A 12th-century building on the London waterfront

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IN 1988-9, the foundations of a mid-12th-century waterfront building were excavated by the Department of Urban Archaeology on the Thames Exchange site[1] to the east of Southwark Bridge, in advance of a major redevelopment scheme on the north bank of the Thames (Fig. 1). The building in question lay some 10m (33ft) south of the present-day line of Upper Thames Street on land which had been progressively reclaimed from the river between the 10th and the late 12th centuries. It lay within a property plot bounded to the east by an alley later known as Brick Lane, while to the west in the 12th century was an inlet at the foot of the street now called College Hill.

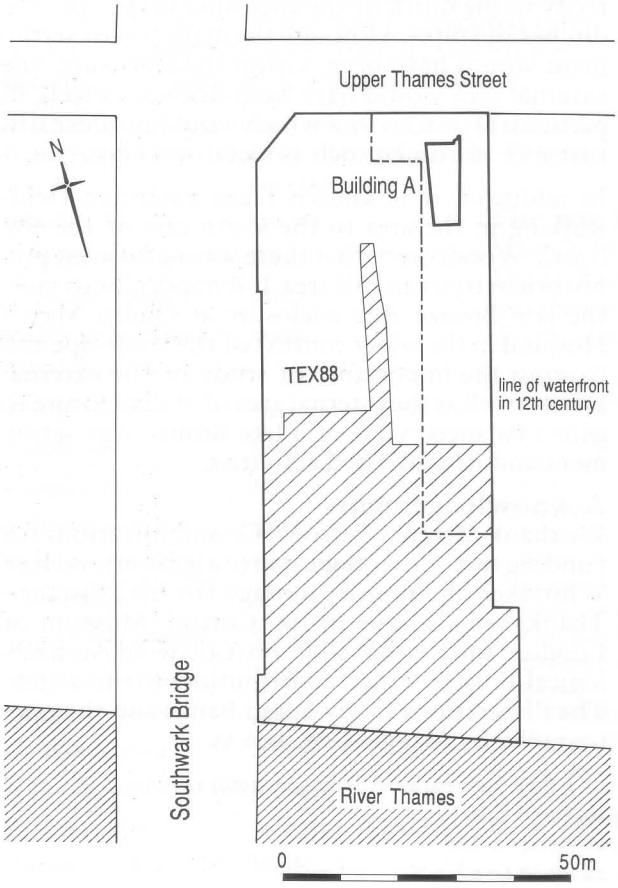

Fig. 1: Plan showing location of Thames Exchange excavation (TEX88), lying on reclaimed land on north bank of river. Area of controlled excavation marked by dashed line; alignment of indented 12th-century waterfront shown with Building A to north. (S. Hurman)

The foundations were substantial, of an unusual type, and were located in the eastern half the Vintry, the area at the heart of the Anglo-Norman wine trade. Such a closely-dated building was a rare find on the waterfront, and its detailed study seemed to offer insights into the commercial development of the port in the 12th century. However, there was no funding made available to the Museum archaeologists to conduct the necessary research on the field records, beyond the survey of selected medieval riverfront revetments published in 1992[2]. A study of this enigmatic building was therefore made by the author in an undergraduate dissertation, prepared in partial fulfilment of the requirements for a BA degree in Archaeology by University College London in 1993. The summary of that dissertation presented here describes the remains of the building, sets it in its context, and attempts to interpret it.

Building A: foundations

Substantial remains of the foundations of a medieval building were recorded during the controlled excavation of the north-east side of the site. Although disturbed by trenches dug to insert modern steel girders, it proved possible to recover the plan of the building, Building A (Fig. 2). In its first phase, its foundation trench enclosed an area of between 2m and 2.8m (7ft and 9ft) east-west by 11m (36ft) north-south, although the continuation of the line of the foundations beyond the north wall suggests the range continued northwards. The foundation trench was cut into peat-like material which had been dumped over a wide area of the site, sealing a series of late Saxon embankments. Although the top edge of the cut had been truncated over much of its length, where the full depth survived, it seemed to be up to 0.7m (2ft) deep, and had been cut from the contemporary ground level which sloped from north-west to south-east, from +2.02m OD to +1.68m OD. However, it is not known

1. Field records held by the Museum of London under site code TEX88. The fieldwork was supervised by C. Milne and G. Milne: the provisional archive report was compiled by M. Colquhoun and J. Stevenson. The excavations in 1988-90 were funded by Kumagai Gumi UK Ltd.
2. G. Milne *Timber Building Techniques in London 900-1400* London Middlesex Archaeol Soc Special Paper no 15 (1992) 42-63.

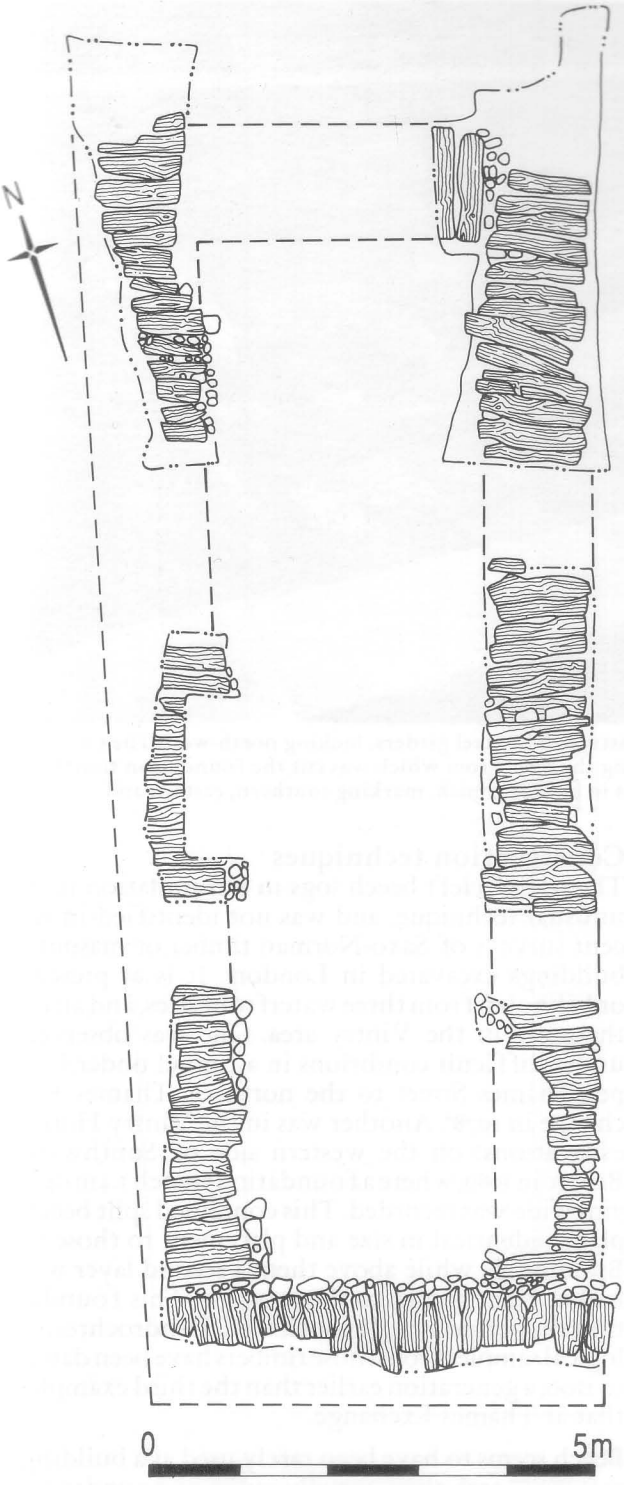

Fig. 2: Plan of Building A (TEX88) showing excavated foundation raft of cleft beech logs with stone packing: *cf* Fig. 3. (S. Hurman)

how much the underlying peat had compacted since the building was laid.

A layer of radially-split beech logs up to 1.2m (4ft) long and 0.3m (1ft) wide had been placed over the floor of the foundation trench (Figs. 2, 3), and the area between the ends of the cleft wood and the edge of the cut was packed with chalk rubble. This horizon was sealed by a levelled layer of gravel and chalk packing up to 100mm (4in) thick.

Over this were set large timber baulks up to 6m (20ft) long and over 0.5m (20in) wide (Figs. 4, 5): all were boxed-halved and of good quality straight-grained oak. They were laid in pairs at right angles to the beech members, the outermost baulks being wider and longer than the innermost members. Although these oak baulks only survived on the northern and eastern sides of Building A, it is assumed that the same pattern had once continued to south and west.

Building A: walls

The first phase of the superstructure of the contemporary building was raised over those baulks. The north wall seemed to have been up to 1.54m (5ft) wide at its widest point, although all that survived was the lowest 0.2m (8in) course of chalk blocks up to 0.35m (14in) across. The fragmentary nature of the remains makes interpretation difficult: the chalk may have formed a rough foundation course or served as a rubble core for an ashlar wall, the facing of which was subsequently robbed. Evidence of the internal surfaces only survived in two small isolated areas of stratigraphy, and comprised a sequence of levelling layers 0.1m (4in) thick separated by grey silt deposits 30mm (1.2in) thick. Finds from these levels included bone, a little pottery and a bone pin.

A later modification to Building A may have seen the east and west walls rebuilt with ragstone blocks set in a yellow/orange mortar, of which only one course survived. This phase may have been contemporary with the extension of the building by 15m (49ft) to the south. The original north and south walls were probably retained as internal partitions.

Dating

Building A lay on land reclaimed in the late 11th to late 12th century, stratigraphically later than the construction of the TX2 structure, which incorporated timbers felled in 1066/73. The building could not therefore be earlier than the 11th century, while a cess pit containing a large group of 17th-century finds had been cut into it.

The beech and the oak timbers from the foundations were sampled for the Museum of London

Fig. 3: Detail of Thames Exchange excavation (TEX88), much disturbed by steel girders, looking north-west. The 5 x 100mm scale rests on an isolated island of stratigraphy marking the level from which was cut the foundation trench for the south wall of Building A. Note raft of cleft beech logs in base of trench, marking southern, eastern and western wall lines: *cf* Fig. 2. (MOLAS)

dendrochronological laboratory by Ian Tyers and Nigel Nayling. The beech planks were radially-split and retained sapwood and bark, enabling a precise felling date in the winter of AD 1135/6 to be suggested for the tree from which they were derived. This is one of the first features in London to have been successfully dated using a beech, rather than an oak, chronology. Although the date technically only provides a *terminus post quem* for the waterfront building, it seems likely that the beech was cut to order and was used green, since the bark was still adhering. The only dated sample from the oak baulks had all the sapwood removed, but the outermost surviving ring was dated to 1088. Allowing for between 30 and 60 years for the missing sapwood rings, an approximate felling date range of between 1118 and 1148+ could be suggested[4]. Although this is only an estimated figure which further analysis may clarify, it indicates that the oak baulks were probably contemporary with the beech foundations, and are unlikely to be reused timbers or to represent a substantially later rebuild.

Construction techniques

The use of cleft beech logs in a foundation is an unusual technique, and was not identified in recent surveys of Saxo-Norman timber or masonry buildings excavated in London[5]. It is at present only known from three waterfront sites, and all of them are in the Vintry area. One was observed under difficult conditions in a tunnel under Upper Thames Street to the north of Thames Exchange in 1978[6]. Another was in the Vintry House excavations[7] on the western side of Southwark Bridge in 1989, where a foundation trench 1.4m (4ft 7in) wide was recorded. This contained split beech planks identical in size and placement to those in Building A, while above them a second layer was laid at right angles to those below. This foundation supported a chalk block wall. Dendrochronological samples from those timbers have been dated to 1106, a generation earlier than the third example, that at Thames Exchange.

Beech seems to have been rarely used as a building material, and then usually only as foundation

3. *Ibid*, 47-9.

4. Dendrochronological data kindly supplied by I. Tyers (MOLAS).

5. V. Horsman et al *Aspects of Saxo-Norman London, 1: building and street development near Billingsgate and Cheapside* London Middlesex Archaeol Soc Special Paper no 11 (1988); J. Schofield *et al* 'Medieval Building and Property Development in the area of Cheapside' *Trans London Middlesex Archaeol Soc* 41 (1990) 164-6.

6. Site code TST78: *London Archaeol* 3 no 10 (1979) 261.

7. Site code VRY89: *London Archaeol* 6 no 6 (1990) 167.

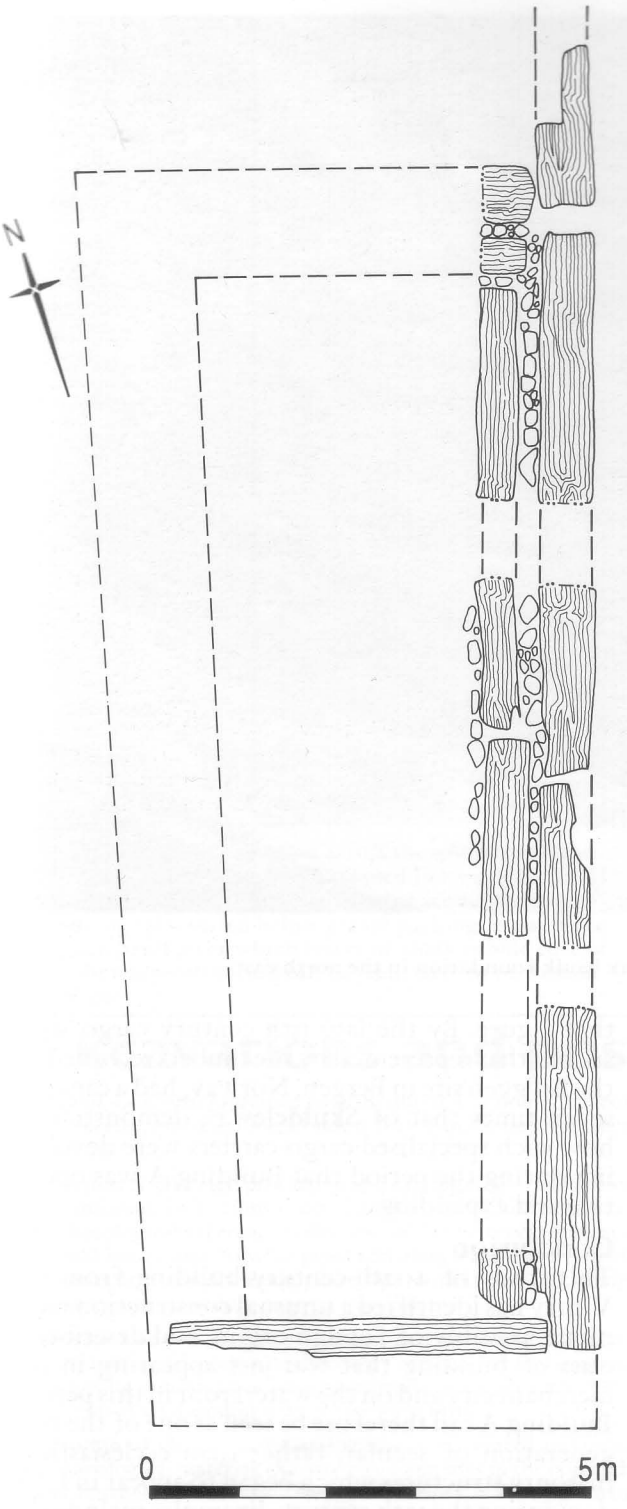

Fig. 4: Plan of Building A (TEX88) showing excavated foundation of paired oak baulks which sealed the beech raft shown in Fig. 2: *cf* Fig 5. (S. Hurman)

piles. On the Milk Street site for example, such piles were used to stabilise a 12th to 13th-century masonry building which was built over earlier rubbish pits[8]. Elm was frequently used for foundation work in waterlogged conditions[9], but it does have a tendency to warp which might have been the reason for favouring beech as a horizontal levelling layer. Its introduction could simply represent a development specifically designed to prepare otherwise unstable waterlogged made ground to accept the weight of the new masonry buildings, which had hitherto not been common in the City. However, it is just possible that the technique was not a native one, but was introduced into London by the alien community which lived and worked in the Vintry area.

The excavator initially interpreted the oak baulks of Building A as the base of a timber stave-walled structure[10]. However, this seems unlikely since the beams contain no mortises or evidence for similar joinery at the corners to support vertically-set members. It is argued here that the oak baulks acted as a foundation bed for a masonry wall, represented by the fragments of chalk rubble which were recorded on site. It is therefore suggested that the beech, oak and masonry elements all form one contemporary construction phase. This is similar to the techniques used on the 15th-century river wall at Trig Lane[11], where vertically-driven piles were substituted for the horizontally-laid beech.

Form and function

It has been shown that the foundations of Building A seem to represent the footings of a substantial masonry-walled structure, presumably of more than one storey. Although no evidence of a doorway or threshold was found, it was probably entered from the east *via* the alley later known as Brick Lane. To the north, it may have been joined to a less robustly-founded building. To the south was the Thames, although after further reclamation associated with the TX3 revetment[12], it lay 30m (100ft) from the south wall of Building A by 1170.

The plan of Building A was probably typical of that favoured by buildings on medium-sized ur-

8. J. Schofield *et al* 'Medieval Building and Property Development in the area of Cheapside' *Trans London Middlesex Archaeol Soc* 41 (1990) 165, fig 53.
9. J. Schofield *The Building of London from the Conquest to the Great Fire* (1984) 97.
10. G. Milne and D. Goodburn 'The Early Medieval Port of London AD 700-1200' *Antiquity* 64 (1990) 635, fig 7.
11. G. Milne and C. Milne *Medieval Waterfront Development at Trig Lane* London London Middlesex Archaeol Soc SpecialPaper no 5 (1982) 41, fig 35.
12. *Op cit* fn 2, 50-3.

Fig. 5: the 5 x 100mm scale rests on the worn surface of the oak baulk foundation in the north-east corner of Building A (TEX88), looking north-east (MOLAS).

ban plots in the 12th century, which had a shop placed on the principal street frontage behind which was a range incorporating a first-floor hall over store rooms[13]. It is therefore possible that the ground floor of the London building was used for storage and the upper floor for living accommodation for the merchant. In general form, a broad parallel could be sought in the medieval port of Southampton, in the eastern end of the building known as Canute's Palace for example, which had a counting house on the first floor[14].

The storage capacity of the lower floor of Building A in its first phase would be some 44 cu m (1550 cu ft), a figure which can be compared with that of medieval merchant vessels. The 11th-century ship Skuldelev 1 excavated in Denmark in 1962-3 could carry 40 cu m (1400 cu ft) of cargo, for example, and the larger 12th-century Lynaes vessel twice that figure. By the late 13th century cargo ships such as that represented by the timbers recorded on the Bryggen site in Bergen, Norway, had a capacity seven times that of Skuldelev 1[15], demonstrating how such specialised cargo-carriers were developing during the period that Building A was operative and expanding.

Conclusion

This study of a 12th-century building from the Vintry has identified a unusual construction technique, possibly of foreign origin, and described a class of building that was just appearing in the merchant city and on the waterfront in this period. Building A can therefore be seen as one of the new generation of secular, rather than ecclesiastical, masonry structures which began to appear in London during the 12th century. Examples include the Earl of Warrene's house near London Bridge in

13. W. Pantin 'Medieval Town-house Plans' *Medieval Archaeol* 6-7 (1962-3) 202-239.

14. P. Faulkner 'The Surviving Buildings' in C. Platt and R. Coleman-Smith (eds) *Excavations in Medieval Southampton* (1975) 120-35.

15. O. Crumlin-Pedersen 1987 'Cargo Ships of northern Europe, AD 800-1300', in A. E. Herteig (ed) *Waterfront Archaeology in northern Europe*, 2 (Bergen), 83-93.

Fig. 6: Longitudinal section across the southern foundation of Building A (TEX88), exposed in trench cut to insert steel girder (see Fig. 3), looking west. Overlying beech log raft, sealed below gravel packing, is a substantial oak baulk over which traces of chalk rubble core of masonry superstructure can be seen, next to 5 x 100mm scale. (MOLAS)

Southwark, discovered in 1830, and the town house at Corbet Court, near Gracechurch Street, demolished in 1870[16], while a late 12th-century arcaded building at least 10m (33ft) long by 10.3m (34ft) wide was recorded on the Steelyard site at Cannon Street in 1989[17]. Such structures were more than status symbols, since they also protected valuable goods from theft, riot and conflagration: the Building Assize of 1189 recommended their use against the hazard of fire, for example. The number of masonry buildings constructed no doubt increased after serious fires such as the one which swept through the City in 1136: indeed it is just possible that Building A may represent just such a case, given the felling date of 1135/6 suggested for the timber used in its foundations.

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16. *Op cit* fn 9, 52-3.

17. C. Spence and F. Grew (eds) *Museum of London Department of Urban Archaeology Annual Review 1989* (1990) 22-3.

Excavations and post-excavation work

City of London. Enquiries to Museum of London Archaeology Service, Number One, London Wall, London EC2Y 5EA (071-972 9111).

Croydon & District, processing and cataloguing of excavated and museum collections every Tuesday throughout the year. Archaeological reference collection of fabric types, domestic animal bones, clay tobacco pipes and glass ware also available for comparative work. Enquiries to Mrs Muriel Shaw, 28 Lismore Road, South Croydon, CR2 7QA (081-688 2720).

Greater London (except north-east and south-east London), by Museum of London Archaeology Service. Excavations and processing in all areas. General enquiries to MOLAS, Number One, London Wall, London EC2Y 5EA (071-972 9111).

Borough of Greenwich. Cataloguing of excavated and other archaeological material, the majority from sites in the borough. For further information contact Greenwich Borough Museum, 232 Plumstead High Street, London SE18 1JT (081-855 3240).

Hammersmith & Fulham, by Fulham Archaeological Rescue Group. Processing of material from Fulham Palace. Tuesdays, 7.45 p.m.-10 p.m. at Fulham Palace, Bishop's Avenue, Fulham Palace Road, SW6. Contact Keith Whitehouse, 86 Clancarty Road, SW6 (071-731 4498).

Kingston, by Kingston upon Thames Archaeological Society. Rescue sites in the town centre. Enquiries to Kingston Heritage Centre, Fairfield Road, Kingston (081-546 5386).

North-east London, by Passmore Edwards Museum. Enquiries to Pat Wilkinson, Newham Museum Service, Archaeology and Local History Centre, 31 Stock Street, E13 0BX (081-472 4785).

Surrey, by Surrey County Archaeological Unit. Enquiries to Rob Poulton, Archaeological Unit Manager, Planning Department, Pelham Lodge, Kingston, Surrey (081-541 9457).

Vauxhall Pottery, by Southwark and Lambeth Archaeological Society. Processing of excavated material continues three nights a week. Enquiries to S.L.A.S., c/o Cuming Museum, 155 Walworth Road, SE17 (071-703 3324).