

Wargrave Local History Society

Latest News - April 1999

Locks and Weirs

Steve Capel-Davis is not only a local historian, but is also a civil engineer involved with Thames locks, so we had a particularly interesting account, with historic and aerial views of many locks.

Locks and weirs, Steve told us, had a lot in common in the past, and locks were at one time a passage between brick piers, rather like a weir today. A weir would be created to hold up the water at a point on the river, but also to let flood waters through, as if the paddles were removed the water level would be about the same on both sides of the weir. The primary purpose was to help millers, for whom the earliest was installed on the Thames in the 7th century, just below Windsor. The weir would give a head of water to drive the machinery - for paper mills, for fulling cloth or corn milling. The other main use of weirs was for navigation, as in summer the upper reaches of the river would have little water unless held back by a weir. The third use of weirs was for catching food - maybe with nets or with eel bucks which could be lowered into the water at the appropriate season.

The control of the weir would normally be with the miller. This could lead to difficulties for barge men wanting to pass the weir, as a lot of water would be lost downstream if the paddles were removed to let a boat through. The miller might hold up the boats for days, or even weeks, when several would be let by for one opening of the weir - but several tolls being collected - which would in part compensate him for the loss of water power. These were flash locks - the water was either kept behind the paddles or allowed to flow free, and the last was removed from the Thames in the 1930s (at Eynsham). In some cases, however, the same structure remains in use as a weir.

The flash locks could be dangerous to traverse, and used a lot of water, and so were replaced by pound locks. These were developed in the 14th century, but the first in Britain was on the Exeter Canal in 1560, and on the Thames that installed at Iffley in 1630. The pound lock uses only the volume of water contained in the lock itself, but is relatively expensive to build. Two other early pound locks on the Thames were at Sandford and Abingdon - it is thought that some of the original Abingdon structure remains, although out of use since 1790. The next Thames pound locks were not built until 1770, being added to make the river more competitive with the - then - newly developing canal system. Lower down the river, locks were not installed until rather later, as the City of London feared that impeding the flow would harm their trade.

Nowadays, the locks from Oxford downstream have been modified to hydraulic ram operation - a process begun in 1956, but the locks from Lechlade to Oxford still have manually operated balance beam gates. Cookham is the only lock that now has 3 sets of gates - so that only half a lock-full of water need be used if few boats are passing. Buscot lock (built in 1790) is the oldest essentially unrebuilt lock, although the gates have been renewed several times of course. The last lock to be completely rebuilt was that at Hambleden, which now has an underfloor filling system.

Steve concluded by showing the construction of the various types of weir to control the water levels on the river - although even they could not cope with a severe flood such as in 1947 - and the Thames Flood Barrier - which is not a lock or a weir!
