and pumping water and thus became, in a sense, a precursor of the present waterworks.

Robinsons' gigantic flour mill breaks the skyline above the buildings on the other side of what was once Deptford Bridge. Its present form hardly suggests its long history. Mentioned in Domesday, it is recorded in an indictment of 1293 and as the "flood myll" had become the property of Christ's Hospital in the 17th century. It was one of that company of tide mills which depended upon the Thames for power and an exceptionally high tide in 1824 almost wrecked it.

The low lying and marshy ground now occupied by the Surrey

Commercial Docks was also near to the site of an earlier wet dock, while earlier still one of the numerous watercourses in this vicinity drove a mill known as late as 1786 as the King's Tide Mill. An older name was Redriff Mills. The mill was set up in the first instance by the priory of Bermondsey. After the Dissolution the Crown annexed the mill and one of the tenants, Henry Reve, built on this site about 1554 the first gunpowder works in England to be driven by water. Through lack of care Rowe caused the surrounding marshland to be flooded, with consequent damage to his neighbours' property. Thereupon an inquiry was set up during which, unfortunately for Reve, it was discovered that he possessed a title neither to mill nor land. One Thomas Brickett became tenant and "le Gone powdermill" continued its career until about 1600.

Beyond the tangle of railway lines in Bermondsey lie two streets whose names, Neckinger Street and Millstream Street, perpetuate the Neckinger stream. This waterway originally drained the marshes hereabouts and at high tide gave access to the vanished priory, later abbey, of Bermondsey. When the stream was full, the penned up water drove two mills. The first, named Neckinger Mills, was built on a new site about 1780 for paper manufacture, but later for dressing leather. Its extensive buildings stretched between Neckinger Road and the railway viaduct, the site now being occupied by a council tenement estate.

Another and older mill stood near the entrance of St. Saviour's Dock. During the last century it preserved some remains of an early mill, with a wheel of exceptionally large diameter. The miller was in the habit of shutting off the tide water and so cutting off both the Neckinger stream and the other dykes normally filled by the tides. In consequence the tanneries established on the banks were deprived of the water vital to the processes of the trade.

Messrs. Courage's brewery adjoining Tower Bridge hides the site of another mill. In Edward I's time this "watermylle situated at Horseadown" belonged to the Knights of St. John. It happens also to be one of the few whose appearance some artist, unknown and forgotten, saw fit to record for our information. A deed of 1544[7] depicts this water-mill, a tall structure at the edge of the river bank and driven by an undershot wheel, amid Horseleydown and the adjoining property. It existed as late as 1803, though by that time street upon street of tenements

had covered the surrounding meadows, and to-day it no longer survives.

Mill Lane, now Battlebridge Lane, Tooley Street, is all that recalls a water-mill which existed at Battlebridge Stairs. It stood evidently between the town house of the abbot of Battle and a mansion which together with the mill belonged to Sir John Fastolff in 1449, an earlier tenant being Henry Yevele, the architect, if the word can be applied to masons and builders of the 14th century.

By Holland Road near Blackfriars Bridge in the vicinity of old Paris Gardens lies the site of a pond fed by the Puddingmill stream. Just before its outlet, where Bankside meets Gravel Lane, stood, until the 18th century, Widflete Mills. They are shown by Aggas and Hoefnagel, and a 17th century plan reproduced in Thornbury's *Old and New London*.[8] The London Hydraulic Power Company's building occupies the site, and a house alleged to have been frequented by Wren in order to obtain a broad view of his masterpiece as it took shape adjoined the mills.

Robert Marmion gave their earliest predecessor to the priory of Bermondsey in 1133 and that house remained landlord until the Dissolution. It leased Widflete Mills to the Knights Templars and after the suppression of the order released the property to the Knights of St. John. But the old tenants treated the mill very badly as the Crown ordered the spending of some £19 on repairs.

Until the late 16th century the citizens never fully exploited the potential power that lay in the waters of the Thames as the tides flowed back through the piers of old London Bridge, which was little more than a pierced dam. Sir Christopher Hatton arranged a contract between the Corporation and a certain Peter Morice. This man, a Dutchman, agreed to supply parts of London with water. At first he leased the northernmost arch of the bridge and at a later date the arch adjoining for his water-wheels and pumps. Morice experienced difficulty with the Corporation, the details of which are too voluminous to set out here. John Norden describes these waterworks, which lasted until the Great Fire. The latter burned too quickly for the water supply to be of any effect in the fated city. These mills were rebuilt and their career ended only with the demolition of the bridge itself in 1822.

During the years 1588 to 1591 the City authorities were busy seeking permission to use the two southernmost arches of London Bridge for the waterwheels of a mill they wished to build. Their object was to strike a blow at profiteering millers by ensuring that a mill existed at which the poor of the City could have their corn ground cheaply. Vested interests prevented the early granting of the necessary permission, but by 1592 the mills were working. A manuscript of the time illustrate them very well.[9] This tide mill escaped Southwark's fire of 1676 only to succumb to another in 1725. In 1767 a waterwheel was built on the same spot and remained there until, like its brethren across the river, it passed into the realm of forgotten things.

NOTES

1. View of Ely Place, *Old London Illustrated.*
2. T. E. Tomlins, *Perambulation of Islington.*
3. W. Gosling, *Walk in Canterbury*, 1779.
4. Now in the White Tower.
5. London Topographical Society. Publication 61. See also *Trans. L. & M.A.S.*, N.S. XI.1, p. 25, n. 14.
6. Recent excavations have unearthed timbers and mill stones of an earlier mill. See *Evening News*, 4.5.50.
7. Surrey Arch. Coll., 1859.
8. Vol. 6, p. 42.
9. Gordon Home, *Old London Bridge*, p. 136.