

A Roman Timber Bridge at Ivy Farm, Fencott with Murcott, Oxon., 1979

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SUMMARY

In September 1979, dredging to enlarge the River Ray uprooted several oak piles from a timber bridge of the Roman period. An exceptionally low river-level enabled the excavation of a further line of piles which had survived undisturbed.¹

ACKNOWLEDGEMENTS

The project was undertaken by the writer for the Oxford Archaeological Unit with funding provided by the Department of the Environment. The Oxford Archaeological Unit is indebted to Mr. C.J. Cooper of Ivy Farm, Fencott, for reporting the bridge remains and for providing access to the find spot. An inservice trainee, Stewart Brown, assisted the writer both in the recording of the remains and with the dendrochronological sampling for which Mr. M. Malin kindly provided a chainsaw. Stewart Brown also compiled Fig. 1. The author is grateful to Mr. John Hazelden of the Soil Survey of England and Wales for his examination of the local geology, and would also like to thank the late Dr. J. Fletcher of the Research Laboratory for Archaeology and the History of Art, Oxford, for the dendrochronological dating of two bridge timbers. Mrs. J.M. Chambers kindly typed the text.

SITUATION

The bridge remains lie in the River Ray which now forms the parish boundary between Merton and Fencott with Murcott (SP 5720 1688). Merton village lies to the north-east of the bridge, whilst the two smaller villages of Fencott and Murcott lie to the south and south-east respectively. The river flows sluggishly along an almost level bed some 60 m. above sea level. A strong westerly wind can cause the river to back-up. The river provides the only drainage for the higher ground to the north and east of Otmoor. West of the bridge the river drains Otmoor, a large oval basin of flat marshland, before flowing westwards through a small gorge at Islip.²

The villages on the northern side of Otmoor are sited on dome-shaped outcrops of Cornbrash limestone which rise out of the Oxford Clay in the neighbourhood.³ One limestone outcrop forms a long, low ridge to the north and south of the bridge.

¹ The excavation records will be deposited with the Oxfordshire County Council Department of Museum Services under P.R.N. 11, 881.

² Ordnance Survey, 1:50,000, 1st Series, Sheet No. 164.

³ *V.C.H. Oxon.* i, 4-5.

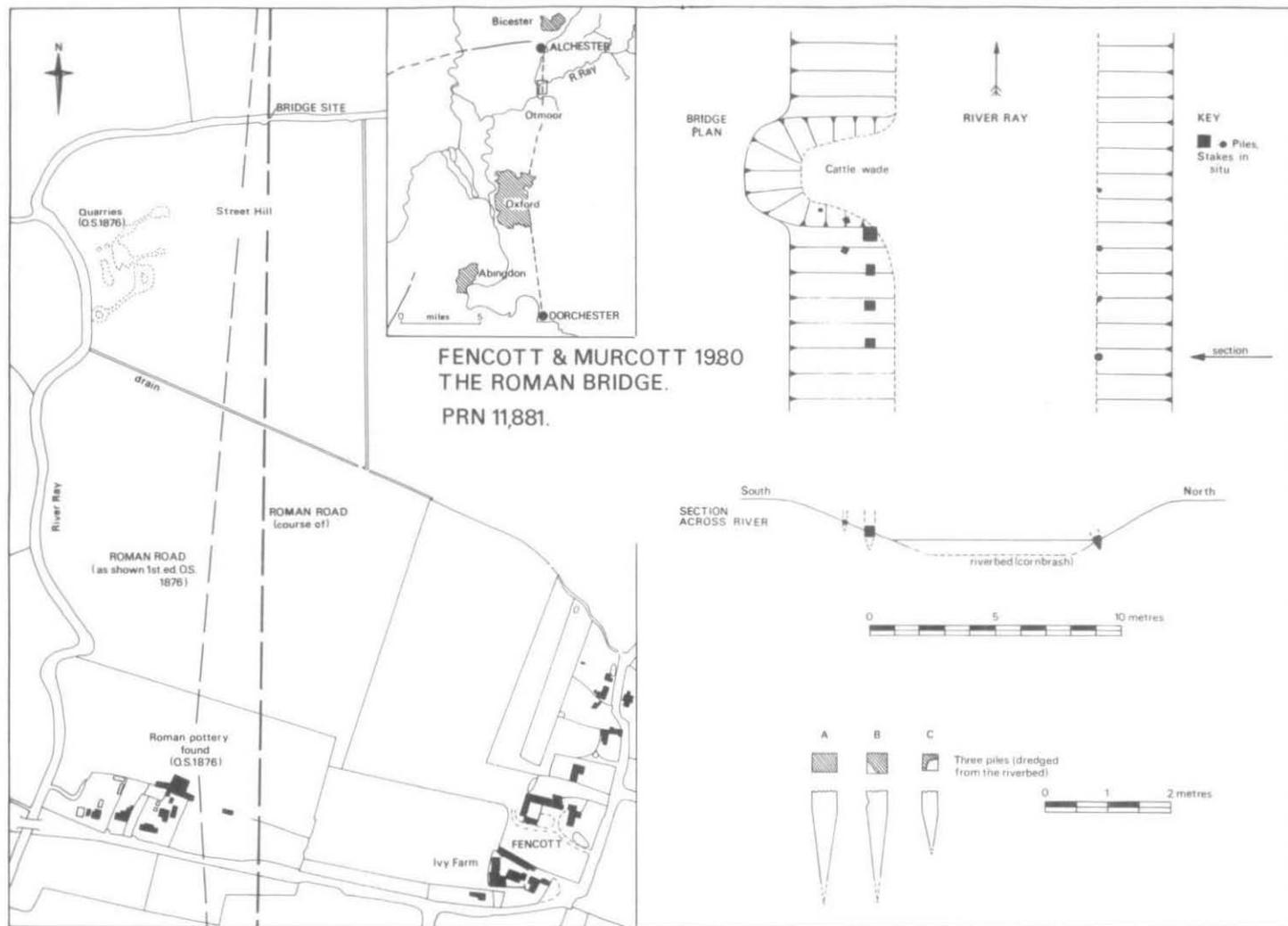


Plate 1. The modern south bank showing the stumps of four timber piles from the Roman bridge.

The present channel of the Ray cuts through 2 m. of pre-Roman silts which locally have replaced the Oxford Clay. This deep silting represents the former course of a much earlier and wider river.⁴

ARCHAEOLOGICAL BACKGROUND

The road carried by the bridge was the Alchester to Dorchester-on-Thames trunk road (Margary 160b).⁵ The route is marked on a map of 1775,⁶ and in 1841 enough survived for the Rev. R. Hussey to describe the road in some detail.⁷ The route continues to be marked on Ordnance Survey maps. Modern agriculture has destroyed the road in many places although it still survives as a track across Otmoor. Immediately to the south of the Ray the Roman road crosses the Cornbrash outcrop significantly named 'Street Hill'⁸ although all trace of the road has now been ploughed away. To the north of the river the limestone outcrop creates a low ridge which gives the false impression of a ploughed-out agger.⁹ No trace of either the road or, if they ever existed, of embankments carrying the road up to the bridge survive on either river-bank.

The bridge is sited 3 km. south of the Roman town of Alchester. Locally Romano-British material has been found 0.5 km. north of the bridge,¹⁰ to the north-east of the bridge at Merton¹¹ and at Fencott 0.7 km. to the south.¹² Several Romano-British potsherds have also been found in river dredgings by the bridge. Although the Ordnance Survey drew the assumed line of the Roman road through the Fencott find spot, the position of the bridge remains suggests a straight route as shown in Fig. 1.

Dredging has provided the Ray with its present channel, centred one or two metres north of the course followed during the Roman period. In the 1st century A.D. the river channel, then some 10 m. wide, was heavily silted. The north bank lay at least 1 m. south of its present position and the south bank stood 2-2.5 m. south of the base of the present south bank.

THE BRIDGE REMAINS

The remains were confined to the stumps of four timber piles arranged in a line parallel with the south bank and a further three pile points dredged from the centre of the river. This showed the bridge was supported by at least two lines of timber piles driven vertically into the river bed. Two of the pile points dredged from the river measured some 1.3 m. long by 0.4 m. square. Each had a sawn, pointed end (A and B, Fig. 2). A third pile (C, Fig. 2) was slightly smaller.

It was an unusually low river level that revealed the intact line of piles embedded undisturbed in the present southern river bank. Each pile was formed from a single

⁴ Pers. comm. John Hazelden of the Soil Survey of England and Wales.

⁵ I.D. Margary, *Roman Roads in Britain* (1973), 163.

⁶ E. Bowen, *English Atlas* (1794).

⁷ R. Hussey, *An Account of the Roman Road from Alchester to Dorchester* (1841), 5.

⁸ Ordnance Survey, 1:50,000, 1st Series, Sheet No. 164.

⁹ C.B.A. Group 9 *Newsletter* 10 (1980), 186. In 1979 an archaeological test pit failed to find any trace of the road.

¹⁰ P.R.N. 11, 614.

¹¹ P.R.N. 13, 189.

¹² O.S. 25" (1881); *V.C.H. Oxon.* i, 337; P.R.N. 1812.



Plate 1. Roman Timber Bridge.

mature oak tree sawn approximately 0.4 m. square, similar to those dredged from the centre of the river. The piles were regularly spaced at 1.3–1.4 m. intervals giving an overall width of 4.1 m. between centres. To the west of the bridge a cattle wade had been cut into the river bank in more recent times. However, sufficient bank material remained undisturbed between the bridge and the cattle wade to ensure that traces of a fifth pile would have survived had one ever existed.

Two lines of stakes also survived, possibly the remains of revetting for the bridge abutments. Three stakes detected on the southern bank were set vertically. Two of these stakes, each 0.25 m. square, suggested the remains of a former line of posts driven in possibly to strengthen the river bank beneath the bridge. The isolated post set back from the river in the edge of the cattle wade may or may not have been associated with the bridgeworks. A line of four smaller stake points embedded in the north bank of the river were each tilted southwards into the river by an estimated 10°–20°. These may represent a failed attempt to strengthen the north bank beneath the bridge, the subsequent collapse of this bank into the river having pushed the posts over.

There were many wood chippings and timber offcuts in the upper black silts surrounding the piles in the south bank. This debris is presumably contemporary with the construction of the bridge and suggests a weed-choked river channel.

DISCUSSION, INTERPRETATION AND CONCLUSIONS

The 1979 re-cutting of the river channel demonstrated that the river had altered its

course and width very little since the Roman period. The remains uncovered appeared to represent a single construction phase. There was no obvious evidence for the bridge ever having been rebuilt.

The bridge was supported by at least two lines of timber uprights driven vertically into the river bed parallel to the river banks. There is currently only limited evidence for the maximum distance that could be crossed by the single span of a Roman period timber bridge.¹³ If the Fencott bridge was constructed with spans of less than 4.6 m., a third line of piles would have been required close to the north bank. No evidence was found for this. Therefore the bridge probably comprised two main 5.5–6.4 m. (18–20ft.) spans springing from the surviving line of piles by the south bank. With spans of 5.5–6.4 m., sufficient would have remained of the northernmost span to secure the bridge on the north bank. The excessive weight of this span on the northern bank may have been responsible for the apparent collapse of this bank into the river.

The intact line of piles in the southern bank suggests an overall bridge width of about 4.5 m. (15 ft.). This is similar to the 5.5 m. (18 ft.)-wide embankment carrying the road up to the bridge at Aldwinckle,¹⁴ and is 1.5 m. (5 ft.) wider than the road metalling of Akeman Street leading up to the site of the bridge at Asthall Leigh in Oxfordshire.¹⁵ From the existing evidence there is little doubt that the Fencott bridge is a typical example of the many timber bridges that carried Roman trunk roads across smaller water courses in lowland Britain.

Trajan's Column pictures several representations of timber bridges whose main characteristics are stout upright timbers cross-braced to each other and surmounted by a flat roadway.¹⁶ The apparent absence of causeways leading up to the Fencott bridge suggests a flat construction which did not require any change in road level. At Fencott the banks are high enough to provide a working clearance above the water during normal weather conditions.

The construction of the bridge at Aldwinckle was more substantial than at Fencott, and the river deeper and wider. The two lines of piles at Worthing (Norfolk)¹⁷ dated to the second quarter of the 2nd century A.D., appear to represent a similar construction technique to that employed at Fencott with vertical piles supporting the whole weight of the roadway. Although the piles were probably cross-braced to provide a rigid structure, no evidence of this survives at Fencott. The permanently sluggish flow of the Ray, even when full, would have made ancillary side bracing to buttress the bridge against the pressure of fast-flowing flood water unnecessary.

The dendrochronological dating of the construction of the Fencott bridge to sometime soon after 95 A.D.¹⁸ also implies the construction date of the northern section

¹³ D.P. Dymond, 'Roman Bridges on Dere Street, County Durham', *Arch. Jnl.* cxviii (1961), 146; comments by N.J. Stunter in D.A. Jackson and T.M. Ambrose, 'A Roman Timber Bridge at Aldwinckle, Northants', *Britannia*, vii (1976), 47–8.

¹⁴ Jackson and Ambrose op. cit. note 13, 43.

¹⁵ G.C. Stevens and J.N.L. Myres, 'Excavations on the Akeman Street, near Asthally, Oxon., Feb.–June 1925', *Antiq. Jnl.* vi (1926), 46–7.

¹⁶ C. Cichorius, *Die Reliefs der Traianssäule herausg und historisch erklärt. 1^{er} Tafelband: Die Reliefs des ersten Dakischen krieges* (1896–1900), Taf. 1–57.

¹⁷ J.C.M. Toyne and R.R. Clarke, 'A Roman Decorated Helmet and Other Objects from Norfolk', *Journal of Roman Studies*, xxxviii (1948), 26.

¹⁸ J. Fletcher, 'Roman and Saxon Dendro. Dates'. *Current Archaeology* 76 (May 1981), 150–152; C.B.A. Group 9 Newsletter 12 (1982). This dating was confirmed by one radio-carbon date: ref. HAR 4203: 1810±70 yrs. BP (uncorrected). Corrected using Stuiver's high-precision curve, this date broadens out to A.D.70–340 at the 68% confidence level.

of the Dorchester-Alchester road across Otmoor. This does not necessarily date the construction of the whole of the Dorchester-Alchester road, which may have initially skirted round the boggy wastes of Otmoor until the end of the 1st century A.D.

It is not known how long the bridge remained in use. Although by the 3rd century the timber bridge at Aldwincle had been twice rebuilt, there was no evidence for a rebuilding of the Fencott bridge. This suggests that the route across Otmoor was not maintained for wheeled traffic throughout the Roman period.

Until recently, a stony ford is reputed to have existed across the river Ray by Street Hill.¹⁹ It is possible that the river-crossing was converted to a ford well before the end of the Roman period.

The Society is grateful to the Historic Buildings and Monuments Commission for a grant towards the publication of this paper

¹⁹ Pers. comm. local inhabitants.