

## Burford Bridge, Abingdon

By J. J. LEEMING AND H. E. SALTER

**D**URING the middle ages there were two branches of the River Thames passing Abingdon, the cut on the east side of Andersey Island, and the branch of the stream flowing past the town itself (FIG. 24). The road traffic from the town (p. 139) to Dorchester used a ford over this western branch, and crossed the navigation-cut by means of a ferry. The ford was divided into two parts by an island of some size, on which now stand the Nag's Head Inn and Stevens' Boathouse. In the early fifteenth century (p. 139) bridges were built to replace the ford and ferry. These are usually now known as Burford Bridge (or Abingdon Bridge), and Culham Bridge respectively. Burford Bridge is itself divided into two parts by the island already mentioned. At the end of the eighteenth century (p. 140) navigation, which had used the cut for a time, again used the channel near the town, and, to allow of the passage of craft, a navigation-arch of about 19 feet span was inserted into the bridge near the Oxfordshire bank, and also a towpath-arch of about 9 feet span. It is probable also that at the same time, to provide the necessary headroom, the approaches were raised. The navigation-arch was somewhat higher than the original arches, as will be seen from the isometric drawing (FIG. 25).<sup>1</sup> About 40 years later (p. 140) the whole bridge was widened on the upstream side.

The increase in the size of craft during the time the navigation has passed under the bridge necessitated the deeper dredging of the channel, which finally reached a depth not contemplated by the builders of the bridge, and, as a result of this, and also of the greater weight of road traffic, the navigation-arch began to show signs of instability. An investigation carried out in 1926 by the County Councils of Berkshire and Oxfordshire showed that the foundations of the arch were actually above the bed of the river, and also that the abutments were very badly cracked. Christ's Hospital, of Abingdon, by their charter had powers to spend a part of their income on the upkeep of the bridge, but such a project as its rebuilding was obviously beyond the Hospital's resources. Finally after investigations, and negotiations with interested parties, the two Councils assumed

<sup>1</sup> The writer is indebted to Mr. J. Harrison, A.R.I.B.A., for help in the preparation of this drawing.

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responsibility for the bridge, and decided to demolish the greater part of the old one, to rebuild it so as to render it capable of carrying modern traffic, and at the same time to provide an arch of sufficient span and headroom to permit of unobstructed navigation. Among the considerations leading to this decision were that the foundations of the bridge were shallow, that much of the bridge was in poor condition, that its alignment was poor, and that the navigation-arch was

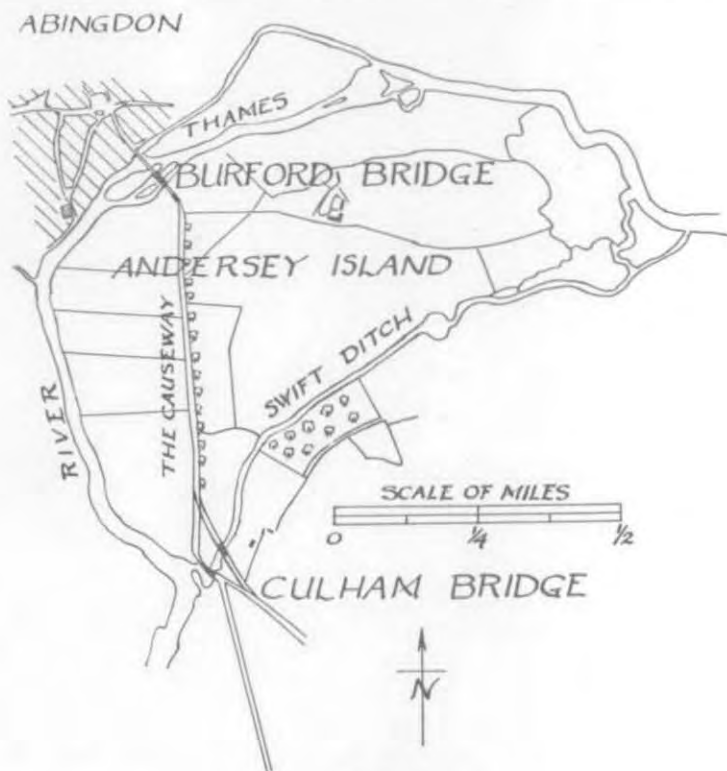


FIG. 24

MAP OF THE RIVER THAMES AT ABINGDON, BERKS.

*Based on the 6-in. Ordnance Survey Map with the sanction of the Controller of H.M. Stationery Office.*

quite inadequate for the traffic on the river. Any great rise in the water stopped navigation, as the arch was barely wide enough for the steamers even at low water.

The County Surveyors of Berkshire and Oxfordshire, Lt.-Col. J. F. Hawkins O.B.E., M.Inst.C.E., and Mr. A. E. Cockerton, were appointed engineers for

BURFORD BRIDGE ABINGDON: Isometric Drawing of the old Bridge before demolition, 1928.

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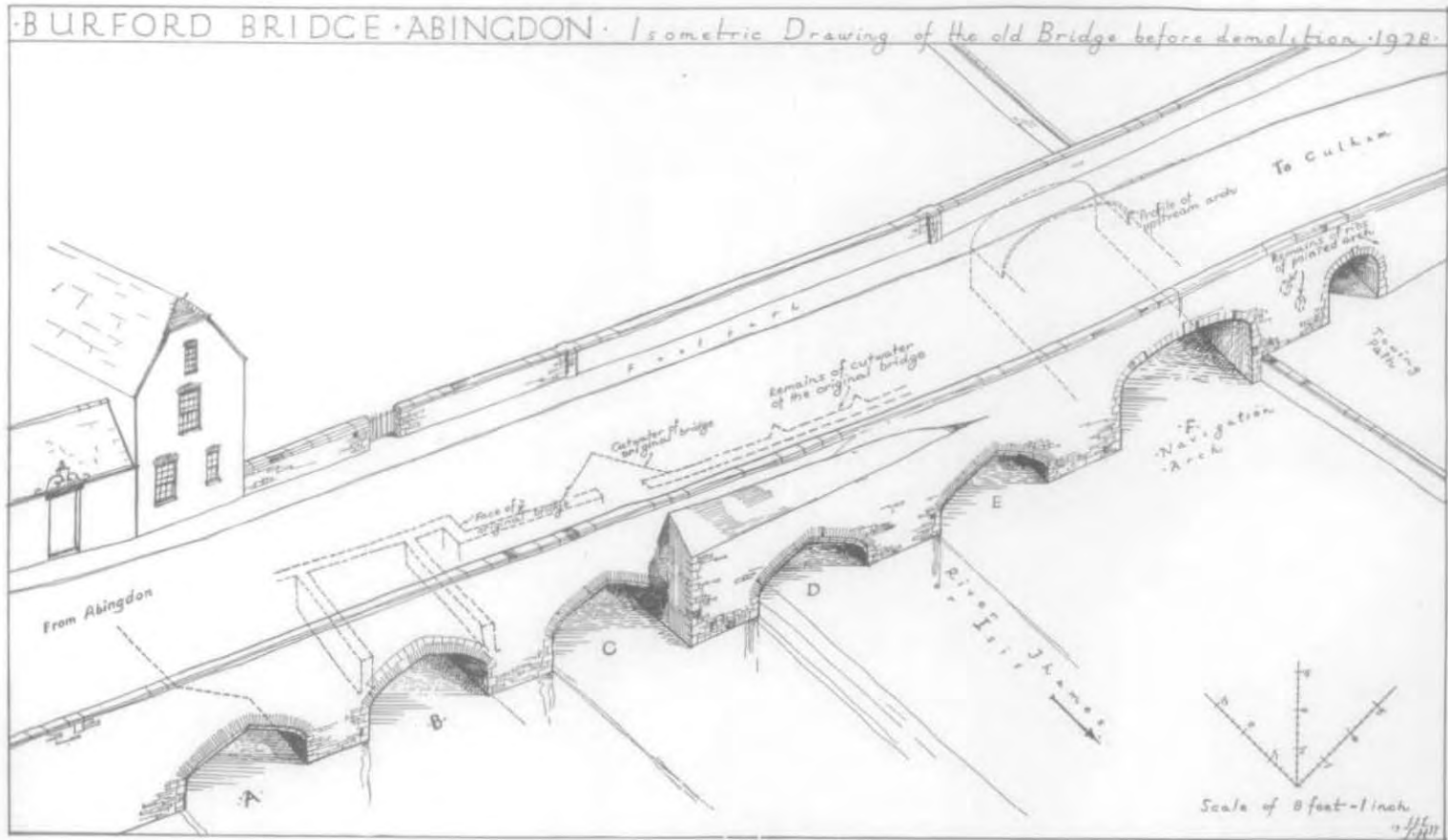


FIG. 25

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the scheme, and work was started in June 1927, the writer acting as Resident Engineer on the works. The part of the bridge over the channel separating the island from the town was not included in the scheme, as it was in good condition and the stream is shallow. The Oxfordshire approach was widened and realigned, and a flood-relief bridge in the Oxfordshire approach known as Maud Hales Bridge, was also demolished and rebuilt. At the same time the Oxfordshire County Council built a new Culham Bridge on a new site, preserving the old one.

The building of the new bridge involved the demolition of much of the old. The arches marked C, D, E, and F on the drawing, and the towpath-arch, were completely demolished. Arches A and B were strengthened by means of concrete placed on top of the old arch rings, and also by the provision of a substantial concrete invert, or floor, to the stream, so arranged that it strutted the abutments apart and also spread the loads from the arches over a greater area. The extra width needed was obtained by building new arches alongside the old, tying the two parts together with steel mesh. The new parts were provided with ribs, similar to those of the old parts, made up out of those taken from the demolished arches C, D and E.

The drawing (FIG. 25), shows the downstream side of the old bridge. Two photographs (PLATE XI, A, B) show the same face, and the upstream face of the navigation-arch, respectively. At the extreme right of PLATE XI, A may be seen a steamer passing through, showing how close was the fit. PLATE XII, A shows the downstream face of arch A before widening. As mentioned before, the new part is similar in appearance.

The workmanship in the old part of the bridge was not very good. The walls were little more than a skin of stone, backed by filling. This was fairly good, consisting of brash with stones in it. The stone was badly decayed in places, though on the whole it was fairly sound. The arches, though of irregular stones, were otherwise in good condition. The ribs were not tied-in to the arches in any way, and as a result many of their stones were missing. The abutments, like the walls, were of filling, though this was more stony, with a facing of stone. The foundations were very shallow, and it was almost impossible to tell where the abutments ended and the subsoil began, as the two merged into one another so imperceptibly.

The peculiar break, or return, which was such a feature in the face of the old bridge at arch C, was found to be original. Its inside face, after the removal of the filling, is shown in PLATE XII, D, which also shows clearly the thinness of the walls, already described. The dotted lines on FIG. 25 show what appeared to be a similar return in the upstream face of the original bridge, between arches B, and C, though the demolition was not carried far enough to be certain of

this, and it may have been part of a cutwater. There was no apparent reason for these returns. During the demolition of the towpath-arch remains of a pointed arch similar to arches A to E, including the springing stones of its ribs, were found in the abutment on the landward side of the towpath-arch, and the corresponding abutment face was found between the navigation and towpath-arches. The springing of this arch (PLATE XI, D) was, however, lower than that of the other arches, which seems to make it probable that the old bridge had a ramp down on the Oxfordshire bank, and that it was, in fact, something like the bridge shown in the background of the picture of the founders of the bridge which is preserved in Christ's Hospital, Abingdon. The demolition was not carried far enough to find out whether there had been any more arches on the Oxfordshire side.

The widened portion, on the upstream side, was of much better workmanship, the arches especially being of well-squared stone of good quality. It was, however, not bonded in properly with the older part. In places the face of the original bridge was found intact below water level, and much of the old walls still existed almost up to road level, the filling of the widened part merely resting against them. There was quite a large gap between the two parts of the arches, and in arch E a bird was found to have made its nest in a crevice in the face of the original bridge, reaching it through the gap between the arches. The photograph (PLATE XII, B) shows this gap in arch E. The nest was to the left of the man standing on the old arch and about a foot or so above the level of his feet. PLATE XII, C shows the junction of the two parts of the bridge at the Berkshire face of arch C, after the demolition of the arch. The old part is to the left. One of the springing-stones of the ribs can be seen. Above the new part of the arch is the face of the return or cutwater of the old bridge already mentioned. It will be noticed from the drawing that parts of other cutwaters were found. It is probable that the original bridge only had cutwaters on the upstream side. The two photographs show fairly clearly the difference between the original work and the widening. The navigation-arch was found to have been widened at the same time as the rest of the bridge. The workmanship of the older part of this arch was nearly as rough as that of the original bridge, and similar in style to it. The two parts were of slightly different shape.

The new bridge (PLATE XI, C) does not call for much description. The main arch, of reinforced concrete, is of 60 feet span, and it is an interesting example of the improvement in materials, as it is only one foot thick at the crown. The small arches at either side of it are openings in the mass of its abutments. The facing of the bridge is of stone from the old one, as far as it could be used, and very little new stone was needed except for a few of the larger blocks, for which no suitable old stone was available. Every effort was made to ensure that the



A



B



C



D

BURFORD BRIDGE, ABINGDON, BERKS.

- A. Old Bridge : downstream face.
- B. Old Bridge : upstream face, navigation and towpath arches.
- C. New Bridge : downstream face, widened part of arch B on left.
- D. Old Bridge : remains of old arch on Oxfordshire side.





A



B



C



D

OLD BURFORD BRIDGE, ABINGDON, BERKS.

- A. Arch A, downstream face, before widening.
- B. Arch E, junction between two periods of masonry.
- C. Arch C, Berkshire face, inside, showing junction of two periods of masonry, and return (or cutwater).
- D. Inside of return, downstream face, after part removal of filling.

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new work would harmonize with the old. Apart from the traces of the old bridge which have been described, and some old piling, nothing of any interest was found during the course of the work.

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### NOTES ON THE HISTORY OF ABINGDON BRIDGE<sup>1</sup>

There was a bridge at Abingdon from the earliest times;<sup>2</sup> but probably it was only for foot passengers and pack-horses; traffic by road was by the ford called Borough Ford, and across the further branch of the river at Culham by ferry. A stone bridge suitable for carts (called Burford Bridge) was begun on June 22, 1416, and another bridge known as Culham Bridge, over the other branch, soon after. Apparently both were finished by 1422. The funds were provided, as was the case with most mediaeval bridges, by the free gifts of religious and patriotic men of the neighbourhood, and the moving spirits were Geoffrey Barbour and John Howchion, of whom the former died in 1417, and was buried in the abbey. At the Dissolution his bones were transferred to St. Helen's Church, together with his brass, which states that he had formerly been Bailiff of Bristol. Mention is found of him as a resident in Abingdon in 1370 and it is probable that his successful business life as wool merchant was spent here. The Fraternity of the Holy Cross, which was the chief religious guild in Abingdon, contributed both individually and as a body; and within about ten years of the completion of Abingdon Bridge the idea arose of adding three extra flood arches at the southern end, and the work was undertaken by two individual members of the Brotherhood, *viz.*: William Hales, mercer of London, and Maud, his wife. No one was responsible for the maintenance of the bridges; but pious persons on their death-beds often left money for the building or repair of bridges, and the executors would commit the money to the Fraternity of the Holy Cross to be used in this way.

In 1548 the Fraternity was suppressed and the King seized its property; in 1553 he founded a new body called Christ's Hospital and transferred to it a large proportion of the possessions of the Fraternity, which carried with them the ancient charters and the Hospital buildings. The new foundation came into existence under a Royal Charter, which ordained that after the Governors had

<sup>1</sup> The following notes are derived directly or indirectly from Mr. A. E. Preston: his guide book to Christ's Hospital, Abingdon, price one shilling, contains more original research and more corrections to false history than many historical books of twenty times the price. It is a matter for regret that his health did not allow him to write a full article on the history of the bridge for this number of *Oxoniensia*.

<sup>2</sup> *Chron. Mon. de Abingdon* (Rolls Series), II, 330, 332.



maintained the almshouse and its occupants, they might spend funds on Abingdon school or on the four bridges of Abingdon, two over the Thames and two over the Ock. For three centuries the Governors were able to carry out the necessary repairs. Sometimes these were considerable, and constantly masons were hired to repair the stonework. Large supplies of stone and gravel were always being obtained for upkeep of the roadway and the raised causeway.

In 1790 a great alteration was made. The Thames Navigation Commissioners deepened the Thames channel as it passes the town, and made one of the arches of Abingdon Bridge into a navigation-arch, widening it to 20 feet and raising it 4 feet in the crown and 6 feet in the sides. At the same time they rebuilt the towpath-arch. Previously barges for Oxford had not passed under Abingdon Bridge, but had gone by what was called Swift Ditch, which flowed under Culham Bridge.

In 1829-30 the Trustees of Fyfield Turnpike, under the statute of 3 Geo. IV, widened the Bridge, paying for it out of their funds with the help of public subscriptions. Among the contributors were the Earl of Abingdon, the Members of Parliament for the district, the Corporation of Abingdon and the Governors of Christ's Hospital. The Governors contributed £300, and also £200 towards Culham Bridge, which was widened at the same time. It is evident that the Oxfordshire end of the bridge was only of sufficient width for one cart before this widening was made. The Governors of Christ's Hospital had previously widened part of the Bridge, for in 1800 they spent £272 by adding 8 feet in breadth to Maud Hales bridge, and in 1818-19 over £300 was spent by them in widening Hart Bridge (*i.e.* the Berkshire end of the bridge).

Both Culham Bridge and Abingdon Bridge became unsafe at about the same time. Like many of our mediaeval bridges, they could not stand the speed and weight of modern traffic. Part of Culham Bridge fell into the river about 1924 and about 1925 Abingdon Bridge was found to be so unsafe that it was closed instantly. The Oxfordshire and Berkshire County Councils advanced a claim that the rebuilding of the Bridges should fall on Christ's Hospital, a not unnatural idea as all the four bridges had for many years been repaired by the Governors; but after litigation was begun, a settlement was reached. It was perceived that by the Foundation Charter the Governors only had permission to spend a part of the income on bridges; it was permissive, not compulsory; and as regards many gifts received since 1553 the Governors had not even permission to spend any of the money in that way. In consideration of a small payment from the funds of the Hospital, the County Councils assumed all future responsibility for the bridges.

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