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# THE BRYGGEN PAPERS

MAIN SERIES · VOL 3, PART 2



THE BUILDINGS AT BRYGGEN  
THEIR TOPOGRAPHICAL AND CHRONOLOGICAL DEVELOPMENT

*Asbjørn E. Herteig*

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## FOREWORD

Volume 3, part 1, of *The Bryggen Papers* dealt with the southern part of the area of Bryggen which had been laid waste in the 1955 fire. It covered the six rows forming the properties of Bugården, Engelgården and Søstergården. Volume 3, part 2, which is presented here, concerns the northern part of the area laid waste by the 1955 fire, which in the medieval period also involved six rows, with possibly one or two more rows at an early stage in its history. A large part of this northern area formed the modern property of Gullskoen after 1702.

A narrow strip to the north, bordering the adjacent street of Dreggsalmenning, has also been included in this report, together with some of the results from the excavations undertaken by the Central Office of Historic Monuments and Sites (*Riksantikvaren*) out in the street itself in 1979, where the uncovering of the medieval thoroughfare known as *Mariakirkealmening* (St Mary's Church Road) provided an important topographical boundary. Similarly, mention is made in the summary of the results from a supplementary investigation carried out when the building contractors began work on the site after the archaeological excavations had finished. These results have previously been published in an article by Knut Krzywinski in the first volume of the *Supplementary Series* of *The Bryggen Papers*.

The excavations described in this report covered an area of c 1,600 sq m, lying mostly to the north of grid-line 48x on the site grid.

With this final stratigraphical and chronological analysis of the historical development of the site, approximately 500 buildings or parts of buildings have now been described, whose location and excavation had been documented by means of a considerable number of plans, sections and photographs, together with the commentaries in

the site notebooks. Other features which were located included 55 wells, 18 privies or latrines, 31 hearths or fireplaces, and an equivalent number of pits which had been used in the manufacture of slaked lime. Many of the hearths also seemed to be associated with this manufacturing process and a clear distinction between the different types has not been attempted here.

The full site archive is stored at Bryggens Museum in Bergen, together with all the finds from the excavations.

I should like to extend my grateful thanks to all my colleagues who have participated in the collation and preparation of this vast amount of material, including drawing assistants, photographers, computer staff and office personnel. Particular gratitude is extended to two long-standing colleagues, curator Egil Reimers for his constructive help in the study and analysis of the site plans, and draughtsman Svein Skauge for his untiring work at the drawing board and his excellent graphic design. My special thanks go also to the historian, Professor Knut Helle, for many years of close and fruitful co-operation, and to Clifford Long who has willingly and practically *con amore* devoted himself to the English translation of this and the previous volumes of *The Bryggen Papers*.

The publication of this volume is funded by the Norwegian Research Council for Science and the Humanities (*Norges Allmenvitenskapelige Forskningsråd*, NAVF), and the Historical Museum, University of Bergen.

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Bergen, May 1990  
Asbjørn E Herteig.

## GULLSKOEN

The excavation of the Bugården tenement during the initial stages of the archaeological investigations at Bryggen provided us with a detailed picture of the gradual expansion of the property westwards over backfilled deposits in the harbour basin. This development covered the period from the end of the twelfth century until around the year 1400. It would, of course, have been very desirable to have uncovered the rear parts of this tenement, but this was prevented at the time by the existence of standing buildings. A continuation of the excavation did become possible much later in connection with the redevelopment of the site, but those new investigations in 1971-74 and in 1979 were restricted in time and only involved parts of the lower occupation layers.

At an early stage in the investigations it was desirable to extend the site northwards across the neighbouring tenements in order to record the changes in their extent and layout at various periods. It was also natural to want to follow the continuation northwards of the early wharfs which had been recorded in Bugården. During 1963, the northwards extension of the excavation in the K and L grid-squares had reached Gullskoen, the most northerly of the tenements which had burnt in the 1955 fire, and contact had been established right across the site with the wharfs which were contemporary with the earliest wharfs in Bugården.

Having been occupied for so long with buildings and structures over the whole site which represented later



Fig 1 Bryggen before the fire in 1955. The area which was destroyed in the fire is outlined.



Fig 2 Plan of Bryggen before the 1955 fire. The Gullskoen area is shaded.

stages in the development of the tenements, there was an urgent need to move further back up the site in order to find the original part of the settlement. An opportunity to investigate the rear part of the site eventually presented itself in Gullskoen. Although it would have been much more sensible to have investigated the rear part of the Bugården tenement, Gullskoen provided the best alternative.

Gullskoen is mentioned for the first time in 1305-08, at which time it must have been situated further north than the modern property of that name, lying underneath the present wide street of Dreggsalmenning (Koren-Wiberg 1899, 265; idem 1908, 16; Lorentzen 1952, 87; Helle 1982, 236). After the fire in 1527 it seems to have gained possession of the area occupied by its neighbours to the south, the two single tenements of Lille Sveinsgard and Sveinsgard, and after the 1702 fire it expanded further southwards as far as the boundary of Søstergården. Other tenements which according to documentary evidence were located in this area were Miklagard, Oddsgard or Attugard, and an undeveloped site referred to as Nagels Grund. The determination of the actual location and extent of these properties and of the internal lines of communication which may have existed were hitherto unsolved problems on which more light is thrown by this report. However, we concentrate primarily in the present

report on the topographical and chronological development of the buildings and structures which have been localized in the different periods. It may then be appropriate *a posteriori* to compare the pattern of development which we have revealed with the information provided by the documentary evidence.

The name *Gullskoen* is used in this report for the whole of this part of the site at every period.

The excavation of Gullskoen continued each year from 1961 until 1969 as part of the general systematic investigation of the Bryggen site. The presence of standing out-buildings governed to some extent the size and location of the area which could be excavated each year.

The areas of major interest were the central and eastern parts of the tenement, but under the North Row of Gullskoen the upper layers in grid-squares F-I 3/4 at the seaward end of the site were investigated at different times during the years 1955-60. This work had to be given up after a time in order to concentrate on the extension of the site back as far as possible towards the standing buildings of Schøtstuene and the church of St Mary's. To the south, the outer limits of the excavation followed the 1955 boundaries of Gullskoen.

The site comprised twenty entire grid-squares and parts of five more, covering in all c 1600 sq m (figs 2 & 4).

In connection with the proposed redevelopment of the

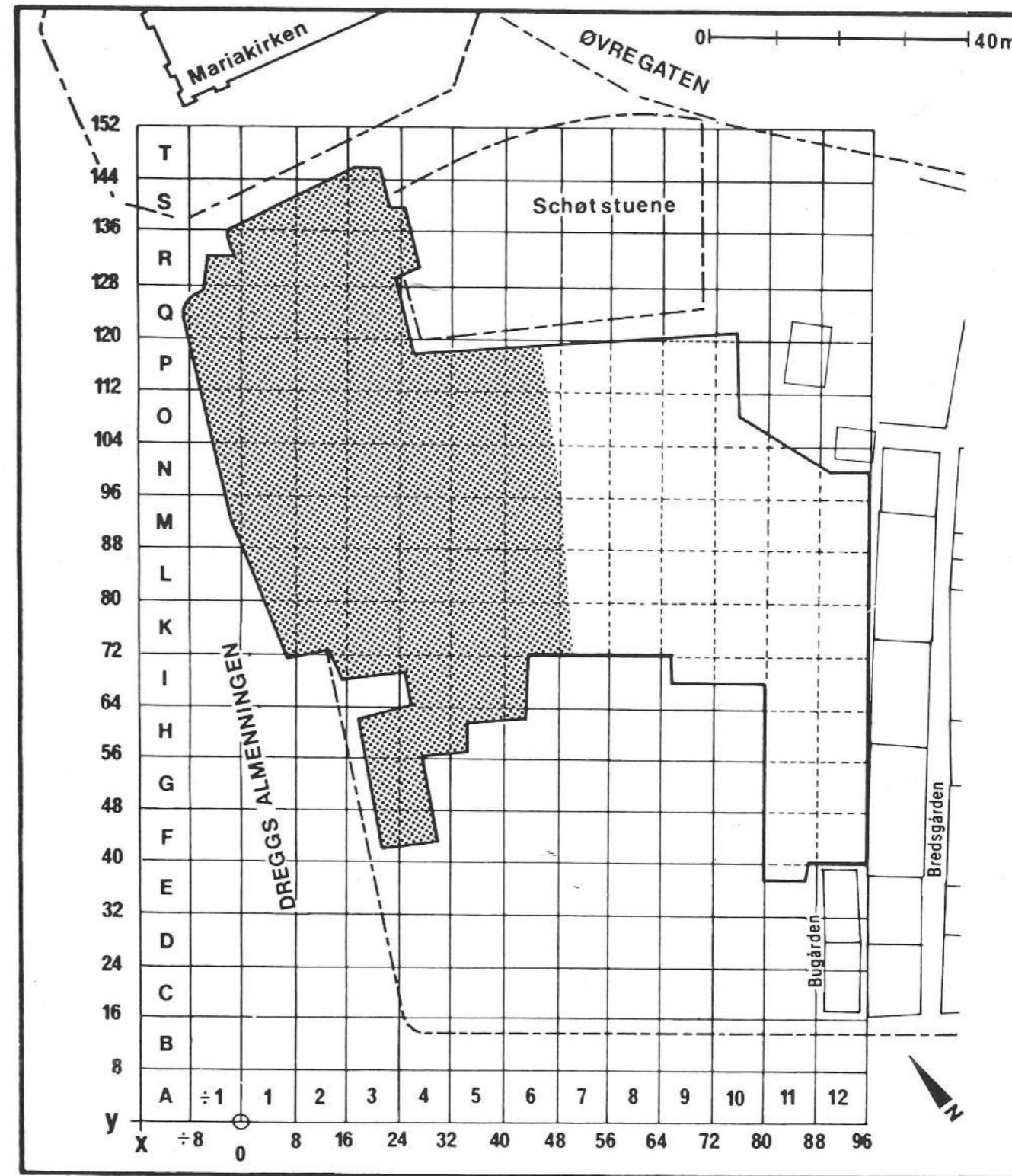
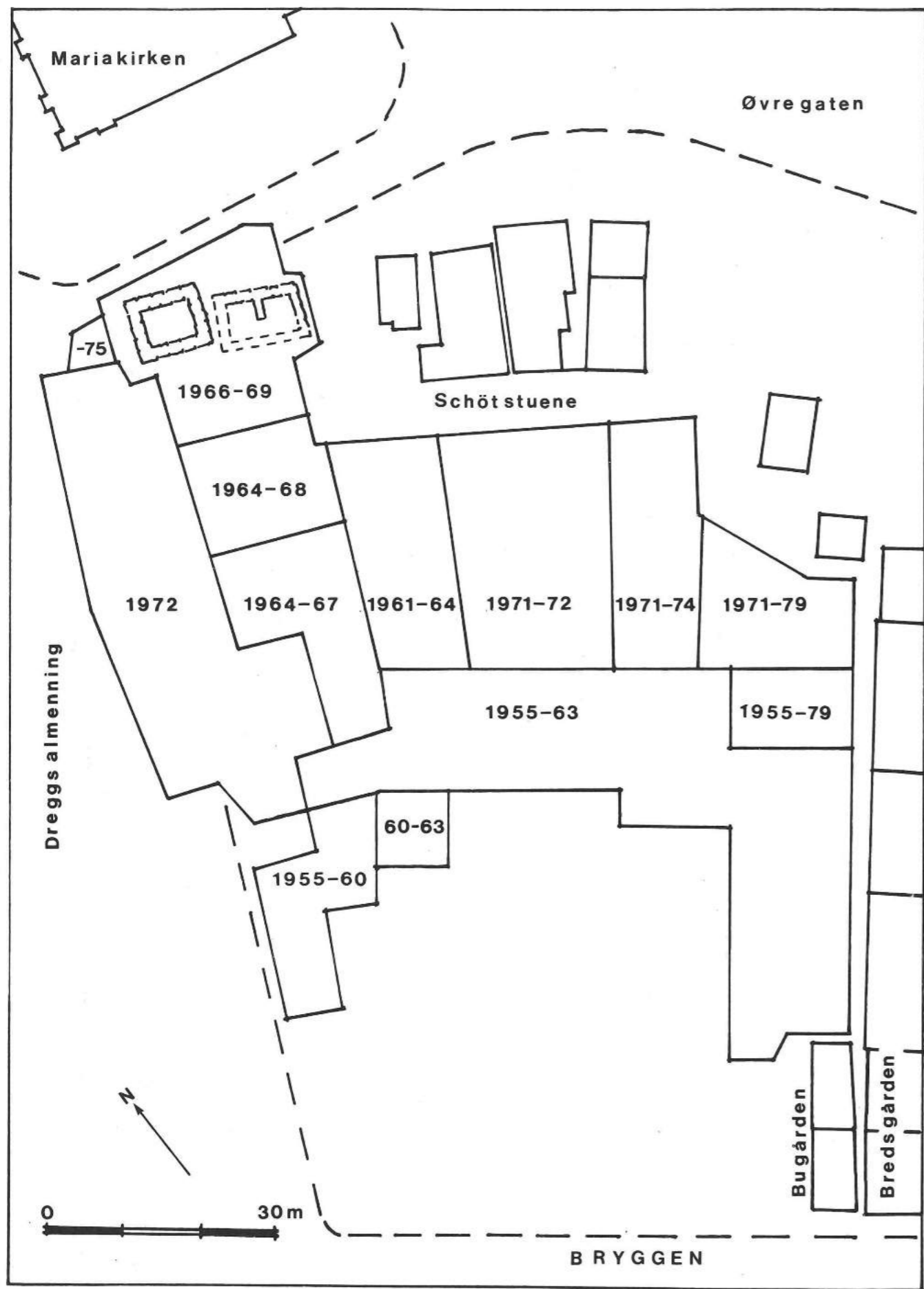


Fig 4 The grid system (Gullskoen area shaded).



Fig 3 The different stages in the excavation of the site.



site, the excavated area was extended northwards in 1972 and 1975, with the upper layers in each case being removed by machine down to the High Middle Ages before the detailed examination of the lower levels began. The excavations in 1972 were directed by Edward Harris and in 1975 by Arne J Larsen.

## Period 9

### Phase 9.2, burnt in 1955 (pl 1)

At the time of the fire in 1955, Gullskoen consisted of a triple row of buildings, but to all intents and purposes it was a double tenement to which an extra row of buildings had been added on the north side. The passage between the two main rows to the south, the double tenement proper, was irregular and unusually wide in the central part of the tenement. In more recent times, the widest part of the passage was blocked by a large store-shed (Building 404), which took up both the southern row and most of the passage.

More or less halfway along the North Row stood a stone building, Building 412, an above-ground "cellar", which not only divided this part of the tenement into two, but also caused the excavation of the row to be carried

out in two sections. The north-western section, comprising grid-squares F-I 3/4, H4, I5 and part of I6, was the area mentioned above, which was abandoned at an early stage in order to concentrate on the eastward extension of the site.

When the stone "cellar" was erected some time in the eighteenth century (Koren-Wiberg 1899, 266), it must have formed the easternmost building in Gullskoen. The area behind it, measuring at least 24m x 90m, must have lain open for most of the time and was probably used for growing cabbages, which was the traditional use of the rear sections of all the Bryggen tenements. This part of Gullskoen was still lying open around 1900, but according to the municipal surveyor's map of 1937 (Grimnes 1937, map section), there were eight outbuildings placed irregularly here (a-h), identical with those which, with minor alterations, were still standing in 1955 and which survived the fire.

On the ground surface there were traces of unconventional layouts, both internally and externally throughout the whole tenement. Moreover, the documentary evidence showed that the site had been developed in a more varied and irregular way than any of the other tenements which burnt in 1955, and in the course of time, this was confirmed by the excavations.

### South Row

As mentioned above (p 11), the South Row of Gullskoen underwent substantial alterations when the whole property was moved southwards after the 1702 fire. Of this row, the easternmost 45-46m were excavated. The rear part was occupied by a large outbuilding, Building 404; in the middle of the site lay the foundations of a smaller structure, Building 405; and at the front were the foundations and sill-beams from a large log-built structure, Building 160. This last building must have been erected early in Period 9 and it has therefore also been included on the plan of Phase 9.1.2 (pl 2), but it is described here under Phase 9.2.

Building 404 was a large, lightly-built structure, which occupied parts of grid-squares M, N, O and P 5/6. It had an earth floor and the ground-walls consisted of a row of single stones. Length c 28m; width 13-16m. Not drawn.

Building 405 (L6,I) was a lightly-constructed outbuilding with an earth floor and ground-walls under the west wall and parts of the adjacent north and south walls. The ground-walls, which were intact, had been carefully constructed with irregular stone slabs and were four courses high at the west end. Along the inside of the east wall was a single layer of bricks c 1m wide. The function of this feature is not known. Length (E/W) c 4m; width (N/S) c 9m. Eastern limit along c 89y; western limit at 85-85.40y.

Building 160 (L6,I,II; L7,I-III; K6,I,II; K7,I,II) had been a log-built structure whose long period of use was indicated by the remains of a series of floor levels. In the western part, the floor was laid longitudinally over a single layer of transverse joists. This was repeated throughout most of the building apart from small areas in the northern half in the middle of the building and to the east, where the floorboards and joists had been

replaced with a concrete floor supported on transverse beams. Over the rest of the area to the south and east the original longitudinal floor was covered by a new floor of transverse boards on longitudinal joists. Finally, in the north-east corner lay the remains of a later floor with longitudinal boards laid on transverse joists. The longitudinal floor at the west end may be contemporary with the original longitudinal floor in the north-east corner. The north wall of the building was in line with the north wall of Building 405 to the east, but this building was wider than 405, being c 22m long and 10.00m wide. Eastern limit at 84.20-84.70y; western wall outside the excavation area.

To the west of the stone "cellar" 412 in the North Row and the outbuilding 404 in the South Row, the tenement consisted of a regular double row with an extra row of buildings along the north side adjacent to the street of Dreggsalmenning. This was not a true side-annexe in the Bryggen sense, but it is designated as such here in order to avoid any confusion between this and the northerly of the two rows in the double row proper, and also to distinguish it from the various rows in the lower levels. Whereas the "Side-annexe" was a continuous construction running from the stone Building 412 to the wharf, the North Row consisted of two large buildings and a small one. Of these two rows, a small part of the North Row, comprising Buildings 414 and 415, and approximately half of the

eastern part of the Side-annexe, Building 413, lay within the area which was excavated at this level.

As in the eastern part of the tenement, which gave the impression of being used for functions originally foreign to Bryggen, both the construction of the various floors and the conditions in the western part reflected a varied and intensive use. An unusually rich variety of floor types were recorded, from flagstones and concrete to ordinary boards, the latter often repaired several times. The buildings in question showed the same layout and dimensions as those indicated on the city plan from 1937. For a plan of the northern part of the tenement in this phase, therefore, the reader is referred to Grimnes 1937.

### North Row

Building 414 had a flagstone floor. Dimensions of building c 12m x 8m.

Building 415 was log-built with a partly concrete, partly wooden floor. Dimensions 22.30m x 6.70m.

### Side-annexe

Building 413 had floors of various types and at various levels. Width at the east end a good 10m, narrowing westwards. Excavated over a distance of c 37m from the stone-built "cellar", Building 412.

## THE GULLSKOEN CHRONOLOGY

Fire	Date	Fire Interval Period	Building phase
O	1955		
		9	9.2 9.1   9.1.2 9.1
I	1702		
LOCAL FIRE 1527		8	8
II	1476		
		7	7
III	1413		
		6	6.2   6.2.2 6.2   6.2.1 6.1   6.1.2 6.1   6.1.1
IV	1332		
		5	5.2 5.1
V	1248		
		4	4.2 4.1   4.1.2 4.1   4.1.1
VI	1198		
		3	3.2 3.1
VII	1170/71		
		2	2.2 2.1
VIII	Prev. unknown		
		1	1.2 1.1

Fig 5 Periods and phases of the Gullskoen site.

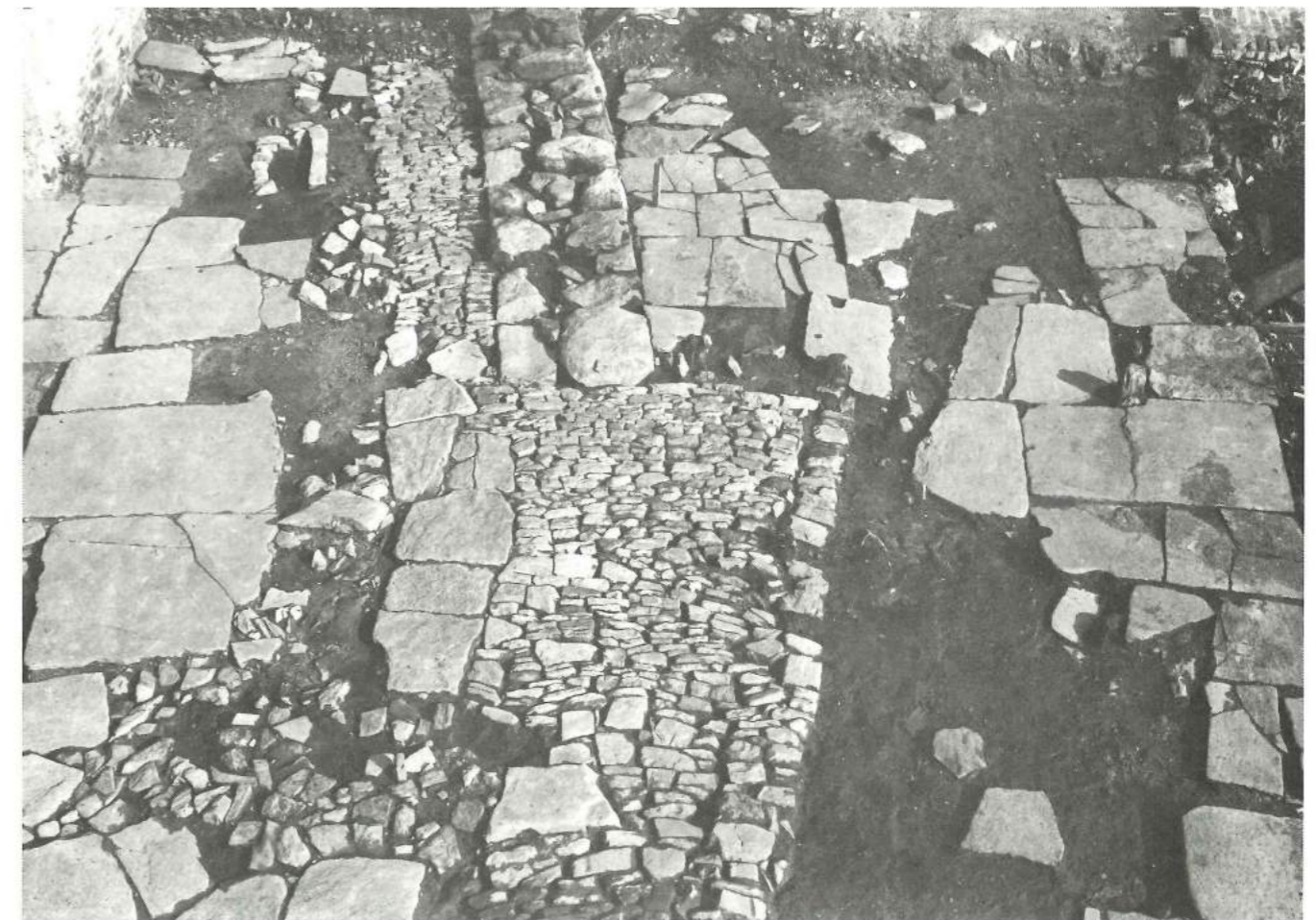


Fig 6 Stone paving in the open areas of Gullskoen, Phase 9.1.2.

Building 412, the above-ground "cellar" running across the North Row and Side-Annexe to the east, is thought to have been erected in Phase 9.1.1 (see p 21).

*Tenement passage*

At the time of the fire in 1955 the tenement passage between the South and North Rows formed a long funnel leading from Building 404 south-east of the stone "cellar" Building 412, where it was c 8m wide, down to the wharf, where it had narrowed to a width of scarcely 2m. Between Building 404 and the stone building was a high wooden fence with a gateway giving access to the north-eastern area. Here, all the open area was gravelled, but at an earlier stage it had been paved, especially to the south and west of the stone building, with a mixture of flagstones and cobbles. In some places broken stones and slabs had been set on edge, possibly as an aid to drainage under the later gravel surface and they are therefore interpreted as secondary with regard to the rest of the paving. Over much of the area the surface was disturbed due to the laying of drains and sewers in recent times. It is possible that both the paving and the earliest phases of Buildings 413-415 go back to Phase 9.1.2.

Beneath the stone paving of the passage just outside the north wall of Buildings 160 and 405 was a well-made stone-built drain (I) dating from the time of the erection of the buildings. The base was lined with boards and the

sides were built up with courses of flat stones. It could be traced eastwards in a straight line back to c 95y at the junction of the M and N grid-squares, where it suddenly stopped. The base at its eastern end was lined with flagstones, and in the western part of grid-square K5 a side drain ran into it from Building 160.

*Phase 9.1.2, unburnt level beneath the 1955 firelevel (pl 2)*

Underneath the buildings which were destroyed in the 1955 fire lay the scattered, discontinuous remains of structures, consisting of ground-walls, foundation posts, traces of floors, drainage channels and several levels of wooden paving. These deposits had been subject to some rather drastic disturbance in more recent times, which created problems in understanding the relative chronology. Evidence for Fire I (1702) was only found in a few places, and Fire Ib (1527), which was expected below this, was not recognized at all. A feasible relative chronology could nevertheless be built up thanks to a complicated drainage system, which was continuous in places. With the help of this and the occasional remains of structures in three successive levels over Fire I, the development of the tenement after the fire could be divided into two main phases, 9.1 and 9.2, the first of which was further subdivided



Fig 7 Different types of stone paving on the Gullskoen site, Phase 9.1.2.

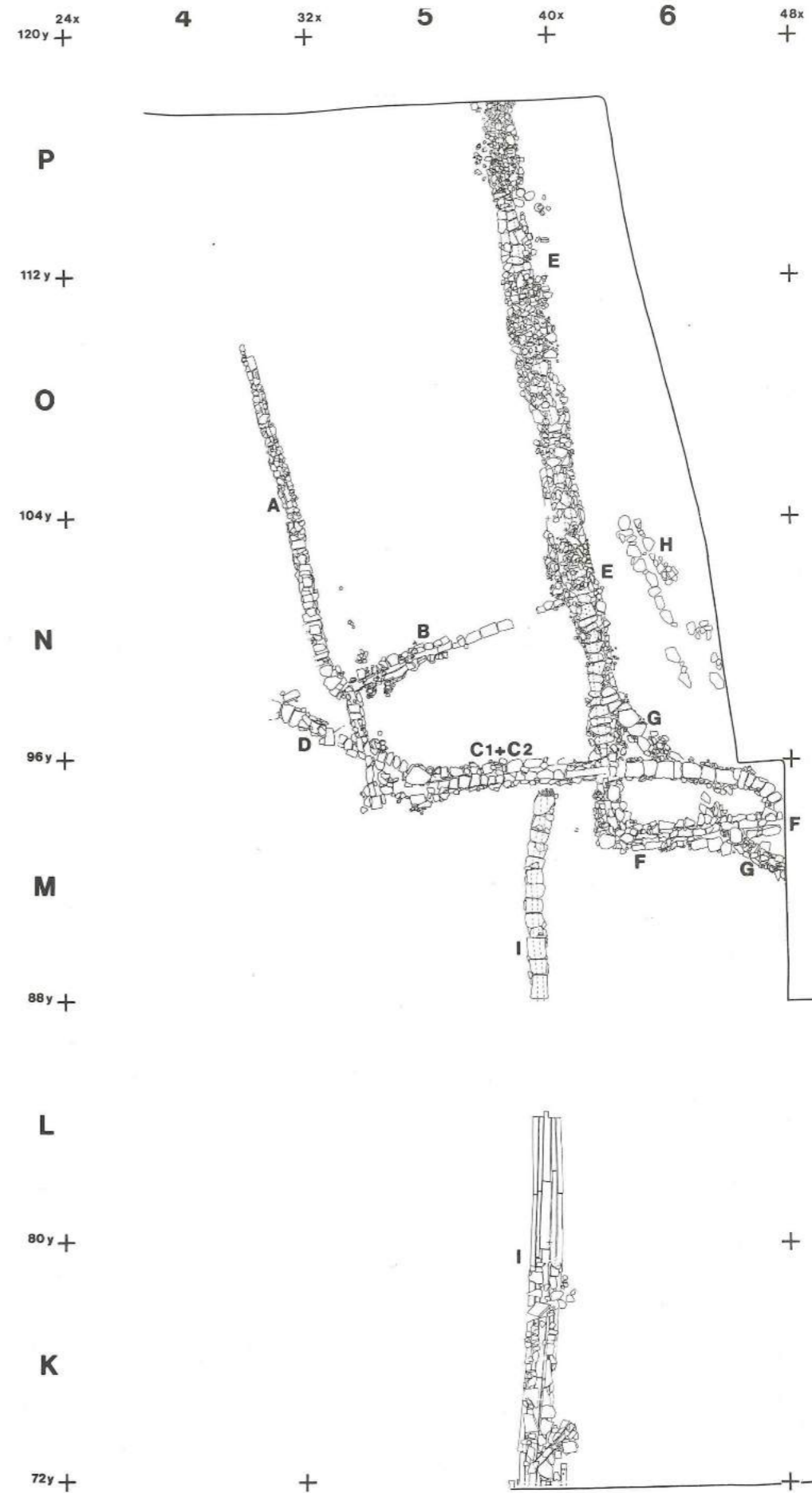


Fig 8 Drainage channels in Period 9. Drains A, B, C1, and possibly also D, are from Phase 9.1; the rest are from Phase 9.2. See also the phase plans of Period 9.

into 9.1.1 and 9.1.2 on account of two buildings which were replaced at some point during the first phase. However, the allocation of the various structures to specific phases was especially difficult, since buildings and out-buildings had been replaced at different times over a long period. The grouping of the structures into the phases and sub-phases must therefore be regarded as a tentative internal sequence within the main chronological framework, which could be established by means of the richly differentiated drainage system (cf composite diagram, fig 8).

#### The drainage system

In contrast to the other tenements, which had regular drainage channels in the passages and eaves-drip gaps, Gullskoen after 1702 had a complex system of drains in the central and rear parts of the tenement. Existing channels had been successively added to or adjusted, and this helped to demonstrate the sequence of events. This is a significant feature of this area and it probably arose from the fact that the site remained more or less open after 1476, or only had scattered buildings. According to the documentary evidence (Bruns 1900, 368; Helle 1982, 706-07), it was at this time that the properties north of Søstergården were stripped of any standing buildings in order to reduce the fire risk. It is known that parts of this area were not redeveloped until the 1560s at the earliest. The ground here does not seem to have possessed the same drainage properties as those areas which overlay the ordinary foundation substructures.

As the drainage system to some extent has been instrumental in the interpretation of the sequence of structures here, a general description of it is given first.

Drain A, the drainage channel which was obviously the earliest, was recorded between c 109y and c 94y, but its continuation in both directions had been removed at a later date. At c 98y, between grid-squares N4 and N5, it was joined by a side channel, B, from the SE, after which it continued for c 4m, at which point it suddenly stopped. Starting just to the east of the secondary termination of channel A, and quite unconnected with it, was Drain C, which ran across the site and out of the excavated area in the eastern part of grid-square M7. Drains A and B were for the most part constructed with slabs of red sandstone. These two, and probably also Drain C, appear to belong to the first part of the period, Phase 9.1.1.

After Drain A had gone out of use, it was crossed at 96.50y by a side-channel, D, which ran into Drain C from the NE. The base of Drain C was originally lined with flat stones (C1), but at a later stage the drain had been relined with planks forming a V-shaped cross-section (C2).

Also at a later stage, a new main channel, E, was laid in an E/W direction 6-8m south of Drain A. At c 96.5y it crossed the transverse Drain C, turning a right angle to the south immediately afterwards at 93.40y. This branch, F, ran beyond the edge of the site in grid-square M7 at approximately the same place as the cross-drain C. Another branch, G, was secondarily added to E, running in a NE/SW direction parallel with D to the north. Starting at c 98y, it crossed both the earlier transverse drains C and F. These all presumably collected in a common drainage channel in The Old Church Road on the north side of Søstergården. Drains E, F and G, together with the re-lining of the transverse drain C, are all associated with Phase 9.2.

Finally, in the eastern part of the site were the remains of a drain, H, 1.5-2m south of G and converging slightly towards it. It must have been laid at a relatively late date after Fire I, but its relative position in the chronology is difficult to establish.

The transverse drain C divided the site into an eastern and a western section approximately along the junction of the M and N grid-squares. To the west in M5 there were some stone alignments, which may have been the remains of drains or of ground-walls for light structures, but they were so fragmentary that it was difficult to place them in any reasonable context. They are included in the composite plan, but not commented on further. The most dominant drain in this area was channel I, an E/W drain starting just to the west of the transverse drain C and running beyond the west end of the site at c 72y. It was constructed with two rows of untrimmed stones with an unlined base at the eastern end and with bottom boards at the west end, north of Building 160.

All the drainage channels were constructed with sides of untrimmed stones laid in two or more courses. Drains A and C in the earliest phase and G and F in the latest phase had flat stones placed on the bottom, while the main Drain E, the latest phase of the transverse Drain C, and the western end of Drain I had planks lining the bottom.

The course of the drains does not seem to be dictated by the natural lie of the land, as this falls evenly to the west, while the drains run off in various directions. Their particular orientation must therefore be a consequence of the use of the area. As the remains of structures belonging to the earlier part of the period 1702-1955 were few and not very instructive, and as the drains were laid out of doors in the passages and eaves-drip gaps and along property boundaries, they have made a valuable contribution to the interpretation of the relative chronology of this period.

#### South Row

Beneath the South Row of Gullskoen the remains of four buildings were recorded: 410, 408 and 407 standing in a row, with 409 built up against the north wall of 408 in the wider eastern part of the property, on the site later occupied by the outbuilding 404. Moreover, Building 160 described in Phase 9.2 must have been contemporary with these for a while. They may all in fact have been erected and pulled down at different times.

Building 410 (N5,I; O5,I) comprised the western part of the southern ground-wall, made up of a single course of stones, and the adjacent part of the western ground-wall. The building was cut through by the main Drain B to the east. Maximum recorded length E/W 5.70m. Maximum recorded length of the west wall 90 cm.

Building 408 (M6,I; M6,I.1) had a flagstone floor and a well-built fireplace, Hearth 30, against the north wall. The firing chamber and part of the base was built with yellow and red brick with a liberal use of mortar. There was a suggestion of a secondary hearth on the south side of the main fireplace. To the east the building was cut through by two drains, F and G, both running from the main drainage channel E. The dimen-

sions of the building are not known. Maximum recorded length E/W 3.50m; maximum recorded width 6.00m.

Building 407 (L6,II; L7,III) consisted of a strip of flooring c 2.4m wide in the western part of a building whose limits are unknown. Western limit along 84.40-84.85y. The building was c 8.7m wide. Against the outside of the south wall near its western end was a stone platform of unknown function. Under the western part of this a plank-lined drain ran in a right angle towards the south. A row of stone slabs stood on edge at an angle against the west side of the stone surface.

Building 409 (M5,I; M6,I) lay immediately north of Building 408 and consisted of parts of a stone-paved floor, whose eastern edge ran along the transverse Drain C in its latest phase. The other limits of the building are unknown. Maximum recorded length E/W 4.50m; width recorded as c 3m, but was probably 5-6m. In the north-west corner a number of paving stones lay at the same height as the floor, but were separated from this by two slabs set on edge. It is uncertain whether the upright slabs mark the north wall or some internal feature. The latter interpretation is preferred.

The recorded limits of Buildings 408 and 409 are not definite, as the floors and wall footings were partly missing. Moreover, Building 408 at least was cut through by drainage channels. The transverse side-channel F, which turned a corner here, does not seem to have affected the building, and it is reasonable to assume that it turned the corner on account of some physical hindrance and that this hindrance was Building 408, as there was no evidence for any earlier structure here. It is tempting to regard Building 408 as the kitchen (Norw *ildhus*) and Building 409 possibly as the communal building (known locally as *schøtstue*), for which according to a property survey dated 8 February 1711 (DHMS No.5, 64-66) land was given in the southern rear part of the tenement.

In addition to these, Building 160 was probably erected in this phase (described in Phase 9.2).

#### North Row, western part

In the north-western part of the site the remains of four buildings were recorded: 449 and 450 beneath the North Row, and 451 and 452 beneath the Side-annexe.

Building 449 (G4,II; H4,II,III; H5,I) comprised one layer of transverse foundation timbers and parts of the northern ground-wall consisting of a single row of small irregular stones. Eastern limit at the north end probably at 63.00y; western limit at c 55.2y. Length c 8m; maximum recorded width c 9.5m

Building 450 (F4,II; H4,III) lay adjacent to Building 449 and consisted of parts of a sill-beam with mortises for the upright wall-studs, together with the northern ground-wall made up of 2-3 courses. Eastern limit at the north end at c 55y; western limit probably at c 42.5y. Assumed length c 12.5m; width unknown.

#### Side-annexe

Building 451 (H3,III; H4,III) comprised the ground-walls one stone in width and 2-3 courses high under the north, south and west walls. The remains of a row of stones following the central axis of the building may have belonged to this structure and have been included with some reservation. To the east it abutted a rubble-core wall 1m wide, whose relationship to Building 451 was unclear as it lay right on the edge of the site and could not be properly examined. Eastern limit of the south wall at c 62.4y; western limit at 56.00y. Length 6.50m; width c 6.8m.

Building 452 (F3,III; F4,II,III; G3,II; G4,III) consisted of ground-walls one stone wide under the north, south and west walls, and parts of a transverse wall. Large stones had been used. The eastern wall was probably a shared party wall with Building 451 along 56.00y to the south; the western wall was at c 43.6y. Estimated length c 12.7m; width c 6m.

At the southern edge of the site in this phase, the buildings in the South Row abutted Søstergården, so that The Old Church Road from the preceding Phase 9.1.1 was obliterated. In both Phases 9.1.2 and 9.2 the gap between the two tenements was a good metre wide.

The system of drainage channels laid out in the first phase following Fire I continued to function in this phase, 9.1.2, but had been partly renewed and extended in some places (figs 8 & 9). Drain C to the east of Building 409, the bottom of which in its primary stage (C1) had been lined with flat stones, was now built up and planks were laid in the bottom (C2). It ran out through the earlier southern part of Drain C to the east of Building 408.

Some time between Phases 9.1.1 and 9.2 a dry stone wall was erected in a straight line from around 150y just west of St Mary's churchyard to c 84y in grid-square L5, a distance of c 33.5m. It was c 2.9m wide and up to 90cm high, and was built with a mixture of large boulders (at the base) and flat slabs.

Within the south-eastern part of the site, in grid-squares N5 and O5, there were settings for posts which were clearly associated with buildings, but their mutual relationships and chronological context could not be determined. As they all appear to be late they have been placed in Phase 9.2.

#### Phase 9.1.1, lower unburnt level over Fire I (fig 9)

From the first phase after Fire I there was evidence for two buildings, 411 and 406, in the South Row. The primary elements in the drainage system also belonged to this phase, as well as parts of The Old Church Road and sections of a wooden fence.

Over most of the eastern part of the site, the uppermost 50-70cm of deposits were badly disturbed. They consisted of black humus, which towards the bottom contained increasing amounts of charcoal and brick, pieces of eighteenth and nineteenth century pottery, and much unburnt and decomposed animal bone.

Apart from the remains of a stone-built above-ground "cellar", Building 412, which was possibly erected some time after 1702, there was no definite evidence of buildings from Phase 9.1.1 in the northern half of Gullskoen.

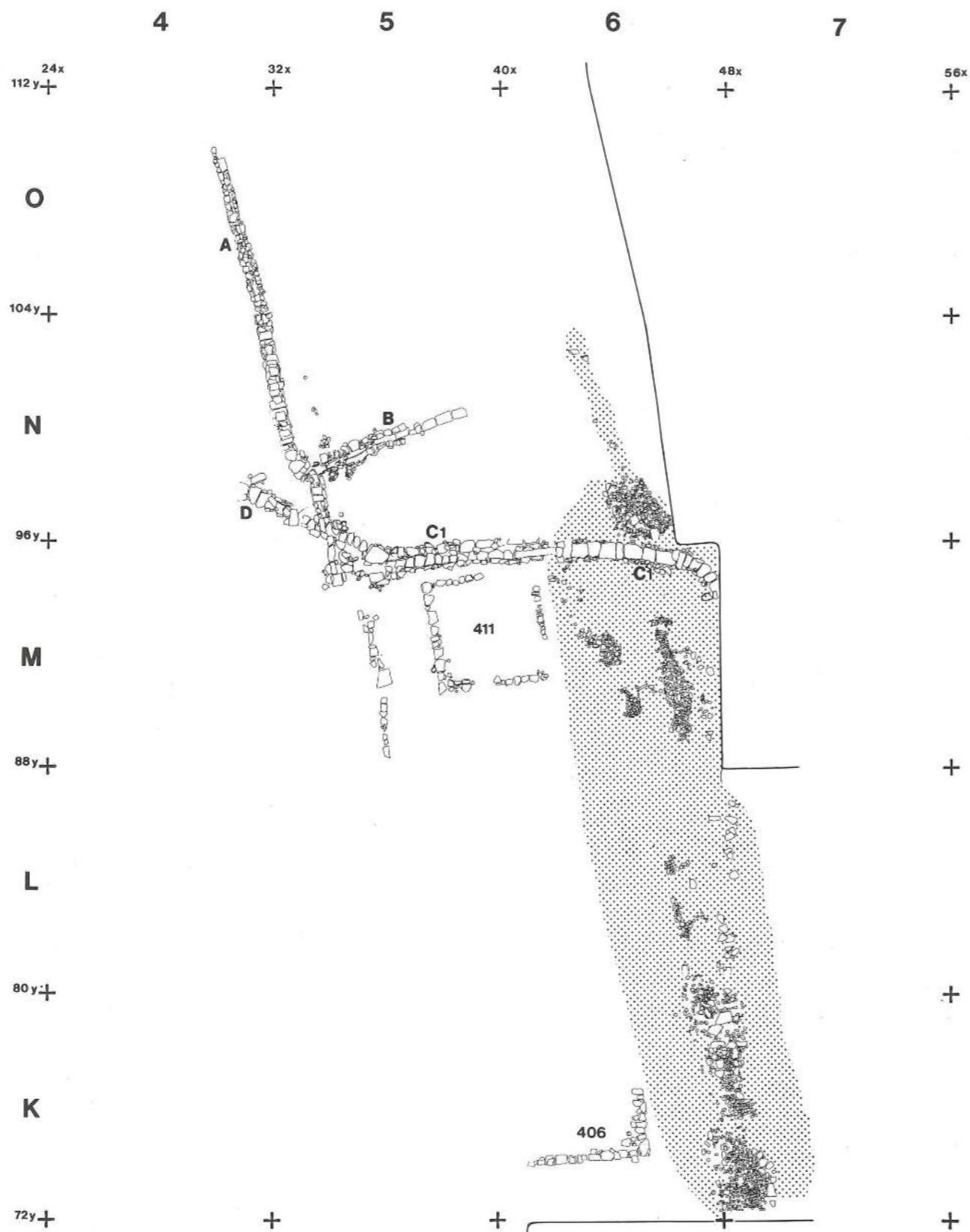


Fig 9 Phase 9.1.1. To the south-west are the remains of the sand layer and stone paving in The Old Church Road.

#### South Row

Building 411 (M5,II; M6,I) comprised sections of the ground-walls on all four sides, consisting of single stones measuring up to half a metre across. Length E/W 4.00m; width c 5.8m.

The building partly overlay 10–11 thin flagstones, which may have formed the base of an earlier drain. There were two other discontinuous rows of stones for which no satisfactory explanation could be found.

Building 406 (K6,II; K5,III.1) comprised the single-stone ground-walls from the west wall and the western section of the south wall. The north wall probably ran under the north wall of the later Building 160; the south wall ran along 45.20y and the west wall along c 74y. Eastern limit unknown. Maximum recorded length E/W 2.40m; width c 4.2m.

#### North Row and Side-annexe

Building 412 (K2,V; L2,V; M4) was a two-roomed stone building – an above-ground “cellar” – running across the North Row and Side-annexe, which remained standing throughout the whole of Period 9 (cf pl 4, Phase 9.2; in the archives of Bryggen Museum is a scale drawing of this building at 1:50 made by Hjørdis Egner 1963 and Einar Ridderstrøm 1968). The walls were 85–90cm thick and faced with stones of varying size, but mostly with thick slabs. It was erected on uneven foundations: beneath the south-west corner were the remains of an earlier stone structure, 181, but the rest of the building stood on a triple row of massive stakes rammed into the ground. Length N/S 20.00m; width 10.20–10.40m.

#### The Old Church Road

Following Fire I, Building 406 in the South Row and Søstergården North were separated from each other by a strip of undeveloped land 6.6–6.7m wide, down the middle of which ran a 1.5–2m wide path of generally small stones laid close together on a bed of sand 10–15cm thick. The sand covered most of the area, thus indicating the original extent of the stone-paved surface. Both the sand layer and the stones could be followed for a distance of 50m eastwards through L6, M6 and N6, as far as c 101y. In K6 this strip of land was c 6.6–6.7m wide, but from 80–82y onwards in the western part of L6 it began to fan out and take on a more north-easterly alignment compared with the general east/west orientation of the buildings in Søstergården. At 101.00y it was c 9.5m wide and at 112.00y its width is estimated to have been c 11m. It is reasonable to assume that this was none other than The Old Church Road and the archaeological evidence fits well with the documentary material. On the basis of Peter Scharffenberg's title deeds from 1703, based on a survey made the same year, Koren-Wiberg (1908, 4) suggested that “the thoroughfare on the whole was of regular width (10 *alen*) from the wharf to about halfway up to the churchyard, after which it swung at an angle and widened significantly until it reached the wall of the churchyard”. Koren-Wiberg confused The Old Church Road with a thoroughfare leading up to St Mary's Church (*Mariakirkens almenning*) further north. Our measurements correspond to c 10

*alen* in the western part and c 20 *alen* some 30m further east.

In grid-squares L6 and M6, the stone-paved area of The Old Church Road ran alongside a row of stones whose function was unclear. They must have been essentially contemporary with the level of the paving in the road and may indicate a footing for a plank fence. Both features were overlain in the following phase by Building 408. The southern extent of the building was not clear, but the gap between it and Søstergården would hardly have been more than 2–2.5m. There was no evidence for this level in The Old Church Road. A few transverse beams just to the north of the entrance to Søstergården's stone cellar-building could indicate that the stone-paved surface in The Old Church Road was replaced by a wooden pavement.

#### Drains and fences

The main drainage channel, A, running lengthwise down the site, belonged to Phase 9.1.1. It had a side channel, B, running in from the south-east. Quite separate from these and possibly of a later date was a transverse drain, C1, which ran out of the excavated area in grid-square M7. The diagonal drain, D, possibly also belonged to this phase (see fig 9).

After drains A and B were laid, a fence with posts of juniper wood probably supporting vertical or horizontal planks was erected on a single row of stones up against the southern edge of drain A and parallel with it. This fence seems to have terminated westwards in the angle between drains A and C, just east of Building 411, giving it a length of c 7m. Eastwards it presumably ran the full width of the site. The existence of a fence may indicate that the area on either side was partly open.

#### Summary, Period 9

In practically all respects, Gullskoen differs from the other tenements excavated at Bryggen. It was wider than the others and in addition was the only tenement whose rear section was fully excavated.

Period 9 covers three building phases: 9.1.1, 9.1.2 and 9.2. An above-ground stone “cellar”, Building 412, existed throughout all three phases, and Building 160 apparently survived the last two. Some of the other buildings may also have survived more than one phase, since the chronological sequence has been derived to some extent through an interpretation of the complex drainage system which intersected the site and the date and duration of the structures cannot be determined exactly.

All three phases were characterized by an irregular layout. In Phase 9.2 the front half of the site was occupied by the core of a traditional double tenement with a free-standing side-annexe to the north. A narrow tenement passage ran between the two main rows, widening about halfway into a fan-shaped opening. At this point the double tenement gave way to a series of randomly placed out-buildings. Dividing the front section of the tenement from the rear throughout the whole period was the large stone “cellar”, which straddled the site.

That the first two phases of the period appear even more irregular in their layout was due to the fact that the deposits in this period, as well as in the preceding period,

were badly disturbed and had even been partly removed, and that only chance remains had survived. Apart from this random survival, the early part of the period was characterized by a complex system of drainage channels. In addition, the whole layout of the site underwent adjustment.

In Phase 9.1.1 Gullskoen was separated from Søstergården by a wide stone-paved area, which fanned out towards the rear. This was the final phase of The Old Church Road, a thoroughfare which had changed its character in the course of time, but whose origins could be traced back to the very first stage of development of the area. In Phase 9.1.2 it was eradicated when the tenement of Gullskoen was widened to the boundary of Søstergården. In this phase there may have been a communal building and kitchen indicated by Buildings 407, 408 and 409.

### Period 8, burnt in Fire I (1702) (pl 3)

Apart from a few scattered occurrences of charcoal and ash, also in The Old Church Road, there were no definite traces of Fire I in the eastern and southern parts of Gullskoen. The burnt fragments were from fence posts and drains and not from buildings. However, in the north-western part of the site, west of the stone building 412, the burnt remains of buildings were recorded which must have burnt in Fire I, judging from their context and the associated finds, which included fragments of claypipe and drinking glasses. In grid-squares F-I 3/4 lay the remains of two rows of buildings burnt in Fire I, with two buildings in each row: 419 and 420 in the North Row, and 417 and 418 in the "Side-annexe". Moreover, there was a forerunner to the stone building, Building 181, which would appear to belong to Period 8 (see pl 3 & fig 11). Finally, the remains of two buildings at the very rear of the site are assigned to this period. They were originally the church of St Lawrence and the hall of the St Mary's Guild, which had both been converted in this period and which continued standing until 1675 (Koren-Wiberg 1908, 14).

St Lawrence's is first mentioned in 1206 (Eirspennil, 455) and may have had the status of a church or chapel until the fire in 1476. According to Koren-Wiberg (op cit), the building in 1565 passed into the hands of Erik Rosenkrantz, who subsequently rented it out to Hanse merchants. It was described at the time as a relatively stately building with two storeys, and its dimensions were given as 18 *alen* x 15 *alen*, corresponding to 9.90m x 8.25m, the same as we recorded, while its distance from The Old Church Road was given as 23 *alen*, or 12.72m, which was also in agreement with our findings. In a document dated 22 June 1578 referred to by Koren-Wiberg (ibid), the building lay "über dem Goldschoe an St Marien Kirchhofe nechst bey dem Priesterhause".

The hall belonging to the Guild of St Mary's is mentioned for the first time in 1276 (NgL III, 135) and is thought to have been built after Fire V in 1248. According to Koren-Wiberg and the documentary sources he used (idem, 12-13), the Guildhall at the end of the Middle Ages, probably after the fire in 1476, became the quarters for the priest attached to St Mary's Church. It is recorded as extending 23 *alen* northwards from The Old Church Road to a stone building, which must have been St Lawrence's. Externally it measured 12.20m x 7.40m,

and like St Lawrence's it was built with two storeys and had an external gallery running along the west side (DN II No.295).

While St Lawrence's, whose lower storey was in grey stone bonded with mortar, was most likely given its second storey at a later date, it can be assumed that the similarly constructed Guildhall had an upper storey of wood from the very beginning. It was here that the city court or moot (Norw *bylagting*) met at the latest in 1276 (NgL III, 135). Both the St Mary's Guildhall and, at a

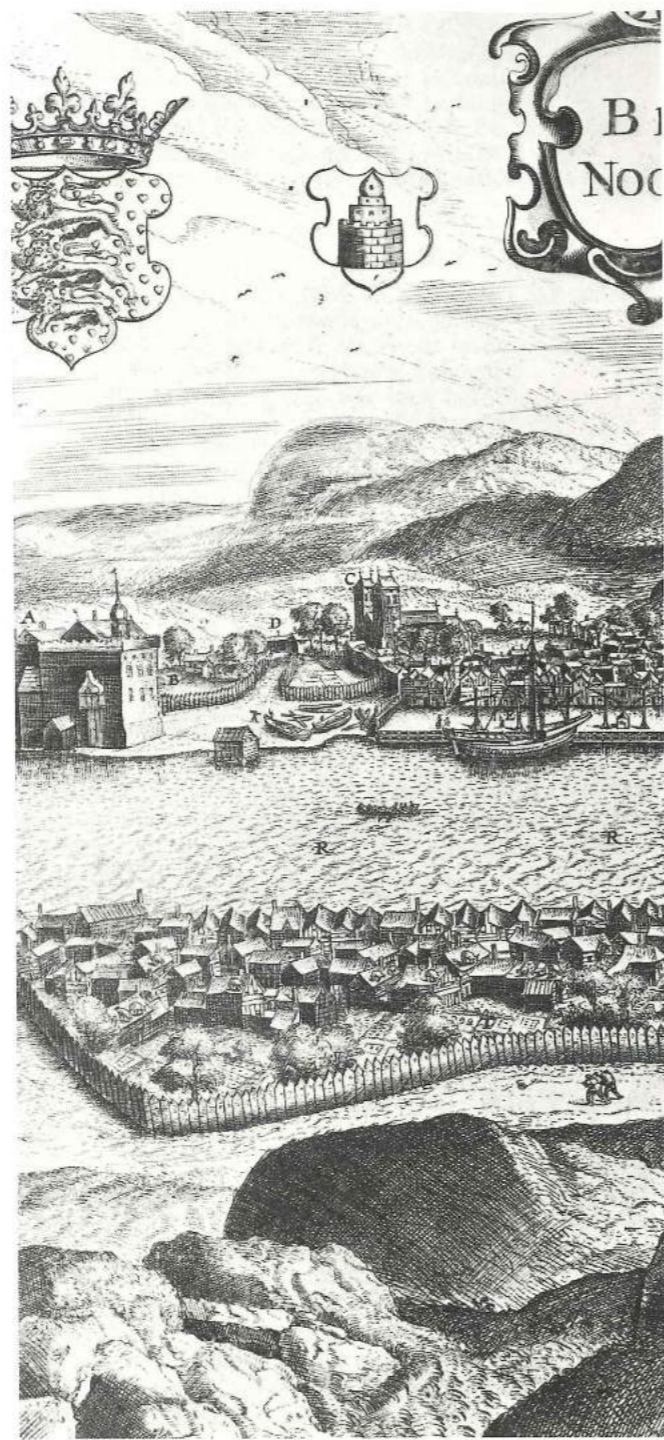


Fig 10 Extract from the Scholeus engraving of Bergen in the 1580s. The building running across the middle of Gullskoen's North Row may be Building 181.

later date, St Lawrence's had privies built out from their upper storey.

The history of both buildings can be followed to around the end of the sixteenth century. Their ultimate fate is not known, but Koren-Wiberg assumed that they were destroyed in the local fire which swept through the area by St Mary's Church on 29 July 1675, on which occasion some houses west of the church were blown up with dynamite to create a fire-break (Koren-Wiberg 1908, with sources quoted). They can hardly be any other than our two buildings, the full details of which are given in the phase in which they were erected, Phase 3.2 for St Lawrence's and Phase 4.1 for St Mary's Guildhall.

### North Row

Building 181 (K4,III-V; K5,III.1,IV,V; L4,III,IV) was situated with its long axis across the tenement and comprised the stone-laid foundations for the south wall and adjacent parts of the east and west walls. The foundations comprised rubble-core walls faced with unworked stone not bonded with mortar, although some of the stones had been used in masonry previously. Width of building E/W 6.85m; maximum recorded length of the west wall c 9.7m. Thickness of walls c 1-1.3m. Maximum surviving height of the south wall c 1m.

The building is not mentioned in any of the available documentary sources, but it may be identical with a building on the Scholeus engraving of Bergen from the 1580s, which appears to be running across the North Row of Gullskoen at this point (fig 10).

Building 180 (K4,IV; L4,III) was a simple rectangular construction lying within the eastern part of the foundations of Building 181, which must originally have gone down c 1m into the ground (cf fig 11 & pl 3). It had walls of horizontal planks held in place by upright corner posts. Its function is unknown. Its length averaged 3.75m; width 2.5m.

Building 419 (I4,III; K4,IV) consisted of parts of foundation timbers in a single layer. Eastern limit along c 72.4y; western limit along 67.60y, both measurements taken along the south wall. The north wall lay outside the excavations. Maximum recorded length c 5m; maximum recorded width 4.30m.

Building 420 (H4,V; I4,III) comprised parts of a single layer of foundation timbers. Eastern limit along 66.70y; assumed western limit along 56.20y (both measurements taken on the south side). Maximum recorded length 10.65m; maximum recorded width 3.20m, probably wider to the south.

### Side-annexe

Building 417 (G3,III; G4,IV; H3,IV,V) consisted of foundation beams, remains of floor-joists, and floorboards laid longitudinally. Eastern limit beyond the edge of the excavations at 62.00y; western limit of the south wall at 52.60y, but the building may have continued westwards as Building 418. North wall lay in the unexcavated



Fig 11 The remains of the structure labelled Building 180 lying inside the ground-walls of Building 181 which ran across the tenement. Looking south.

area under the present street of Dreggsalmenning. Maximum recorded length of the south wall c 8.8m; maximum recorded width c 5.5m.

Building 418 (F3,IV; F4,IV; G3,III; G4,IV) comprised floor-joists and floorboards laid longitudinally. This building may have been a continuation of Building 417. Eastern limit of the south wall possibly along 52.10y; western limit not identified. Maximum recorded length along the south wall 7.60m; north wall beyond the limit of the excavations. Maximum recorded width 5.00m.

### Passage

Between Buildings 417 and 418 in the "Side-annexe" and 419 and 420 in the North Row lay the scattered remains of boards, timbers and joists from a pavement which had been removed, and also a wooden-lined drainage channel running down the southern half of the tenement. It was not clear whether these remains indicated a passage, suggesting that these two rows had formed a double tenement. The width at 57.00y was c 4.2m. There is also the possibility that the two buildings 417/418 had had a pentice 1.8-1.9m wide running along the south side. The surviving remains of beams were mainly concentrated to the south of this possible pentice.

### Drains and fences

About 1.5m to the south of Buildings 419/420 lay the remains of a drain lined with planks held in place with stakes. This could not be followed with any certainty east of Building 419, but the existence of stakes further east on the same alignment and an earlier drain to the east could suggest that also at this level the drain continued eastwards, even though this part of the tenement was not

developed. The surviving drain fragments could indicate a passage with a width of 4–4.5m.

The buildings which burnt in Fire I had quite a different orientation from those which were erected later. While the tenements of Bugården, Engalgården and Søstergården to the south were orientated E/W, Gullskoen – or at least the rear part which was investigated – ran at an angle with a ENE/WSW orientation. The transition to the orientation of Søstergården was marked by an open area which widened out to the east. At about 56y the gap between the two tenements was 17.5–19m, while at 72.00y it had widened to 27–28.5m. The actual distance varied according to whether it was measured at right angles to Gullskoen's diagonal orientation or at right angles to Søstergården's E/W alignment. The situation as recorded agreed with the descriptions in the documentary sources.

In the western part of the site a line of posts ran across the Row from the south-east corner of Building 419 to the line of The Old Church Road, where it apparently joined a line of posts running lengthwise down the site. The posts were mostly of juniper wood with varying dimensions (15–36cm in diameter). Those in the transverse row had survived to a height of 25–40cm above the level of the burnt remains of structures from Fire II. The gaps between the posts varied from c 10cm to c 2m, and it is reasonable to suppose that there had originally been more posts in the row.

After a time the transverse row of posts was replaced with a similar row running parallel 20–40cm to the west. These were also mainly of juniper. Northwards they met a row of four, or possibly six, posts, covering a distance of c 3.6m, before meeting the west wall of Building 181. To the south, this row ran, like the earlier line of posts, into a row running lengthwise with the same alignment as the buildings to the north (419/420) and continued for c 18m diagonally eastwards, giving a total length of c 40m. The posts went 40–50cm down through the deposits from Fire II, and their tops, which were all burnt, were 70–90cm above the fire layer. They were all wedged with stones and there were discontinuous rows of stones between them. On the east side of the transverse row in K6, the remains of a poorly preserved beam was found lying along the bottom of the posts over a thin continuous line of stones, a sort of ground-wall. The situation described briefly here would seem to suggest that this had once been a solidly constructed plank fence. The rows of stones between the posts may indicate that the gaps were filled either with horizontal boards or by upright planks on a sill-beam resting on a simple ground-wall.

This longitudinal fence corresponded on the whole with the northern boundary against The Old Church Road in Phase 9.1.1 and the southern side of a row of buildings in Period 7 (pl 4), and clearly marked the property boundary at a point where there had been no standing build-



Fig 12 A laundering place beside The Old Church Road in Period 8 (1476–1702) marked by Well 41 (lined with boards slotted into corner uprights), Well 42, which is formed from a sunken barrel, and a stone washing-slab. The remains of a drainage channel run from the washing-slab towards a large tree whose roots can be seen in the background. Looking west.



Fig 13 Privy 6 outside the SW corner of St Lawrence's Church. Looking south.

ings, possibly throughout most of Period 8. Whether, and if so, to what extent the area on the south side of the fence was used as a public thoroughfare in this period, cannot be deduced from the archaeological material, but it must be assumed that during this period access to Søstergården North was from the north side along the whole length of the tenement, which therefore could also have provided access to St Mary's Church.

In the adjacent parts of grid-squares P5 and P6 and c 5m to the south of the fence there were two small features which must have belonged together. The first of these, Feature 39, was a rectangular box-like arrangement, two boards in height. The boards, which were sawn and partly axe-trimmed, were not jointed together at the corners. The feature measured c 1.8m x c 1.2m x c 90cm and from the north-west corner a drain with plank-lined sides and open bottom ran out in a north-westerly direction. This could suggest a well, but the whole construction seems to contradict this. Moreover, it was partly filled with a grey lime mortar and there is therefore a possibility that it was a container for slaked lime. The drain could have belonged to the preceding Period 7, as it naturally linked up with the long drain from that period in The Old Church Road.

A similar drain ran into Feature 39 from the south-east corner of the site, and it is tempting to associate this with both the box-like feature and the drain to the north-west, but it is difficult to reconcile this with the feature's ramshackle construction. Moreover, it was between 15cm and 20cm higher than both Feature 39 and the drain to the

west and it may well belong to a later part of Period 8. It was decidedly later than Fire II, whereas the drain to the north-west seemed to belong to the level which burnt in that fire.

Feature 46, the other of the two features in the area to the south of the fence, was a barrel with an internal diameter of c 75cm. It may have functioned as a well, but as it contained large thin sheets of bark, some other, more specialized, function might be indicated.

At the east end of the longitudinal fence and right up against the edge of the site was a large well, No. 43, lined with corner-jointed horizontal boards, of which ten courses had survived and two or three more were indicated by timber in the baulk. It measured c 2m x 2.4m internally and the filling included fragments of stained glass. It had been dug after Fire II.

Just to the north of the longitudinal fence at the west end were the remains of the roots of three large trees in a row, which must at least have been contemporary with the fence. By one of these in the eastern part of L6 a laundering place had been made, consisting of a large, partly trimmed, stone washing-slab beside two wells, 41 and 42 (fig 12). Well 41 was constructed with horizontal boards slotted into corner uprights; Well 42 was a sunken barrel. From the washing place a plank-lined drain curved around the tree and ran into the "passage" to the south. This feature was destroyed in Fire I.

Outside the south-west corner of St Lawrence's Church (Building 50) was a log-built privy, Privy 6, which was associated with a re-used phase of the church building. It measured 1.80m x 2.00m externally, leaving a gap of 1–1.1m between it and the wall of the church (fig 13).

#### Summary, Period 8

This period of Gullskoen was the most poorly represented of any tenement at any period in Bryggen, but the features which were recorded give us a glimpse of a period with a rather special arrangement. To the east the tenement ended with two outstanding buildings, which stood until about the middle of the seventeenth century. They were the converted and secularized remains of two medieval stone buildings: St Lawrence's Church, dating from around 1200, and the Guildhall of the St Mary's Guild, which had been erected after the 1248 fire.

In the middle of the tenement the stone "cellar" from Period 9, Building 412, had a forerunner in the stone Building 181, which straddled the tenement in the same way and at almost the same place. Between this and the once consecrated buildings at the back, the property does not seem to have been developed in this period.

The Old Church Road, which ran along the north side of Søstergården, was bounded to the north by a solid fence, which is also taken as an indication that much of the property behind lay open, perhaps used for the cultivation of vegetables, the so-called *kålhager* or "cabbage-patches" mentioned in the documentary material.

This boundary was for a time, or perhaps even for the entire period, further marked by planted trees, close to one of which a laundering place was uncovered. It consisted of a large stone washing-slab and two wells.

In the area north-west of the stone "cellar" lay some poorly preserved remains of structures, which seemed to indicate the existence of a double tenement.

The area to the south-west was not investigated, but it is natural to assume that it was also built up as far as The Old Church Road to the south and as far back as the fenced-in area.

#### Local fire in 1527

The documentary sources refer to a local fire in 1527 which affected the northern area of Bryggen (Bruns 1900, 394). Five tenements were destroyed – Gullskoen, Lille Sveinsgard, Sveinsgard, Bremergården and Skjeggen, while Søstergården was saved. During both fieldwork and the initial stages of the post-excavation work, this fire was included in the chronology for the northernmost part of the site. Since the written sources in this case, as elsewhere, are unclear and no doubt misleading, this fire created inordinately large problems, as it defied identification within the excavated area. This was partly due to the fact that the area immediately north of Søstergården had already been cleared for fire-precautionary reasons before the fire in 1527 and partly because the stratigraphy in this part of the site was so disturbed that it could only be reconstructed *a posteriori* bit by bit.

When the excavations started in Gullskoen, it quickly became clear that there were no deposits surviving from the 1702 fire. When also the fire from 1527 could not be identified and it became impossible to establish a connection stratigraphically and chronologically with the excavations to the south, it was practically necessary to start all over again with the identification of the fire levels. Stratigraphic contact between the southern and northern areas was only established after Fire IV to the south had been identified. We then discovered that it was necessary to adjust the fire-chronology in the upper levels of Gullskoen, so that what had been recorded as Fire II became Fire III, what was recorded as Fire III became Fire IV, and so on.

#### Period 7, burnt in Fire II (1476) (pl 4)

The deposits from Fire II represented the first reliable strata in the area north of Søstergården. But even from this level, which lay 80–100cm below the 1955 ground-level, not only the traces of the fire, but also the remains of structures had been removed in some places. Nevertheless, the surviving traces were so extensive and continuous that it was possible to obtain a fairly clear picture of the layout. The most noticeable features were the ENE/WSW alignment as in Period 8, the irregular pattern characterized by the appearance of foreshortened rows of buildings within the rear part of the site, and the varying dimensions of the thoroughfares and passageways. The situation at the top of The Old Church Road provides a typical example with Buildings 431 and 432 forming a new short row – Row 1. Unfortunately, the southern part of the buildings lay outside the excavations at this point. Even though Søstergården probably turned towards the north here, there would have been plenty of room for these buildings and no doubt also for a narrow passage between them and Søstergården.

Along the north side of The Old Church Road lay Buildings 91, 425 and 427, forming Row 2. It is interesting to note that their south wall followed the same line as the fence recorded in the following Period 8 (pl 3), again indicating that it must have marked a property boundary, even though the area on either side lay open at that time.

Buildings 109 and 110 formed Row 3, a foreshortened row between Rows 2 and 4, the latter being represented by Buildings 426 and 424. Row 5 consisted of Buildings 442 and 448, with 421 and 422 forming the continuation of the row westwards. This seemed to be the southern row of a double tenement, the northern row of which was represented by Building 423 in Row 6.

How these groups of buildings could be interpreted in terms of the traditional double tenement pattern will be discussed after the layout in the earlier periods has been presented.

In the rear part of the site lay a large stone-lined well, Well 1, which replaced an earlier timber-lined well, Well 6.

In all, Period 7 contained the remains of 14 buildings, grouped as follows:

- Row 1 Buildings 431 and 432;
- Row 2 Buildings 91, 425 and 427, and Well 45;
- Row 3 Buildings 109 and 110, and Wells 1 and 49;
- Row 4 Buildings 426 and 424, Privy 1, Privy 5 by St Mary's Guildhall, and Wells 50 and 51;
- Row 5 Buildings 442, 448, 421 and 422, Fireplace 17, and possibly also Well 40;
- Row 6 Building 423.

At the rear of the site lay the two stone buildings mentioned previously, the converted church of St Lawrence's (Building 50) and the re-used Guildhall of the St Mary's Guild (Building 48).

#### Row 1

Building 431 (P5,II-IV; P6,II,III) consisted of sections of three layers of timber foundations. The top layer was cut through on the north side by the main drain from Phase 9.1.1 and at the west end by the sunken box-like arrangement, Feature 39, and the barrel-lined pit Feature 46, from the end of Period 8. The building continued into the unexcavated area on the east and south sides. Western limit on the south side at c 112.3y. Maximum recorded length 5.8m; maximum recorded width c 3.9m.

Building 432 (O6,II) comprised the remains of one, or possibly two, layers of foundation timbers laid directly over earlier foundations. The south wall lay outside the excavated area. Eastern limit of the north wall along 110.80y; western limit along 105.20y. Length 5.90m, maximum recorded width c 2.2m.

The Old Church Road, which at this point was very wide, had to make room for these two buildings, which were apparently not part of the North Row of Søstergården, but a new "mini-row", a feature encountered elsewhere in this northern part of the site between Fires VI and II (for example, Buildings 109 and 110 in Row 3 in this period).

#### Row 2

The easternmost area seems to have lain open. Further west lay the remains of three large buildings, 91, 425 and 427.

Building 91 (N5,II,III; O4,II; O5,II-IV) consisted of between two and four courses of foundation timbers and traces of a longitudinal floor. Eastern limit at the south-east corner 35.70x/112.10y; western limit at the south-west corner 39.40x/100.80y. Length 11.90m; width at the east end 5.25m.

Building 425 (L5,II; L6,V,VII; M5,IV,V; N5,II,II.1,III) comprised the scattered remains of floorboards and joists, and the discontinuous remains of relatively intact foundation timbers in two courses. Eastern limit of the south wall at 100.40y; western limit uncertain, but the building may have been laid out with the same dimensions as its predecessor, Building 428, in which case it would have extended as far as c 84.5y. Maximum recorded length c 15m, assumed length 16.5m; estimated width at least 5.5m.

Inside the south wall was a sunken barrel, Well 45, with an internal diameter of c 56cm. It had been placed on a flat stone and packed round with an insulating layer of birch bark. It only went 90–95cm down into the ground and may therefore have served as a cold storage container, rather than an ordinary well. The remains of surrounding posts with vertical grooves and a slanting barrel stave may suggest that the sunken barrel had replaced a revetted construction within the same period.

Building 427 (K5,IV,V; K6,VI,VII; L5,III,IV; L6,VI,VII) comprised the burnt remains of floorboards and joists and six courses of foundation timbers. Eastern limit of the south wall at 82.60y; western wall outside the excavated area, west of 72.00y. Maximum recorded length 10.50m; width 4.60m.

#### The Old Church Road

Traces of The Old Church Road were recorded right down the site. At the west end, where there were buildings on either side, it measured as much as 8.80m. Buildings 431 and 432, which formed the foreshortened Row 1, were situated in the road itself, showing that it must on the whole have retained this great width as it ran up the site, since allowance must be made not only for the presence of these buildings but also for access to Søstergården North to the south of them.

Even though the road surface was missing or had been totally removed in some places and was otherwise in a poor state of preservation, the surviving parts showed the basic construction: a pavement of transverse boards overlying joists laid longitudinally with other longitudinal timbers inserted in between. A side-channel ran diagonally into the middle of the road, indicating the existence of a central drain which must have been mostly removed, but parts of it could have been among the elements of the central drain belonging to the preceding period, which burnt in Fire III. As the degree of subsidence of vertical and horizontal constructions varied greatly, it was diffi-

cult in practice to separate the elements of the drains from the two periods, which overlapped and were poorly preserved. All the drains had side planks held in place by stakes both internally and externally.

In the south-western part of the site, a covered plank-lined drain ran out from the stone building 386 in Søstergården and joined the main drain in The Old Church Road (cf vol III, pt 1, p 100 and fig 62).

#### Row 3

Building 109 (O4,II,III; P3,II; P4,II,III) comprised the poorly preserved remains of three courses of foundation timbers and traces of floorboards. Estimated eastern limit of the south wall at c 116y; western limit marked by a shared wall with Building 110 at 105.80y. Estimated length c 10.5m; width 4.2–4.3m.

Building 109 continued westwards to a certain extent as Building 110. The sill-beams were not continuous, but they lay at the same height. The floorboards, however, overlapped, a situation which was regarded in the field as indicating a secondary phase. The conception of there being two separate buildings is upheld in the final analysis.

Building 110 (M4,II; N4,II,III; N5,II,III; O4,II,III) comprised the poorly preserved remains of a longitudinal floor overlying four courses of foundation timbers. In the middle of the building was a sunken barrel, Well 49, which may have belonged to Period 8. It had an internal diameter of c 46cm. Eastern limit of the south-east corner of the building at 105y; western limit at 96.80y. Length 8.60m; width 4.25m.

To the west of Building 110 only foundation timbers were recorded, apparently supporting a passage.

Immediately east of Building 109 lay the remains of a stone-lined well, Well 1, in a shaft measuring c 3m across. The stone-built casing survived to a height of c 1.8m and beneath it were the remains of a square log-built well with sides measuring c 90cm. The total depth was c 3.3m. Beside the well lay a well-preserved length of wooden pipe 3m long, used for siphoning up the water. The well may have been in use in the period between Fires III and II, but whether it was in use longer than this is not clear. Its log-built predecessor, Well 6, belonged to Phases 6.1 and 6.2 (see pp 33, 37).

#### Row 4

In this row the remains of most of the buildings had been removed. In two places parts of the floor-joists over the foundation timbers could be identified and to the east the remains of a privy, Privy 1, were uncovered, indicated by a rectangular arrangement of upright boards placed edge-to-edge, which were burnt at the top. The privy measured 2.50m x 1.20m, with its long axis aligned in a more NNE/SSW direction than the row of buildings. It may therefore have belonged to Period 8.

Outside the north-west corner of St Mary's Guildhall, there were traces of another privy, Privy 5, which had projected from an external gallery. The privy measured 1m x 1.80m externally, and there was a gap of c 1.85m between it and the Guildhall (fig 14).

Building 426 (M3,I; M4,II; N3,II; N4,III) comprised sections of foundation timbers in two layers. Located in the western part of the building was a sunken barrel, Well 51, with an internal diameter of c 78cm. Eastern limit of the north wall of the building at 100.50y; western limit at 91.40y. Length 9.50m; width c 4.7m.

Building 424 (K4,IV,V; K5,IV,V) consisted of foundation timbers in two layers and the remains of a longitudinal floor. Eastern limit uncertain, possibly at 78.20y on the south side; western limit outside the excavations. Maximum recorded length 6.50m; width 4.50m.

In the area between Buildings 426 and 424 the remains of the base of a barrel were recorded, Well 50. Its internal diameter was c 55cm.

*Passage between Rows 3 and 4, and Rows 2 and 4*

On the south side of Row 4, traces of a passage were recorded down the whole site over a total distance of c 57m. Between 17m and c 33.5m from the east it was flanked on the south side by Row 3, but there was evidence to suggest that there had also been buildings along the north side. Row 3 ended westwards with Building 110, and the passage continued with Row 2 on the south side. Its width therefore varied greatly, from c 2.5m at the eastern end to 2.20m between Buildings 110 and 426, and 4.70m between Buildings 427 and 424 at the west end.



Fig 14 Privy 5 outside the west wall of the St Mary's Guildhall. Looking west.

Apart from the easternmost section, where there seems to have been an initial stage with boards laid longitudinally, the passage was paved with transverse boards. Throughout most of its length there were traces of a drain lined with staked boards in a generally poor state of preservation. West of Building 110, where the passage became wider, the drain swung southwards into the wider part of the passage.

In the eaves-drip gap between Rows 2 and 3 there were occasional boards placed lengthwise in such a way that they could have functioned as a gangway. As the gap was at least 70cm wide, it was wide enough to pass through.

*Row 5*

The central part of this row was not accessible for excavation in Periods 7 and 6. In the eastern part lay the remains of two buildings, 442 and 448, and there were also two at the west end, 421 and 422.

Building 442 (O2,I,I.1,II,II.1,II.2; O3,I) consisted of the remains of a ground-wall and sill-beam under the west wall, possibly also under the east wall, and traces of the ground-wall under the south and north walls. The eastern limit and also to some extent the northern limit were somewhat uncertain. Against the south wall lay the stone-built foundations of a large circular fireplace, Hearth 17, with a clay base covered with flagstones (figs 15 & 16). In the southern part of the building another clay area 15–20cm in thick-



Fig 15 Base of Hearth 17, probably used mainly in the production of slaked lime. Looking south.

ness was recorded. Elsewhere in the building there lay a large number of stones of various sizes, placed irregularly. They were mostly secondary, but it was not possible to distinguish the primary arrangement. The hearth, which had an internal diameter of c 2.85m, must have been associated with some specialized manufacturing process or workshop function.



Fig 16 Cross-section showing the various strata in a pit in Building 227 used in connection with lime slaking.

Eastern limit of the south wall at 112.00y; western limit at c 106.2y. Length c 6–6.1m; width c 6.7m.

Building 448 (M2,I,I.2,I.3; M3,I; N2,I,I.1; O2,I.1; O3,I) comprised the scattered and partly isolated and badly decayed remains of the foundations of an assumed east wall. Against the west end of the south wall lay a concentration of medium-sized stones. This level was badly disturbed by later activities, in particular Well 40, which had become filled with deposits. The well may actually have been functioning in this period, but it has been ascribed to Phase 6.2 in the previous period. Eastern limit of the south wall at c 105.7y; western limit beyond the edge of the excavations at 91.50y. Maximum recorded length c 15.1m; estimated width c 5.7m

Building 421 (K4,IV) consisted of slender floor-joists of equal size containing plug-holes, and sections of a row of stones, which might have been from a ground-wall beneath the south wall. The east and north walls were outside the limits of the excavations. The western limit was uncertain, probably around 73y. Maximum recorded length 4.00m; maximum recorded width 4.00m.

Between Building 421 and the next building, there were few recognizable structural remains for a distance of c 7m.

Building 422 (H4,VI; I4,IV) seems to have comprised floor-joists and mainly longitudinal floorboards. Possible eastern limit of the north wall at c 65.8y;



presumed western limit outside the excavations, west of 56.00y. Maximum recorded length 10.30m; estimated width 4.8–4.9m.

#### Row 6

North of Row 5 the excavation stopped at this level. The dating of Building 423 in Row 6 must therefore be taken with some reservation.

Building 423 (G4,IV) comprised parts of the south-eastern corner of a log-built structure. Eastern limit of the south wall at 54.80y. Maximum recorded length 2.20m; maximum recorded width c 1.1m.

Between Rows 5 and 6 there was a gap 4.6–4.8m wide at this point, but there were no structural remains which could be associated with this level. From the context it would have been reasonable to expect a tenement passage here, with Rows 5 and 6 forming a double tenement.

#### Summary, Period 7

Period 7 in Gullskoen consisted of a single construction phase, as it had done elsewhere in the excavations at Bryggen. Because of later disturbances, including the removal of deposits in the upper layers, Period 7 was the first level to yield regular rows of buildings, but the layout was quite untraditional, and this created problems in recognizing boundaries and identifying which features belonged together.

Viewed from the seaward end, the area north of Søstergården in this period would have shown a passageway of more or less usual dimensions known as The Old Church Road, to the north of which were Rows 2 and 4 on either side of a relatively narrow passage, forming in reality a double tenement. To the north again, Rows 5 and 6 would have formed a similar double tenement.

When viewed from the rear of the property, however, quite a different picture would have been presented. Row 1 would have appeared to occupy a part of The Old Church Road, which at this point must have been over 9m wide including the width of Building 437 in Row 1. On the north side of the road lay Row 2. On account of the width and layout of the road and lack of information concerning the relationship between Row 1 and Søstergården to the south, it was difficult at the start to know how to interpret Rows 1 and 2. And this confusion would never have been resolved if an explanation had not been discovered in the underlying deposits. With reference to these it could be confirmed that Row 1 should be regarded as a truncated version of a proper row and that Rows 1 and 2 were originally two halves of an original property, in other words a double tenement. To the north, the truncated Row 3 together with Row 4 formed a similar double tenement, with an eaves-drip gap on either side forming a regular boundary. Once again, this interpretation is based on unambiguous situations in the underlying medieval levels.

The explanation for this layout must be sought at an early stage in the development, since at the beginning the tenements as well as the individual buildings in the excavated area were of almost equal width and lay parallel to each other. However, in the Gullskoen area the edge of the underwater shelf describes an arc swinging out to a

point to the north-west. To start with, this did not cause any problems but the situation changed once the built-up area had spread across the beach and reached the edge of the underwater shelf. As the harbour basin began to be back-filled and the newly-won area built on, the actual length of the waterfront became shorter compared with the curving line at the rear of the site. The fan-shaped layout recognizable in Period 7 began in fact with the development in Period 3 after the 1170/71 fire. By retaining the alignment of the tenement boundaries as the properties were extended seawards, they tended to converge on account of the underlying topography, with the result as recorded in Period 7.

Within the rear part of the site, a well was recorded in The Old Church Road, apparently situated in the open air, and two or three other wells were located within buildings. In Row 5 there was a large circular clay-lined hearth with an internal diameter of 2.85m. It was not domestic fireplace, but associated with some kind of special manufacturing process or workshop activity, involving the slaking of lime, which was very common at the back of the site and which went on for a very long time in Row 5.

#### Period 6

Over much of the site Fire II had penetrated almost to the level which had burnt in the preceding Fire III. The separation of these levels and their final verification with regard to the absolute chronology have therefore depended in some places on a painstaking analysis of the drawn sections. The deposits making up fire-layer III could be identified over practically the whole site and were as much as 35–40cm thick in some places. Apart from some stretches of wooden paving in the passages and some areas of flooring in one building, only the foundations of buildings were recorded. The layout was the same as that described in Period 7, since the later buildings and passages had been laid out directly over the remains of their predecessors.

In Period 6, which covered the 81 years between Fires IV and III, the Gullskoen area was subject to intensive development. Two complete building levels were uncovered, Phase 6.1, which was unburnt, and Phase 6.2, which was destroyed in Fire III. In Row 1, however, there was an extra unburnt level, while in The Old Church Road two extra levels were recorded in some places. The development in The Old Church Road is described as sub-phases within the two main phases: 6.1.1 and 6.1.2 in Phase 6.1, and 6.2.1 and 6.2.2 in Phase 6.2. The later of the two unburnt levels in Row 1 is considered to be contemporary with 6.1.2 in the road, while the first level has been assigned to 6.1.1.

#### Phase 6.2, burnt in Fire III (1413) (pl 5)

Within the five rows from Phase 6.2 twenty buildings were recorded in all, in addition to St Lawrence's Church and St Mary's Guildhall:

- Row 1 Buildings 440 and 439 in The Old Church Road;
- Row 2 Buildings 93, 428 and 429 and Hearth 26;

- Row 3 Buildings 7 and 434, Well 6 (an earlier phase of Well 1), and Hearth 3;
- Row 4 Buildings 11, 3, 5, 433, 131 and 132;
- Row 5 Buildings 49, 443, 6, 441, 178, 444 and 445, Well 40, and Hearths 1 and 2.

#### Row 1

Two buildings were recorded in Row 1 at the south end of the site.

Building 440 (P5,III,IV; P6,III) consisted of two, or perhaps three, courses of relatively massive foundation beams, possibly including floor-joists. Eastern and southern limits outside the excavated area. Maximum recorded length c 5.8m; maximum recorded width c 4m.

Building 439 (O6,II,II.1,III) consisted of one, or possibly two, courses of foundation timbers laid over the foundations of an earlier structure, Building 438. Southern boundary outside the excavations. Eastern limit of the north wall at 110.80y; west wall at 105.30y. Length 5.90m; maximum recorded width 2m.

These two buildings were separated from each other by a passage c 1.8m wide, running across the tenement.

#### Row 2

Three buildings were recorded in Row 2 on the north side of The Old Church Road.

Building 93 (N5,IV; O4,III,IV; O5,IV,V; P5,V) comprised the remains of the sill-beams on relatively intact ground-walls, and also the remains of an internal cross-wall, which would suggest that the building was divided into two equal rooms. The ground-walls were constructed with large stones up to half a metre across laid in two courses one stone wide without mortar but pinned with small flat stones. The outer face on the east, west and south sides had been made carefully and evenly. It was clear that the foundations of the outer walls were laid directly on the remains of previous ground-walls, but it was not possible to distinguish the original walls. An almost continuous layer of clay c 8–10cm thick on a bed of gravel up to 25cm thick covered the interior of the building. A collection of stones in the south-west corner of the east room may have belonged to a fireplace measuring approximately 1.20m x 1.50m (Hearth 26). Eastern limit of the south wall at c 112.2y; western limit at c 100.4y. Length c 12.1m; width 5.80m.

Building 428 (L5,II,IV; L6,V–VIII; M5,V–VII; M6,IV–VIII, N5,III–VI) had been erected just to the west of Building 93 and consisted of eight courses of massive foundation timbers, fine square-sectioned floor-joists and several relatively intact floorboards. Eastern limit of the south wall at 100.10y; western limit at 84.40y. Length 16.10m; width 5.50m at the east end and 5.00m at the west.

Building 429 (L5,IV; L6,VIII,VIII.1,VIII.2; K5,V; K6,VII) comprised courses 6 and 7, and possibly also 5, under Fire II. The limits were difficult to identify as the building must have been taken

down when Building 427 was erected in the following period. Eastern limit of the south wall at c 82.6y; west wall outside the excavation. Maximum recorded length 10.70m; width c 4.5m.

In Phase 6.1 a privy with access from The Old Church Road had occupied the gap corresponding to that between Buildings 428 and 429 in this phase (see p 36, Privy 10). This gap in Phase 6.2 was levelled up with boards and bits of planking and closed off at the road end by stairs leading to an upper storey. The level seemed to have been raised further in the period after Fire III. There were certain features which suggested that the area was still used as a kind of privy in Phase 6.2, but it has not been allocated a separate construction number.

#### The Old Church Road

In The Old Church Road on the south side of Row 2 there were two separate layers in some places belonging to Phase 6.2, but in the tenement passage to the north there was only one level. This would naturally seem to reflect the fact that The Old Church Road was a public thoroughfare and subject to greater wear than a private passage. However, the improvement to the road surface could not be traced as one continuous level, nor was it represented equally on both sides of the central drain, and so there is reason to assume that the existing wooden paving continued to be used where it was still intact. From the manner in which the buildings in Phase 6.2 were adjusted to the different road and passage levels, it is clear that they were not all erected at the same time.

As mentioned previously, four different levels were recorded in The Old Church Road in Period 6, and a full description of its development during the whole period is given in the summary at the end of the section (see p 42). Only a brief account is given here of the main features of the two levels in Phase 6.2, taken in chronological order – 6.2.1 and 6.2.2.

#### The Old Church Road, Sub-phase 6.2.1 (fig 17)

At the same time as Buildings 93, 428 and 429 were built in the second phase of Period 6, The Old Church Road was re-made for the third time since Fire IV (level 6.2.1). The surface was found in a relatively intact state over large areas of the road, which in this phase varied in width from c 6m at the west end to more than 7m in the middle of the site. Towards the back of the site its width was reduced owing to the presence of the short row of buildings described above as Row 1, but there is reason to believe that the distance between Row 2 on the north side of the road and Søstergården to the south would have increased steadily eastwards.

The wooden paved surface was laid transversely with a drain 70–80cm wide running down the middle, lined with planks held in place with stakes. At the extreme east end of the site, a drain in the northern half of the road was replaced after a while by a parallel drain just to the south of it, but exactly when this happened and the surface re-laid is difficult to say. It has been placed together with this level, 6.2.1.

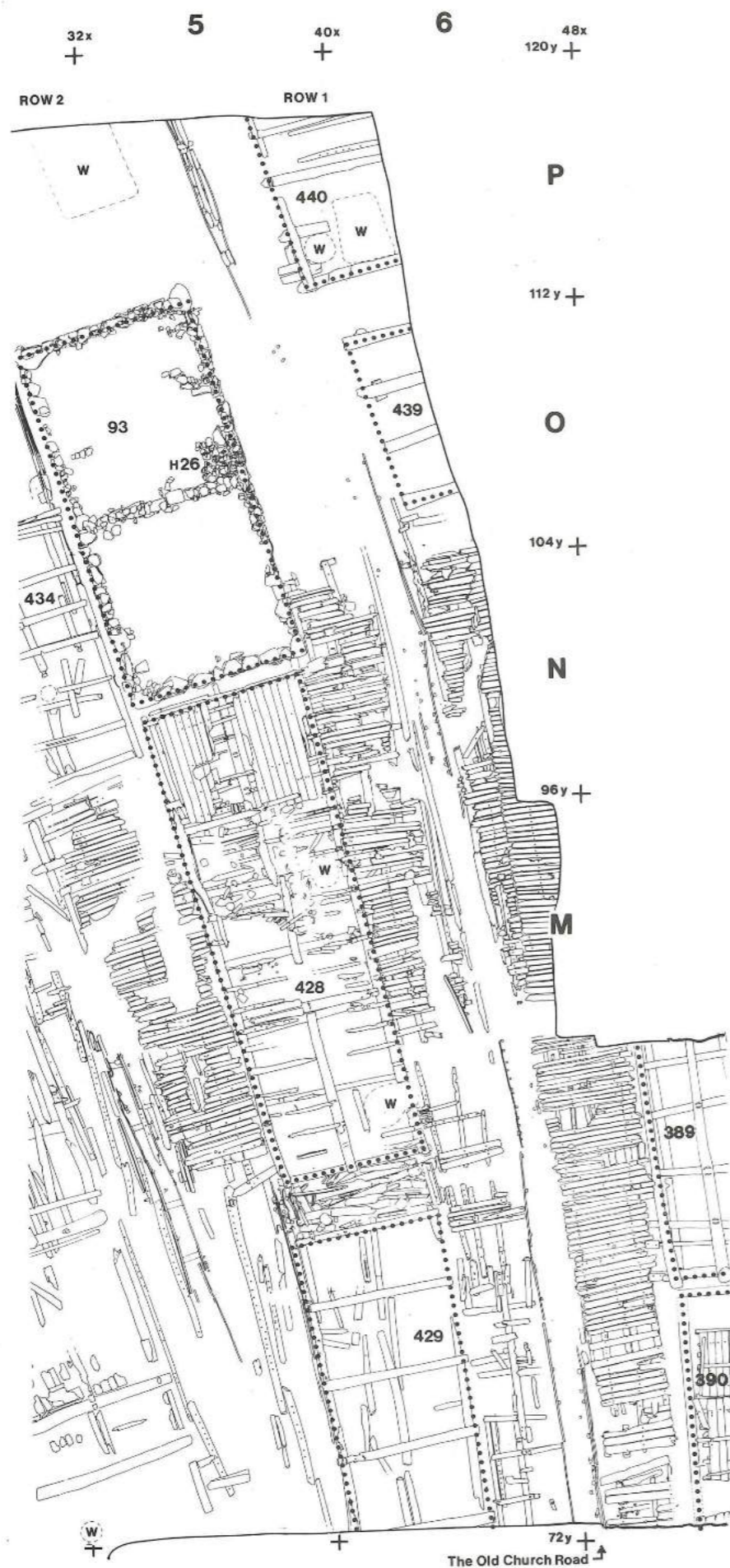


Fig 17 Part of Phase 6.2 with 6.2.1 in The Old Church Road.

### The Old Church Road, Sub-phase 6.2.2

For some reason or other the relatively intact level belonging to 6.2.1 was covered by a new surface of transverse boards laid on joists which rested directly on the old road surface (pl 5). The new surface had also survived intact in places, but elsewhere it had been removed and the underlying surface was apparently re-used, especially in the southern half of the road. The width of the road and the drain were the same as in Phase 6.2.1.

#### Row 3

Two buildings were recorded in this foreshortened row.

**Building 7** (O4,III,IV; P3,III; P4,III,IV,IV.1) comprised slender sill-beams and two courses of foundation timbers. The base of a stone-built horseshoe-shaped hearth, Hearth 3, was recorded in the south-east corner, overlying a 2-3cm thick layer of mixed clay and gravel. Eastern limit of the south wall along 115.80y; western wall at 105.70y. Length 10.50m; width 4.20m at the west end and 4.00m at the east.

**Building 434** (O4,III,IV; N4,IV; N5,III,IV; M4,III) comprised the remains of two, or possibly three, courses of foundation timbers overlying the remains of an earlier unburnt level, Building 177. Eastern limit of the south wall at c 105y; western wall at c 97.5y. Length c 7.9m; width 4.50m.

Along the south side of this foreshortened row was an eaves-drip gap, while running along the north side was a narrow passage widening to c 7m west of Building 434, but becoming narrower again westwards (see below).

Well 6, an earlier phase of Well 1, which was recorded immediately east of Building 7, is described under Phase 6.1 (p 37).

#### Row 4

This row could be traced over a distance of 60m right up the site to the St Mary's Guildhall, which straddled the end of the property. The last building in the row, Building 11, had left no remains in the immediate vicinity of the Guildhall, no doubt because it had never extended that far. There would have been a gallery or garderobe projecting from the upper storey of the hall on the west side. (Bl section I, paragr 1; DN II nos. 295 & 1348).

**Building 11** (P2,I-V; P3,II; Q2,II; Q3,I,II,II.1; R2,II) consisted of the burnt remains of a longitudinal floor and floor-joists, as well as fragments of sill-beams on the north and south sides. Eastern limit of the south wall probably around 128y; western limit at 119.90y. Maximum recorded length c 7.7m; width c 4.7m.

**Building 3** (P2,I,II; P3,II,III) was situated close up to Building 11 and consisted of four courses of foundation timbers. Eastern limit of the south wall at 119.80y; western limit at 113.60y. Length 6.30m; width c 4.6m.

**Building 5** (O3,I,1,II; P3,II,III) lay close up to Building 3 and its remains comprised floor-joists and possibly fragments of sill-beams, as well as two

courses of foundation timbers overlying a scatter of boards which had been laid in order to level up the area. Of the ground-walls there were really only stones supporting the corners. Eastern limit of the south wall at 113.30y; western limit at 107.90y. Length c 6m; width c 4.5m.

**Building 433** (O3,I,1,1; O4,III; N3,II; N4,III) was separated from Building 5 by a gap 50cm wide and comprised scattered stones from the ground-walls on all four sides and poorly preserved fragments of foundation timbers. Eastern limit of the south wall at 107.00y; limit on the west side at 102.00y. Length c 5.3m; length of the north wall c 4.7m. Width c 4.5-4.6m.

**Building 131** (N3,II-IV; N4,III,IV; M4,II-V) comprised floor-joists at regular intervals overlying three or four courses of foundation beams. Eastern limit of the south wall at 101.60y; western limit at 92.80y. Length 9.20m; width at the east end 4.50m.

**Building 132** (M4,II,IV; L4,IV,V) consisted of fragments of floor-joists and two courses of foundation beams. Continuous evidence for its full extent was lacking, but there is good reason to assume that the foundations extended for more than 20m. Western limit lay outside the excavated area beyond 72.00y; eastern limit of the south wall at 92.00y. Maximum recorded length c 20m; width c 5m.

In this row all the buildings east of Building 132 stood close up against each other. Between 132 and 131 there was a gap with an average width of 70cm containing boards and bits of timber, which could suggest that it had been some kind of a passageway.

#### Passage between Rows 3 and 4, and Rows 2 and 4

While four separate levels were recorded in The Old Church Road to the south of Row 2, there were only two levels in the tenement passage to the north, one in each phase, 6.1 and 6.2. As in the road, the width increased towards the rear of the site, giving room for the short Row 3, which occupied the southern part. The width of the passage therefore varied greatly.

In the narrower part, between Rows 3 and 4, there was no trace of a drain, but outside the north-west corner of Building 434 in Row 3 were the beginnings of a drain of traditional construction. In the western part the paved surface had been cut through by a later drain, including a side-channel running from the eaves-drip gap between Rows 2 and 3.

The width of the passage at 72.00y at the west end was c 4m, and it increased to c 6.8m in front of Building 134 c 25m further back at 88.00y. Towards the rear of the property the width varied between c 2m and 3m.

#### Row 5

Most of the remains of the buildings overlying the deposits from Fire III had been removed in this row and the surviving remains were difficult to identify in places. It could nevertheless be seen that there were buildings as far back as St Lawrence's Church, which lay behind the property in the same way as the St Mary's Guildhall to the south. The distance between the rear building of the

tenement, Building 49, and St Lawrence's (Building 50) was 2.80m.

Fire-layer III ran right up to the church wall and included here burnt boards and tile fragments overlying a clay layer a couple of centimetres thick.

Building 49 (Q2,I,II) comprised the remains of some badly preserved foundation beams in four courses and parts of a ground-wall for the south wall one stone wide and one or two courses high, which had collapsed in places. The level was otherwise covered with a scatter of stones of various sizes. Eastern limit of the south wall at 127.40y; western limit uncertain, possibly at 122.60y. Assumed length 4.90m. North wall unidentified; maximum recorded width 3.50m

Building 443 (P2,I; Q2,II) lay immediately west of Building 49 and comprised the poorly preserved remains of foundation timbers in five courses, together with a single-stone ground-wall on the south side, possibly also at the east and west ends. North limit not identified. Eastern limit of the south wall at c 122.4y; assumed western limit at 117.60y. Estimated length 4.75m; maximum recorded width c 5m.

Immediately west of Building 443 there was no definite evidence of any structures. In this part of the tenement some kind of manufacturing process had been carried on over a long period of time involving large, round, stone-built hearths, which had left a fine, multicoloured deposit of burnt material including crushed soapstone, clay and a series of greyish white layers of dissolved lime (fig 18). This powdery deposit of burnt material could be clearly distinguished from the corresponding fire-layer by its consistency and rich variety of hues. As it had partly spread

out over the adjacent floor, it was often difficult during excavation to understand the stratigraphy. The various hearths seem to have been in continual use for a long time and were therefore characterized by having been built up both at the base and around the edge. In those cases where this had occurred, the core of the old hearth had often been re-used, so that it was difficult to separate the respective building phases. The division into phases must therefore be taken with some reservation. In Building 6 on the west side of Building 443, it was not at all clear whether the layer contained any burnt deposits from Fire II.

Building 6 (O2,III; P2,I) comprised only the remains of a ground-wall one stone wide in which large irregular stones had been used. Just inside this was a stone-built horseshoe-shaped hearth, Hearth 2, with its opening to the north, which is thought to have been used for some kind of manufacturing process. It measured c 1.7m across internally and a good 3m externally. The extent of the building is uncertain. Eastern limit of the south wall possibly at c 116.4y; western limit at c 111.9y. Maximum recorded length c 4.3m; estimated width at least 4.5–5m.

Building 441 (O2,III; O3,II) comprised the ground-walls on the south and east sides. They were between one and three courses high and built of large irregular stones. Fragments of loose floorboards from a floor not attached to the walls were recorded together with underlying joists. In the south-east corner were the remains of a stone-built hearth, Hearth 1, whose base was made of round stones 10–15cm across, covered with a thin deposit containing charcoal, over which there lay a 10–25cm thick layer of grey-green



Fig 18 Hearths 1 and 2 in Buildings 441 and 6 respectively, burnt in Fire III (1413).

clay. A layer of ash in various hues ranging from grey and yellow to violet and black lay outside the hearth and over a large area of the floor. The hearth was no ordinary domestic fireplace but must have been associated with some kind of manufacturing process. Eastern limit of the south wall at 111.80y; western limit at 106.80y. Length 5.20m; north wall continued into the unexcavated area. Assumed width c 6.2–6.3m.

Building 178 (M2,I; M3,I–III; N2,I.1,I.2,II; N3,I,III,IV; O2,II,III; O3,I,I.1,II) comprised two layers of burnt foundation beams with a scatter of stones from the ground-walls. In the centre were the remains of a clay floor and a collection of large and small stones, mostly from the filling of a well, Well 40, which may have been contemporary, but which could have belonged to Period 7, burnt in Fire II. There were considerable amounts of wood and stone redeposited all over the building. Eastern limit of the south wall at 106.00y; west wall and part of the north wall outside the area of the excavations. Maximum recorded length 15.50m; width at the east end 6.00m.

As mentioned above, Building 178 continued into an unexcavated area to the west. Approximately 15m further west where excavation was resumed, the end of Building 444 was recorded.

Building 444 (K4,IV–VI) consisted of up to five courses of foundation timbers, mostly in and along the south wall. The east, north and part of the west wall lay in the unexcavated area. Western limit of the south wall at 73.60y. Maximum recorded length c 6.8m; maximum recorded width c 4m.

Building 445 (H4,VI; I4,IV,V; K4,V–VII) continued the row immediately west of Building 444 and comprised fragments of longitudinal floorboards, joists and one course of very large foundation timbers. West wall and part of the north wall beyond the edge of the site; eastern limit of the south wall at c 73.4y. Maximum recorded length c 18m; width 5–5.2m.

#### Passage north of Row 5

Between Rows 4 and 5 there was only a narrow eaves-drip gap indicating a property division and confirming the interpretation of Row 5 as the southern row of a double tenement. North of Row 5 the remains of wooden paving from a passage also serve to confirm this theory. The paving was recorded over a distance of 9.50m in the adjacent areas of the M and N grid-squares. Maximum width of the passage was c 1.40m. The continuation of Row 5 lay outside the excavated area.

#### Phase 6.1, unburnt level over Fire IV, with Phase 6.1.2, upper unburnt level in Row 1 and The Old Church Road (pl 6)

In Row 1 and in The Old Church Road towards the rear of the site, in grid-squares O6, P6 and part of P5, the tempo of building differed from that recorded in the rest

of the tenement. Between Fires IV and III there were three phases in Row 1. Thanks to the fact that there were at least four levels in the adjacent part of The Old Church Road during this period, it was possible to a certain extent to eliminate some of the combinations and to accept the greater probability of others. In addition to the burnt level in Row 1 described above in Phase 6.2, two more levels were identified in this row, covering the first part of Period 6. The later one, which included Buildings 437 and 438, is regarded as contemporary with the second level in The Old Church Road and has been labelled Phase 6.1.2. The earlier one, which included Building 436, corresponded to the first level in The Old Church Road and has therefore been labelled Phase 6.1.1. There was no evidence for a second unburnt level in any of the other rows.

In the latter part of Phase 6.1 (corresponding to Phase 6.1.2 in Row 1 and The Old Church Road), the remains of 16 buildings were recorded. These were distributed as follows:

- Row 1 Buildings 437 and 438;
- Row 2 Buildings 94, 435 and 430, with Privy 10;
- Row 3 Building 177, Well 2 and Well 6 (earlier phase of Well 1);
- Row 4 Buildings 52, 184, 185 and 215;
- Row 5 Buildings 453, 454, 9, 182, 446 and 447, with Well 3 and Privy 6.

There is also the possibility that Buildings 49 and 443 in Row 5, which were described under Phase 6.2, could have been built in this phase. The buildings in Rows 2–5 described here under Phase 6.1 corresponded to the Phase 6.1.1 level in The Old Church Road and Row 1. They are included here to provide an overall picture of the site at this level.

#### Row 1

Building 437 (P5,V,V.1; P6,IV) comprised the ground-walls under the north and west walls consisting of a single row of medium-sized stones, and sections of a transverse wall dividing the building into two rooms. In the eastern room there was an irregular mixed deposit of small, partly heat-cracked stones, earth and soot. Overlying the east ground-wall were fragments probably of the sill-beam, separated from the stone wall by an insulating layer of birch bark. The eastern and southern limits of the building lay outside the excavations; the western limit of the north wall lay along c 112.2y. Maximum recorded length c 5.5m; maximum recorded width c 3m.

There was a peculiar break in the alignment of the north wall of the building, with the sill-beam at the eastern end extending c 50cm further north than the western sill-beam. The picture is not clear on several points: it is possible that there was an external pentice which was partly or totally integrated in the building along the north side, or perhaps the building had been extended and the break in the facade marked the earlier dividing point between separate buildings. The second explanation seems less likely. Under the surviving floorboards in the western part of the building lay the remains measuring c 1.1m long of what appeared to have been a flight of stairs. This could indicate an earlier phase of this building, but in the context in which it was found, it could simply have been re-used as make-up.

As in Phase 6.2 at this point, there was a wooden-paved transverse passage c 1.4m wide to the west of Building 437, separating it from the next structure, Building 438.

Building 438 (O6,III,III.1,III.2) consisted of fragments of three layers of foundation timbers. The southern limit lay outside the excavations. Eastern limit of the north wall at c 111y; western limit at 105.30y. Length c 6m; maximum recorded width 1.70m.

How far the row continued westwards is not known.

#### Row 2

The row along the north side of The Old Church Road consisted of three buildings in this phase, 94, 435 and 430. They all lay immediately beneath the foundations of buildings belonging to Phase 6.2 and their remains had served as a foundation layer for these.

Building 94 (O4,IV,V; O5,V,V.1) was only documented clearly at its eastern end, where it consisted of a ground-wall made up of a single row of small, generally flat stones one or two courses high, and two transverse floor-joists *in situ*. At the west end the ground-wall ran into the more carefully laid ground-walls under the later building 93. Eastern limit of the south wall at c 108.7y; western limit not found, but the building could not have gone any further than the next building at c 100y. Maximum recorded length c 2.8m, possible maximum length 8–8.5m; width at the east end c 5.7m.

Building 435 (L5,V–VII; L6,X,XI; M5,VII; M6,VI; N5,VI) comprised layers 5 and 6 of the foundation tim-



Fig 19 Eastern part of Building 430 with a floor laid lengthwise. The boards have later been cut through, leaving the short ends sticking up at an angle. A new sill-beam lies to the left of a later transverse floor. To the east, Privy 10 is situated at the end of the gap between the buildings. Seen from the north.

bers under the level burnt in Fire III and under Building 428 from Phase 6.2. When the latter was erected, at least one course of timbers from the foundations for Building 435 must have been removed. In layer 6 the foundation timbers were found to overlap the foundations of the contemporaneous building 430 to the west. Assumed eastern limit of the south wall at 99.80y; western limit at c 84.5y. Length c 16m; width 4.9–5.1m.

Building 430 (K5,VII–IX; K6,VIII,IX; L5,V,VI; L6,IX,IX.1,X) was a log-built structure standing c 1.5m west of Building 435. It consisted of the unusually well-preserved sections of a longitudinal floor and four courses of foundation timbers. At the east end the floor had been cut through at a distance of c 50cm from the gable wall and a transverse sill-beam with a groove to receive upright boards had been placed in the cut, perhaps for a new wall or a wall-bench, or something similar (fig 19). At the same time a new floor of wide boards was laid transversely over the original one for a distance of 2.80m from the secondary sill-beam. The original eastern limit of the south wall was at 82.75y; the later sill-beam was at 82.25y. Western limit lay beyond the edge of the excavations at 72.00y. Maximum recorded length from the original east wall was 10.50m; width at the east end 5.00m, and at the western edge 4.70m.

#### Privy 10

At the same time as Buildings 428 and 430 were built, a privy was erected at the north end of the gap between the two buildings (fig 20). It consisted of an almost square framework of horizontal boards set on edge and held in place by square slender posts standing outside the corners. The bottom was covered with loose transverse planks. The passageway from The

Old Church Road to the privy was paved with generally wide boards laid longitudinally over slender cross-joists. On the north side of the privy the gap between the buildings was closed with horizontal boards placed on edge and held in place with thin posts. The privy measured c 1.5m x 1.1m. The surviving height of the corner posts above the floor of the privy was 70–110cm. The two southern posts stood c 40–50cm above the boards in the passageway. The height of the bench is estimated at 45–55cm.

#### The Old Church Road

In the first phase of Period 6 there were two levels in The Old Church Road, which have been assigned to Phases 6.1.2 and 6.1.1. In grid-squares O5 and O6, the remains of an extra level were recorded between Building 438 in Row 1 and Building 94 in Row 2 (see pl 6, insert), and this must be contemporary with the construction of Building 438 in Phase 6.1.2. It would subsequently have been covered by the two Phase 6.2 surfaces (see pl 5 & fig 17). Before this extra surface was laid, the boards and joists of the previous level had been removed only in the southern half of the road at the eastern end, while elsewhere the Phase 6.1.1 surface remained in use.

In Phase 6.1.2 both the width and extent of the road

were the same as in the later phases of Period 6 and the central drain was of the usual type. This level was generally well preserved. (For further details see summary on p 42).

#### Row 3

Well 6, which was the forerunner of Well 1, may have belonged to this phase. At this time the rear portion of Row 3 again seems to have lain open. The well, which was placed close against the south side of the passage, was built with horizontal logs notched together at the corners. The surviving section was c 1.5m deep, comprising 18 courses of logs, but the well casing would originally have gone much higher. It measured c 75cm x 75cm internally.

There was another well of about the same date located 5–6m to the west of Well 6, c 1.5m south of the passage. It consisted of three successive sections, which are designated Wells 2, 4 and 5. It was probably begun in Phase 5.2 and went out of use in this phase. Access to it was over a platform of loose boards. Large V-shaped drains with plank sides ran out to the west and the north. The western drain ran under Building 177 and was otherwise traced over a distance of 13m. To the west of the building it seems to have continued as an ordinary drain under the widened part of the passage.

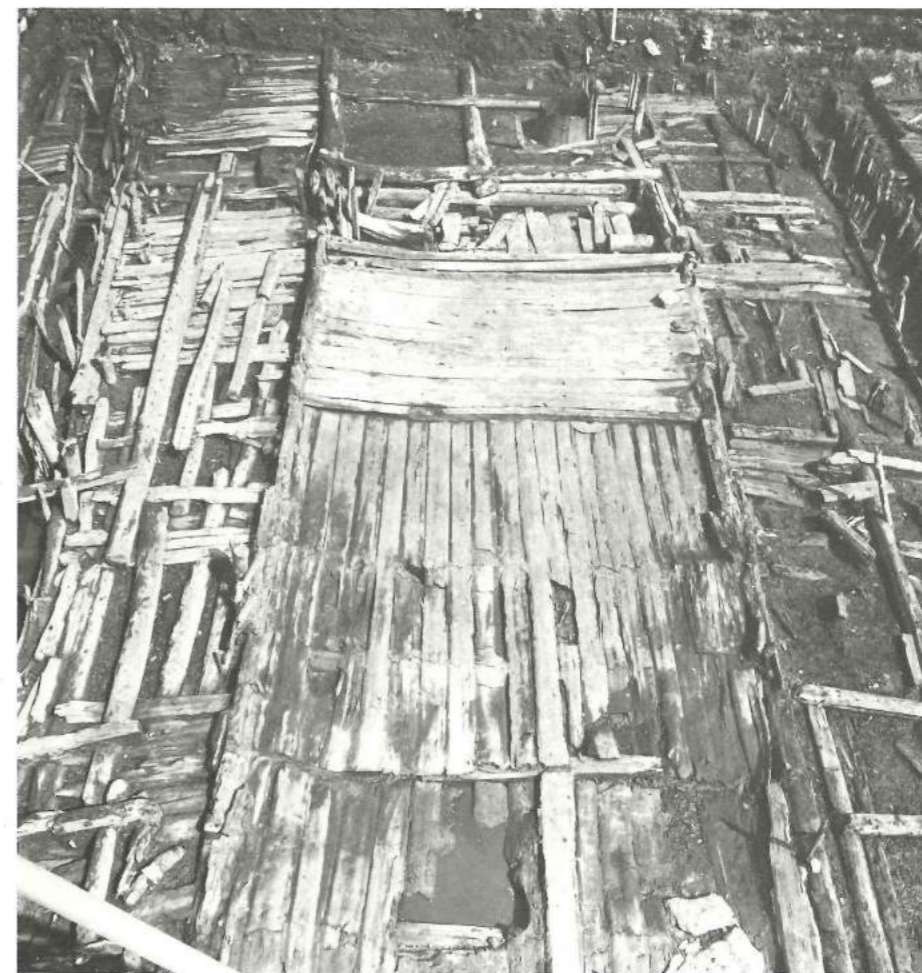


Fig 20 Building 430 with a secondary transverse floor laid over the original longitudinal floor and Privy 10 in the gap to the east of the building. Looking east.

As mentioned above, the well contained three sections: an initial log-built structure, Well 5; an intermediate stage, Well 4, erected over this, with horizontal planks set on edge and held in place with corner posts; and a final stage, Well 2, inserted into Well 4 and with the same construction.

As the passage surface from Phase 5.1 was cut through by the well, the latter cannot be earlier than Phase 5.2, possibly from 1290–1300, and it went out of use in Phase 6.1, presumably some time between 1370 and 1400. It is reasonable to assume that Well 5 was terminated by Fire IV in 1332, in which case Wells 4 and 2 must belong to Phase 6.1.

Well 2 measured c 70cm x 80cm internally and the casing had survived to a height of 4.20m.

Well 4 measured c 1.1m x 1.2m internally and roughly 1.6m in height had survived.

Well 5 is described under Phase 5.2 (p 43).

Like Row 1 out in The Old Church Road, Row 3 in this phase was "truncated", consisting of only one building, 177.

Building 177 (N4,VI,VII; N5,VI; O4,V,V.1) had been erected on a previously levelled area in which re-used building timber had been laid close together. The remains of the building included sections of the ground-walls, sill-beams and a beaten clay floor 20–25cm thick. The ground-walls were built mostly with flat stones 4–5 courses high. Beneath the clay floor but overlying the initial layer of logs a plank-lined drain ran westwards from Well 2 and out into the wide passage. Eastern limit of the south wall at 105.40y; western limit at 97.40y. Length 8.50m; width c 4.4m.

#### Row 4

This row formed the northern half of a large, complex double tenement, whose southern half near the east end consisted of the truncated Row 3 with its one structure, Building 177. Further west, however, Row 2 would have formed the southern row of the tenement. In its extent and orientation, Row 4 had the same layout as in the following Phase 6.2 described above (p 33), but consisted in this phase of three buildings, 52, 184 and 185, with an undeveloped area of 23m between the first two. Part of a fourth structure, 215, was recorded at the extreme western end of the site.

Building 52 (P3,III; P2,II; Q2,IV,VI; Q3,II.1,III; R2,II) consisted of floor-joists and 3–4 courses of foundation timbers, the sill-beams on the north and west sides and part of the south side, as well as a continuous ground-wall under the south sill-beam. Eastern limit unclear; south wall recorded as far east as 128.30y, but it probably went 50–60cm further east. Western limit at 119.80y. Maximum recorded length 8.40m; width c 4.5m.

For a time after Fire IV, the part of the site to the west of Building 52 on both sides of a wooden paved passage lay open. Well 2 lay to the south, and plank-lined drains, which had probably been covered, ran across the

northern half, where there was also a large tree-root, confirming the open nature of the area. The drains were not contemporary, but have nevertheless all been placed in this phase.

Building 184 (N3,VI; N4,VII; M3,V; M4,V) consisted of ground-walls of single rows of small stones, indicating some light structure. Eastern limit of the south wall at 98.30y; western limit at 93.30y. Maximum recorded length 5.20m; width 4.50m.

There was a gap a good 2m wide between this building and the next one, in which longitudinal logs placed at regular intervals may have acted as joists under a transverse wooden pavement.

Building 185 (I4,VI,VII; K4,VII,VIII; K5,VIII,X; L4,VI,VII; M4,V) comprised 4–5 courses of foundation timbers, together with the remains of a longitudinal floor and an associated sill-beam at the east end. Eastern limit of the south wall at 91.40y; western limit at 73.00y. Length 18.85m; width c 5.8m.

Further west the remains of another structure belonging to this row were observed.

Building 215 (I4,VI,VII) comprised parts of the east and north walls, consisting of very massive well-preserved beams, supported partly on transverse logs and partly on stones placed between them. The ground-wall itself was c 30–40cm high and consisted of two or three courses of stones. Eastern limit of the north wall at c 71.3y; western wall outside the excavated area. Maximum recorded length c 6m; maximum recorded width 1.5m.

#### Passage between Rows 3 and 4, and Rows 2 and 4

The tenement passage along the south side of Row 4 in this phase was almost identical with that in Phase 6.2 with regard to construction and dimensions, but was better preserved. As in Phase 6.2 the drain was restricted to the western, wider end of the passage.

The materials used in its construction provide an instructive insight into the various operations which would have followed a major fire. Between Rows 2 and 4 at the western end of the site, in grid-squares K, L, M and N, the area was first levelled up using building material damaged in Fire IV. Then a V-shaped plank-lined drain was laid from Well 2 at the far eastern end of grid-square O4. To the west it overlay the timber beams (fig 21). Although it had been cut through between 93.00y and 94.00y in the eastern part of M4, it can be reasonably assumed that here it joined a similar drain which had started just outside the north-west corner of Building 177. After the drains had been laid, Building 177 was erected a short distance to the west of Well 2, beyond which the passage increased in width to cover the whole area between Rows 2 and 4.

As mentioned above, the passage was almost identical in width to that in the following phase, 6.2, widening from c 2.2m at the east end to c 3.2m in front of Building 177, to the west of which it widened to 7m before narrowing again to c 4.5m at the edge of the site along 72.00y.

#### Row 5

To the west of St Lawrence's Church there was almost 13m with no evidence for any buildings from the first phase after Fire IV. As the next buildings, 453 and 454, only comprised the remains of foundation posts, it is not impossible that there had been one or even two buildings standing on foundation posts also at the eastern end of the row, but since no traces were found, it would suggest that Buildings 49 and 443 described under Phase 6.2 may have been erected in Phase 6.1.

The remains of six buildings were otherwise recorded in Row 5 in this phase: 453, 454, 9, 182, 446 and 447. An area in the K, L and M grid-squares covering some 20m was not excavated. In the N grid-squares there was an 8–9m long stretch with no structures belonging to this phase.

Building 453 (O2,V; P2,III) had foundations of partly buried posts, including a row of four placed fairly close together and three others from this level fitting into the pattern. The row of four marked the east wall, one or possibly two of the others could have been from the south wall, and one was from the north-west corner of the building. The floor was apparently raised 15–20cm above ground-level. Eastern limit of the north wall at 115.80y; western limit along c 112.2y. The long axis of this building lay at right angles to the tenement. It measured c 5.5m from north to south and c 4.8m from east to west.

Well 3, formed from a sunken barrel with an internal diameter of c 80cm, was located in the south-east corner of Building 453.

Just to the west of Building 453 the remains of three posts were recorded with diameters of c 40cm, which must have belonged to a contemporary unburnt building. All three posts had flat bases and had no features which might indicate their function. They were conceivably foundation posts for a building similar to 453.

Building 454 (O2,V) consisted of three possible foundation posts. It lay between c 110.3y and 105.9y. Maximum recorded length c 4.8m; maximum recorded width c 3.6m.

Building 9 (N2,II,III; N3,IV,V; O2,III,IV; O3,III,IV) was a small building or outbuilding with a single layer of foundation timbers, floor-joists placed close together, remains of sill-beams on the south and east sides, and two relatively intact floor surfaces. The original floor was of longitudinal well-preserved boards, overlain by a later flagstone floor, presumably indicating two phases of use. As apparently only one building is involved, a single building no. has been used.

The flagstone floor was laid on a bed of clay 8–10cm thick, which had been used to level up and insulate the floor. A layer of birch bark separated the clay from the original floor beneath. A deposit up to 10cm thick of finely crushed soapstone mixed with larger fragments 8–10cm across covered the flagstones. Several of the larger pieces showed traces of having been worked. This deposit was covered in some places by decomposed red tile.

The frame of the building was unusual in that the sill-beams were almost triangular in

section. At the south-east corner, the adjacent faces were cut on the slant and the two beams were joined with a wooden plug passing right through the corner. In addition, it was strengthened by internal and external stakes. Building 9 could have been a stonemason's work-

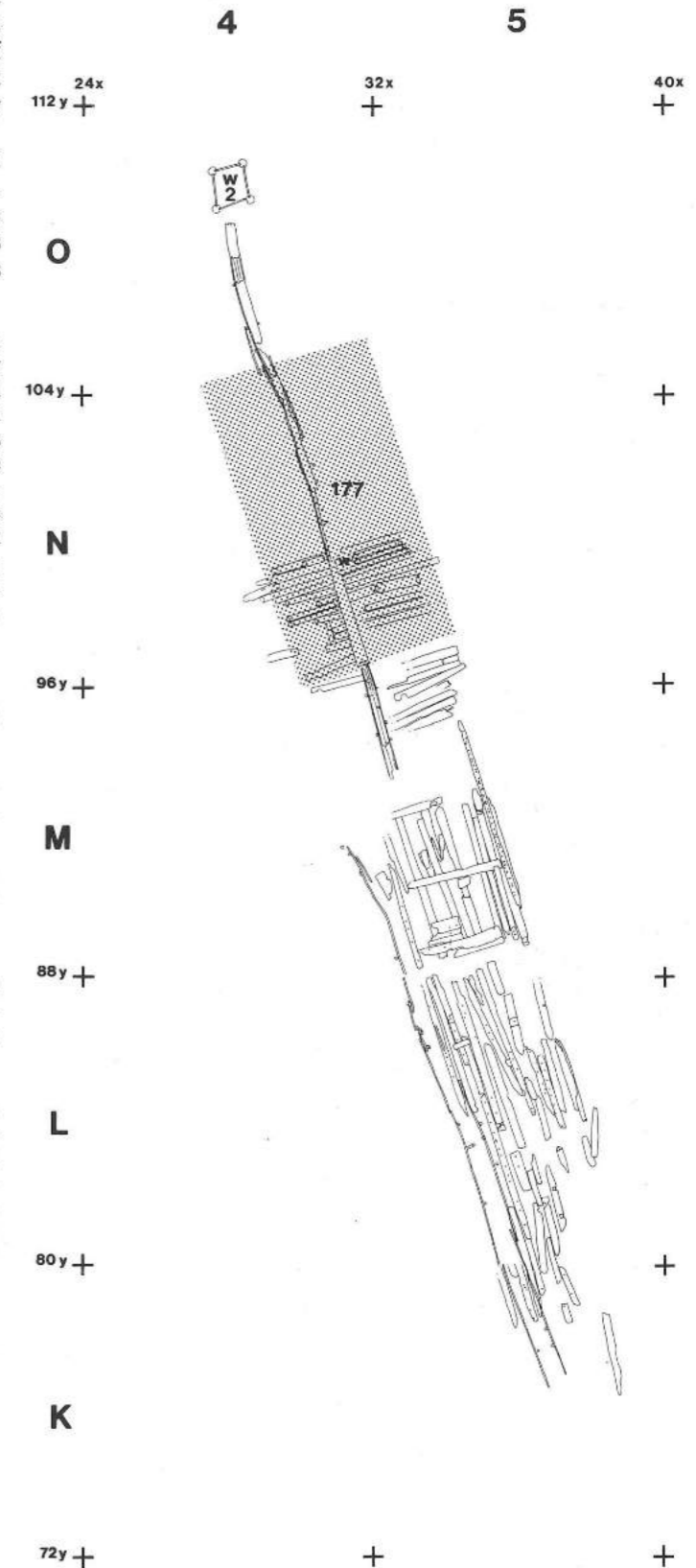


Fig 21 First stage of levelling up after Fire IV (1332) under Building 177 in Row 3.

shed. Eastern limit of the south wall at 106.20y; western limit at c 102.5y. Length c 4m; width c 5.1m.

In its first phase, Building 9 had a floor of massive boards, c 30cm x 4cm. They were trimmed flat along each side and laid edge to edge. With one exception they were laid with the most resistant surface – the heartwood – uppermost. The massiveness of the boards and the unusually close proximity of the joists suggested that the building had been intended to withstand heavy use. The dimensions of the building in its first phase were the same as in the stone floor phase.

The first 5m to the west of Building 9 either lay open in the first phase following Fire IV or else any surviving remains had been removed when laying the foundations for Building 178 in Phase 6.2.

Of the next building, 182, only the easternmost 4m were recorded, since a c 20m area to the west had to be left unexcavated.

Building 182 (M3,III,IV) comprised only parts of the foundation substructure which had been reduced in height in the following phase. The western part lay beyond the edge of the excavated area. Eastern limit of the south wall at 95.40y. Maximum recorded length 4.00m; width c 5.3m.

Building 446 (I4,VI,VII; K4,VII,VIII) was recorded c 20m west of the excavated section of Building 182 and consisted of well-preserved floor-joists and six courses of foundation timbers. North wall and adjacent sections of the east and west walls at 73.30y; western limit at 67.40y. Length 6.00m; maximum recorded width 5.10m.

Building 447 (H4,VII; I4,VII) lay immediately west of 446 and continued beyond the edge of the excavations at c 56–57y. The north, west and part of the east walls lay outside the excavations. Eastern limit of the south wall at 67.10y. Maximum recorded length 10.20m; maximum recorded width 5.00m.

#### Phase 6.1.1, lower unburnt level over Fire IV in Row 1 and The Old Church Road (fig 22)

In Rows 2–5 there was only one unburnt level over Fire IV (Phase 6.1) and the situation in these rows has been described as Phase 6.1.2 above, together with the upper unburnt level from this phase in Row 1 and The Old Church Road. In this section, only the lower unburnt level in Row 1 and in The Old Church Road is described.

#### Row 1

From the available data it would appear that for some time following Fire IV there were no buildings at the eastern end of the foreshortened row in The Old Church Road, in other words in grid-square P5. Beneath Building 438 in Phase 6.1.2, there were fragments of a ground-wall consisting of a single row of large stones. Circumstances in The Old Church Road and in the various levels indicate that this row of stones was not associated with the later structures but should be interpreted as the remains of a ground-wall under the north wall of an earlier

building in Phase 6.1, which has been assigned to Phase 6.1.1.

Building 436 (O6,IV) consisted of the remains of the northern ground-wall made up of a single row of large stones. The south wall lay outside the excavated area. Eastern limit probably at c 111.3y. The building continued to 105.20y at least, but its western limit is uncertain. Maximum recorded length 6.40m; maximum recorded width c 1.8m.

#### The Old Church Road

The road surface from Phase 6.1.1 was preserved in grid-square K7 and the adjacent part of L7. In the rest of L7, outside Building 391 in Søstergården, the surface planks had been removed when a new surface was laid in Phase 6.1.2, and only the foundations of the earlier level had survived. The section at the east end was also partly intact, but elsewhere the degree of preservation varied. The width and extent were the same as in the following level, but there was no trace of a drain.

#### Summary, Period 6

The period comprised two main construction phases, 6.1 and 6.2, with an extra unburnt phase in Row 1 and with two levels in The Old Church Road in each of the main phases.

The site showed the same pattern as in Period 7, with Rows 1 and 3 each being the truncated or foreshortened half of a double tenement.

Special hearths or ovens at the rear of the site, production waste, and also certain structural details of the buildings, indicated specialized functions such as lime slaking, stonemason's workshops, etc. – activities clearly associated with the maintenance of the large stone buildings just behind the tenement, including the churches of St Lawrence's and St Mary's, and the Guildhall of the St Mary's Guild. And as in Period 7, these activities were particularly centred on the buildings in Row 5.

In both phases, but especially in Phase 6.1, there appears to have been an open area at the rear of the site. It is not clear whether this had any connection with the special activities mentioned above, or whether traces of any buildings just had not survived or else defied recognition. As some of the buildings which were recorded had been erected on foundation posts, it might simply be that in parts of the open area the foundation posts had been removed. But as we have seen, there were wells and other indications to suggest that the rear part of the site had lain open.

In Phase 6.2 the base of a flight of stairs was recorded between Buildings 428 and 429 in Row 2, showing that there must have been a gallery projecting from the upper storey of one of the buildings. Beneath this lay a privy, of which several details had survived.

There were four levels in The Old Church Road during the two phases of Period 6, with surfaces 6.1.1 and 6.1.2 corresponding on the whole to Phase 6.1, and levels 6.2.1 and 6.2.2 corresponding to the later phase, 6.2, which burnt in Fire III.

There is generally good reason to believe that the resurfacing of tenement passages would have coincided with

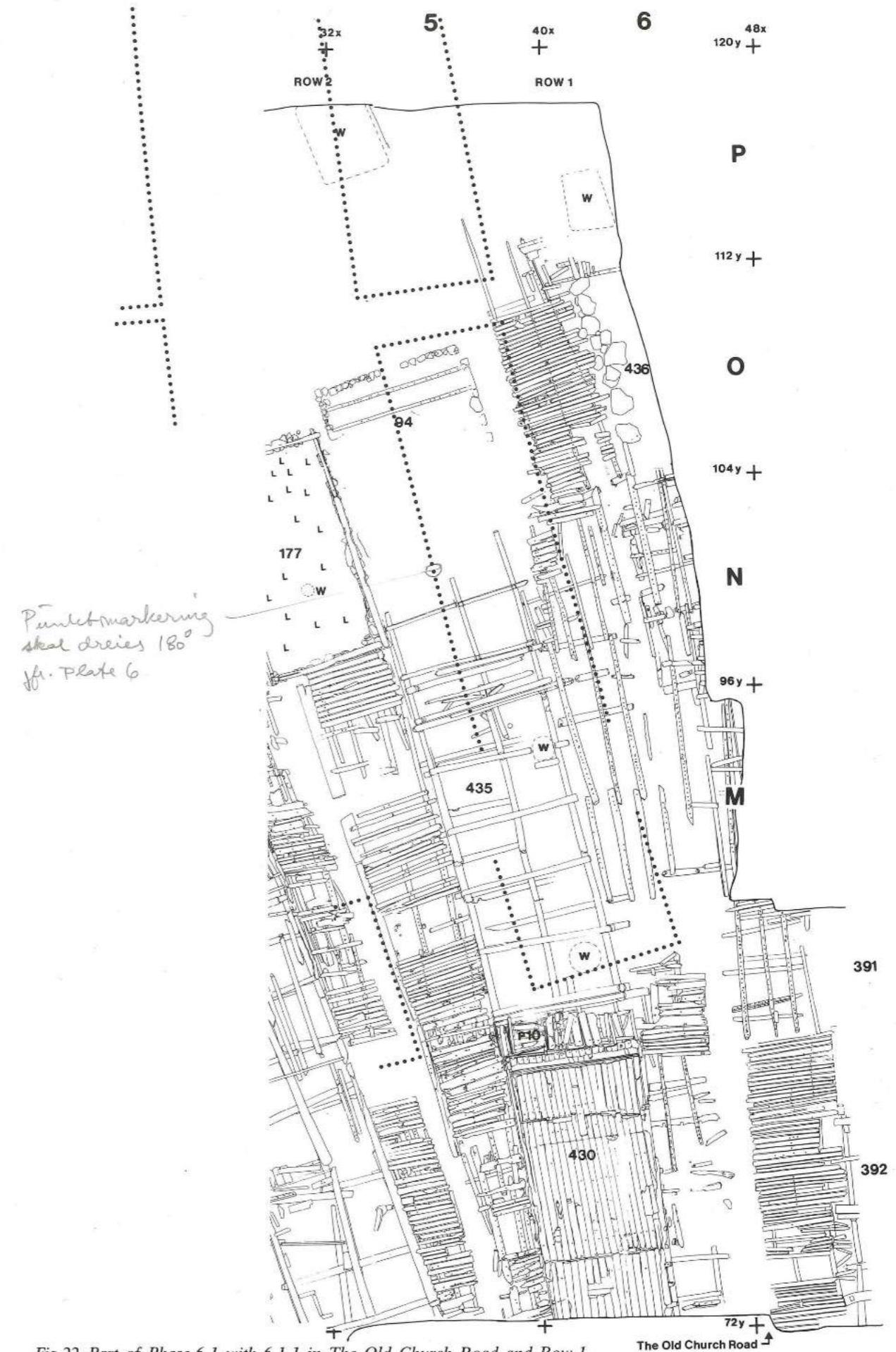


Fig 22 Part of Phase 6.1 with 6.1.1 in The Old Church Road and Row 1.

the construction phases in the tenements, since a new phase was usually initiated with a raising of the general ground-level. But in The Old Church Road it was necessary to carry out repairs and to resurface the road quite independently of the tempo of building in the adjacent tenements. The severe wear reflected by this frequent resurfacing can be compared with the more moderate use of the tenement passages, since no more than two surfaces were ever recorded in any of the passages in this period, one surface in each main phase.

As shown by the illustrations, there were at times fairly extensive areas in the passages which were well preserved, but there were also serious gaps. In some cases parts of an earlier phase continued unaltered in the next one, and in such cases a marked difference of levels in the paved surfaces had clearly been acceptable.

The materials which were used varied greatly, ranging from earlier building timber re-used in the foundations to boards of various dimensions used in the wooden paved surfaces. Not infrequently split logs were used, laid alternately flat side and round side uppermost. In some instances this appears to have been so systematic in the laying of a new surface that any break in the rhythm must be regarded as evidence of a later repair. This indicates furthermore a great difference between work carried out by proper carpenters and that done by ordinary users, since it is reasonable to believe that it was the latter who would have carried out running repairs and maintenance.

The full width of The Old Church Road was only recorded over a distance of 16m in the K and L grid-squares. Since the building line on both sides of the road at the western end remained practically unaltered throughout the whole of Period 6, the width of the road remained the same, from c 5.7m at 72.00y to 7.50m at 88.00y.

Over the next 30.00m, from 88.00y to 118.00y, the southern half of The Old Church Road was a victim of the mechanical excavators in 1974. The total width will therefore never be known, but thanks to the remains at the rear of the site of the row of buildings forming the truncated Row 1, it is possible to estimate what the minimum width might have been. If it is assumed that the minimum width of the buildings in Row 1 was 4.5m and that there was a narrow passageway of perhaps 1.5m between this row and the neighbouring tenement of Søstergården, then the road would have had an average width of 10.8–11m in the rear part of the site. There is no reason to expect any significant variation in width in Period 6. There would not just have been a narrow eaves-drip gap between the short row of buildings and Søstergården, since the access to Søstergården North had to be from the north side.

All four levels of paving in The Old Church Road between Fires IV and III were cut through by drainage channels and rows of stakes, but there was nothing to suggest that there were any drains in the first phase after Fire IV, Phase 6.1.1, and surface water must simply have run down between the planking. In the western part of the site, as far east as Building 438 in Phase 6.1, the remains of a drain were recorded, which must have been laid between the pavements of 6.1.1 and 6.2.1, most likely at the same time as the surface of 6.1.2 was laid.

At the beginning of Phase 6.2 with the laying of the surface of 6.2.1, it seems that a wider channel was laid in a pre-existing drain (from 6.1.2). They were both lined with boards of various heights supported internally by stakes. The channel in 6.2.1 was c 60–90cm wide, with the

widest part at the west end. The supporting stakes were sometimes round, sometimes split, with diameters of 10–16cm. The earlier drain in 6.1.2 was between c 30cm and c 75cm wide and supported with square slender stakes 6–7cm thick.

The two surfaces laid during Phase 6.2 were cut through in some places by drains belonging to the level which burnt in Fire II.

## Period 5

### Phase 5.2, burnt in Fire IV (1332) (pl 7)

Over large areas of the site the effects of Fire IV were seen in the variegated deposits of burnt debris of varying thickness, ranging from a couple of centimetres to 30cm. The strata within this fire-layer were not continuous, however, and the surviving remains of structures were also interrupted in places, especially in Row 5 in the far north and in Row 3, where the situation was complicated by the fact that lime-slaking had been carried on, partly in the open air and partly under lightly constructed sheds. As a result of this activity, which in some parts of the site must have gone on throughout the whole of Period 5, layers of redeposited charcoal were recorded, particularly in Rows 4 and 5. In some places the deposits consisted purely of crushed charcoal, while in others the charcoal was mixed with lime, broken shells and ash, displaying a rich variety of hues.

The whole period covered eighty-four years and comprised two main phases, the earlier one of which was unburnt. The picture was complicated by the fact that entire foundation substructures from Phase 5.1 had been extensively re-used, sometimes after they had been reduced in height to a greater or lesser extent. The layout in Period 5 was the same as in Period 6 – and partly also as in Period 7 – except for minor variations for short periods of time in the area of The Old Church Road and the tenement passage running parallel to it further north.

In Phase 5.2 no definite remains of structures were recorded in the southern half of The Old Church Road, but there were possibly some remains in the N and O grid-squares. Within Rows 2 to 5 there was evidence for twenty-one buildings, plus St Lawrence's Church and St Mary's Guildhall:

- Row 2 Buildings 95, 96, 456 and 455, and Privies 8 and 11
- Row 3 Buildings 56, 463, 13, 212, 462, 220 and 221, Well 5 (as part of the series: Wells 2, 4 and 5), and Pit 26;
- Row 4 Buildings 12, 10, 188 and 214, plus Hearths 19 and 16, and Well 7;
- Row 5 Buildings 54, 14, 19, 183, 113 and 469, plus Hearth 6 and Lime-pits 22 and 23.

#### Row 2

Building 95 (O4,V; O5,V,V.1,VI.1; P4,IV; P5,VI) comprised the ground-walls under the west wall and parts of the south and north walls, consisting of a single row of large and small stones in one or two courses. To the east the ground-wall was missing as a result of later activities, including the digging of Well 3 in Phase 6.2. Eastern limit uncertain; western limit of the south wall

at 110.00y. Maximum recorded length 5.40m. The north wall may have continued eastwards for a further 2–3m. Width c 5.8m.

Building 96 (N5,VII; O4,VI; O5,VII) consisted of the remains of sill-beams, floor-joists and a few floor-boards. The sill-beams rested in places on an earlier ground-wall, which had been repaired. Eastern limit of the south wall along 109.20y; western limit at 100.70y. Length 8.50m. The foundation substructure projected c 1.5m into The Old Church Road compared with the south facade of the rest of the row and was 6.60m wide altogether, but it is possible that it also supported a pentice or external gallery at ground level.

Privy 18 (O4,IV; O5,V.1) lay in the gap between Buildings 96 and 456 and consisted of a distinct area c 3m long, bounded at the north end by a board placed on edge. This was held in position by two square stakes on the outer side, facing the eaves-drip gap. A similar board set on edge in the centre of the gap was held in place by two square stakes on the inner, north-facing side. The remains of a stake set against the eastern end-wall of Building 456 indicated that the structure had also been enclosed along the sides. Some burnt stones which lay on the bottom were either part of the original base or else had been deposited there during or after a fire, but whichever reason is preferred, the feature must have been empty at the time. Both the structural details and the location would suggest that the feature had been a privy. Length 2.96m; assumed width c 1.1m.

Building 456 (L5,IX,IX.1; L6,XIII; M5,VIII; M6,VII; N5,VII) comprised the remains of sill-beams resting at intervals on padstones and occasionally on transverse foundation logs. Eastern limit uncertain, possibly extending to c 100.2y on the south side, alternatively to 98.8y; western limit at c 88.8y. Estimated length 12.8m, alternatively 11.2m; width 5–5.1m.

Privy 11 (L5,IX,IX.1) lay between Buildings 456 and 455 in the northern part of the row with access from The Old Church Road. It measured c 1.5m x 1m and consisted of a framework of boards set on edge and held in place with stakes at the corners. The height of the seat could not be determined as only the bottom 20–25cm of the framework had survived Fire IV. The approach was paved with transverse boards laid on short longitudinal joists.

To the west, in most of grid-square K6 and the adjacent areas of K5 and L5/6, the only structural remains were from the level which was destroyed in Fire IV. These consisted of a single course of transverse foundation beams which had survived *in situ*. They are thought to indicate a separate building, which is designated Building 455.

Building 455 (K5,XI; K6,XII; L5,IX; L6,XIII) comprised five beams from the foundation structure. Eastern limit of the south wall at 86.60y; western limit at 73.60y. The estimated length of the building was c 13.3m; estimated width c 5m.

Immediately west of Building 455 at the western edge of the site, three posts running across the row indicated a building which lay mostly outside the excavations and which has therefore not been allocated a number.

## The Old Church Road

In the southern part of the road adjacent to Søstergården North, large areas of transverse wooden paving together with the underlying joists had survived. This was also mostly the case in the northern half of the road in the centre of the tenement. Finally there was a relatively intact stretch of 7–8m at the eastern end, but this had clear traces of having been a secondary repair, a hypothesis which could be confirmed by another generally well-preserved stretch which could be documented as an inserted repair.

Otherwise, only scattered remains were recorded of the supporting timbers. The full width of the road is not known, except in the western part where the width varied between c 6m and c 7m, but throughout its length the road was considerably wide, with the possible exception of the south-eastern area where there may have been a building.

## Row 3

In this phase seven buildings were recorded in Row 3.

Building 56 (Q3,V) had been erected on a thin layer of sand and gravel which lay over the southern part of the unburnt Phase 5.1 passage overlying Fire V. It comprised only the remains of ground-walls on the east, south and west sides, that on the west side being laid in two courses to compensate for the slope of the ground. Small irregular stones had been used. The building was most likely a shed erected over lime pits and the remains of two original pits were uncovered along the mid-line of the building. They were recorded together as Pit 26. Eastern limit of the south wall at c 128y; western limit at c 124.8y. Length and width c 3.4m.

Building 463 (P3,IV; Q3,IV) consisted of a row of stones measuring 50–80cm across which supported the north wall. There was no clear boundary either to the east or to the west. Assumed eastern limit at 121.10y and western limit at 116.60y. Assumed length 4.6m.

Building 13 (O4,V.4; P3,IV; P4,IV.2) consisted of most of the ground-wall and sill-beam on the north side, and a couple of stones which may have supported the south wall. The north end of the east wall lay at c 115y; the west and south walls had not survived. The north wall was recorded as far as 108.90y. Maximum recorded length 6.40m; assumed width c 4m.

The western part of Building 13 had been removed during later activities on the site, including the construction of Well 2 and various drains in Phase 6.1 following Fire IV. Well 5, which lay approximately in the middle of Building 13, was lined with an almost square log-built casing, with sides measuring 1.10m internally, of which 25 courses of logs had survived to a total height of 1.55m. Vertical boards had been placed edge to edge around the outside of the well-case. The well was succeeded by Wells 4 and 2 (see pp 37–38).

Over the next c 4m no remains of structures were recorded.

Building 212 (N4,VIII,VIII.2; O4,IV,VI.2) consisted of the burnt, but practically intact ground-frame of a post-and-sillbeam structure. The east and south walls were supported on five stones placed at intervals, but the northern sill-beam rested entirely on posts. Nothing else of the building had survived. Eastern limit of the south wall at 106.40y; western limit at 100.65y. Length 6m; width 4.1-4.3m.

Building 462 (M4,V.3; N4,VI.2; N5,VII) comprised the ground-walls and parts of the sill-beams and floor-joists belonging to a log-built structure. The ground-walls consisted of a single row of stones 4-5 cm thick laid in 2 or 3 courses (15-20cm high). Some of the stones were square-trimmed. Eastern limit on the north side at 99.10y; western limit uncertain, around 94/95y. Assumed length 5-5.3m; assumed width 3.7m.

To the west of Building 462 a large number of burnt timbers were recorded either in or over the fire debris from Fire IV. They were mostly lying longitudinally and were for the most part building timber. This layer of timber appeared to be a levelling up of the area following Fire IV, but as most of the beams lay actually in the fire layer, they gave the impression of having burnt *in situ*. This gave rise to problems of interpretation, since there was a possibility that the fire could have broken out while the deck was being replaced. The existence of some fire-damaged elements from Buildings 219 and 221 beneath the layer of timber and the remains of a stair presumably from Building 221, which lay in the fire layer, have led us to assume that the layer of beams formed part of the levelling up of the site after Fire IV. This has been commented on further in Phase 6.1.1 above (see fig 21).

Building 221, which was apparently destroyed in Fire IV, overlapped part of the sill-beam of the south wall of Building 220 to the east, but in both sill-beams there was evidence in the sections adjacent to each other which suggested that the vertical wall-planking in Building 220 continued right up to Building 221. The two buildings must therefore be contemporary, and it is reasonable to assume that also Building 220 was in use up to Fire IV. Building 219 on the far west, however, had gone out of use before Fire IV, since the final phase in the passage, which burnt in the fire, was laid over the surviving remains of the building. If these fragments from the passage had belonged to the beginning of Phase 5.2, it would suggest that Building 219 belonged basically to Phase 5.1. As the area occupied by the passage and Row 3 had previously been used for industrial purposes, probably in the open air, it is hardly likely that Building 219 was erected during the early part of Phase 5.1. It is more likely that all three buildings in this western part of the tenement, 220, 221 and 219, were all built about the same time in the later part of Phase 5.1. Building 219 was then demolished at some time during Phase 5.2 and the area used for laying out the passage, while Buildings 220 and 221 continued standing until Fire IV.

Building 220 (M4,VI; M5,VIII) was a freestanding structure, but was apparently only a light shed erected for some unknown function, possibly a privy. As described above, features in the southern sill-beam connected it with Building 221 to the west. It was limited at the east and west ends by Buildings 462 and 221. The sill-beams had

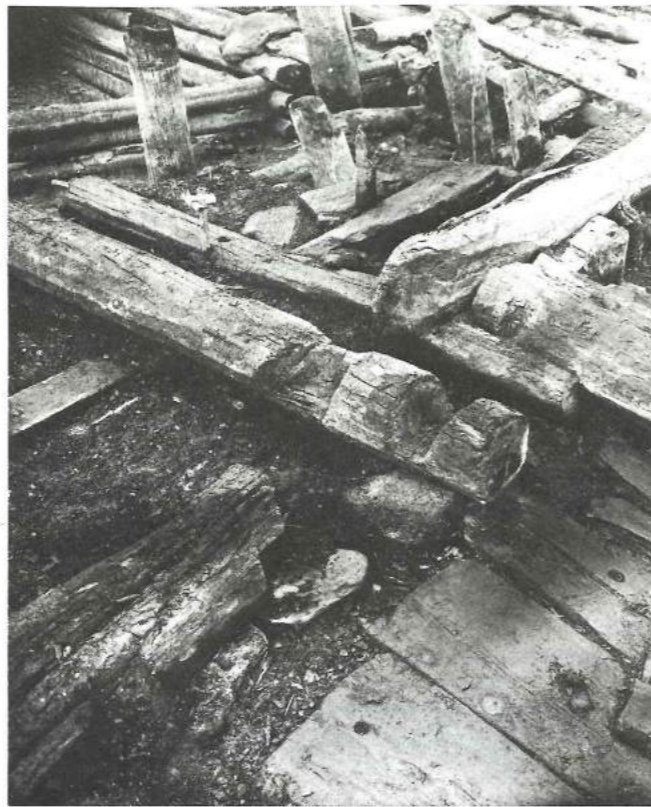


Fig 23 North-east corner of Building 221 with the original lapped corner beyond. A new north wall has been erected in timber-framing. Seen from the north-east.

survived on the north and south sides. The walls must have consisted of vertical boards and the floor was probably of loose boards, a few of which had survived. Maximum recorded length c 2.1m. This building may date back to the later part of Phase 5.1.

Building 221 (L4,VII; M5,VII-IX; M4,V.3,VI,VI.1) comprised parts of floorboards laid longitudinally, floor-joists and sill-beams forming the ground-frame of an unconventional structure with a post-and-beam north wall and a log-built south wall. It seemed to be a secondary feature. The sill-beam of the east wall, which projected 60cm into the passage from the secondary alignment of the wall, contained a well-preserved notch (Norw *laft*) of the type used at the corners of log-built structures. The western sill-beam seems to have had a corresponding notch at its north end, but this had subsequently been cut through. It is possible therefore that Building 221 had been an ordinary log-built structure, but for some reason or another it was found necessary to reduce the width of the building. It should be noted that the passage as a result was widened from c 2.2m to 2.54m at this point (see figs 23 & 24).

The situation that we appear to have revealed is so remarkable that it possibly reflects the requirements of the Town Law concerning the minimum width of a passage. Failure to comply with this law could result in the demolition of an offending structure (NgL, VI, chap 5). The apparent alteration to the width of Building 221 occurred at the very time when the Town Law was being put into practice. It is also not impos-

sible that we have a similar situation to the east, since Building 218 from Phase 5.1 was succeeded by the significantly narrower Building 462 in Phase 5.2. Building 221 may date from the later part of Phase 5.1. The base of a stair in the passage outside the north-east corner of Building 221 shows that the building in its later form had two storeys. Eastern limit of the north wall at 92.50y; western limit at 87.80y. Length 4.90m; width 4m.

As it is not clear whether Building 219 continued standing in Phase 5.2, or if so, for how long, it has only been included in Phase 5.1 (see below). As already pointed out, the tenement passage continued to the west of Building 221 over Building 219, where it covered the entire area between Rows 2 and 4.

#### Row 4

In this phase the site was probably fully developed as far back as the Guildhall (Building 48), but within the first 9m to the west of this building there were only a few burnt boards and fragments of beams whose orientation indicated a building. The remains have been indicated on the plan of this phase, but they have not been given a separate building no.

Building 12 (P2,III; P3,IV,IV.1; Q2,VII,VIII; Q3,IV,IV.1; Q3,V) consisted of sill-beams, joists and fragments of longitudinal floorboards, as well as both flat and trimmed stones overlying a layer of clay and gravel, probably from a fireplace, Hearth 19, in the south-west corner of the building. Eastern limit of the south wall at 122.10y; western limit at c 114.7y. Length 7.65m; width c 5m.

Building 10 (O3,III,V; P3,IV) lay close up against Building 12 and consisted of the burnt remains of the relatively intact south-eastern half of a building with floorboards laid longitudinally on transverse joists, together with the sill-beam from the east wall and adjacent sections of the south and north sill-beams. The western part of the building had been removed. About halfway

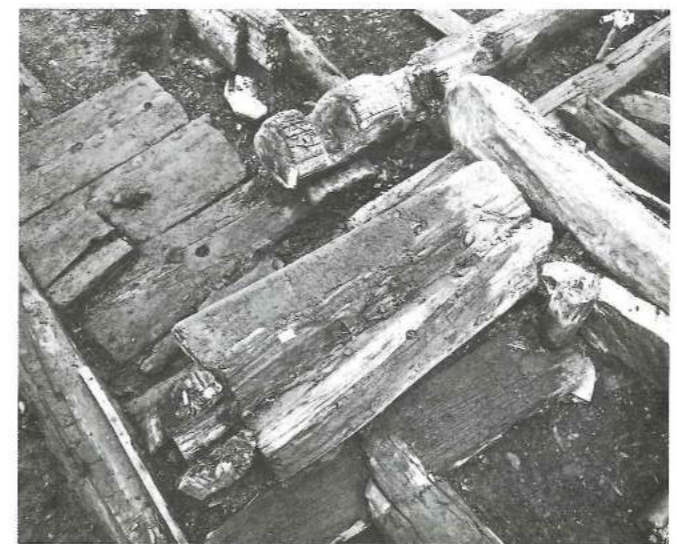


Fig 24 Detail of the north-east corner of Building 221 as shown in fig 23 with the remains of the base of a stair in the adjacent passage. Seen from the north-west.

along the south wall lay the remains of a fireplace, Hearth 16. A row of flat, trimmed stones, some of them no more than 10 or 15 cm long, formed the groundwall beneath the north and south walls. Eastern limit of the south wall at 114.40y; the sill-beam was traced westwards to 106.10y. Maximum surviving length of building 8.50m, width 5.54m.

Building 188 (M3,IV; M4,V.3,VI; N3,VII; N4,VIII; O3,VI; O4,VI) comprised the relatively intact but burnt remains of longitudinal floorboards, together with floor-joists and the sill-beams of the east, west and south walls. The ground-walls were one stone wide and constructed with very small stones and stone fragments laid in 2 or 3 courses. The site of the north wall was indicated by just a few stones from its ground-wall. The building was c 16m long, apparently divided into two rooms, measuring respectively 5.70m and 10.10m long internally. An alternative interpretation is that there were two one-roomed buildings sharing a party wall. Eastern limit of the south wall at 105.65y; western limit along 90.10y. External length 16.20m; width c 5m.

Building 214 (I4,VIII; I5,III; K4,IX,X; K5,XI; L4,VII-IX; M4,V.3,VI) consisted of the scattered remains of floor-joists at the eastern end and the foundations several logs in depth, being deepest at the western end. Their mutual relationship could not be ascertained exactly as the uppermost layer of connecting logs had gone, but in the lower layers a connection could be traced as far as c 69.8y to the south-west. Eastern limit at c 89y. Length 19.9m; width 4-4.2m, widest to the east. As the building by all accounts had been erected shortly after Fire V, the reader is referred to the description of Phase 5.1 below (p 51).

#### Passage between Rows 3 and 4, and Rows 2 and 4

As with The Old Church Road there were just two wooden paved surfaces in the passage, one from each of the two Phases 5.1 and 5.2, except for a little area where there was a third surface. In principle, the layout was the same as in Period 6, with the passage widening out towards the rear of the tenement, but being partly absorbed in the middle of the property by buildings of varying size belonging to Row 3.

In Phase 5.2 there was a gap of up to 1.25m between the passage and St Mary's Guildhall (Building 48). Here the joists were cut through, but a short beam continued the line of the southernmost joists on the same height right up to the west wall of the building. This could indicate that either the passage had continued up to the building or alternatively there had been a transverse passage running along the western end of the guildhall.

The rear section of the passage and the adjacent area to the north was badly burnt in some places and had partly collapsed into an earlier backfilled well, Well 7, which may have been in use in this phase. It consisted of three barrels one above the other and partly overlapping. The fire had been so fierce that it was no longer possible to trace the extent of the passage east of Building 12.

From a width of 4.50m at 72.00y, the passage widened to c 6.8m at 88.00y. Alongside Row 3 its width varied between 2.2m to 3m.



*Passage in the rear part of the tenement, extra level, Phase 5.2.1 (pl 7, insert)*

Within the rear part of the tenement, mostly to the east of Building 12, two layers of wooden pavement were recorded. While the upper surface, which has been assigned to Phase 5.2.2, had been destroyed by fire, the earlier level, recorded as Phase 5.2.1, was relatively well preserved, consisting of boards of uneven width laid transversely on solid joists.

*Row 5*

The deposits from Fire IV formed a continuous layer 20-25cm thick stretching as far as St Lawrence's Church (Building 50). A strip c 1.8m wide to the west of the church overlay a 3-4cm thick deposit of clay, which in turn overlay a stone paved surface with large, irregular, but relatively flat stones.

At the time of excavation this feature was thought to be a separate building with a clay floor, but there are no grounds for maintaining this interpretation. The stone setting gives the impression of having been a relatively wide cross-passage running along the west side of the church, and this interpretation is strengthened by the fact that the only entrance to the building was on the west side. On the other hand, the clay surface, which covered the flagstones, is difficult to interpret. It could suggest that towards the end of the period this passage had been replaced by some kind of structure built up against the church, but this seems unlikely.

After Fire IV a timber-lined latrine pit (Privy 6) had been dug down through this feature at a distance of 1.20m from the west wall of the church (see pl 5 & fig 13), and it is reasonable to suggest that the privy was located in a projecting external gallery at the upper floor level. The interpretation of the layer of clay, whose eastern part would have been underneath the gallery, thus creates problems. To the west it was limited by the remains of a building, although no exact line could be determined. These remains, which with some reservation have been allocated a construction no. (Building 54), comprised the scattered and discontinuous remains of burnt planks and beams, together with some concentrations of generally less burnt stones in a reddish brown fire deposit, partly overlying charred boards. Apart from the fragments of beams, which mainly ran across the site and could therefore suggest a foundation structure, there was no other definite evidence for a building. The remains in question continued to a significant extent over the surface of the passage belonging to this phase, as far as the deposits from Fire IV. It is therefore tempting to regard this feature as representing a levelling out of the deposits after the fire, and probably associated with some kind of light structure.

Building 54 (P2,I,II; Q1,IV; Q2,V,V.1) consisted of the scattered remains of longitudinal floorboards and transverse joists. Lying on the charred floorboards to the south-east was a collection of generally small burnt stones in the soft reddish-brown deposit left by the fire. As this deposit continued beneath the stones, these had possibly fallen from an upper storey, perhaps from a fireplace. However, the stones were really too small to be satisfactorily interpreted in this way. Eastern limit around 127y on the south side; western limit possibly around

116.6y. Estimated length c 10.5m; width 5-5.5m.

Building 14 (O2,V,V.1; P2,III) comprised the ground-frame of sill-beams from an almost square construction of an unconventional type. At the north-east and south-east corners the sill-beams were supported in vertical posts. The south-west corner was partly destroyed by fire, but the sill-beam of the western gable wall was chamfered on both faces, indicating that it too had gone into an upright post. At the north-west corner, on the other hand, the sill-beams crossed each other with no trace of a post. As all the sill-beams had a groove along the upper edge to receive upright planks, this building must have basically been a timber-frame structure, but the hybrid north-west corner is difficult to explain. Despite the fact that the shape of the sill-beams on this corner gave no indication of there having been a corner post, the possibility cannot be entirely ruled out.

At the time of its excavation, the thought was also entertained that the south wall of Building 14 could have been a continuation of the south wall of Building 19 immediately to the west, as the surviving sill-beam fragments were all of oak, but this theory had to be abandoned when the chamfering at the south end of the western gable wall was noted, which clearly indicated the presence of a corner post there. It is difficult to reconcile this with the theory of one long continuous sill-beam, and it must be assumed that there were two quite separate buildings.

Building 14 formed the frame for an extensive lime-slaking activity, concentrated in its final stages to two pits, Lime-pits 22 and 23, with diameters of 1.3m and 1.4m respectively, and measuring c 35cm in depth. These depressions, which were dug into the brownish underlying deposits, appeared to have been used several times. They contained a mixture of greyish ash, crushed charcoal, finely-grained plant material, which was burnt, and a greyish-white limey substance, which gave a nuance of hues ranging from pale yellow to violet. Fragments from the contents were also embedded in the surrounding deposits. This activity involving pits lasted throughout much of Period 5, between Fires V and IV.

Eastern limit of the south wall at c 112.5y; western limit at c 108.5y. Length c 4.2m; width 4m.

Building 19 (N2,IV; N3,VI,VII; O2,V,VI,VI.1; O3,IV,IV.1,V) continued at a distance of c 40cm west of Building 14 and consisted of a ground-wall one stone in width and built with irregularly sized stones, some up to a metre across, laid in one or two courses. There were also the remains of two layers of "floorboards" carelessly laid and a large stone-lined oval depression, Lime-pit 6, in the south-eastern corner (see fig 25). The pit was edged with a kind of rubble-core wall made of irregular stones and slabs filled with clay and smaller stones, built up against some flagstones placed upright along the east wall. The base was lined with coarse stones and slabs, and the pit was filled with a deposit similar to that in pits 22 and 23 in the contemporary Building 14. Within the filling just below the upper edge of the pit lay the remains of a second-



Fig 25 *Hearth 6, a large stone hearth in Building 19, burnt in Fire IV (1332). Seen from the north-west.*

dary base of flagstones set in clay. The pit measured c 2.3m by 2.5m internally and the height of the surrounding wall was c 50cm.

The deposits beneath the scattered floor planking to the north of the pit showed signs of similar activity: they contained concentrations of clay mixed with finely crushed burnt bone and a greyish violet limey substance overlying a layer of crushed mussel shells c 2-3cm thick.

Eastern limit of the south wall at c 108.3y; western limit at c 102.9y. Length c 5.7m; width c 4.8m.

Building 183 (N2,IV,V; N3,VI-VIII; M2,IV,V; M3,V,VI) lay practically gable to gable with Building 19 and comprised some badly burnt pieces of wide, grooved floorboards laid longitudinally, remains of joists, and ground-walls. The latter consisted of a single row of stones of irregular size on the east and north sides, but on the west and south sides the stones had apparently been heaped up to a height of 50-60cm and a width of 60-65cm directly over an earlier wall. Eastern limit on the south side at 102.80y; western limit at c 95.6y. Length c 7.5m; width 5-5.1m.

West of Building 183, between 91.00y and 92.00y, the Row was excavated by machine in connection with the building of Bryggens Museum in 1972, and only the layers from Fire IV downwards were excavated properly. The remains of structures at this level were only partly intact and this situation was clearly reflected in the documentation of the following layers.

Apparently belonging to this level were the remains of two buildings, 113 and 469, together with some unidentified parts of a third, which has not been allocated a building no.

Building 113 (L3,III; M3,VIII,VIII.4) comprised the partly intact remains of a heavily repaired floor, the boards running longitudinally, together with joists and some supporting stones. Eastern limit on the south side at 92.70y; assumed western limit at c 84.4y. Assumed length 9.2m; width c 4.9m.

The western limit of Building 113 was not clearly defined, nor was the adjacent east wall of Building 469, but the level continued westwards on a slightly lower level with similar foundations, characterised by the relatively massive floor-joists. The dividing point between the two buildings has therefore been placed at this break in level.

Building 469 (K4,XI.6; L3,III) comprised the remains of floor-joists and one or two layers of foundation timbers. External limits uncertain, eastern limit possibly at 81.60y; estimated western limit at c 75.2y. Estimated length 5.8-6m; width 5.10m.

*Passage north of Row 5*

As in Period 6, this passage lay only partly within the excavated area. In Phase 5.2 it was found over a length of 18m, consisting of transverse boards laid over longitudinal joists. The widest recorded point was c 2m north of Building 19.

*Phase 5.1, unburnt level beneath Fire IV (pl 8)*

Both the layout and maximum extent of the development in Phase 5.1 were the same as had been found in the following Phase 5.2, apart from certain details in The Old Church Road and the tenement passages. There were now the remains of three buildings in Row 1 in the rear part of The Old Church Road and four buildings along the passage to the north (Row 3), which were located further forward than their successors in the later phases.

The gap between Rows 4 and 5, which was a standard eaves-drip gap towards the front of the site, became wider in grid-squares P and Q towards the rear of the site, where a passage surface was uncovered between the two rows. In Row 5, and to some extent also in Row 4, the situation was complicated by the presence of some kind of lime-slaking activity under an unconventional type of structure.

A total of 23 buildings were recorded in this level, plus St Lawrence's Church and the St Mary's Guildhall:

- Row 1 Buildings 458, 459 and 457, together with Hearth 18;
- Row 2 Buildings 464, 97, 460 and 461;
- Row 3 Buildings 218, 220, 221 and 219, with St Mary's Guildhall (Building 48);
- Row 4 Buildings 17, 15, 186, 187 and 214, with Hearth 20;
- Row 5 Buildings 55, 22, 30, 112 and 216, with Hearth 24;
- Row 6 Buildings 204 and 119, Wells 9 and 10.

*Row 1*

As pointed out above, there were at least three minor buildings within the rear part of The Old Church Road, Buildings 458, 459 and 457. Although Building 458 continued eastwards beyond the edge of the excavation and Building 457 continued beyond the southern edge of the site, they provided some interesting information regarding the layout and width of The Old Church Road, since they were not actually lying in a straight line. Building 457, the furthest west, whose width is unknown, projected somewhat to the south, so that its north wall was practically in line with the south walls of the two buildings behind

it. On the assumption that the buildings were c 5m wide, The Old Church Road immediately west of Building 457 would have had an estimated minimum width of 9–9.5m compared with c 7.5m at 80.00y and c 5.2m at 72.00y (18m and 36m further west respectively). This is assuming an eaves-drip gap of only half a metre on the south side of Building 457, between it and the presumed north wall of Søstergården. A northern boundary of Søstergården on this line would fit well with the boundary which was recorded at the start of the excavations. In Phase 9.2, which ended with the fire in 1955, at 96.00y it was at c 48.5x. If one allows for a c 50cm wide eaves-drip gap along the south side of Building 457, the northern boundary of Søstergården in this phase would be at c 48x. This would also imply that there must have been a gap of 4–4.5m between Søstergården and the two buildings further east in Row 1, while the road on the north side of these would only have been c 2.5m wide.

**Building 458** (P5,VIII; P6,V) consisted of parts of the northern sill-beam, remains of a longitudinal floor with two layers of planking, and a stone-built fireplace, Hearth 18, in the north-west corner. There were the remains of a ground-wall beneath the west end, made up of a single scattered row of small stones. Eastern limit beyond the edge of the site; western limit on the north side at c 115.8y. Maximum recorded length along the north wall c 2m; width 5.5–5.7m.

**Building 459** (P5,VIII,IX; P6,V,VI) comprised transverse joists and two layers of foundation timbers, with traces of a floor detached from the walls, as well as three, or more likely four, foundation posts for the north wall. It ran straight on to Building 458 and may originally have been part of it, although there was no actual evidence for this. Eastern limit of the north wall at c 115.6–115.7y; assumed western limit at c 112.2y. Estimated length c 3.8m; assumed width c 5.5–5.6m.

Between Building 459 and the next building to the west a transverse passage c 1.5m wide with a planked surface was recorded.

**Building 457** (O6,V,VI) comprised the remains of a longitudinal floor, relatively slender joists and sections of a ground-wall consisting of a single row of large irregular stones. Assumed eastern limit of the north wall at 111.60y; western limit at c 106y. Assumed length c 5.7m. Southern part of the building beyond the edge of the site. Maximum recorded width c 1.2m.

#### Row 2

Parts of four buildings were recorded in this row: 464, 97, 460 and 461. Some areas of the site seemed to have remained undeveloped for a while after Fire V, including c 7m to the east of Building 97 and c 5m to the west.

**Building 464** (P4,IV.5,V) comprised just a small section of the north-west corner with two floorboards laid longitudinally over two thin transverse joists. The western joist was supported partly on a couple of small stones and partly on planks. A single row of stones which ran up to this joist on the west side may indicate the western end-wall, in which case the floor would have been

detached from the walls. Eastern limit beyond the edge of the excavations; western limit of the north wall at c 115y. Maximum recorded length c 1.8m; maximum recorded width c 2.4m.

The undeveloped area west of Building 464 would have allowed for a building of reasonable size, comparable with the next building, 97.

**Building 97** (N5,VII,VII.1; O4,VI,VII; O5,VIII) consisted of the ground-walls built with a single row of natural stones in three courses. Outside the western wall lay an apparently collapsed heap of small stones of various sizes. Eastern limit on the south side at 109.50y; western limit at 103y. Length 7.00m; width c 6.4m.

**Building 460** (L5,IX; L6,XIII; M5,IX; M6,VII,VIII; N5,VII,IX) consisted of foundation posts in three rows running E/W, and possibly the remains of floor-joists. The exact limits could not be determined. Eastern limit recorded at 97.00y on the south side; western limit at c 81y. Maximum recorded length 16.80m; width c 5m.

**Building 461** (K5,XI; K6,XII; L6,XIII,XIII.1) comprised the partly collapsed and not quite continuous remains of ground-walls of natural stones in from one to three courses. Eastern limit on the south side along 80.60y; western limit at c 74y. Length c 6.8m; width c 5m.

#### The Old Church Road

The layout and dimensions of The Old Church Road were the same as in Phase 5.2 except for the irregular location of Building 457 in Row 1 towards the rear of the site in the southern half of the road. The state of preservation was generally poor and showed clear signs of having been repaired or renovated in places.

The lack of co-ordination between the southern and northern halves of the road in the repairs to the surface and the choice of method was a recurring feature. Towards the west, the wooden paving was laid over relatively massive horizontal foundation timbers in the southern half, while on the northern side it was supported on upright posts. The disparity in construction methods was also reflected in the surface: throughout practically the whole length there was no structural connection between the southern and northern halves. This seems to suggest that the maintenance of The Old Church Road was left to the occupiers of the adjacent buildings on either side and that it applied only to half the width. The lack of any linking elements also seems to emphasize that we are looking at a secondary stage in the use of the road.

Except in the K and L grid-squares where the surface was supported on posts, there were occasional remains to the east of a drain of the traditional type. It is also probable that there were the remains of a drainage channel contemporary with the main drain running parallel in the southern half of the road.

#### The Old Church Road, rear part, Sub-phase 5.1.2

In grid-square P5 and the adjacent part of O5 were the remains of an extra level in between the unburnt Phase 5.1 and the following burnt level in Phase 5.2. This has been designated Sub-phase 5.1.2 (see pl 8, insert). It is not

impossible that this surface covered the whole length of the road, since the Phase 5.1 paving had been broken up at this point. Definite traces of a possible continuation would not therefore have been identifiable. The wooden paving in the extra level was generally well-preserved.

#### St Mary's Guildhall (Rows 3 and 4)

The St Mary's Guildhall was probably erected in Phase 5.1, most probably in the early part of the phase. It was laid out close up against the south side of St Lawrence's Church within the churchyard of St Mary's immediately east of Rows 3 and 4.

While St Mary's churchyard had formed the rear boundary of Rows 3 and 4 from the time of the erection of the church in the mid-twelfth century, the rows from now on were bounded by the Guildhall, whose length also seemed to correspond to the width of the two rows. To achieve this, however, as we shall see in Phase 3.2, it had been necessary towards the rear of the tenement to adjust the southern boundary by c 2m. When the situation in Phase 5.1 is compared with that in Phases 4.2 and 3.2, it

is tempting to assume that this adjustment of the boundary after Fire V was no coincidence, but part of a co-ordinated plan.

**Building 48** (R2,II.2,II.3,IV,VI-IX; R3,I-V,VIII, IX; S2, IV,X; S3,II-VII) comprised the south, east and part of the west walls of a stone building, together with an internal cross-wall, all standing 70cm high over the plinth course. The north wall and the rest of the west wall were indicated by the stones of the plinth. The location of a latrine pit (Privy 5) outside the north-west corner of the building demonstrated the existence of a projecting upper gallery, which is also confirmed in the documentary sources (cf p 22). The ground course on the east side diverged significantly from the alignment of the wall itself, perhaps as a result of an error in the original plan, but it is very uncertain how much weight can be attached to this discrepancy. The facts can only be verified by a detailed study of the fabric, which will be carried out independently of this post-excavation analysis. N/S axis of the building 12.20m; E/W axis 7.40m (fig 26).

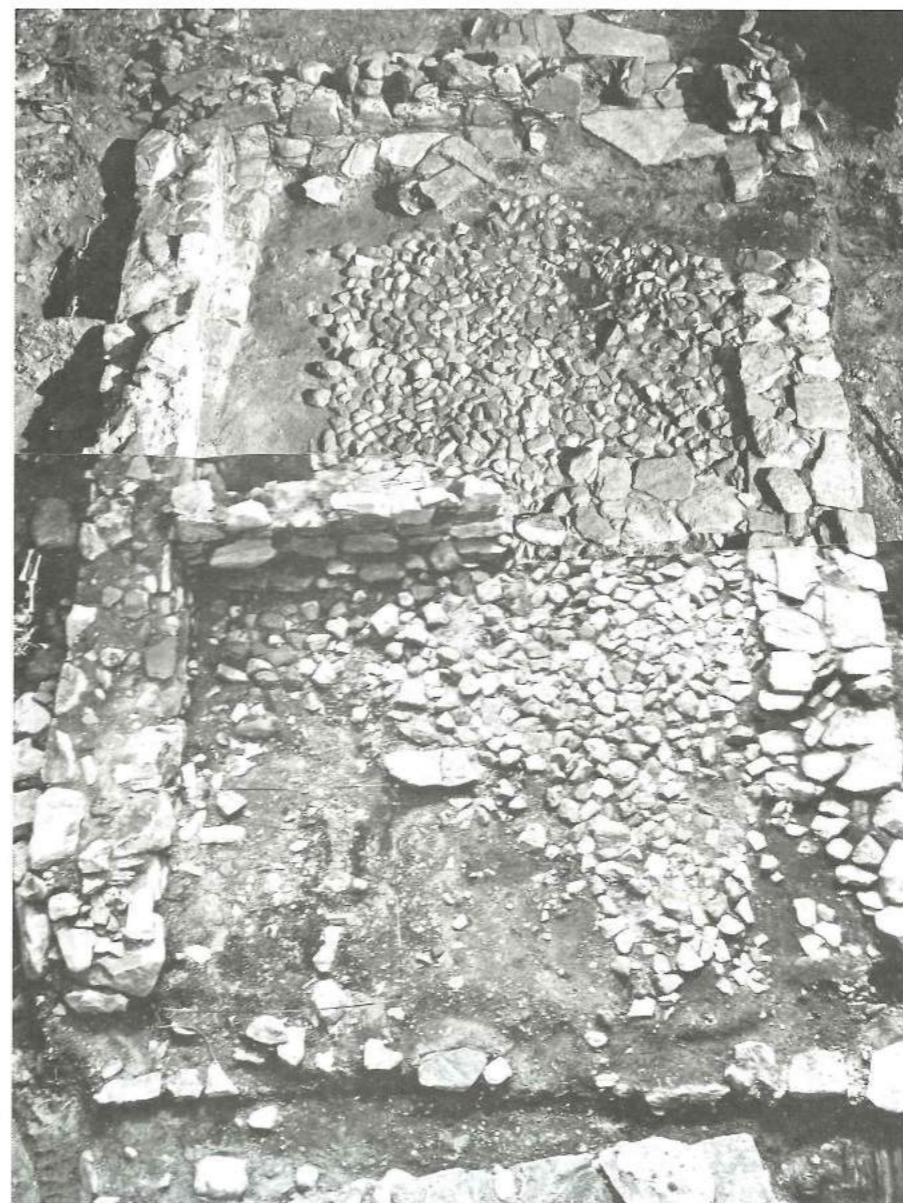


Fig 26 The two-room plan of the St Mary's Guildhall, with the entrance on the south side adjacent to The Old Church Road. The south wall of St Lawrence's Church lies in the foreground. Looking south.

A door in the south wall of the Guildhall towards the west end opened on to an adjacent passage, which may have been a local extension of the passage between Rows 1 and 2 (The Old Church Road). In Periods 8 and 9 it seems that the road ran up to the south wall of the building.

#### Row 3

Once again in the middle section of the wide, slightly funnel-shaped passage between Rows 2 and 4 there was a foreshortened row, Row 3, with Building 218 at the east end and Building 219 to the west, probably with Buildings 220 and 221 between them. At an early stage apparently predating the general reconstruction of the tenement in Phase 5.1, there was a structure at the far east end of the row, Building 476, which was associated with an initial manufacturing phase (see fig 28).

Building 218 (M4,VI,VI.1; M5,VIII,IX; N4,VIII,IX.2; N5,VIII-X) comprised a well-preserved longitudinal floor, intact joists and sill-beams from a log-built structure. Eastern limit on the south side at 100.40y; western limit at 95.80y. Length 4.80m; width 4.40m.

The next 20–22m west of Building 218 were at first used for various activities connected with the reconstruction of the adjacent stone buildings (see comments on the Initial Stage of this phase, p 55). The next buildings, 221 and 219, and the shed 220, may not have been erected until well on in Phase 5.1. As suggested in the comments to Phase 5.2 (p 55) it would seem reasonable to assume that Buildings 220 and 221 were contemporary and erected at about the same time as Building 219 when the workshop activities had ceased in this area. While the first two buildings remained standing right up to the time of Fire IV, Building 219 disappeared quite early and has therefore only been included in Phase 5.1. The other two buildings are included on the plans of both phases, but have been described under Phase 5.2 (pp 44–45).

Building 219 (L4,VIII; L5,IX–XI,XI.1) comprised the sill-beams on the north, south and west sides, together with the ground-walls consisting of large irregular stones placed singly in 3–5 courses. A transverse beam in the centre of the building was probably secondary. The building stood in the southern half of the tenement passage and must have been pulled down before its neighbour, Building 221, as its remains were overlain by a transverse wooden pavement which ran right up to Building 221. Eastern limit on the north side at 87.40y; western limit at 82.50y. Length 5.10m; width 3.85m.

#### Row 4

This consisted of five buildings forming a continuous row, with Building 17 to the east, followed by 15, 186, 187 and 214. There were no definite remains of structures to the east of Building 17, but traces of a passage were recorded which ran c 2m northwards over the site of the row on the north side (see p 51).

Building 17 (P2,IV; P3,V; Q2,VIII; Q3,V,V.1) was a post-and-beam structure, of which the east, south and north sill-beams had survived, together with

parts of a longitudinal floor on floor-joists. The sill-beams lay either on stones or on short transverse timbers placed at 50–60cm intervals. The building had been divided into two rooms, with the larger room to the east. In the western room were the remains of a transverse floor on longitudinal joists. The internal sill-beam had rested on a single row of irregular stones. Eastern limit on the south side at 121.30y; western limit at c 114.4y. Length c 7m; width 5.10m. Internal length of the east room c 4.2m.

There were no traces of the west wall of Building 17. The adjacent east wall of Building 15 was more clearly marked since the ground-wall at the east end was practically intact.

Building 15 (O3,VI; O4,VI; P3,V,V.1) had stood right up against Building 17. The north walls of the two buildings were in a direct line, but the south wall of Building 15 projected c 75cm into the passage compared with Building 17. It was divided into two rooms, with a narrow room or antechamber to the east and a large, almost square room to the west. In the eastern room were the well-preserved remains of a longitudinal floor laid over slender transverse joists. In the north-west quarter of the main room were the remains of a clay-lined fireplace, Hearth 20, measuring c 2m x 1.5m and bounded on the west side with a badly burnt board set on edge. Some of the original flagstones from the floor had survived in the main room, but there was a gap of 50–60cm along the north wall, suggesting that there had been a fixed earth-filled box-bench along this wall. The ground-wall on the east side and on part of the north and south sides had also survived. Eastern limit on the south side at c 114.5y; western limit at 106.6y, alternatively at 106.2y. Length 8.3m, alternatively 8.6m; width 6.10m.

Building 186 (N3,VIII; N4,IX; O3,VI.1,VII; O4,VII) coincided on the whole with the eastern part of Building 188 which had succeeded it. It had floorboards laid longitudinally and the ground-walls, which included some very small stones, had survived on the west, north and part of the east sides. Eastern limit on the south side at c 105.4y; western wall at 99.80y. Length c 5.8m; width 5.2–5.3m.

It was not clear whether Building 186 continued westwards or whether the site had been used for some purpose which had left no evidence of structures. Most of the area under the western part of Building 188 had been filled with generally small stones, which were covered in soot and occasionally heat-cracked, and there were also many small fragments of soapstone. The area could therefore have been used for the dressing of building stone in the initial stages of Phase 5.1 immediately following Fire V.

Building 187 (N3,VIII; N4,IX; M4,VI; M3,VI) continued west of Building 186 and consisted of poorly preserved traces of wood overlying ground-walls on the east and south sides. The ground-walls were built up with small, narrow, flat stones c 20–30cm x 8–10cm. The southern sill-beam seems to have been re-used in the following phase in Building 188. As there were the

remains of a wooden floor and floor-joists in the eastern part of the building, it must have been a more ordinary building than the shed-like structures which were otherwise recorded in this rear part of the site, but the insubstantial foundations nevertheless suggest that it was a light construction. Eastern limit on the south side at 99.50y; western limit at 90.00y. Length 10.00m; width c 4.5m.

In the western section of the row it seemed that Building 214 from Phase 5.2 had no predecessor in Phase 5.1, and the building and foundations may date back to the first part of the period shortly after Fire V. In the K grid-squares and the adjacent parts of I, Building 214 and the tenement passage were laid out on timber foundations 8–13 logs high. The date of these foundations was not clear for some time, as both the deposits from Fire V and the upper parts of the level which had burnt in the fire had been removed. A more detailed account of the foundations between Fires VI and IV is given below (pp 60–61 and figs 31–33), describing how the foundation substructure from Period IV (Kar 117), which burned in Fire V, had been extensively covered with deposits over a distance of at least 11–12m, before the western part of the K grid-squares and adjacent parts of I were levelled up with logs. These were mostly re-used building timber, which had been laid close together in several layers. The top 7 or 8 courses, consisting generally of thick logs, formed a foundation substructure to the rear (Kar 118), and there was an even larger structure to the west of at least 13 courses of logs (Kar 135). Both contained a considerable number of re-used ship's timbers. The substructure 135 continued westwards beyond the edge of the excavated area at c 64y and so the waterfront from this period is unknown. The structure converged towards the projecting waterfront to the south, which burned in Fire V.

#### Passage between Rows 3 and 4, and Rows 2 and 4

It is not clear whether or to what extent there was a continuous passage between Rows 3 and Row 4 (between Rows 2 and 4 further west) as far back as Fire V, since not only a large part of the passage area, but also Row 3 and the adjacent areas to the north and south were used for some kind of manufacturing process. On the other hand, it is difficult to imagine how the area could have been approached without a properly laid-out access. Any traces of pavement from this time, however, had been completely obliterated or removed. The passage, whose remains were recorded, had apparently been laid at the same time as the buildings were erected after the area had ceased to be used for workshop activities.

The nature of the passage and its degree of preservation varied greatly. Fire IV had not only affected the level burnt in that fire, but had penetrated to the underlying layers, so that earlier material also bore traces of the fire. Moreover, the wooden paving had also been affected by lime-slaking activities and in addition had been disturbed by later well shafts.

The varying width of the passage was partly due to the changing width of the adjacent buildings, and partly due to the fact that while the middle and front sections of Row 3 were more like an ordinary row towards the end of Phase 5.1, the rear part lay open, so that the passage there took up the whole area between Rows 2 and 4,

measuring between 5m and 7m in width. At the far eastern end it also included part of the site to the east of Building 17 in Row 4 and it then continued with this width as far as c 3.5m in front of the St Mary's Guildhall (Building 48).

Further west, between Row 4 and the buildings in Row 3, it was reduced to 2.05m, but it increased again to c 7m west of Building 219, where it corresponded to the dimensions of the passage in Phase 5.2.

In this stretch of the passage, the poor way in which the repairs to the surface fitted together suggested that the occupier of each building was responsible for the maintenance of the adjacent section, as previously noted in The Old Church Road (cf p 48).

#### Row 5

The stone layer along the west wall of St Lawrence's Church recorded in Phase 5.2 was traced back to just after Fire V and probably lasted throughout most of the period right up to Fire IV. As in Phase 5.2 there appeared to be no buildings for the first 7m west of the church, where the ground was covered with a secondary deposit of birch bark, a scattering of stones of all sizes and local concentrations of small stones which might have been part of a stone paved surface.

To the west the remains of five buildings were recorded: 55, 22, 30, 112 and 216.

Building 55 (Q1,V; Q2,VII,VIII; P2,III) comprised sections of a relatively well-preserved floor with boards laid longitudinally over transverse joists. Apart from the east wall, its limits were unclear. On the north side it continued beyond the edge of the excavations, but the assumed position of the northern limit of the building is probably correct. On the south side the joists continued 20–60cm beyond the surviving limits of the floor and on the east side there was a gap of c 20–30cm between the floorboards and the sill-beam, but to what extent these features can be taken as evidence for a fixed box-bench along the walls is uncertain. The east sill-beam was flanked on the outside with boards set on edge. Eastern limit on the south side at 122.60y; western limit probably at c 119y. Assumed length 3.8m; maximum recorded width of floor c 3.5m, but longest surviving floor-joist c 4.5m.

This interpretation of Building 55 and its relationship with the recorded surroundings is mostly conjectural, as the rear part of the site in this period contained a number of small buildings or sheds, which were perhaps replaced at frequent intervals without leaving any real evidence, or even possibly leaving misleading evidence. It should be noted that the floors were often of prefabricated boards still containing the holes which were used when transporting them, presumably indicating that they were intended for rougher usage. Moreover, the area was intensively used in connection with reconstruction work on the neighbouring stone buildings and was covered with thick deposits of waste, as well as other scattered evidence in the form of deep intrusions, all of which only added to the problems of interpretation.

During its excavation, Building 55 was thought to be either a two-roomed building whose south wall went as far west as 116.40y, or else two separate buildings, 55 to the east and 22 to the west. Both the type of timber used

and the method of construction were the same in both sections, but they were also similar to many other contemporary buildings. There was, however, no physical connection between the two parts. Moreover, the ground-wall under the south wall of Building 22 continued over the floor-joists of Building 55. The adjacent passage surface lay therefore 25–30cm higher than the level of the floor in the eastern part, which would have been most undesirable considering the local climatic conditions. On the whole it would seem that the western part was a separate structure with the adjacent walls sharing a common ground-wall.

**Building 22** (P2,III,IV) may have used the same ground-wall for its east wall as the west wall of Building 55. It had a transverse floor similar to that in Building 55, consisting of broad prefabricated boards. There was a scattering of stones under the sill-beam on the west side, and a ground-wall on the south side of small irregular stones in 2–4 courses, which continued eastwards without a break along the south side of Building 55, but overlying its floor-joists. There may have been a box-bench along the west wall. Eastern limit on the south side at 119.00y; western limit at 116.40y. Length c 3m; maximum recorded width c 5.1m.

To the west of Building 22, the only trace of a structure within the first 4.50m was a single line of stones down the middle of the row, possibly connected in some way with an otherwise isolated post to the west. It could have been a ground-wall, but whether the associated building lay to the north or the south was not clear. Just to the north, evidence for activities connected with lime-pits (Pits 33 and 34) was demonstrated by an 8–10cm thick layer of charcoal and lime associated with the remains of 2–3 courses of stones lining an almost circular depression, Hearth 24, with an internal diameter of c 1.5m (fig 27).

Immediately to the north-east of this hearth was a circular deposit of clay, Layer 745, c 1.2m in diameter and 2–8cm thick, as well as other patches of clay and charcoal spread over a large area, apparently derived from the activities associated with lime-pits.

If the line of stones in the centre of the row was the ground-wall on the south side of a structure, the associated activity must have been carried on indoors, but if it lay under the north wall, then these activities would have been outside. There were several examples of small pits without any superstructure, but all the larger stone-lined depressions would appear to have been inside buildings, even though in some cases these were no more than sheds. It would seem reasonable therefore to interpret the line of stones as a ground-wall on the south side of a structure associated with Hearth 24, but we have nevertheless chosen not to assign a building no. to this possible structure. In Phase 5.2 the hearth was replaced by the larger stone-lined depression, Pit 2, in the south-western corner of the row.

**Building 30** (O2,V,V.1; P2,III,IV) lay immediately west of Hearth 24 and was log-built in contrast to its timber-frame successor, Building 14, in Phase 5.2. It consisted of sill-beams from the east, south and west walls supported on stones at the corners and midway. The sill-beam on the east side was scarfed to a beam which ran across the passage on the north side. Within the frame-



Fig 27 Hearth/limepit 24, Phase 5.1, seen from the west.

work of the building were the remains of Pits 22 and 23 from Phase 5.2. After Fire V, sections of the fire-layer in the eastern half of the building had been replaced with a 5–10cm thick deposit of gravel, over which lay a 30cm thick brownish deposit containing twigs, covered by another layer of gravel 8–10cm thick. In the western part of the building the fire-layer from Fire V was covered with a 25–30cm thick deposit containing wood-chips, with crushed charcoal on top, presumably derived from the lime-pit activities in the centre of the building. The filling of Pits 22 and 23 consisted of apparently distinct layers measuring 50–55cm in all, but there was no evidence of any stones lining the pits. The stratification would suggest not an interrupted activity, but rather a successive and continual process, which probably went on for a long time, perhaps throughout the whole of Period 5. A separate phase corresponding to Phase 5.1 has therefore not been distinguished. The east and west limits of the south wall of the building were at 112.70y and 108.50y respectively. Length 4.20m; width 4.70m.

Approximately 75–80cm west of Building 30 lay the remains of a beam which had been supported on a stone at its north end and which was therefore presumably the eastern sill-beam of the next structure, Building 112.

**Building 112** (O2,VI,VI.1; N2,IV,V; N3,VIII) comprised the probable remains of the east sill-beam. Fragments of planking of contemporary date covered an area 3–4m immediately west of the sill-beam, but it was not clear whether they formed the floor in the building or were part of the make-up. The assumed ground-wall on the west side could be traced in connection with the stones possibly from the south wall. Within the assumed limits of the building were patches of clay, charcoal and lime from two lime-pits,

Pit 30 with flat stones lining the bottom, and Pit 29 with charred boards and fragments of beams below its base. In the central part of the building, but 10–15cm lower, concentrations of clay, lime and ash indicated the presence of two pits (7 and 31) which were part of the same workshop activity, but presumably from the very beginning of the period. The remains of pits in the south-eastern part of the building corner, which were found within the framework of a later fireplace, Hearth 6, from Phase 5.2, may have belonged to an earlier stage. Eastern limit on the south side at c 107.8y; assumed west wall at c 101.2y. Estimated length c 7m; width at east end c 4.2–4.4m.

**Building 216** (N2,V; N3,VII,VIII) was shrouded in the same uncertainty as Building 112. Fragments of the ground-wall on the south side could only really be recognized at the eastern end, while in the western part, within grid-square M, no traces of a building had survived. The western limit was therefore unclear. In the north-eastern corner there were traces of a pit containing a mass of charcoal. Assumed eastern limit on the south side at c 100.6y. Maximum recorded length of the south wall c 4.5m; width c 5m.

To the west of Building 216 the situation was confused. A concentration of stones in the eastern part of grid-square M3 might reflect the existence of a fireplace or perhaps activities connected with the lime-pits which figured constantly in this row. Regardless of their function, these remains must have belonged to some other building than 216, but no building no. has been allocated.

A further 7m or 8m to the west lay the isolated fragments of six transverse boards, which at the time of excavation were recorded as Building 112, but the basis for this interpretation is too weak for it to be upheld, and the number has since been allocated to another structure. The boards, however, would appear to belong to this phase.

#### Row 6

In connection with the landscaping of the area in 1975 around the site of the new Bryggens Museum an excavation took place in the north-eastern part of Gullskoen between the ruins of St Lawrence's Church to the south and the street of Dreggsalmenning to the north. Fieldwork was directed by curator Arne J Larsen.

The area was disturbed by various service trenches running in all directions, while on the west side it was cut off from the main site by the steel shuttering bordering the foundation trench for the new museum, leaving up to 1m of unexcavated deposits. These circumstances, together with other disturbances in the upper layers, not only created problems of interpretation within the excavation, but also prevented the stratigraphy from being tied in with the main site. Nevertheless, an absolute relationship in the medieval phases could be established with some certainty and this has been found sufficiently satisfactory. The first clearly recognizable remains of a structure, Building 204, were found in the lower level beneath Fire IV.

**Building 204** (Q -1,V,VI; R -1,VI,VII) comprised the poorly preserved remains of longitudinal floorboards and two courses of foundation timbers. It was bounded on the south-east side by a sewer trench at 130.70y, on the north-west side by the

foundation trench for Bryggens Museum at 126.00y, and to the south by a drain around -1.2x/128y. To the north it continued beyond the edge of the excavations at -7.20x/127y. Its orientation is unknown. Maximum recorded extent N/S 6.00m; maximum recorded extent E/W c 3m.

Further west the main site was extended a little northwards in 1972 in connection with the building of Bryggens Museum. After the upper layers were removed by machine, the area was excavated manually. On the far north-west side in grid-squares K2–3 the remains of Building 119 were uncovered, which must have belonged to the north row of a double tenement of which Row 5 formed the south row.

**Building 119** (K2,I; K3,I) consisted of fragments of wide transverse floorboards overlying three courses of thin foundation timbers. Eastern limit uncertain; northern and western limits outside the excavation. Maximum recorded length of the foundations c 6m; maximum recorded width c 4.4m.

#### Wells 10, 16 and 19

In the southern part of the passage between Rows 5 and 6, just outside the north wall of Building 112 were the remains of a barrel-lined well, with one or possibly two forerunners. The feature was sealed by Well 4 and Building 19 from Phase 5.2, while Building 38 from Phase 2.2 and possibly also Buildings 133 and 134 from Phase 3.2 sealed the base of the feature.

If it did consist of three successive units, the latest one, Well 10, may have belonged to Phase 5.1, while the revetted Well 16 beneath it, and possibly also Well 19, ought to be associated with Period 4. Well 10 measured c 85cm in diameter. From the assumed Well 19 there was only a single post indicating a revetted construction.

#### Wells 9, 12 and 13

Approximately 5m north of Building 112, Well 9 was uncovered. This was the last in a series of three, recorded as Wells 9, 12 and 13 by Edward Harris, the leader of this excavation. They seem to have occupied a gap between Row 6 and the tenement passage, but as neither the row nor the passage were excavated here it is difficult to place them exactly. Their dates are also uncertain, but they must lie between Fire VII and Fire IV. Well 9, the latest of them, was lined with horizontal boards lashed at the corners, of which two courses had survived. It may have belonged to Phase 5.1 and was probably terminated by the rebuilding in Phase 5.2. It was practically square with internal sides of c 85cm (see also the comments on pp 65,67 and 71).

#### Tenement passage between Rows 5 and 6

The only evidence for a tenement passage between Rows 5 and 6 was a c 7m long stretch of transverse planking on longitudinal joists associated with Buildings 30 and 112. The maximum recorded width was c 1.4m.



*Initial Stage of Phase 5.1 (fig 28)*

It has been repeatedly mentioned that an extensive area of Row 3 and the adjacent passage, as well as the neighbouring area, was used for some kind of workshop activity, clearly associated with the reconstruction and maintenance of the stone buildings nearby, in particular the churches of St Mary's and St Lawrence's and the St Mary's Guildhall. Figure 28 shows the extent of this area in the double tenement of Rows 3 and 4 and the adjacent part of Row 2. There was also strong evidence for this activity in Row 5 in this period.

Under and immediately to the north of the easternmost section of wooden paving in the tenement passage between Rows 3 and 4 and also to the east and south-east of Building 17 in Row 4 a thin layer of charcoal was recorded, overlain in places with fine gravel and sand containing a significant amount of oyster shell, decomposed soapstone and clay. In between were pits and depressions, including Pit 27, which contained a limey substance, and Pit 18, which was filled with shell. These deposits continued southwards over an area of relatively rough stone-paving 2.6m wide and a good 5m long, but as it was disturbed on both sides it may originally have been wider and its possible association with a building cannot therefore be ruled out. An alternative interpretation as a paved footpath would seem unlikely, as it would have run practically alongside The Old Church Road to the south. Therefore with some reservation it has been allocated a building no.

Building 476 (Q3,V.3; R3,V) was an area of coarse stone paving. Estimated eastern boundary at c 128.6y; western boundary at c 124y.

The stone paving was terminated to the west by a carefully-laid passage running across the row. This appeared to predate Building 17 and was probably partly contemporary with the mixed charcoal deposit, which perhaps represented a levelling out of waste material from the workshop activities. As traces of these activities were found underneath the tenement passage from this phase, they must therefore belong to at an early stage in Phase 5.1 (see pl 8 & fig 28).

The richest traces of the workshop activities were left in the central and western sections of the area, in grid-squares L, M and N, where a number of pits and depressions of various sizes were uncovered, both with and without flat stones lining the base and clay lining the sides. They were all relatively shallow and generally flat-bottomed, and varied in diameter from 1.25m to 1.40m. They were filled mostly with layers of crushed charcoal and a greyish-black lime mixture, which had also been spread around over a distance of 2-4m. The layers were 25-28cm thick in places and were overlain here and there with deposits of crushed soapstone 5-7cm thick, presumably the result of dressing stone on the site.

Although this special activity terminated with the laying out of the tenement passage and associated buildings, it continued to a lesser extent, as mentioned above, both further back up the site and on to other rows, probably throughout the whole of Period 5 in some places.

*Summary, Period 5*

Period 5 consisted of two distinct building phases, 5.1 and 5.2. In several places, especially in the passages, there was evidence for repairs or improvements.

In the period following Fire V, the area between Rows 2 and 4, and also to a limited extent the adjacent areas to the north and south, had been used for special activities connected with reconstruction work on the nearby stone buildings. These activities, which have been described as an initial stage of Phase 5.1, must have gone on for a number of years and give the impression that the large public and semi-public buildings received priority over other buildings or at least over some of them, since sections of several rows were used for this work. It must therefore be assumed that parts of the rows were used for communal purposes before the property boundaries were re-instated and new buildings erected.

In Phase 5.2 there were no remains of any buildings in Row 1, while in Phase 5.1 there was evidence for buildings both in Row 1 and in a sixth row on the far northern side of the site.

The layout followed in every detail the same general pattern which had been found in Periods 7 and 6. The same applied to the traces left by the special activities which had been carried on in the rear part of the site from Row 3 northwards, where both the types of buildings and other traces were the same as in the following phases. Chippings and waste from the dressing of building stone, broad and coarsely finished prefabricated floor planking, light structures and sheds, pits and depressions both lined and unlined, and waste deposits from the work were spread around, indicating a lengthy and extensive period of activity, with various tasks being carried on both indoors and in the open air. And all this work, as already pointed out, was clearly connected with the neighbouring ecclesiastical and guild buildings. The period of greatest intensity would appear to have been immediately following the fire in 1248 (probably when the chancel of St Mary's was extended and no doubt also in connection with reconstruction work after the fire).

Two of the buildings in Phase 5.1, Building 15 with its hearth and Building 55, stood out from the rest in that they apparently had earth-filled box-benches along the walls and must therefore be regarded as living accommodation.

In this phase we also encountered a larger number of buildings standing on wooden posts, a feature which was to become more frequent in the lower layers.

The buildings in Phase 5.1 appeared on the whole to be smaller than those in Phase 5.2, but even some of the smallest had two storeys. In the passage outside Building 221 the bottom part of a stair was recorded, with access from the east.

Also in Phase 5.1 there were a number of wells, in some cases with three successive structural phases, sometimes lined with barrels, sometimes revetted with planks set into corner posts, and in the latest phase lined with horizontal logs lashed (notched together) at the corners.

At a relatively early stage in this period the construction of the St Mary's Guildhall must have been started. It is first mentioned in 1276 (NgL II, 187). As will be seen later, it was built within the western part of St Mary's

Fig 28 Traces of an extensive workshop activity from immediately after Fire V (1248) in Rows 3, 4 and 5. The later buildings are indicated.

churchyard and corresponded in width to the double tenement of Rows 3 and 4, whose southern boundary at the same time was moved a good 2m to the south. This adjustment would seem so remarkable that it must surely be connected in some way with the location of the guildhall, although no reasonable explanation can be given for the need for such compatibility.

The discovery of the remains of Building 119 on the north-west edge of the site and a stretch of passage along the north side of Buildings 30 and 112 in Row 5 would appear to confirm the existence of a regular double tenement here, but it is still too early to take up the question of the identification of the other tenements.

The Old Church Road was subject to a series of repairs and adjustments between the levels burnt in Fires V and IV. On the whole it was possible to follow two continuous surfaces, corresponding to Phases 5.1 and 5.2 in the rows. The layout and dimensions were the same as in Period 6, but generally in a poorer state of preservation. In some places only one level was recorded, while in other places there were three, such as at the eastern end of the site where an extra level was found between Phases 5.1 and 5.2 in grid-squares O and P (see pl 8, insert). Both this level and that from Phase 5.2 were cut by the south-east corner of Building 96, and it is therefore not known how far this additional level continued further west, or even if it continued at all. Nor was it possible to ascertain whether the transition from Phase 5.1 to 5.2 in The Old Church Road coincided with that between Phases 5.1 and 5.2 in all the adjacent buildings. On the whole it must be likely, as the difference in levels caused by new buildings would have had to be compensated for, but it is hardly reasonable to expect that all the buildings flanking a street would have been rebuilt at the same time, and there would therefore have been places where the levels did not coincide for a time. A definite connection between the passages and the building phases would moreover be of limited value from a dating point of view, since the finds associated with the passages in most instances cannot be regarded as chronologically secure, except when they were in a sealed deposit or beneath a fire-layer.

The irregularity within the rear part of The Old Church Road has been mentioned in connection with the commentary on Row 1. From a total width of c 5.4m at 72.00y in the western part of the site, the road in both Phases 5.1 and 5.2 widened eastwards to c 7.3m at 88.00y and to at least 9m just west of Building 457 in Row 1 (in Phase 5.1). Assuming that the situation was similar to that in Period 6, then at the east end of the site in Phase 5.1 the distance between Søstergården on the south side of The Old Church Road and Gullskoen's Row 2 to the north must have been c 10–12m, including the width of Building 457 in the "inserted" Row 1.

Over most of the site the remains of side planks from drains were recorded.

#### Period 4

##### *Phase 4.2, burnt in Fire V (1248) (pl 9)*

Whereas Fire IV had left clear and practically continuous traces across the whole site, generally well separated from the preceding and succeeding fires, there were large gaps

in the ash and charcoal layer left by Fire V in Gullskoen. In some places there was an intrusive layer of charcoal, which varied in thickness but on the whole was generally thin. In the rear part of the site there were a number of misleading intrusions of charcoal, ash and partially burnt fragments of buildings belonging to a relatively extensive lime-slaking activity, which had been carried on both indoors and in the open air. Moreover, the level fell fairly irregularly from east to west.

Within the southern part of the site, especially in the 5 and 6 grid-squares and east of the N grid-squares, Fire V was only sporadically represented. It was separated from Fire IV by 20–50cm. Some 14–15m further north, mainly in grid-squares 3 and 4, it was practically continuous, but the layer separating it from Fire IV varied greatly in thickness, ranging from 8–10cm in the western part of grid-square O4 and the eastern part of L4 to 40–50cm in the western part of P3, the middle of M4 and the easternmost 2m of K4, at which point the fire-layer ended. A further 7–8m to the north, the deposit levelled out and was separated from fire-layer IV by 30cm to the east, increasing to c 50cm to the west. It was also partly disturbed here by the lime-slaking activities, especially in grid-squares O2 and P2.

Since the underlying Fire VI suffered from the same problems regarding continuity as Fire V, and since the foundations of the buildings on the whole changed from horizontal timbering to vertical posts as the excavation progressed downwards, and since the traces of Fire V were almost totally absent in the H, I and K gridsquares, the work at times went on with no clear idea of any absolute chronological relationship. And as there were problems from the start in identifying the initial fire-layer in this area, an absolute chronological sequence was not established until the post-excavation phase.

The phase which burnt in Fire V included 23 buildings distributed over 6 rows:

- Row 1 Building 104;
- Row 2 Buildings 99, 98, 466, 467 and 149, with Privy 12 and Hearth 25;
- Row 3 Building 27;
- Row 4 Buildings 61, 21, 20, 223, 222, with Privy 2;
- Row 5 Buildings 60, 31, 29, 26, 36, 32, 211 and 470, with Wells 8/17, 11 and 16;
- Row 6 Buildings 205, 114, 474, with Well 12.

Apart from the buildings in Rows 5 and 6 and sections of the passage between Row 1 and Row 2 and between Row 3 and Row 4, all the features appeared to have existed since the beginning of Period 4.

##### *Row 1*

Building 104 (P5,XI; P6,VII; O5,X) comprised the remains of burnt longitudinal floorboards, joists, and two courses of foundation timbers. Eastern limit outside the excavated area; western limit of the north wall at 111.80y, but this may be the result of a later cut. Maximum recorded length 4.20m; assumed width c 4.6–4.8m.

To the west of Building 104 there were no definite remains of any buildings which had burnt in Fire V, but there were the remains of a probable level which had not burnt, most likely from a passage. This has been designated Phase 4.1 (see below p 65). The northern boundary

of Søstergården in this rear part of the site was not located: it may have been in the same place as in Period 6, but up until Period 3 it lay 3–4m further north and this may still have been the case in Period 4. The foundations at the front of the tenement and of the waterfront itself are commented on in connection with Row 2 below.

##### *Row 2*

Building 99 (O4,VIII; O5,X; P4,V; P5,XI) consisted of part of the ground wall beneath a two-roomed building with rooms of equal size and with a fireplace in the western one. The ground-wall on the north side was built with stones measuring up to 1m across which had been laid in one or two courses, while the south wall consisted of smaller, mostly flat stones 20–30cm long, also laid in one or two courses. The ground-wall on the western side and where it had survived under the northern end of the internal dividing wall was of large irregular stones in a single layer. The fireplace, Hearth 25, which was located in the north-eastern corner of the western room, was built with stone slabs of various sizes and was insulated against the north wall with clay and gravel. It measured 1.30m E/W and 1.50m N/S. To the south, just in front of the fireplace and c 10cm below the level of its upper surface, there was a little platform covered in charcoal, ash, burnt nutshells, and animal and fish bones. Patches of clay containing quantities of small stones in places indicated that there had been a clay floor in the western part, while the remains of a wooden beam in the eastern part indicated a wooden floor there, though this was possibly a later addition as there were also traces of clay. Eastern boundary of the building beyond the edge of the excavations; western limit on the south side at 110.25y. Maximum recorded length of the north wall 8.30m; width 6.00m.

Between Building 99 and the next building to the west there was a gap of c 1.6m which had been paved at least in places with boards. It was most likely part of Building 99, as the ground-wall on the south side continued to its western edge. This could suggest that Building 99 had a projecting upper storey on this side, which would make it all the more likely that there had been a privy at the north end. There were the remains of a floor of transverse planks in the southern part of the gap, and the floor ran up to the east wall of the next building.

Building 98 (N5,IX,X; O4,VIII,VIII.1; O5,X) comprised the remains of badly burnt longitudinal floorboards overlying fragments of transverse joists and two courses of timber foundations, remains of standing tongue-and-groove boards almost the full length of the east wall, and part of the ground-wall of mostly large stones at the west end. The easternmost 3–4m of the floor lay on specially shaped foundation beams and may therefore have had some special function. A solid post belonging to this phase, which had grooves for sill-beams to the east and south, may have marked the north-west corner of the building, but there were no traces of any other posts. The floor lay on foundation timbers and was not connected physically to the north and south sill-beams. At the eastern end, the upright planks of the wall were cut on the slant at the base and had either been slightly pressed into

the ground or else had rested on it. At the west end the joists abutted the sill-beam. Assumed eastern limit of the south wall at c 108.6y; western limit at c 103.6y. Length c 5.4m; width c 6m.

To the west of Building 98 there were more or less continuous remains of foundations for 18m without any clear divisions. The upper levels had been entirely destroyed by fire. On the basis of the size of the buildings at the eastern end of the tenement, there would have been room here for three buildings, and the timber foundations also seemed to indicate this. It is therefore suggested that the foundations of three buildings, 466, 467 and 149, are identifiable here.

Between Buildings 466 and 98 there was a gap 1.60–1.65m wide, similar to the gap on the east side of Building 98, but no wood had survived here. Towards the eaves-drip on the north side were the remains of a burnt plank wall 1.60m long, running E/W. It turned to the south at both ends and ran into the end wall of the adjacent building. The eastern arm measured c 80cm and the western arm c 55cm. The planks had survived to a height of c 10cm. These remains are interpreted as Privy 12.

Building 466 (M5,X,X.1,XI; M6,IX; N5,IX,X) was represented only by foundations consisting of up to four courses of timbering, mainly in the northern half of the row. A post at the north-east corner and another on the south side seemed to be associated with the building, which probably had sill-beams supported on posts and a floating floor. Assumed eastern limit of the north wall at 100.00y; western limit at c 91.6y. Assumed length c 8.8m; assumed width c 5.5–6m.

Building 467 (L5,XII–XV; L6,XIII.1,XVIII; M5,X.1,XI; M6,IX) was also represented only by foundation timbers, laid at right angles to each other in three courses over a 10–12cm thick deposit of moss. Assumed eastern limit at c 91y; assumed western limit at c 86.8y. Assumed length 4.5m; width c 4.8m.

A deposit of moss under Building 467 continued into the area of The Old Church Road on the south side and under the adjacent structures at the west end. It sealed three small log-built substructures, Kar 125, 121 and 124, and partly also a fourth, Kar 120, all of which stood directly on deposits from Fire VI, having been erected immediately after the fire (see pl 10, Phase 4.1). It formed, in fact, a stratigraphic dividing point between the upper foundation layers which were integrated with buildings and the primary foundations, including the substructures mentioned above. This deposit of moss, together with the remains of drains associated with one of these substructures, Kar 124, was thought for a long time to indicate two distinct building phases in the front section of Rows 1 and 2.

Building 149 (L5,XII; L6,XIII.1) consisted of two courses of foundation timbers and the remains of some angular stones and slate slabs, which showed signs of burning and which may have been part of a paved surface or have come from a collapsed fireplace. In the south-western part lay a group of soapstone warp-weights (fig 29). The extent of the building was clearly indicated on the west and north sides. Assumed line of the

south wall at c 42.2x at the west end, but it may have lain c 1m further west. Assumed eastern limit on the south side at c 86.4y; western limit at c 82.6y. Assumed length c 3.8m; width c 4m, alternatively c 5m.

To the west of Building 149 there was no evidence of any buildings from this phase, but there were some apparently intact foundations in the form of a large substructure, Kar 119, built with generally thin logs, the thickest of which had been used at the west end. The longitudinal logs were also laid with their thicker end to the west. In the southern half of the tenement only upright posts were recorded, most likely from the foundations of The Old Church Road.

Underneath the foundation substructure of Kar 119, which consisted of six layers of logs laid at right angles to each other, and the upright posts in the southern half, there was a layer of make-up half a metre thick, which overlay beams laid lengthwise close together in grid-squares K6 and K7. This layer of longitudinal beams stretched back several metres over an earlier wharf from Phase 3.2, burnt in Fire VI, which was indicated by the foundation substructures 111 and 114. In the other direction the beams stretched for 8–10m in front of the earlier wharf and rested on thick deposits of make-up just like the corresponding layer in the adjacent part of Søstergården to the south (see pl 10).

The surviving foundations from Period 4 consisted therefore of 4 separate divisions:

- 1 The initial massive deposits after Fire VI, raising the sea-bed to the level of the earlier waterfront as represented by substructures 111 and 114.
- 2 A levelling up with the help of beams laid side by side in two layers at right angles to each other.
- 3 A further levelling up by the addition of deposits 30–50cm thick.
- 4 Finally, the great substructure, Kar 119.

It has already been pointed out that immediately behind these foundations there were indications of two stages in the development of the waterfront, and we are inclined to believe that these two stages are also reflected in the composite construction just described. Since the layer of

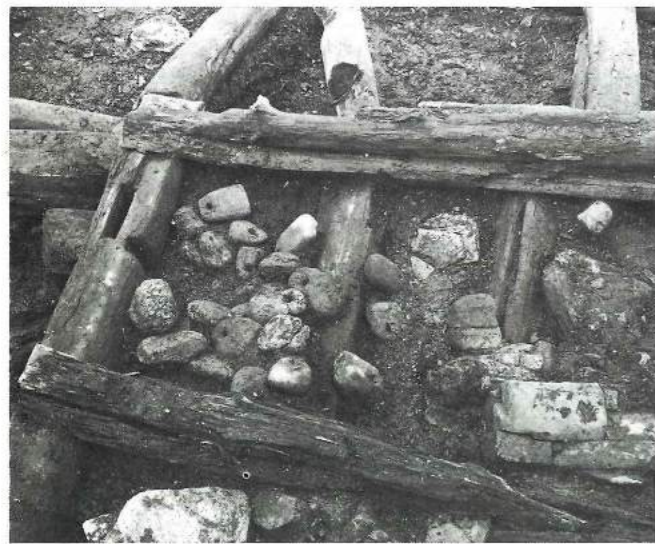


Fig 29 Building 149 with a group of warp-weights. Burnt in Fire V (1248). Looking east.

moss, which formed the stratigraphic dividing point in the foundations around Building 467 to the east, was recorded c 30–50cm above the closely-packed layer of logs, the division in the western part would appear to lie between points 2 and 3 in the above list, in other words between the logs laid close together and the overlying deposits. This line of thought has been taken further so that the initial deposits (1) and the beams laid lengthwise (2) are interpreted as all that was left of the original foundations from Phase 4.1 after they were reduced in height. In other words, the actual foundations of the buildings in this phase had been removed. Afterwards, the area was levelled out again with a more limited amount of material (3), and on top of these deposits the great substructure Kar 119 was erected to support the buildings of Phase 4.2.

That Kar 119 and the lower layers of logs belonged to two separate stages seems to be confirmed by the fact that a lot of the timber in the dense layers of logs were burnt – in a previous fire which must have been Fire VI – while none of the logs in Kar 119 showed signs of burning.

This division of the waterfront into two stages has been difficult to reconcile with the situation recorded in Søstergården, where only the elements corresponding to (1) and (2) had survived (cf vol 3, part 1, 111–13). Since the development of the waterfront in Søstergården North and Rows 1 and 2 in Gullskoen were otherwise in close agreement and even integrated with each other, it is reasonable to assume that the waterfront in Søstergården had also been constructed in two stages, but that all the structural elements from the later stage, Phase 4.2, had been removed and replaced with deposits.

As both Kar 119 and the upper longitudinal layer of logs continued into the unexcavated area at the west end of the site, the full extent in this phase is unknown. On the basis of the quays in Bugården and Engalgården to the south and in Rows 3 and 4 in Gullskoen to the north, it is reasonable to assume that the front of the wharf structure in both Rows 1 and 2 lay around 71–72y. This would have given c 10m for a waterfront building in front of Building 149, and if there was a post-built quay in front, the actual waterfront would have been around 67–68y.

#### The Old Church Road

Definite traces of a passage were only recorded in places in this phase. Nevertheless, two distinct levels were found between Fires VI and V, belonging to Phases 4.2 and 4.1. From Phase 4.2 there was a surface of generally wide boards laid transversely over longitudinal joists for a distance of c 10m at the eastern end of the site, where the width of the passage was c 1.8m. On the north side the wooden pavement was laid close up against Row 2, but there appeared to be an unpaved area 1.25m wide along Row 1 on the south side. It is reasonable to assume that this area belonged to the adjacent Building 104 in Row 1 and was made use of in some way.

To the west of Building 104 the road widened on the south side to at least 7.50m. Its boundary on the Søstergården side is unknown, as there were no definite remains from Søstergården's North Row belonging to Period 4. In the southern part of the road, the supporting joists had been cut through by a later drain running east-west.

There were no surviving structures within the N grid-squares which could be definitely related to Period 4, but the level was present in M6 and the eastern part of L6.

where boards and joists were recorded, and in the western part of L6 and in K6, where there were vertical foundation posts, some of which were erected on transverse sole-plates. To judge from their extent the passage may have been c 5.40–5.60m wide in this front section. The primary foundations from Phase 4.1, which lay beneath those described here in grid-squares K6, L6 and M6, were a direct continuation of the contemporary foundations in Søstergården North and comprised the same kind of substructures. Behind the wharf-front (Kar 114), which was a good 16m long and which had burned in Fire VI, three medium-sized substructures, 75, 74 and 122, had been added to the two contemporary foundation substructures 72 and 73 in Søstergården. In front of the earlier wharf, the same procedure was followed as that which had been used in Søstergården: dismantling the earlier foundation, backfilling and levelling up with new deposits, and finally laying the timbers forming the actual foundations of the road, wharf and buildings (Kar 119) (cf vol 3, part 1, 111–13). In reality, the development of Rows 1 and 2 in Gullskoen and Søstergården North were part of a single integrated building operation.

#### Row 3

In this Phase Row 3 must have ended at the edge of St Mary's churchyard somewhere in the western part of grid-square R3. The remains at the rear of the site belonged to a burnt transverse passage running across Rows 3 and 4. It continued southwards beyond the edge of the excavations, and was disturbed on the far northern side. The maximum recorded length N/S was 9.50m and the width was 1.6–1.7m. It was laid right up to Buildings 27 in Row 3 and 21 in Row 4, with the wooden pavement closely following the outline of the buildings.

Building 27 (P3,VI; P4,V; Q3,VI) had been a narrow building supported partly or entirely on upright posts. Three had survived under the west wall, together with sections of the ground-walls under the north and west walls, which consisted of large irregular stones of various sizes laid in two or three courses. The scattered remains of floorboards and joists were also recorded. Eastern limit of the north wall at c 120.9y; assumed western limit at c 115y. Assumed length c 6m; width c 4.3m.

There were no traces of any other buildings in Row 3.

#### Row 4

There were four buildings in Row 4: 21, 20, 223 and 222, and possibly a fifth, 61, just to the south-west of St Lawrence's. On the north side the buildings followed a straight line, but because of great variations in their width, the southern facade of the row was irregular, and consequently the passage also varied in width.

Building 61 (Q2,IX) consisted only of some scattered stones, assumed to be from the northern ground-wall, and four transverse boards which would appear to have been floorboards. These were cut through by a longitudinal drainage channel. Assumed eastern limit of the north wall at 127.00y; assumed western wall at 124.3y. Maximum recorded length c 3.5m; maximum recorded width 3.50m.

To the west of Building 61 there may have been an undeveloped area before the c 1.7m wide passage running across Rows 3 and 4 to the east of the next buildings, 27 and 21.

Building 21 (P2,V; P3,VI–VII; Q2,IX; Q3,VI) had been a narrow building supported on upright posts, of which the lower parts of several had survived on the north, east and west sides. The remains of transverse joists and fragments of longitudinal floorboards were also recorded. Eastern limit of the south wall at 120.00y; western limit at c 114.5y. Length c 5.8m; width c 3.4m.

Of the cross-passage east of Building 21 parts of some transverse boards overlying longitudinal joists had survived, limited at the east end by a sill-beam. The passage was so carefully laid up against Building 21 that one of the boards had been trimmed to fit round the post at the south-east corner of the building. Like the floor in Building 61, the wooden pavement had been cut through at the north end by a later drainage channel.

Both the wooden paved surface and the foundations at the north end of the cross-passage were a direct continuation of the corresponding cross-passage along the east side of Building 27 in Row 2. If the upper part of the building projected out over the passage in one case, then it presumably did so also in the other case.

Between Building 21 and the next structure, Building 20, there was a gap c 1.3m wide containing some sections of the wooden paved surface and underlying joists of a cross-passage with access from the south and the east. At its north end the existence of a privy, No. 2, was indicated by boards set on edge and thin stakes. It measured c 1.1m x 90cm.

Building 20 (O3,VI.1; P3,V.1,VI) was flanked to the east by the cross-passage with Privy 2. It had been a large, wide building with a floor of evenly trimmed flagstones laid on a thin layer of grey sand containing a little clay. Ridges of crushed soapstone c 3cm wide and 2–3cm high marked the location of missing flagstones and helped to give a more complete picture of the stone-paved floor (see fig 30). A sunken transverse beam c 1.8m long with a mortise for a slender upright post at either end was possibly part of some fixture or perhaps supported a screen. The stone floor had not survived as far as the wall on the south side, but a row of small, relatively narrow stones c 10–20cm long were found sitting directly on the flagstones at the very edge of the paved area c 1.1m from the assumed inner face of the wall. This thin line of stones could have been the base of the front edge of a wall-bench. Not only had Building 20 physically dominated this rear part of the site, but it also apparently fulfilled some special function. Eastern limit of the south wall at 114.20y; western limit at c 106.6y. Length 6.80m; width as much as 6.8–7m.

Before the next building there seemed to be a c 2m wide gap, but the remaining buildings to the west stood close together and were also very narrow.

Building 223 (N3,IX; N4,X.2) had been a small structure supported on posts, all of which had gone except those on the north side. Two layers of



Fig 30 Building 20, burnt in Fire V (1248), with the remains of a stone-paved floor. Looking west.

floor-joists had survived. Eastern limit of the north wall at 102.70y; western limit at 98.90y. Length 4.90m; width c 4.6m.

Building 223 stood close up against the next building, which would appear to have been erected at the same time.

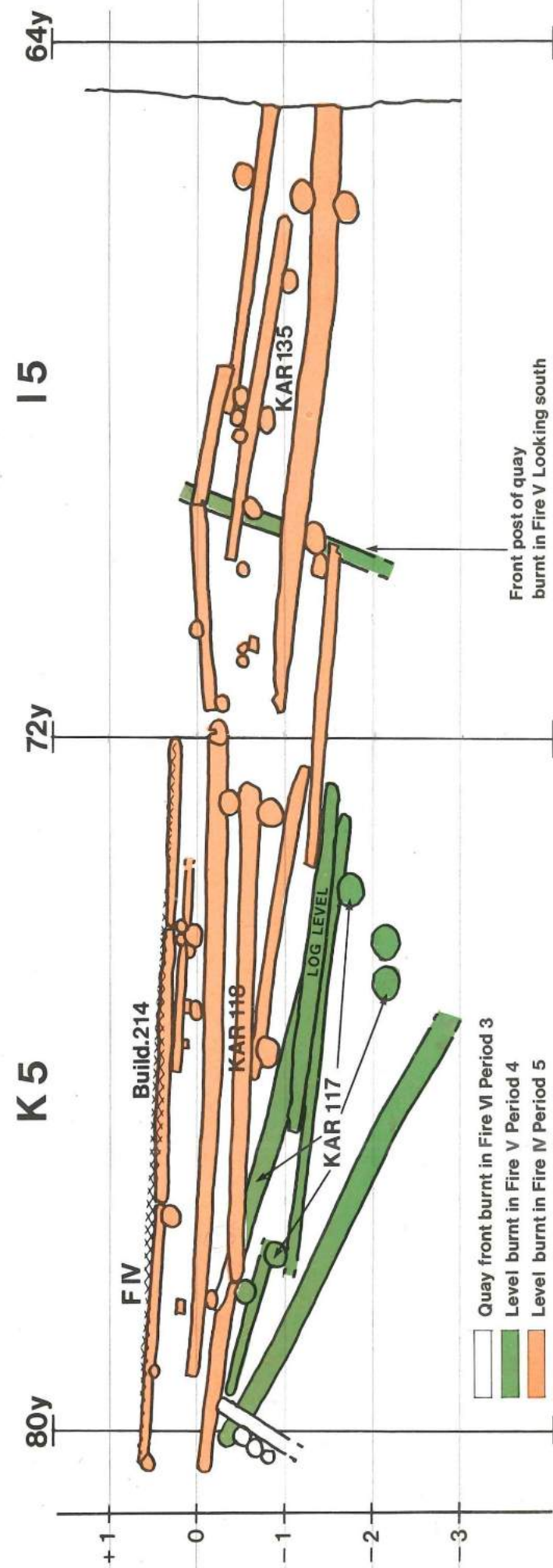
Building 222 (M3,VII; M4,VII; N3,IX; N4,X.2) comprised parts of the sill-beams, thin joists placed close together, and sections of a longitudinal floor. Eastern limit on the south side at 100.50y; assumed western limit at 92.80y, possibly 3m further west at c 89.7m. Assumed length 8.20m, alternatively c 11.3m; width 4.1–4.2m.

In the continuation of the row, there was no physical connection with the buildings already described, but the burnt layer could be traced all over grid-square L4 as far as c 78y. As the foundations in this area were in the form of smaller log-built structures, sometimes with no connection between them, there were problems in identifying the sequence of layers here. Many of these log-built substructures had burnt or had been partly dismantled before being re-used. The analysis and interpretation of the various structures in this western part of the row are therefore mainly based on comparative material.

It can be categorically stated that the front of the main substructures which had burnt in Fire VI generally ran along 79/80y, like the contemporary waterfront under the southern part of Gullskoen and Søstergården North. After Fire VI the area in front had been backfilled and a large foundation substructure, Kar 117, four or five courses high and c 6m long, was built in front of Row 4, using large timbers (fig 31). In the top layer, the rear ends of the



Fig 32 Logs placed close together over the foundation substructure Kar 117 in order to level up the surface. The posts of the contemporary quay can be seen in front. Period 4 (1198–1248). Seen from the north-east.



logs rested on the front of the wharf burnt in Fire VI. After the area inside and around Kar 117 had been back-filled, logs were laid lengthwise side by side over the western part of the foundation substructure, projecting c 3.8m further forward (fig 32). On top of this layer of logs a new foundation substructure was erected, Kar 118, mainly using old ship's timbers (fig 33). To the west of this and apparently separated from it was a larger foundation substructure, Kar 135, also built with re-used ship's timbers. This structure continued westwards through the K and I grid-squares and on beyond the edge of the excavated area at 61–62y in grid-square H5, and its front is therefore unknown. It had burnt in Fire IV.

These foundations, which were laid after Fire VI, covered a period of 134 years and they must therefore represent several construction phases. The situation around the time of Fire V should at least have been recognizable, but this horizon was difficult to identify, as the excavations to the west of the substructures 117 and 118 were mainly rescue operations in order to recover more ship's timbers. Since evidence for Fire V could not be found at all to the west of the waterfront which burnt in Fire VI, the identification of layers earlier or later than Fire V must be based on an analysis of the structures themselves and a comparison with corresponding features elsewhere in the Bryggen excavations.

The clearest argument for proposing a dividing point in the foundations is based on the presence of a line of posts running across the row at c 69–70y west of 117 and 118, separating these from the large foundation unit to the west, Kar 135. It is also sensible to interpret this line of posts as associated with the wharf-front which burnt in Fire V. However, Kar 118 with its re-used ship's timbers must be excluded from this phase, otherwise it would be separated chronologically from Kar 135, also containing re-used ship's timbers, which according to Arne Emil Christensen came from the same vessel (1985, 183). If Kar 118 is taken out of the level burnt in Fire V, then only Kar 117 is left, presumably being the remains of an originally higher substructure, possibly forming the row's front foundation structure with the line of posts marking the contemporary quay, all burnt in Fire V.

If this argument is pursued further, then the situation after Fire V would have been as follows. The remains of the planked surface of the quay were removed, Kar 117 was reduced in height, and the area in front was back-filled in the traditional manner with vast amounts of material for a distance of more than 11–12m. After this, a dense layer of logs, many of them burnt, were laid lengthwise in order to consolidate the site, and then Kar 118 and its western continuation, Kar 135, were erected. Since Fire V could not be identified in this area, it is significant that several logs in Kar 118 – and some of the bottom ones in Kar 135, as well as many of those in the layer on top of Kar 117, all bore traces of burning from an earlier period of use. This fits in well with a dating to the time of the reconstruction after Fire V. This interpretation also means that the ship's timbers in the two substructures 118 and 135 are in the same phase. Also the reconstruction after Fire V here is closely parallel to that in the southern part of the site.

Fig 31 Long-section showing the sequence of development in Row 4 between Fire VI (1198) and Fire IV (1332).



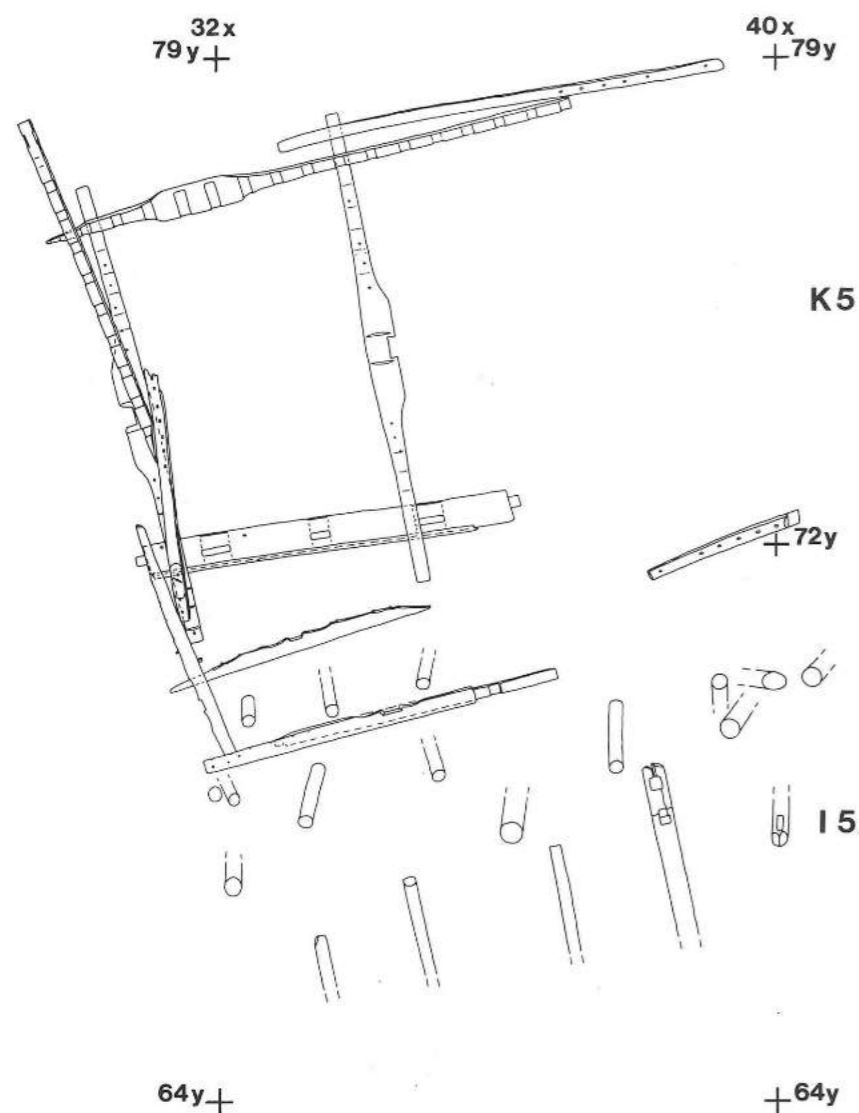


Fig 33 Re-used ship's timbers in the level burnt in Fire V (1248).  
Fire II (1332)

In spite of the uncertainties which have been mentioned, one is left with the conclusion that Kar 117 with its front along c 74.5y represented the major foundations at the front of Row 4 burnt in Fire V, with the line of posts along 69–70y marking the front of the contemporary quay. The length of the quay from front to back was c 4.5m, and its assumed depth was about 2m. The distance between the front edge of the foundation substructure and Building 222 could have been c 17m, which would have allowed for a further two or three buildings at the front of Row 4.

#### Passage between Rows 2 and 4

In Periods 5, 6 and 7 the tenement passage between Rows 2 and 4 had partly survived, but not in a continuous stretch. In Period 4 it was more or less closed at the rear end by Building 27, and access from the east was gained by passing along the north side of this building and around its north-west corner into the short transverse passage between Buildings 27 and 20, from which the central passage running westwards was reached.

Behind Building 27 the first 7–8m were possibly undeveloped in this period. To the west the tenement passage

was recorded in places over a distance of c 20m as far as the middle of grid-square M4. Within this stretch the remains of an earlier unburnt passage surface were uncovered in places, designated as Phase 4.1. At the west end only the foundations had survived, and it was not possible to distinguish an earlier or a later phase, but it is reasonable to assume that the foundations generally were from the time around 1200, shortly after Fire VI. Within the central and eastern sections transverse planking was recorded, and on the north side of Building 27 this was practically intact. The width here was 1.80m. Along the south side of the dominating Building 20 in Row 4 the width varied from 4m to 4.2m, and immediately to the west it increased by 2.5m to 6.5m as a result of the narrower width of the buildings in the rest of the row. From this point on, it grew steadily narrower.

There were no traces of any drains in this level.

#### Row 5

Row 5 was separated from Row 4 by an eaves-drip gap and it formed the southern row of a double tenement. The deposits from Fire V were recorded with varying thickness from 5–6cm to as much as 50cm. In the central

area any remains of buildings had either been subsequently removed or else had been totally destroyed in the fire, while towards the west from the middle of grid-square M3 onwards, the remains were sparsely documented owing to the haste with which the excavations had to be carried out. The dating of structures here to this phase is therefore conjectural.

Row 5 contained 8 buildings: 60, 31, 29, 26, 36, 32, 211 and 470. The tenement stretched to St Lawrence's, but the rear section was disturbed by a later privy.

**Building 60** (Q1,VI,VII,VII.1; Q2,IX,IX.1) consisted of the burnt remains of a longitudinal floor, floor-joists and the ground-walls on the south and west side. Under the entire building was a layer of small stones, 5–8cm across, which had been used to level up the surface over an initial deposit of large beach stones. Edward Harris, who directed the excavations in the northern part, thought that the upright posts which he found had supported the north wall, but these must be seen in the light of corresponding posts in the southern part where they are clearly earlier than Building 60. All these posts are therefore assumed to belong to an earlier structure. To the east the building was apparently cut through by Privy 6 at c 127.1y; the western limit was at 122.85y. Maximum recorded length c 4.5m. Extent on the north side uncertain; maximum recorded width at the west end c 4.8m, possibly originally a little wider.

**Building 31** (P2,V; Q2,IX) consisted of 2–3 courses of foundation beams laid at right angles to each other, and possibly also a couple of floorboards. Like Building 60, the foundations lay on a thick spread of small stones. The situation outside the south wall was unclear. Across the eastern part were the remains of boards and beams which may have been part of a floor. Approximately 1.9m from the south wall this possible floor was edged with boards a good half a metre long placed close together. With the eaves-drip on the south side, it is tempting to interpret this arrangement as part of an enclosed gallery. The remains of a c 90cm wide wooden paving outside the east wall also seemed to belong to this building. To the east the boards rested on the ground-wall projecting from beneath the west wall of Building 60, and at the south end the paving ended with the solid base of a stair which had led to a projecting part of the building. Eastern limit on the south side at 121.80y; western limit at 116.40y. Length 5.50m; width c 3.5m, alternatively c 5m.

Just to the west of Building 31 were the remains of two buildings, 29 and 26, whose mutual relationship was difficult to understand. On the north side there was a relatively continuous stretch of flooring; on the southern side there were parts of a post construction.

**Building 29** (P2,V) consisted of floor-joists and parts of longitudinal boards later burnt in the lime-slaking activity on the site. It was unclear whether this building, which had probably been erected in Phase 4.1 shortly after Fire VI, took up the full width of the row, but the presence of a thin beam which was possibly one of the floor-joists would suggest that it did. Eastern limit on the south side (at the south edge of the

flooring) at 115.7y, alternatively 116.5y; western limit at c 112.3y, alternatively at c 113.2y. Length (in either case) c 3.4m; width of the floor c 2.6m, alternatively c 5m for the whole building.

On account of the presence of deposits of lime and soapstone and traces of burning, the structure whose remains were uncovered in the southern half of the row could have been a workshop. It has been labelled Building 26.

**Building 26** (P2,V) comprised fragments of a corner post from the south-east corner holding bits of boards set on edge belonging to the south and west walls. The south wall was also supported in two cleft posts. The west wall may have rested on stones and in addition was held in place by one or possibly two vertical boards. The extent of the building is not known, but there are grounds for assuming that it was erected after the southern half of Building 29 had been taken down at some point in Period 4. Eastern limit on the south side at 114.70y; western limit at 112.90y. Recorded length 2.85m; recorded width 2.00m.

To the west of Building 29/26 the layout was again irregular, consisting of the remains of 2, or possibly 3, buildings belonging to Period 4. Traces of Fire V were found on all of them.

**Building 36** (O2,VII,VIII; P2,V) lay immediately west of Building 29 in the southern half of the row and consisted of fragments of vertical planks from the south and north walls supported by horizontal boards held in place with stakes. It was not clear whether these sections of wall formed part of a framework beneath the floor of a building or whether they belonged to the walls of a separate little workshop. Eastern limit of the south wall clearly identifiable at c 112.5y; western limit recorded at 108.90y. Recorded length c 3.8m; width 3.45m.

Two massive posts just outside the line of the south wall of Building 36 had burned down to the same level as the wall planks in the building, but this could have happened after the structures had gone out of use. They could, however, have belonged to Building 36, an alternative which cannot be entirely excluded. They may, for example, have been the only surviving remains of the posts which had supported the sill-beams, in which case the vertical plank wall must be interpreted as an internal framework beneath the floor of the building. On account of the location of the posts at the south-east corner, the building would have been of the same type as the previously recorded structures with sub-floor enclosures, such as Buildings 44 and 38 in Gullskoen and similar buildings in the other tenements. As it is difficult to find any other explanation for the two large posts near Building 36, one is left with this interpretation.

The identification of the next construction, Building 32 (P2,VII), was unclear, as there were only small fragments of longitudinal floorboards and timbers and no clearly defined limits in any direction. Patches of clay and charcoal mixed with a limey substance demonstrated that some sort of workshop activity had been carried on in this part of the tenement both before and after Fire V. In the

western part of grid-square O2 there were traces of a layer of clay deposited on top of flat stones, and in the adjacent part of N3 there was a circular round-bottomed pit, 1.5m in diameter, which was filled with clay (Pit 8). The eastern edge of this pit was marked with some small stones set on edge. Elsewhere in this area patches of a greyish white limey substance were recorded, mixed with charcoal and charred twigs and stems only 2–3mm in length. This area with no clear structural elements stretched for c 10m through the western part of the O grid-square and the whole of N, before coming to Building 211, which was a small structure with a relatively well-preserved frame.

Building 211 (M3,VII–IX, N3,IX) was log-built with almost right-angled corners (fig 34) and contained a single layer of floor-joists and a practically intact transverse floor, which stopped at a clean edge 90cm from the south wall, where it was replaced with beams laid lengthwise. Five courses of logs had survived on the east side, and between two and four courses on the other sides. In the north wall near the north-west corner there was a door-opening 1.31m wide. The deposits from the fire lay up to 30cm thick inside the building, but these were separated from the floor itself by a mixed layer of earth and moss 2cm thick on the average. Eastern limit of the south wall at 96.30y; western limit at c 92.9y. Length c 3.6m; width 3.60m.

A ground-wall consisting of untrimmed irregular stones in two courses lay to the south of and on the same level as the southern sill-beam, with a gap of c 1.1–1.2m between the two features. It may have marked some kind of annexe, perhaps a ground-floor gallery, as the space showed evidence of specialized activity. In the western part there were the remains of a surface of crossed boards; in the centre, there was a rectangular deposit of finely crushed, pale grey soapstone 20cm thick, bounded on the west and south sides – and probably originally on the other two sides as well – with boards set on edge; and at places at the east end and around the south-east corner of Building 211, there was a layer up to 50cm thick of badly burnt stone, including flag-stones 4–5cm thick, together with other burnt deposits.

Parallel with the ground-wall but at a lower level and 1.40m to the south lay yet another wall, which must have belonged to some earlier phase in the use of Building 211 (see Phase 4.1, pp 66–67).

To the west of Building 211 the remains of buildings from Periods 4–6 were mixed together, in that the foundation posts from Periods 4 and 5 stuck up through the remains of Period 6 structures. Thus, parts of buildings which had burnt in the earlier two periods had also been affected by Fire III at the end of Period 6. This, combined with inadequate documentation in some places, created problems in recognizing the different phases, so that the identification of structures burnt in Fire V must therefore be treated with some reservation.

Building 470 (L3,III;V; M3,IX.3) lay c 3m west of Building 211 and consisted of foundation posts under all four outer walls and also internally. There were also the remains of thin joists, some supporting on posts. Eastern limit on the south side at 90.60y; western limit uncertain, possibly at 83y. Assumed length a good 8m; width 4.40m.



Fig 34 Ground-frame of Building 211 with intact floor, burnt in Fire V (1248). Looking south.

#### Row 6

In the isolated area north of St Lawrence's Church the burnt remains of a building were recorded in this phase, Building 205. In 1972, in connection with the building of Bryggens Museum, the row to the west of this was excavated by machine as deep as Fire IV or thereabouts. At the same time, the level burnt in Fire V was also partly removed in the rear and central areas. Unfortunately, it was not possible to record the features adequately and this has made the interpretation difficult, especially in this more complex western area. In the north-western part of the site there were two buildings, 114 and 474, which would appear to have burnt in Fire V.

Building 205 (Q -1,VIII; R -1,VIII,IX; R1,XIII) comprised some poorly preserved remains of a transverse floor over two layers of beams. Unknown limits on all four sides. The southernmost beam lay c 1m north of St Lawrence's. Recorded as far east as 132.00y, as far west as c 127.2y, and as far north as -6.20x. Maximum recorded length (E/W) c 5.7m; width (N/S) c 7.5m.

Building 114 (L2,II; M2,VIII.1) comprised the remains of a structure supported on posts. Parts of the sill-beams had survived, together with the remains of plank walls beneath these, consisting of upright boards placed side by side. This had presumably been a building with a sub-floor enclosure. Eastern limit at c 89y; western limit on the south side at 83.80y. North wall outside the excavated area. Length 5.80m; maximum recorded width c 3m.

Building 474 (K2,I; K3,I; L2,I,II) comprised eight contemporary posts from a building, whose northern part lay beyond the edge of the excavations. Assumed eastern limit at 80.6y; assumed western limit at 77.4y. Assumed length 5.2–5.3m; width 4.7m, possibly a little more.

Well 16, the forerunner of the barrel-lined Well 10 from Phase 5.1, may have dated from this phase. There were no remains of any structures in its immediate vicinity and its date can only be estimated. It was constructed with

horizontal boards slotted into corner uprights and its sides measured c 85cm internally. Well 11, which was constructed in the same way, lay just to the south-west. It could also date from this phase. It measured c 102cm x 90cm.

Just to the north, in the area between the tenement passage and the assumed continuation of Row 6, a similar well with revetted sides was recorded, Well 12, which was the forerunner of Well 9 from Phase 5.1. It was square with sides measuring 80–85cm (see comments pp 53, 67 and 71).<sup>76</sup>

#### Passage between Rows 5 and 6

Evidence for a tenement passage was found in the form of joists with intact transverse planking in places. The remains covered a distance of c 52m. In some places there were traces of a drain constructed in the usual way with side planks. The passage was at least 5m wide in the rear part of the site and increased evenly to 6m in the middle of the L grid-square, where it stopped.

In the central and rear parts of the site there was an apparently large open space between the passage and Row 5. There may have been a well outside Building 29 in this period, possibly dating from the 1170s in Period 3. Its final two phases, Wells 8 and 17, which possibly belonged to this period, consisted of two barrels one above the other. It is described fully in Phase 3.2.

#### Phase 4.1, unburnt level over Fire VI (pl 10)

As the commentary to Phase 4.2 has shown, only scattered traces of an earlier unburnt level in Period 4 were recorded, apart from in Rows 5 and 6 where it was more extensive. Otherwise there were limited traces in the passages between Rows 1 and 2 and between Rows 3 and 4, and on the waterfront in front of Rows 1 and 2. It is perhaps misleading to talk about a separate level, since most of the traces can really be regarded as partial replacement or repair. We have nevertheless chosen to refer to two distinct phases on the Gullskoen site, 4.2 and 4.1, since Row 5 was essentially rebuilt.

Rows 1 and 2 did not have any forerunners marking a separate Phase 4.1. The buildings which burnt in Fire V and which have been described under Phase 4.2 were standing throughout the whole of the period. The waterfront in front of Rows 1 and 2 on the other hand was apparently developed in two stages. Firstly, at the back of the 16m long waterfront (Kar 114), which had burnt in Fire VI, three medium-sized substructures, 75, 74 and 122, were added to the contemporary substructures 72 and 73 in Søstergården. To the rear of these, three more substructures were erected, 124, 121 and 120, and yet another, 125, was erected behind Kar 121. In front of the previous building line the same process was followed as that which had been taken in Søstergården: backfilling to the level of the topmost beam in the wharf construction, laying logs side by side in one or two layers on top in order to consolidate or level up the site, and finally laying the foundations for the road, wharf and buildings. In fact, the development of Rows 1 and 2 in Gullskoen and of Søstergården North all formed part of the same integrated operation.

#### The Old Church Road

In the commentary on Building 104 in Row 1 in Phase 4.2 (p 56) reference was made to traces immediately to the west, which must have belonged to an early phase following Fire VI. These consisted of longitudinal boards 20–25cm wide and relatively thin joists. There was some uncertainty concerning the interpretation of these remains, but the fact that there was both a break in the direction of the boards and a drain with side planks, and that similar features in the previous level – Phase 3.2 – were taken as a more definite indication of a passage, all helped to confirm our interpretation.

Along the northern half of The Old Church Road against the south wall of Building 99 were some board fragments c 40cm long, which had been cut through. They must have belonged to a surface laid shortly after Fire VI.

At the western end of the site the only traces of an earlier level in the passage consisted of the remains of a plank-lined drain associated with Kar 124.

The foundations both of the passage and of the buildings in the L and M grid-squares consisted of small earth-filled substructures (cf commentary on p 57 and pl 10).

#### Row 3

In this period there was clearly no structure predating Building 27 in Row 3, but to the west of the building there was evidence for an earlier passage surface (cf p 66).

#### Row 4

There was no evidence for any structures belonging to an initial Phase 4.1 in Row 4. But whether the buildings which burnt in Fire V and which have been commented

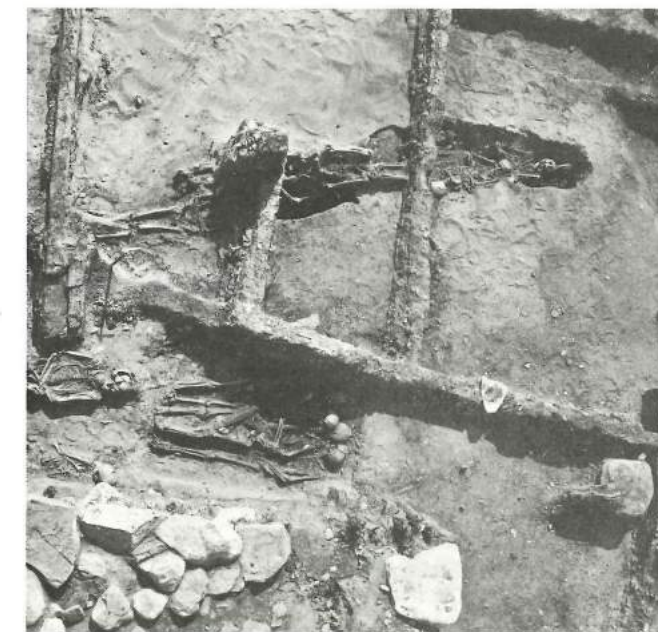


Fig 35 Graves in an area just west of the St Mary's Guildhall which was used both previously and subsequently for building. The north-west corner of the guildhall can be seen in the foreground. Seen from above, looking west.



Fig 36 Almost circular patch of burning in the floor of Building 29, caused by a later pit used in the production of slaked lime. Seen from the east.

on in Phase 4.2 go back to the beginning of Period 4 is uncertain, or at least doubtful. Nor were there any identifiable remains of structures from an earlier phase in the easternmost 16–17m of the traditional extent of the tenement. One possible explanation is that St Mary's churchyard extended for a time over a previously built-up section of the property, since graves belonging to Period 4 were cut down through the remains of two Phase 3.2 buildings, 64 in Row 3 and 62 in Row 4 (see pl 11 & fig 35). There were perhaps a dozen burials partly overlapping one another over a distance of c 5m in Row 4 and five or six beyond the end of the row. However, this particular use of the site ceased after a while, since Building 61 was erected here in Row 4 in Phase 4.2. To the west, just over the deposits left by Fire VI in grid-square O3 and the adjacent part of N3, there was a transverse layer of thin hardwood logs lying relatively close together over a longitudinal drain lined with planks set on edge. Between this log layer, which gave the appearance of being an initial levelling up of the area, and the overlying Building 20, which burnt in Fire V, there was a mixed layer of deposits 30–40cm thick.

Patches of burnt material could suggest that the area lay open for a while after Fire VI and had been used for various external activities. A transverse row of small stones in the western part of P3 could mark an eastern limit to the layer of logs, indicating that this was part of some light structure, such as a workshop belonging to an initial stage in Period 4. On the other hand the layer of logs was 30–35cm lower than the line of stones. In spite of the fact that these stones probably marked some kind of structure, no building no. has been assigned to any of these features. The layer of logs, which stretched for 10m in all, is preferably interpreted as the remains of a levelling out of this area.

The western termination of Row 4 was as in Phase 4.2.

#### Passage between Rows 3 and 4

As already commented on (p 65) the remains of an earlier passage surface were recorded over a distance of c 20m in the central part of the tenement. This consisted of frag-

ments of transverse boards of various sizes laid on longitudinal joists. The maximum width of the passage was c 2.5m in grid-square O4.

At an early stage in Period 4 lime-slaking was carried out in the area of the passage and the adjacent parts of the row on the south side, leaving a number of relatively flat-bottomed pits, lined with clay and with flat stones on the bottom. Occasionally the activity could be recognized in the special marks of burning left on the underlying dense layer of logs (cf fig 36).

#### Row 5

Throughout the whole of Period 4, Rows 4 and 5 were separated by an eaves-drip gap forming a boundary between two double rows. Within Row 5 the remains of four buildings were recorded in an initial unburnt phase following Fire VI, Phase 4.1: Buildings 16, 58, 217 and 117. In addition, Building 29 and probably also Building 211, described in Phase 4.2, stood from the beginning of the period.

Building 16 (Q1,VI.1,VII.1; Q2,VII–IX) had only survived as posts apparently forming a single unit, whose extent to the east, and partly also to the west, could not be definitely identified. The south-eastern corner had been destroyed by the digging of a later latrine, Privy 6. The assumed eastern limit on the north side was at 126.2y, alternatively 126.7y; western end at c 121.6y. Assumed length c 5m, alternatively c 5.3m; width 4.8–4.9m.

Building 58 (P1,III,III.1; P2,V; Q2,X,XI) continued the row after an apparent gap of 1.30m. It had sill-beams resting on posts, most of which had survived, several of them standing on transverse sole-plates. Eastern limit of the north wall at 120.00y; western limit at 114.90y. Length 5.40m; width 5.20–5.30m.

To the west of this building, the next 3.50m were taken up with Building 29, which burnt in Fire V at the end of Phase 4.2 (see p 63). In Phase 4.1 it filled the full width of the row, but after a time the southern half of the area was used for a post-built construction, Building 26, which has been placed in Phase 4.2. Just to the west, the remains of transverse ground-walls showed that Buildings 36 and 32 in Phase 4.2 had also been preceded by an earlier construction, Building 217.

Building 217 (O2,VII,VIII; P2,V.1) could only be documented by ground-walls at the east and west ends. The eastern ground-wall was more or less intact and consisted of a single course of large, irregular stones. The western ground-wall had been disturbed but had clearly been built in the same way. Eastern limit on the south side at c 112.6–112.7y; western limit at 106.00y. Length 6.8m; width at the east end c 4.5m.

There were no traces of any buildings to the west of 217 until Building 211, which lay c 8–10m further west. This building, which burnt in Fire V, seemed to have remained standing throughout the whole of Period 4. In its initial phase it had a ground-wall of stones 30–50cm across laid in a single row two courses high 1.4m away from the south wall. This might indicate that it had a gallery or

extension, like its successor (p 64). Some transverse beams had probably been laid to level up the site. To the west of Building 211 two structures supported on foundation posts were recorded, 117 belonging to Phase 4.1 and 470 from Phase 4.2. These overlapped one another and the tops and bottoms of their respective posts differed very little. Building 117 was regarded as the earlier of the two, as it stood on solid sole-plates laid directly over Fire VI.

Building 117 (L3,V,VI; M3,IX.3,XII) was a structure supported on posts, with the area beneath the sill-beams enclosed with vertical boards set close together. The posts on all four sides had survived, as well as the underlying sole-plates at the east and west ends. Eastern limit on the south side at 91y; western limit at c 89.3y. Length 4.1m; width 4.3–4.4m.

The western limit of the row was as in Phase 4.2.

#### Row 6

The only excavated traces in Row 6 lay in the small area north of St Lawrence's, where it was thought at the time of excavation that there were the remains of three unburnt buildings one above the other, Buildings 206, 207 and 208. It is open to question whether 206 and 207 were two separate constructions or simply a single building whose floor had been renewed, but with some reservation the separation into two buildings as interpreted in the field has been retained. Building 208 was a different matter. It was associated with three courses of timbers under Building 207, but from all points of view these ran so naturally into the main foundation construction that it has proved difficult to accept 208 as a separate structure. It has therefore been included in 207, which has been placed in Sub-phase 4.1.1, while the succeeding building 206 is placed in Sub-phase 4.1.2.

#### Sub-Phase 4.1.2 (pl 10, insert)

Building 206 (Q-1,IX; R-1,X,XII) comprised the poorly preserved remains of a transverse floor and floor-joists. It may have been a secondary phase of Building 207. Its extent in all directions is unknown. It was traced eastwards as far as c 133y, and as far as 126.70y to the north-west. Orientation unknown.

#### Sub-Phase 4.1.1

Building 207 (Q-1,XI–XIII; R-1,XII–XIV; R1,XIV,XV) consisted of fragments of a transverse floor and three courses of foundation beams, including those assigned during excavation to Building 208. At some later stage it could also have comprised the recorded remains of Building 206. Extent and orientation unknown. It was traced eastwards as far as 132.20y on the south side and as far as 126.70y to the north-west. On the south side it could be followed to c 70cm north of St Lawrence's and this may be its original limit. Maximum recorded length N/S 8.60m and E/W c 5.5m. This may indicate a N/S orientation, running across the tenement, an impres-

sion which was strengthened by the fact that the floor-joists ran at right angles to the line of the property.

Within the central part of the assumed location of the row of buildings, Well 12 from Phase 4.2 was found to have been in use throughout the whole period. It was presumably constructed at the beginning of Phase 4.1 after Fire VI (cf commentary pp 53, 65 and 71).

In the passage between Rows 5 and 6 no details were excavated which could be associated with an initial Phase 4.1 following Fire VI. Most likely the main elements assigned to Phase 4.2 date back to the beginning of the period.

Wells 8/17 in Phase 4.2 were probably preceded in Phase 4.1 by Well 14 with its horizontal revetting (cf commentary under Phase 3.2, pp 75–76).

#### Summary, Period 4

On the whole the period comprised only one building phase, apart from Row 5, which was practically entirely rebuilt during the period, and the waterfront in front of Rows 1 and 2. The passages between Rows 1 and 2 and between Rows 3 and 4 also seem to have been partly re-laid. For practical reasons the period has therefore been divided into two phases, 4.2 and 4.1. The whole area was apparently fully developed to the west already in Phase 4.1, but only in Rows 3 and 4 was it possible to see the full extent of the tenement right out to the front of the quays. There were no remains of buildings anywhere on the waterfront. In Rows 1 and 2 only the foundations of an initial stage in the period, Phase 4.1, had survived.

The layout was the same as in the later phases 5.1 and 5.2, 6.1 and 6.2 and Period 7, with a characteristic fan-shaped widening at the rear of the site. This was basically achieved by the presence of buildings within the passages as they widened eastwards, sometimes several buildings forming a short row. Even though certain features were still lacking in this period, the basic layout of the double tenement seemed to be getting progressively clearer as the excavation went down.

The facade of the rows against the tenement passages varied somewhat, but this variation was caused exclusively by the position of the walls fronting on to the passages and not by their alignment against the property boundaries. The only clearly defined eaves-drip gap running the length of a tenement was that between Rows 4 and 5, and this remained in the same position right up to Fire II at the end of Period 7. It appears therefore as a permanent property boundary over a long period of time. The same can be said about the division between Rows 2 and 3, except for the adjustment which took place in Phase 5.1 (cf p 49), but as we have seen, this was only identifiable each time in the rear or middle sections of the property. Elsewhere it was marked by open spaces or by passages.

A particular feature with this period was the extensive use of structures supported on upright posts, in many cases standing on sole-plates. In many of these buildings, the space beneath the raised floor was enclosed within simple plank walls. Examples of buildings with a sub-floor enclosure were recorded all over the site in the earliest periods.

The use of buildings standing on posts ceased more or less at a point corresponding to the edge of the under-

water shelf. On the backfilled deposits beyond this point the development was based partly on a series of small foundation substructures constructed with logs laid at right angles to each other and covered with loose deposits, and partly on layers of logs placed close together to form a good level surface for foundations which consisted of horizontal beams. The method and technique were the same as that recorded in the corresponding areas to the south.

Also in Period 4 the construction and internal arrangement of the various buildings reflected their particular functions, such as the presence of fireplaces and fixed wall-benches, sometimes combined with flagstone floors. Wells and privies were once again recorded. Workshop activities associated with the slaking of lime and the dressing of soapstone were very extensive, especially around Row 5, as in the later phases. In this row, the existence of upper storeys and projecting galleries could be documented by the presence of the base of a stair associated with Building 31 in Phase 4.2.

### Period 3

#### *Phase 3.2, burnt in Fire VI (1198) (pl 11)*

As mentioned previously (p 56) it was difficult in some places to identify Fire VI and the buildings which burnt in that fire. The introductory remarks for Period 4 and the level which burnt in Fire V also apply therefore to some extent to Period 3 and the level which burnt in Fire VI.

In the middle section of Rows 1 and 2 there were no traces of the fire or of any buildings. The problem was accentuated by the fact that any structural remains which were uncovered consisted entirely of foundation posts, which could be extraordinarily difficult to date on stratigraphic grounds alone, owing to the uneven settling of deposits. Moreover, significant features in the south-eastern area of the site adjacent to Søstergården had been removed by machine in 1971-72.

In Row 3 and partly also in Row 5, the stratigraphy was relatively clear with extensive remains of buildings, partly intact in places. In Row 4 on the other hand, it seems that the fire had burnt fiercely, as hardly any traces of structures had survived. The fire layer was well separated from both the previous fire, Fire VII, and the following one, Fire V. To the rear of the site west of St Lawrence's and the St Mary's Guildhall, the surviving remains of structures showed signs of having been constantly rebuilt within an 8-10m wide zone, widening to 12m in places. The structures were often difficult to define and the fire deposits were intermingled with very thin layers of sand, gravel, soot, crushed soapstone, lime, etc.

Within a 10-12m wide belt along the northern edge of the excavation the upper levels had been removed by machine and the investigation of the underlying levels could only be roughly documented, so that the dating of the features is difficult and must be accepted with some reservation. On the basis of the post-excavation analysis of comparative material, however, the conclusions which have been drawn are considered on the whole to be correct.

As the period consisted of an introductory unburnt phase following Fire VII, it has been divided into two phases, 3.1 and 3.2.

Phase 3.2 comprised 7 rows. Of these, Rows 1-2, 3-4 and 5-6 formed regular double tenements, The seventh row may have been the southern half of the next double tenement which would mostly have lain beyond the northern edge of the site, and it will be commented on further in the summary. In all, twenty-five buildings were recorded in this phase, distributed as follows:

- Row 1 Building 471;
- Row 2 Buildings 492, 472, 475 and 138, and Privies 14 and 15;
- Row 3 Buildings 64, 24, 25, 28 and 137;
- Row 4 Buildings 62, 34, 35(?) and 135;
- Row 5 Building 50 (St Lawrence's Church) and 67, 63, 37, 133, 134 and 473;
- Row 6 Buildings 116 and 115, and Wells 13 and 15;
- Row 7 Buildings 477 and 500.

In the south-eastern part of the site in grid-squares N6, O6 and P6, a couple of metres are missing on account of the machine excavation, and it has proved difficult to establish definitely the contemporaneity of the two areas on either side.

#### *Row 1*

In the upper levels Row 1 was regarded as an inserted, "foreshortened" row. The finds from this level gave no real grounds for changing this interpretation, as the remains of only a single building were recorded, Building 471, at the eastern end of the site. A clearly delimited passage on the north side and some scattered foundation timbers in two layers to the west can suggest that the row continued westwards, but these timbers were really the chance surviving remains of foundations, which can either be interpreted as the foundations for a building or as the supporting timbers for a planked surface covering a wide undeveloped area. This ambiguity was aggravated by the fact that the planking had been cut through on the south side by the machine removing the upper layers in 1971-72 and no remains of buildings from this level were recorded on the adjacent part of Søstergården. Nevertheless, the remains of a drain running at an angle might possibly indicate the existence of a boundary line, perhaps an eaves-drip gap. Buildings belonging to an initial stage of Phase 3.1 were not identified in this part of Søstergården and in Period 2 the area where the drain was located was occupied by buildings raised on posts, which would probably have reduced the need for an ordinary drain. On the other hand the adjacent foundations in Phase 3.2 were of horizontal timbering, which could have made a drain more necessary. As the direction of the drain was practically identical with the orientation of buildings in Phase 3.2, it has been assigned to this phase, admittedly with some reservation. It could be traced over a distance of c 14m.

Building 471 (P5,XII; P6,VIII,IX) consisted of the remains of wide transverse boards on slender joists. No traces of any sill-beams. Eastern limit beyond the edge of the excavations; northern and southern limits uncertain. Recorded length E/W 1.70m. Maximum recorded width c 4.7m; actual width probably c 5m. The building was regarded as the southern row of a double tenement, with Row 2 forming the northern half.

#### *Row 2*

There were the remains of four buildings towards the rear of the site, 492, 472, 475 and 138. Towards the north-east lay some burnt boards of the same type as those in the adjacent Building 64 in Row 3, but a shallow longitudinal cut between these boards and Building 64 showed that they were probably two separate structures. To interpret them as part of one construction would create problems in understanding Building 64 and would moreover introduce a break in the line dividing Rows 1 and 2 to the south from Rows 3 and 4 to the north. One is left with the situation that the boards formed a separate building and this has been given Building No. 492.

Building 492 (R3,VI) consisted only of the remains of 2 or 3 broad longitudinal floorboards overlying the remains of a joist. Maximum recorded length c 2m; maximum recorded width 60cm.

Building 472 (O4,X; P4,VI; P5,XII) lay c 13m to the west of Building 492, the intervening area remaining unexcavated. It consisted of transverse floor-joists and part of the northwest corner, together with most of the wall supporting the northern sill-beam, which was made up of a single course of irregular unworked stones measuring 40-70cm long. The east wall lay in the unexcavated area. To the west the building ended with fragments of a transverse wall originally constructed with slender horizontal timbers held between grooved uprights. The underlying floorboards had been cut through. Normally a thin wall of this type would have been an internal dividing wall but in this instance the level continued with a building constructed in a different way, and the wall would appear therefore to indicate an external wall. This interpretation allows room for a small privy (Privy 15) between this building and the following one, Building 475. North end of the west wall lay at 109.80y. Maximum recorded length 6.75m; estimated width 5-5.5m. Maximum length of floor-joists 4.9m.

There was a gap of c 60cm before the next building, which was apparently erected shortly after Fire VII, in Phase 3.1.

Building 475 (O4,X-XII; O5,XII-XIV) comprised the remains of burnt foundation posts which must all have belonged to the level burnt in Fire VI. There seemed to be evidence for the position of its eastern and southern limits, but the extent of the building to the west and north was more uncertain. Eastern limit estimated at c 111y on the south side; assumed western limit at 105.9y. Assumed length 5.2m; width 4.8-5.3m.

In the south-east corner of Building 475 lay the remains of a rectangular framework which must have been contemporary with the building and had therefore belonged to it, perhaps a privy. It has been designated Privy 14. The north and south walls were partially intact, their bases probably having been below the floor level. They were of different constructions. The east wall consisted of vertical planks and split logs placed side by side, presumably fixed to a horizontal cross piece at the top. The north wall was built with horizontal planks fixed to two extra

uprights. The other walls were missing. The estimated internal dimensions were 1.9m N/S and 1.2-1.3m E/W.

To the west of Building 475 the next structure, Building 138, was indicated by posts and post bases, but neither the eastern nor western walls could be identified.

Building 138 (N5,XII,XIII; N6,IX) had a relatively clear north wall with two posts on sleeper beams, and the bases of three or possibly four separate posts along the line of the wall. The easternmost of these may have belonged to Building 475. It corresponded to a post approximately midway between the north and south walls. In addition to these there were five more posts, two of which were on sleeper beams. They had all been burnt in Fire VI and may therefore have belonged to this building. Four of them lay beneath the south wall. As Building 138 was in line with 475 to the east, it was difficult to see where the dividing point between the two buildings actually lay, but this is not of great significance in the present context. As the sleeper beams presented some kind of mutual relationship in grid-square N5, these have been associated with Building 138. Eastern limit of the north wall around 103y; western limit at c 97.5y. Length recorded as c 6.6m; width estimated at c 5.4m.

At practically every level above Fire VI, horizontal timber foundations had been used right down to the unburnt level Phase 4.1 above Fire VI, where some upright post foundations were found in places. In Phase 3.2, which burnt in Fire VI, we found that different types of foundations had been used: horizontal beams and ground walls in the rear part of the site, buildings standing on upright posts in the middle of the site, and horizontal timber foundations again in the M and L grid-squares at the west end, although of a different character than the horizontal foundations to the east.

This change in the foundations was probably connected with the nature of the underlying deposits and thus reflected the topographical circumstances. At the rear of the site, more or less east of 110-112y, it reflected the original dry land surface. Around the time of the town's foundation at the end of the eleventh century there was a shelving beach in front of this, which continued beyond the lower tidal limit and ended with a steep drop into deeper water some 20-30m from the edge of dry land. The change from post foundations in this beach zone to horizontal timbers further out must be seen as a reflection of a primary transition from the beach to the deeper, backfilled harbour basin. The timber foundations recorded here were laid out principally over a series of smaller, almost square, substructures (Norw *Kar*) in two or three rows one behind the other, and in front there was a continuous construction 16.60m long and averaging 3.4-3.6m wide, built up with horizontal logs laid at right angles to each other. This continuous construction (*Kar* 114), which had a wharf on vertical posts in front, more or less marked the seaward facade of the tenement.

These projecting log substructures under Rows 1 and 2 in Gullskoen were integrated with the foundations under Søstergården North.

In principle the various substructure units, or *kar*, were constructed in the same manner as those under the tenements further south and were all filled with organic deposits, not with stones. The front of the log structure ran

more or less parallel with the site grid between the 79.00y and 80.00y, approximately 16m in front of Building 138, which means that there was room for two more buildings at the front of Row 2.

During excavation this front substructure was regarded by some as the waterfront in the same way as the corresponding situation further south, but the post-excitation analysis has shown that it could not have functioned as a quay on account of the projecting ends of the logs. Moreover, two lines of posts, which had survived in front of the southern half, clearly indicated a contemporary quay. In the northern half, in front of Row 2, one post had also survived intact. It was a traditional type of front upright, through which a horizontal locking beam carrying the deck would have passed (see pl 11). The only question remaining is the relationship between the quay and the log substructure, since there was no definite evidence of where the horizontal joists of the quay had been fixed to the substructure behind. The level which is indicated on purely stratigraphical grounds would be the course of logs which must have burnt in Fire VI.

The quay, including the front posts, has projected c 3.5m from the front of the substructure, which corresponds exactly to the width of the quays to the south.

Associated with the surviving remains of the wharf in Row 2 was some kind of intervening phase and this created stratigraphical and chronological problems. The foundation substructure Kar 114 was apparently supplemented with a smaller substructure Kar 123 in front of it, measuring c 4m across and c 3.4m from front to back. It was found in a somewhat discontinuous and partially dismantled state. It may have belonged to the concluding years of Phase 3.2, possibly as a consequence of an uncontrollable subsiding of the posts supporting the quay in this



Fig 37 Part of the passage with longitudinal planking between Rows 1 and 2 in Phase 3.2, burnt in Fire VI (1198). The boards have been laid directly on top of the earlier transverse surface from Phase 3.1. Looking north.

phase. The top of the recorded beam carrying the planked surface lay at -98cm at the front, which would indicate such a significant subsidence that the need for some alternative arrangement must have arisen relatively quickly.

The construction of the projecting substructure and the parts of the quay are shown in the plan of Phase 3.2 (pl 11).

As already suggested, Rows 1 and 2 formed a double tenement with a central passage and an eaves-drip gap on the north side, marking the boundary to Row 3. On the Søstergården side to the south there was a similar arrangement although the details did not appear so distinctly.

#### Passage between Rows 1 and 2

In the period between Fires VII and VI the passage had two successive surfaces, an initial one in Phase 3.1 carried on uprights (figs 40 & 41), and a longitudinal arrangement laid over this in Phase 3.2 (figs 37 & 38). Both were narrow. At the eastern end the upper surface was subsequently removed and replaced with a wider surface of transverse planks (fig 38). The rest of the Phase 3.2 passage to the west had been laid directly over the existing surface and consisted of relatively massive side beams held together with transverse beams let into them at regular intervals to support the planking (fig 37). Over the first c 8m from the eastern edge of the site the relaid broader passage had been laid on longitudinal joists resting on flat stones placed directly on the ground. The total recorded length of the passage was 15.00m. The width of the longitudinal section was c 1.5m and of the wider transversely-laid section at the rear c 2.6m. The remains of side planks from a drain lay underneath.

At the back of the site, where the passage surface was laid transversely, the distance between the rows was about the same as the width of the passage. The two rows of buildings apparently ran westwards at the same distance from each other, and as the paving further west was narrower there was a gap between the planked surface and the adjacent buildings.

#### Row 3

The rear section of Rows 3 and 4 had been used as a burial ground in Period 4, but in the level below this the remains of burnt buildings were found in both rows, belonging to Phase 3.2: Building 64 in Row 3 and Building 62 in Row 4. The surviving remains of Building 64 continued under the west wall of the later St Mary's Guildhall at a depth of c 75cm beneath the plinth course of that stone building. The fire layer itself could also be identified beneath the deposits left by Fire V, which had been recorded under the northern part of the west wall. More structural remains, some burnt, some unburnt, over the next 6-7m to the west must also be related to Phase 3.2, judging from the circumstances, and must have been part of the same building 64, even though this means that the building would have been over 9m long.

Five buildings in all could be identified in Row 3: 64, 24, 25, 28 and 137.

Building 64 (Q3,VII.1,VIII; R3,VI,VIII.1) comprised the remains of wide floorboards laid longitudinally edge to edge, with fragments of two transverse joists to the east and three to the west, as well as the major part of a massive sill-beam at the west end with a groove along the top. The sill-beam was supported on a ground-wall consisting of a single line of stones. The east end of the building had been later cut through and its full length is therefore uncertain. It seems to have continued beneath the later Building 48. The length from the western gable wall to the cut was c 7.8m, but it may have been over 9m long. Estimated width up to 4.90m.

Lying both among the remains of Building 64 and over most of grid-square Q3 was a thin film of fire detritus from Fire VI ranging in colour from black to ash-grey. This layer had been removed in the south-eastern area when Building 476 was erected in Phase 5.1. Around the middle of the southern part of the grid-square a greyish limy substance was mixed with the fire layer. This had come from an irregular depression which may be earlier than the fire. In the south-western part of the grid-square the fire layer ran over the burnt fragments of Building 24, outside whose east wall was a transverse drain, which had been dug close up against the west wall of Building 64.

Building 24 (P3,VII,VIII,VIII.1; P4,VII; Q3,VII,VII.1) comprised large sections of wide floorboards laid longitudinally over transverse joists, ground-walls under the north, east and west walls, and fragments of a sill-beam at the east end. Most of the south wall lay outside the excavated area. The ground-walls to the north and west had been built with rough unworked stones of various sizes in 2-3 courses, while the east wall consisted of stones 8-12cm across, placed close together. The floor of the building had been laid with no structural connection



Fig 38 Levels in the passage between Rows 1 and 2 in Period 3 (1170/71-1198). In the foreground, the widened surface in Phase 3.2. In the background, the original transverse deck from Phase 3.1. Looking west.

with the external walls. Fragments of boards set on edge were found in front of the south, east and north walls, marking the front edge of wall-benches. The gap between the boards and the walls was filled with gravel, and along the east wall sheets of birch bark had been placed between the gravel and the sill-beam. To judge from the layout of the floorboards and the nature of the deposits, there may also have been a wall-bench along the west end, since three boards ran right up to the wall in the centre, presumably indicating a doorway with wall-benches on either side. Building 24 could not have been used for storage like most of the other buildings, but must have been living quarters. Eastern limit at 120.50y on the north side; western limit at c 115y. Length c 5.8m; assumed width 5.4m.

As mentioned above there was a transverse drain connected with Building 24. It had been laid outside the east end and consisted of two boards laid flat on the bottom and a plank on edge resting against a thicker beam which had been laid parallel with the east wall. The drain was closed at the south end in the eaves-drip gap, but the north end was open, with the boards on the bottom continuing under the wooden pavement of the tenement passage belonging to the unburnt Phase 3.1 over Fire VII. Assuming that the drain was contemporary with Building 24, which would seem natural, it provides evidence for the continuity of the buildings themselves and for a two-phase development of the tenement passage in Period 3.

To the west of Building 24 there was a gap of 90cm, apparently paved with boards laid longitudinally, before the next structure, Building 25.

**Building 25** (O3,VIII; O4,IX; P3,VII; P4,VI) was practically identical to Building 24, both structurally and functionally. The ground-walls had all survived, consisting of single courses of unworked stones, and there were remains of an unattached floor laid longitudinally over one layer of floor-joists. The remains of boards set on edge on the north and south sides indicated the presence of wall-benches, which may in fact have run all round the room except for at the entrance, which could not, however, be identified. Eastern limit on the north side at 114.10y; western limit at c 109.2y. Length c 5m; width at the east end c 4.5m.

**Building 28** (N4,XI,XI.2,XII,XIII; N5,XII,XIV; O3,VIII; O4,IX,X) continued the row after a gap of 1.00m, or possibly more on the south side. Like the buildings to both the south and the north it was a frame structure standing on upright foundation posts. Apart from the south-east corner, which had been cut through when Well 2 was dug, most of the foundation posts and the ground-frame had survived. In the middle a longitudinally-laid floor was relatively intact, while in the western part the floor consisted of some partly secondary transverse boards, which may possibly have been laid over the whole floor area. The position of the west wall was unclear, as the building may have continued for a further 2.4–2.5m, but this extension is considered to be a separate unit and has been given its own number, Building 137. Eastern limit on the north side at c 108.5y; western limit at c 99.2y. Length 9.9m; width 3.80m. The south wall had slipped somewhat out of place at the west end.

**Building 137** (N4,XI,XIII,XIV; N5,XII,XIV) was regarded during excavation as a separate structure, but it might equally well have been integrated with Building 28 since the vertical boards marking the line of the north and east walls were directly associated with the north-west corner post and west wall of Building 28. That it has been numbered separately is because the remains were clearly part of a sub-floor enclosure beneath a structure with an elevated floor, whereas the floor of the neighbouring Building 28 lay directly on the contemporary ground surface. In addition to the posts at the north-west and south-west corners, nearly all the vertical boards from the east wall and part of the north wall had survived. The structure was built up against Building 28 to the east. Eastern limit on the north side at c 99.3y; western limit at c 97.3y. Length E/W c 2.6m; width c 3.4m.

Building 137 marked the end of the use of foundation posts in Row 3. Further west the foundations continued as small or medium-sized substructures and the front lay at around 79–80y c 16m to the west. As these log foundations under Rows 3 and 4 formed a structural entity with the rows to the south and north, they will be commented on after Row 4 and the tenement passage have been described.

#### Row 4

Four buildings were recorded in this row: 62, 34, 35 and 135. The easternmost part of Building 62 had been cut

through by burials in the same way as Building 64 in Row 3 (cf p 71 and the comments on Rows 3 and 4 in Phase 4.1, p 66).

**Building 62** (Q2,IX.1,X; Q3,VII) comprised the remains of a burnt floor laid longitudinally and a single row of stones forming the western ground-wall, as well as parts of the southern and possibly also the northern ground-walls. The building had been cut through by the concrete foundations of a modern construction and by a recent drain running down the site and also by a medieval burial. Its eastern extent is unknown, but is estimated to have been around 126.8y on the north side. The west wall was at 123.00y. Maximum recorded length c 4m; width c 4.6m.

The first 4m west of Building 62 contained no structural remains. The terrain sloped markedly and this created serious problems in interpreting the remains of buildings further west. Here lay the relatively well-preserved remains of an initial unburnt phase in Period 3, Phase 3.1, with Buildings 33 and 35, and a subsequent burnt phase, 3.2. It was the remains overlying Building 33 which proved problematic. These consisted of four contemporary re-used posts from the south wall probably of a single building. In spite of the fact that any surviving remains from an overlying burnt building must have been practically entirely removed, it has been inferred that there were two separate building phases on the basis of the two western posts, the tops of which were a little higher than one of the joists belonging to the unburnt Building 35. This would indicate two successive building phases over the western part of Building 33, a situation which has also been decisive in our interpretation of the relationship between the two eastern posts and Building 33. The burnt building is numbered 34.

**Building 34** (P3,VII,VIII) was indicated by four posts in an unusually straight line covering a distance of 5.60m. The actual length of the building could not be identified. It may have been 4.2–4.3m wide.

The next building must have been removed after Fire VI, just like the major part of Building 34, since there were no identifiable remains from a burnt structure overlying the unburnt Building 35. The site may well have lain open for a time. There was a gap of 8.5m before the next structure, Building 135, which would have allowed room for quite a sizeable building.

**Building 135** (M3,IX,X; N3,XI; N4,XI.2,XII; O3,IX) had been a log-built structure, whose burnt remains consisted of large parts of the lower section and a transverse floor over two layers of massive beams and the sill-beams supported on vertical posts. Eastern limit on the north side at 103.4y; western limit probably at 95.60y. Length 8.00m; width at east end 4.45m. The southern sill-beam projected c 1.5m beyond the south-west corner, which may indicate that the building continued beyond the assumed western limit, but there was no other evidence to support this.

With Building 135, as with Building 137 to the south, the use of upright foundation posts ceased and horizontal log foundations took over. Towards the back of this front

section of the row, in grid-squares M4 and M5, the four or five small foundation substructures belonging to the level which had burnt in Fire VII (27, 28, 32, 33 and 34) were enlarged. Adjustments were made so that they were the same height and they were then joined together with overlapping beams. A similar thing happened further west, where altogether 13 newly constructed foundation substructures of small-to-medium size formed the basis for a continuous foundation under both rows but with no physical contact with the rows to the south or north. The new substructures, which were filled with organic deposits, were arranged in three parallel rows from east to west. The southernmost row consisted of substructures 13, 10, 7, 4 and 3, and the row on the north side contained substructures 14, 12, 9, 6 and 2. Down the centre, three smaller structures were placed: 130, 131 and 5. Substructures 7, 4 and 3 on the south side had been constructed on top of a larger log foundation, Kar 132, in which massive logs had been used, but only the southern edge of this was recorded and it was never excavated. There are nevertheless grounds for thinking that there had been one, or possibly two, large stabilizing structures beneath the whole front. Kar 2 and Kar 3 marked the waterfront itself and were united at the top by a couple of layers of logs placed at right angles to each other and strengthened in front by six massive posts locked at the top in the traditional manner with horizontal beams which carried the wooden deck. Two horizontal beams had survived *in situ* and part of a third one was recorded. The depth of water in front of the wharf is unknown, but the base of the front substructures lay at c -1.4m, which would indicate an original depth of 1m or so. On the basis of a traditional width of the wharf of 3.5–4m from front to back, the distance to the first identifiable building was c 15m, which would give ample room for two further buildings in each row.

In contrast to the double tenement to the south, where the foundations showed a marked break in alignment around 96.00y where the upright posts gave way to horizontal logs, this double tenement followed a straight line from front to back. It seemed, however, constricted in a strange way between the rows on either side, so that at the waterfront it only measured 8.2–8.3m across, whereas 18m further back it was 11.8–11.9m across. This marked narrowing seemed to have taken place on the south side. The unusually narrow waterfront was made all the more unfavourable in practice by the erection of a separate quay on posts in front of the property to the south, so that it was left set back and a little askew compared with its southern neighbour. It terminated at c 80.4y on the south side and c 2m further forward on the north side.

#### Passage between Rows 3 and 4

Remains of a tenement passage had survived only in the central section in the N, O and P grid-squares, where they were laid directly over the remains of an unburnt passage surface belonging to Phase 3.1. Towards the east they consisted of relatively thick boards laid longitudinally over similarly thick joists; in the centre and towards the west, timbers of smaller dimensions had been used; and at the far west transverse planking was used. The width of the passage varied from c 1.5m at the east end to c 3m to the west.

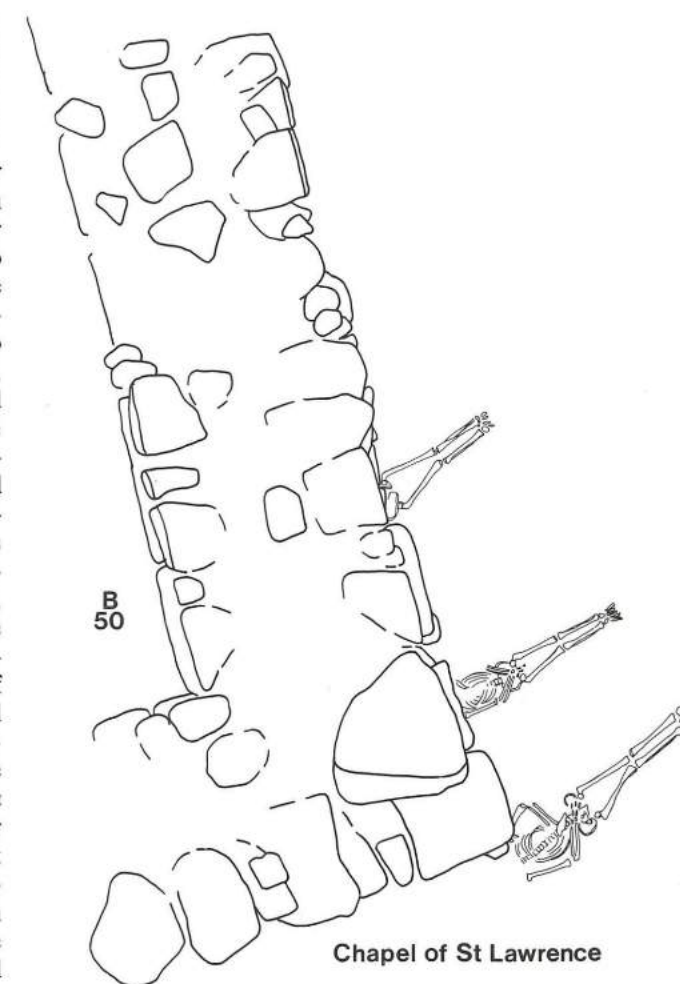


Fig 39 The south wall of St Lawrence's Church overlying several levels of earlier graves.

#### St Lawrence's Church, Building 50 (pl 11)

Down through most of the levels the ruins of St Lawrence's Church and the St Mary's Guildhall marked the rear boundary of the secular buildings in the northern part of the site. Around the time of Fire VI (1198), however, the site of the Guildhall could not have been developed. St Lawrence's on the other hand was affected by the fire. The deposits from the fire ran generally 20–25cm deeper than the fire-layer identified under the plinth course on the north and west sides of the Guildhall and it spread towards the west and south-west into the adjacent grid-squares Q2 and Q3. From the south-west corner of the church it could be traced over a distance of c 3m to the south and west.

Our interpretation of these fire-layers as Fires V and VI in the established sequence is based on interpolations from the sections and not on the identification of continuous traces. Nevertheless, the results fit extremely well with what can be deduced from the documentary sources. According to the Town Laws (NgL III, 135) the Guildhall was obviously completed by 1276 and is therefore thought to have been built after the 1248 fire, our Fire V. The earliest documentary reference to St Lawrence's is in 1206 (Konungasögur, 221) and it would surely have been affected by the fire in 1198, our Fire VI.

Our interpretation of the fires on purely stratigraphic grounds is strengthened by the clear trends in an admittedly limited amount of pottery from the fire-layers in the vicinity of these two buildings. Fire-layer VI contained 5 sherds: two of Pingsdorf, one of Andenne, and two pieces of Scarborough ware. Fire-layer V also produced 5 sherds, but these were exclusively Scarborough ware, the latest of these pottery types. The first group tended towards 1200, the second group towards the middle of the thirteenth century (analysis by H Lüdtkke).

To illustrate the stratigraphic/chronological situation further, it can be mentioned that under the south wall of the church near the south-west corner there were several layers of burials and also the remains of horizontal wood-work 50–70cm below Fire VI. There were at least four levels of skeletons in the bottom layers, over which there lay two levels of burnt wood, and there was a further burial above this (fig 39). All these levels were cut through by the foundation trench for the church and must therefore be earlier. The wood, which covered an area of c 1 sq m, consisted of transverse planks lying on two longitudinal joists in the upper layer and transverse planks again laid on longitudinal beams below. These layers were covered with a compressed deposit of wood-chippings. The planks and joists themselves were not burnt, but between them and on both the east and west sides there were burnt fragments of wood and patches of a regular fire-layer on the same level. This, together with the wood-chip layer, would suggest that these are the remains of structures from the time of Fire VII in 1170/71. On comparison with the layout in the period immediately following, it is reasonable to interpret the remains as belonging to a passage, but regardless of the actual interpretation, it apparently indicates a temporary break in the use of this north-western part of St Mary's churchyard, since at least one skeleton predating St Lawrence's was found partly overlying the planking. The erection of St Lawrence's ought therefore to have taken place before the late 1180s at the latest.

How the three levels of graves below the wood should be interpreted is open to question. On the one hand it is reasonable to assume that they represent a certain period of time, since it is difficult to accept that the same spot in this peripheral part of the churchyard would have been used very frequently. On the other hand irregular circumstances could naturally have affected an area like this at a time of turbulence and strife. We know that later in the twelfth century people who had been slain in local battles were buried in St Mary's churchyard (Sverres saga, 175), and they would almost certainly not have been buried in the central and normally preferred parts of the churchyard close to and even inside the church itself. Through the Christian rights confirmed by the laws of the Borgarting and the Eidsivating, we know that social status was a determining factor in the location of a person's grave in a churchyard (NgL I, 344, 359, 368, 390, 404; cf also Eide 1973, 214, and refs). It must therefore be assumed that the majority of the population were buried in the peripheral parts of the graveyard. Although there is no evidence to show how the graveyard was used in detail, one can reckon in our case that the outer areas would have been taken into quite normal use from the moment the graveyard was consecrated.

As there were 3–5 levels of graves throughout the whole of the south-eastern part of the cemetery (immediately

west of, beneath, and east of the Guildhall) it must surely suggest that the earliest graves in this area date back to the mid-twelfth century. As the burials only continued for a short distance under the south wall of St Lawrence's, this church must have been built in the north-west corner of the cemetery, and this is also confirmed by the documentary references (Sk 277, Eirsp 455, Fnr 225). But this location does not fit with the clear pattern of property boundaries indicated by the tenements to the west, despite the fact that the church seems to have been erected on previously developed land.

**Building 50, St Lawrence's Church** (R1,I–VIII; R2,I–VIII,XI–XVII; S1,I–IV) consisted of stone walls 1.5m wide surviving to a height of 90cm, and areas of a flagstone floor above the level of the plinth course. The layers beneath the stone paving included deposits of clay, tile fragments and pieces of wood, possibly from a floor level, and also two fire layers. A modern sewer trench broke through the walls to the south-east and north-west. In the northern part of the west wall were the remains of a doorway, still with its dressed soapstone jambs intact. Minimum width of doorway 1.80m. External dimensions N/S c 9.7–9.8m; E/W 8.2–8.3m.

#### Row 5

The first 4m west of St Lawrence's were covered with a thin deposit of gravel and charcoal with no remains of structures. Over the next 4–5m lay the disturbed deposits from a fire, partly reddened by fire and mixed with a lot of stones of various sizes, as well as a brown peaty deposit and some burnt boards and fragments of beams with a general N/S orientation. In parts of this area the remains from Fires VI and VII appeared mixed up and contained also a lot of redeposited material. It was nevertheless possible to distinguish parts of a very fragmentary structure, Building 67.

**Building 67** (Q1,X,X.1; Q2,XII.2,XII.3) consisted mostly of parts of the western ground-wall, the remains of a transverse row of stones a good 2m to the east, and probably also some transverse boards and beams. Eastern and northern limits unknown; western limit on the south side at c 120.2y. Maximum recorded length c 2.5m; maximum recorded width c 3.8m.

Immediately west of Building 67 the deposits from the fire had been removed over a distance of c 50cm as far as the badly burnt remains of the next structure, Building 63.

**Building 63** (P2,V.5; Q1,X,X.1; Q2,XII.1) comprised the badly burnt remains of a transverse floor, apparently laid detached from the walls, and a layer of foundation beams. About mid-way along the east wall were two burnt posts which must previously have served some purpose. Outside the east and south walls were the remains of planks set on edge. Eastern limit on the south side at c 121.6y; western limit estimated at c 118.2y. North wall outside the excavated area. Estimated length c 3.5m; maximum recorded width c 4.3m.

**Building 37** (O2,VIII,IX; P2,VI) lay immediately west of Building 63 and consisted of relatively massive joists laid transversely, possibly with the re-

main of a couple of floorboards. There is some doubt whether two posts recorded beyond the easternmost joist really belonged to this building. Eastern limit on the south side at 117.80y; western limit at 106.4–106.5y. Length c 11.9m; width c 5m.

There was a gap 70cm wide between this building and the next one.

**Building 133** (N2,V.1,VI; N3,XI; O2,IX,IX.2; O3,IX) had been a relatively small structure erected on posts and with a detached floor. It was turned slightly towards the south. Posts with a rectangular sill-beam partly in place were recorded on the west side. There were also fragments from two courses of wall beams. Eastern limit on the south side around 17.6x/106.4y; western limit at 102.50y. Length c 4.2m. Maximum recorded width 4.80m, estimated width c 5.9m.

**Building 134** (M2,VIII,IX; M3,IX,X; N2,VI,VI.1,VII; N3,XI,XII) was practically touching Building 133. It had sill-beams supported on posts, which were for the most part intact. Inside were the remains of six posts in two rows which had carried the floor. Along the sill-beams were the remains of boards and vertical stakes at irregular intervals, closest along the west wall. Eastern limit on the south side at 102.40y; western limit at 96.80y. Length 6m; width 5.60m.

**Building 473** (M3,IX,IX.3; N3,XI) lay close up against Building 134 and consisted of a relatively well-preserved floor to the west and south overlying massive joists, which were cut to rest on posts at the east end. The central parts of the building stood on a large foundation substructure, Kar 127 (cf Phase 3.1). The southern and western limits of the building are uncertain. It may have been reduced in width on the south side after the fire. The floor at the west end may also have been supported on posts like the east end. Assumed eastern limit on the south side at c 96.7y; western limit at c 91.6y. Assumed length c 5.3m; maximum recorded width c 5.5m.

Remains of Row 5 ended with Building 473, but the level continued a further 15–16m in the form of continuous foundation structures, which will be commented on after the northern row of this double tenement has been described.

#### Row 6

In the cutting to the north of St Lawrence's Church, the 7–8cm thick layer of deposits from Fire VI was separated from Fire VII by an equally thick layer of wood-chips. The end-fragment of a beam was the only structural feature which could be identified and there must therefore be some doubt as to whether this part of the site really had been built on in this phase. Considering the lively building activity which was otherwise characteristic of this period, it is difficult to imagine that this area lay open in this phase when it had been built on both before and after. It is not impossible, however, that in connection with the building of St Lawrence's there was a need for access from the north at this time either over this part of the site or just to the west.

The western part of the Row had to be excavated hastily with varying opportunities for site-recording, and the available information must therefore be treated with a certain reservation. It was clear, however, that in Row 6 were the remains of a building on foundation posts, situated on the north side of a wide passage which linked it with Row 5 and so formed a double tenement. Eleven or possibly twelve posts were recorded, eleven of which formed an irregular row stretching for 18m. They were apparently contemporary and must have belonged to one, two, or even three, buildings. For practical reasons, the easternmost three posts have been separated from the rest and identified as the remains of one structure, Building 116, while the rest have been placed together as part of Building 115.

**Building 116** (O1,III,IV) was associated with three massive posts covering a total distance of 3.50m, standing alongside a contemporary passage.

**Building 115** (N2,VI,VIII.1; M1,I; M2,VIII.1) was associated with posts, which at the time of excavation were thought to belong to two separate buildings, 115 and 120. There would seem to be little grounds for splitting up a group of posts which must have been contemporary, judging from their levels. Between two of the posts in the middle were the remains of vertical boards, which may have been part of a plank wall enclosing the sub-floor area. Two boards associated with another post may indicate a similar plank wall on the north side. Total length 9.50m; width 5.40m.

#### Passage between Rows 5 and 6

The remains of the tenement passage in the form of surface planking, joists and supporting posts had survived for a distance of 17–18m. In the best preserved section, alongside Building 37, it was 3m wide and consisted of transverse boards let into and plugged to longitudinal joists. It ran right up to the buildings of Row 6 on the north side. Towards the middle of the site there was a passage-like extension 2.30m wide on the south side, where longitudinal boards were carried on transverse joists laid at regular intervals without any apparent contact either with the adjacent row or with the passage proper. The surviving parts of this stretch of paving were limited to the western part of Building 37, and it is therefore tempting to regard this as part of an external gallery attached to this building at ground level, but this hypothesis is weakened by the fact that outside the eastern part of this building was what appears to have been a well (Well 15). In the part which had survived, the tenement passage lay directly on the contemporary ground surface with a plank-lined drain down the centre. Towards the west, however, outside Buildings 473 and 134, it was supported on posts. The passage could only have been in use for a relatively short time, as there was no evidence for the replacement of planks except in a couple of places.

#### Wells 15, 14, 17 and 8

A complex well construction was recorded between the passage and Building 37, consisting of four separate sections, which were labelled 15, 14, 17 and 8. It had been constructed in this sequence and probably lasted through-

out Periods 3 and 4. The oldest two elements were built with horizontal planks slotted into corner uprights and they had functioned as a well; the upper two elements were formed with barrels and may have formed a later and final stage in the use of the well.

It was not possible to relate the upper edges of the different sections to any of the neighbouring structures (the passage and buildings in Row 5), since the original top edge of the well could not be identified. As far as could be seen it had been cut through during the removal of the overburden by machine. The situation chronologically speaking is therefore somewhat dubious.

The person who excavated the feature had related Well 15 to Building 41 and Phase 2.2, which burnt in Fire VII. However, such a relationship is unrealistic, since the well, which was located c 1m outside the north-east corner of the building, would have stood well above floor-level. While its base was 30cm lower than the floor, the surviving upper section reached to a height of 65cm above it.

A joist in the passage belonging to Phase 3.1 had been cut through, and it would seem feasible to connect this with the construction of the earliest Well 15, since this was the largest and the deepest. The well-shaft itself ran under the joist, but this could easily be due to the slipping of the gravel deposits through which it was dug, confirmed perhaps by the rather irregular nature of the shaft.

An association with Building 37 from Phase 3.2 could just about be acceptable. The well lay outside the line of the passage and there was sufficient room between it and Building 37 in Row 5. In this case, what was thought to have been a gallery along the side of the building at ground level must have been limited to the western half of the building.

In Period 4 ending in 1248 there was also room for a well between the passage and Row 5. After this the situation on the site was less clear, but it seems that the passage ran alongside the buildings in Row 5, so that a well from this time onwards would have come within the southern half of the passage. This would undeniably have been a poor arrangement.

From these considerations, it would seem most reasonable to associate the well sections with Phases 3.2, 4.1 and 4.2, in other words to the period between c 1190 and 1248, so that the earliest well, 15, built with horizontal boards, belonged to Phase 3.2 and burnt in 1198. After this, Well 14 was built with the same type of construction. There would seem to be no grounds for abandoning the four-stage development noted by the excavator, but the dating has to be adjusted as it was based on a misunderstanding of the respective phases and their mutual relationships.

#### Wells 13, 12 and 9

Immediately north of the passage, either just inside the line of the south wall of Row 6 or in an open part of the site, there seems to have been a well in this phase, or possibly from the preceding Phase 3.1. Designated Well 13, it was constructed with split logs notched together at the corners (laft construction). Nineteen or twenty courses were preserved, giving a total depth of c 1.6m. The well-casing was square with sides measuring 90–100cm internally.

A stone lining around the upper section of the well-casing was clearly contemporary and could be placed be-

tween Fire-layers VII and VI. Well 13 is therefore regarded as going out of use with Fire VI in 1198, after which it was replaced by Wells 12 and 9 (cf pp 53, 65 and 67).

#### Foundations and waterfront in Rows 5 and 6

As in the other rows in this phase, the foundations changed from simple ground-walls or sill-beams laid directly on the ground in the rear section of the site to upright posts in the middle section and finally to great log substructures linked together across the full width of the property at the west end. The unifying nature of the foundations at the front served to emphasize the significance of the double tenement as a structural entity.

Under Rows 5 and 6 we found once again the same features which had been observed to the south, but in this case the development began at the back with a great combined foundation substructure, Kar 19, stretching the full width of the property, with smaller units – apparently ten in all – placed in two rows in front – in other words the opposite sequence to that used in Rows 1 and 2. There was the same skew alignment as in the foundations under Rows 3 and 4, but these foundations were significantly wider, being c 17.6–17.7m compared with Rows 3 and 4, where they were scarcely 10m wide. And once again, there was no structural connection with the properties on either side. The disposition of the waterfront itself is not known, as only a fragmentary corner of the front south-western substructure, Kar 1, had survived. The distance back to Building 473 in the southern row was c 15.5m, and on the assumption that the wharf was c 3.5m from front to back, there would have been room for two reasonably-sized buildings in front of Building 473.

#### Row 7

To the west of St Lawrence's Church, the northern edge of the excavations followed more or less the south wall of Row 6, but in the eastern part of the M grid-square the cutting was extended northwards with a trench measuring 2.20m wide and c 5m long. In this trench, one, or more probably two, buildings (477 and 500) were recorded, belonging to a seventh row. They had been erected on upright posts.

Building 477 (M-1,I.1; M1,I.1) consisted of massive posts at the north-west and south-west corners, and closely-set stakes under the west wall and adjacent areas of the north and south walls. Maximum recorded length c 2m; width 4.4–4.5m.

Just to the west of the south-west corner of this building was a post which would appear to mark the south-east corner of an adjacent building. Running northwards from this post was a row of five vertical planks, clearly marking the line of a wall, but the structure lay close up against the edge of the trench and there were no other finds associated with it. Nevertheless, the probability that it was a building is so great that it has been allocated a separate building no., Building 500. The width of the row can be established from Building 477, and as there was only a gap of scarcely half a metre separating this from Row 6, we are presumably dealing with the south row of a new property, possibly a double tenement. We shall be returning to this point later.

#### Row 8 and the St Mary's Church Road (pl 12)

In connection with Building 477, it is relevant to consider the excavation which the Central Office of Historic Monuments and Sites undertook in 1979 in the area to the north-west of our site under the joint direction of Clifford Long, Lyder Marstrander and Siri Myrvoll. It involved a small area out in the street of Dreggsalmenning, where there was to be an access ramp to the garage under the SAS Royal Hotel, which was under construction on the Bryggen site. The main feature of this excavation was a stretch of road up to 15–16m long with at least seven different levels, flanked by buildings with the traditional NNE/SSW alignment.

A detailed account of this excavation will not be attempted here, since the site documentation does not allow it. The most important aspect for us is the existence of the road itself with its constant width of c 4.5m and an orientation which apparently remained unchanged throughout the whole of the medieval period (Marstrander 1983, 131–32). There would seem to be general agreement that this is a section of the road referred to in the Town Laws as *Mariakirkealmennning*, the public thoroughfare to St Mary's Church (Helle 1982, 196). This road formed the northern boundary of the area of maritime commerce defined in the Town Law, and it is thus of decisive significance in the identification of the various rows of buildings in the northern part of the site and in relating them to documentary sources. It should be mentioned in passing that for the past generation the name of "Mariakirkealmennning" has been used for the road on the north side of Søstergården, a misunderstanding which seems to have started with Christian Koren-Wiberg, who maintained that The Old Church Road followed the same line as "Mariakirkealmennning" – the St Mary's Church Road (Koren-Wiberg 1899, 265–66; 1908, 4–5). It seems clear from the context of the Town Law, however, that the latter must have lain on the north-west side of the church, and probably also north of the churchyard. This has now been confirmed by the discovery of this new street.

It has been mentioned that the excavated stretch of road remained basically in the same position throughout the Middle Ages, but if one tries to project its alignment towards St Mary's, the result will vary significantly depending on what is used as the starting-point. The paved area can hardly be used, as the limits on either side against the rows to the north and south were somewhat irregular. The facade of the buildings should provide a better basis, despite the fact that there are several documented examples where the use of a single building would give an incorrect result in determining the alignment of a road. In this case there is not much choice. It would have been natural to have taken the Phase 3.2 level in the road, since this was the phase which extended furthest north in our excavations, but this level only produced 3–4m of the waterfront and no remains of the street.

As a starting-point for a reconstruction of the road alignment we have selected Level IV, which was the most intact level. It seems to be the equivalent of our Period 5, 1248–1332 (Marstrander 1983). However, it was discovered that the alignment of the road to the east varied according to whether one projected the building line on the north side or that on the south side. From the drawing, the building line on the north side was quite unsuitable as it did not fit in with the traditional alignment of buildings and in the area of St Lawrence's Church it con-

verged with the projected alignment of the southern building line. When the latter was used as the basis for projecting the line of the street, it presented an alignment which was more in keeping with the traditional pattern, meeting the present churchyard wall to the north-west of the church.

This would suggest that the southern building line probably gives a more suitable basis for reconstructing the line of the street, since the outer limit of the churchyard on this side can have remained unchanged since the Middle Ages. On the other hand it is doubtful whether one should reckon with a completely straight alignment, since it is difficult to allow room for the expected eighth row on the north side of Building 477. If the street ran alongside this building, it would have had a rather irregular alignment with a marked change in direction towards the south-east before straightening out to run clear of the churchyard.

It is also difficult to imagine that Buildings 477 and 500 in Row 7, which seemed to be rather insubstantial, could have had projecting galleries on the upper floor, and even if they did, this would have taken up no more than a third of the hypothetically available space between the building and the road. On the other hand it is possible that there were transverse stairs from the street to the buildings in Row 7, such as had been recorded between the tenement passage and Buildings 66 and 41 in Phase 2.2 (see fig 44).

This would imply that Buildings 477 and 500 represented a single row on the south side of the St Mary's Church Road and one would therefore expect a south-facing row on the north side of the road. The situation, however, is very reminiscent of the layout in Søstergården, where the tenement passage was eliminated at one point possibly because a wide thoroughfare ran alongside the northern row, which was therefore orientated towards it. One cannot therefore ignore the possibility that Rows 7 and 8 ran side by side with no passage between them and that Row 8 faced on to the street. Against this is the fact that there was no evidence for a passage serving Row 7.

Ideally, there ought to have been room between Row 7 and the road for both a tenement passage and a second row of buildings of the same size as Building 477. There was evidence for this at this level in Søstergården, which was of similar dimensions. With a certain adjustment to the line of the street, this solution is feasible and we must take it as being the most likely arrangement. We shall later (p 109) consider how the location of the St Mary's Church Road and the possibility of an eighth row helps to make sense of the documentary references to buildings in this area at various times.

#### Phase 3.1, unburnt level under Fire VI (pl 13)

In Rows 1, 2, 4 and 5 on the Gullskoen site the remains of unburnt buildings were found underneath the buildings which had burnt in Fire VI and overlying those which had burnt in Fire VII. They form thus Phase 3.1, but the degree to which they had survived varied greatly both within the individual row and from row to row. Of the 16 buildings which were apparently erected after Fire VII, the following seven appear to have been replaced before the next fire:



- Row 1 Building 478;
- Row 2 Buildings 479 and 480;
- Row 4 Buildings 33 and 35;
- Row 5 Buildings 481 and 493.

Representative sections of the waterfront dating to the first phase following Fire VII were also recorded.

#### Row 1

Structural remains in the southern part of Rows 1 and 2 consisted mainly of foundation posts. Serious problems were encountered in separating these from the previous and following periods, and also in distinguishing between the two phases in Period 3. During excavation there was some confusion for a time on account of an extensive layer of small stones measuring between 4–5cm and 8–10cm across which lay 15–25cm beneath Fire VI. As the stones were covered with a clay layer which contained thin layers of ash and charcoal and overlay a deposit of woodchips increasing in thickness westwards, it was assumed for some time that the stones were associated with the level which burnt in Fire VII. As the excavations continued, it was found that the sooty deposit was only a local feature and that Fire VII lay at least 20cm deeper. The thick layer of woodchips must reflect an initial construction phase following Phase VII, in other words Phase 3.1, with the stone layer forming the final activity in this phase, since it spread across the site regardless of buildings.

The division between Row 1 and Søstergården in the O and P grid-squares was not certain as the overlying layers had been removed by machine in 1971–72, but the assumed dividing line seemed nevertheless easier to recognize than in Phase 3.2. In Row 1 there were the remains of two massive foundation posts at the east end but these have not been given a building no. A group of posts standing 6–7m further west formed a regular pattern and have been interpreted as the foundations of a separate building, 478.



Fig 40 The passage between Rows 1 and 2 supported on upright posts, and the foundation posts of Building 478 in Row 1 capped with cylindrical crowns. Phase 3.1. Looking north.

Many of the posts were capped with a wide cylindrical crown.

With reference to the comments on Row 1 in Phase 3.2 (p 68), and to the layout at the contemporary level in Søstergården North, the boundary line between Row 1 and Søstergården has been drawn close up against Building 478. The full plan of this rear part of the site should therefore be clear as far as c 96–100y. In this area there was a regular double tenement in Søstergården North, consisting of Rows X and Y, with Building 126 in Row Y. Further west the layout is unknown. Firstly there was a change around 96–100y in the direction of the long axis from the NNW/SSE orientation of the area to the north to the more E/W orientation found further south. Since this change of angle seems to have mostly affected Søstergården North, the result was an unconventional plan with a greatly widened rear section in Søstergården North, allowing for the development of a double tenement here. A consequence of this wedge-shaped site was the lack of sufficient space at the seaward end for the double row to be developed for the full length. One of the rows had to be cut off somewhere. Either all three rows (1, X and Y) were affected or the narrowing of the site was dealt with in some other way. How this was achieved is not really possible for us to see. If the plans of Periods 2, 3 and 4 are compared, it will probably be agreed that it was most likely the western part of Row X which was eliminated somewhere between 96.00y and 100.00y, while Row Y continued, to form the northern of Søstergården's two rows at the seaward end of the tenement. In this case, it is likely that the widths of the row and passage were adjusted, and possibly also the width of the first row of the next tenement to the north. With an almost total integration of the waterfront foundations in this period, it would have been quite feasible to have adjusted the width of the tenement which consisted of Rows 1 and 2.

Building 478 (N6,XII; O5,XIII,XV; O6,IX,IX.2) consisted of eight relatively intact supporting posts, six of which were capped with cylindrical crowns

30–50cm high (fig 40). The building lay 50–75cm to the south of the passage. It was almost square, measuring 4.15–4.45m in length (E/W) and c 4.4m in width (N/S), measured at the base of the posts.

The next 8–10m to the west yielded no structural remains. The transition to the deeper sea-bed in the harbour basin was marked by the use of medium-sized foundation substructures. As these were not in line with the rest of the row, but were disposed across the full width of the double tenement consisting of Rows 1 and 2 they will be described after the comments concerning the second row and the passage.

#### Row 2

The pattern of the development recorded in Row 1 between Fires VI and VII was repeated in the tenement's other row (see p 78). It consisted of an initial phase with a deposit of wood chips, followed by a layer of small stones mixed with soot, then further deposits up to Fire VI. At the eastern end were the remains of two buildings, 479 and 480. To the west the two buildings 475 and 138, which were erected on the wood chip layer and which burnt in Fire VI, were apparently standing throughout the whole of Period 3 (described under Phase 3.2, p 69).

Building 479 (P4,VII,VIII) comprised parts of three longitudinal square-sectioned floor-joists, all supported at the west end on posts. Most of the building lay beyond the eastern edge of the site. Maximum recorded length c 1.4m; recorded width 3.80m.

Building 480 (P4,VII,VIII; P5,XIV) lay close up against Building 479 and consisted of 12, or possibly 13, foundation posts on the east, south and north sides. Assumed eastern limit on the south side at c 116.9y; western limit not identified. Maximum recorded length c 4.5m; length possibly 5m.

To the west of Building 480 lay Buildings 475 and 138, which were apparently built in Phase 3.1 (described under Phase 3.2).

#### Passage between Rows 1 and 2

The passage level which was affected in Fire VI had been laid directly on the unburnt surface from the previous phase, whose remains were unusually intact and well-preserved (fig 41). It had transverse boards of relatively even width laid on joists supported on pairs of upright posts. A stretch of 21m was intact. In the eastern part, in grid-square P5, the joists as well as the boards had been removed at some time and replaced with more poorly fitting boards and joists. The remains of a longitudinally-laid pavement were also found here, possibly representing an initial phase of 3.1 just in this area. Also in the P grid-square, part of a plank-lined drain was found intact under the wooden paving. Further west there had clearly not been any need for a drain despite the fact that the transverse joists in some places at least rested directly on the contemporary ground surface with just a few stones or parts of beams as support between the pairs of

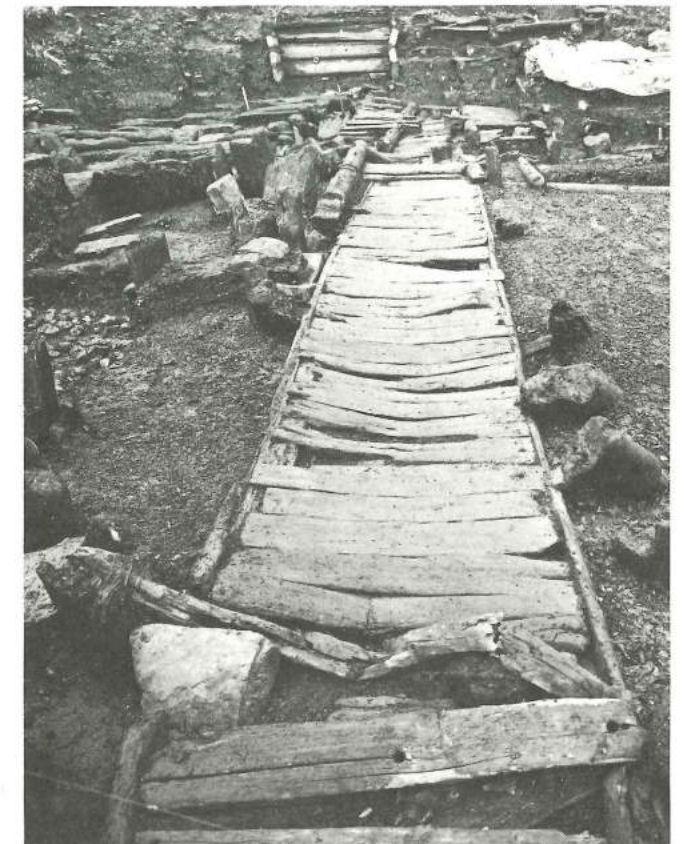


Fig 41 Section of the passage between Rows 1 and 2 in Phase 3.1 supported on upright posts. Looking east.

upright posts. The recorded width of the passage was 1.50m.

To the west the passage had been cut through at the point overlying the edge of the underwater shelf. From this point onwards the foundations of the tenement consisted of medium-sized timber substructures (Kar 128 and Kar 129) lying in line with two comparable substructures (Kar 44 and Kar 46) in Søstergården North (see pl 13). A straight row of posts ran in front of the four substructures. In Søstergården, one of the posts supported one end of a horizontal beam carrying the deck, the other end of which rested on Kar 46. The distance from the post to the front of the substructure was c 3.3m.

There can be no doubt that this feature indicated a traditional quay construction which ran across the full width of Søstergården and Rows 1 and 2 in Gullskoen. Within the Gullskoen tenement there was no physical connection between the posts and the substructures behind, but otherwise the situation was the same. Kar 128 and Kar 129 are therefore interpreted as the front of the tenement in Phase 3.1 and the posts as the contemporary quay. The average distance between the front of the log substructures and the posts was 3.5m.

On the north side, in front of Row 2, there were three more posts c 1.5m in front of the main row, standing 1.65m and 2.40m apart. It is reasonable to assume that these posts indicated a limited projection in this part of the property. It is also likely that it was a later addition, because there were a lot of rope fragments, presumably the remains of mooring ropes, attached to a couple of the posts behind as well as to one of the front posts.

### Row 3

There were no definite traces of an unburnt level in Row 3 in Period 3, but this does not mean that the whole row was built immediately after Fire VI. There was evidence, for example, under Building 25 and possibly also under a part of Building 24, of activities associated with lime working and the dressing of soapstone at an early stage in this period, but it was so limited that it could hardly represent more than a few years. Fire VII, however, seems to have interrupted a more extensive use of the site for these activities, and we shall be returning to this under Period 2. The waterfront will be commented on after Row 4 and the passage have been described.

### Row 4

The first 12m west of St Lawrence's Church produced no structural remains between Fire VII and the buildings destroyed in Fire VI, but the two fire layers in this area were separated by a layer of gravel up to 15cm thick, which dipped markedly to the west with an even more noticeable drop of 8–10cm around 121–122y in the western part of grid-square P2. This extra drop in the layer was even more marked in the lower levels. In the P and O grid-squares lay the relatively well-preserved remains of two unburnt buildings, 33 and 35.

Building 33 (P2,VI,VII; P3,VIII,VIII.1; Q3,VII.1) comprised the ground-frame and a floor of thin, adzed boards laid edge to edge but not plugged to the underlying joists. The latter, which were cut from young trees and had been stripped of their bark, were laid with the thick end alternately to the north and south. On the north, south and part of the east sides were ground-walls with one or two courses of unworked stones of various sizes. There was a disturbed area at the west end containing lengths of rope, fragments of boat boards, etc. Eastern limit on the south side at c 120y; western limit at c 114.4y. Length c 5.8m; width c 4.3m.

Building 35 (O3,IX.1; P2,VII; P3,VIII,VIII.1) was in many ways a direct continuation of Building 33, except that the sill-beams on the north and west sides, and probably also on the south and east sides, were supported on upright posts. The southern sill-beam was also supported on stones placed in between the posts. The floor had been laid detached from the walls. Sections of two layers of floor-joists and of transverse tongue-and-groove floorboards had survived, as well as several fragments of boards. The building may have continued in use in Phase 3.2. Eastern limit on the south side at c 114.4y; western limit at c 105.7y. Length c 9.3m; width c 4.6m.

There were no traces of any buildings belonging to Phase 3.1 under Building 135 to the west and it is therefore assumed that this building dated from the earlier phase.

### Passage between Rows 3 and 4

Continuous remains of an unburnt level in the passage were recorded over a distance of 33m, with sections of a transverse deck laid on longitudinal joists. In the rear

part of the site the joists lay directly on the contemporary ground surface, but in the centre of the site and towards the west they were supported on upright posts. The width of the passage at the east end was 1.8–1.9m, and at the west end it was 3m.

Very little had survived of the front section in front of the recorded remains of the passage. Stone-filled foundation substructures (Kar 27, 28, 32 and 33) belonging to the level which had burnt in Fire VII rose more or less intact c 1.5m above this level. They had apparently been added to, but the front of the tenement itself was supported on rows of posts on the south and north sides, and probably also down the middle. In the south-west this post construction was aligned with the two front substructures, 129 and 128, in the tenement to the south, but it continued north-westwards at an angle of almost 45 degrees so that the front line lay between c 85.6y and 90y on the site grid. That this line must have been the facade was clearly shown by the circumstances in the tenement on the north side (see pp 81–82 below and pl 13).

A row of four posts c 3.5m in front of this facade must be seen as part of the contemporary quay.

### Row 5

In this row any traces of a separate unburnt phase beneath the level which had burnt in Fire VI were few and far from definite, and there is reason to believe therefore that the buildings which were destroyed in Fire VI had been standing throughout the whole of Period 3, except for those areas which lay open for various periods of time for lime-slaking activities.

Under the eastern part of Building 37 described in Phase 3.2 there was a 30–40cm thick layer of dark sandy earth mixed with wood chips. This was clearly differentiated from an underlying layer of pale gravel up to 50cm thick, becoming browner lower down with larger stones 8–10cm across, which contained a series of small, separate concentrations of a heat-reddened burnt deposit with ash. The larger stones increased in number towards the base of the layer, where both burnt and unburnt pieces of wood were recorded before the transition to the underlying continuous fire layer from Fire VII. These deposits of up to 80cm in thickness between Fire VII and Fire VI seemed to be the result of a deliberate levelling up of the terrain, since the building here which burnt in Fire VII (Building 41) appeared to have been founded on an originally sloping surface. After the fire, the burnt remains of the building were first covered with larger stones, then gravel, and finally a little earth.

The transition from the thick gravel layer to the overlying earth and wood-chip deposit marked the construction level for the next buildings. At this level an area of paving with an irregular boundary was encountered beneath the western part of Building 37 together with fragments of timbers, laid partly on gravel, partly on a deposit containing charcoal. The later deposit, which continued to the west of Building 37, was at first interpreted as the fire layer from Fire VII, since it was more or less on the same horizon as the traces of this fire in Row 4 to the south. Excavating more deeply soon showed that the deposit of charcoal alternated with layers of lime and crushed twigs, typical signs of lime-slaking activities, which seemed to have been carried on at the beginning of what we have generally referred to as Phase 3.1 in the area later occupi-



Fig 42 The strong, wide ladder found in front of the wharf (Kar 19) in Rows 5 and 6. Looking north.

ed by the western part of Building 37 and, further west, beneath the later Building 133. The layer of paving mentioned above seemed to mark the edge of this activity after Fire VII and by comparison with a similar construction just to the west, Building 493, we have chosen to interpret it as the remains of a stone floor in a workshop, Building 481.

Building 481 (O2,X) consisted only of an area of stone paving under the western part of Building 37. Extent E/W c 2.5m; extent N/S c 3.5m.

As mentioned above there were also traces of lime-slaking activities after Fire VII to the west of Building 481, where a similar area of burnt paving under a fire layer with the remains of ground-walls on three sides indicated Building 493.

Building 493 (N3,XIII) consisted solely of an area of burnt paving underlying bluish-black fire deposits and framed on the west, north and south sides by simple ground-walls. The paving was separated from the ground-walls by a band of gravel varying in width from c 20cm to c 60cm. The building had not burnt, but the stone paving was very badly burnt. Many of the stones in the paving and one in the ground-wall on the west side were of roughly worked soapstone. It is possible that this simple building enclosed some kind of specialized activity in connection with the extensive reconstruction work after Fire VII. The eastern limit of the building was traced as far as 102–102.5y on the south side. The western limit lay at c 99.8y. Maximum recorded length 2.8–3.2m; width c 3.5m.

Building 481 was followed in Phase 3.2 by Building 134, which like its neighbour, Building 473, burnt in Fire VI (see p 75). The latter building, whose east end was erected on posts, also probably had a predecessor in Phase 3.1, as the middle section appeared to rest on a rectangular foundation substructure, Kar 127, which had been reduced

in height. The general impression was that Kar 127 had survived from an initial construction phase, 3.1, but this remains uncertain. Nevertheless, we have chosen to place Kar 127 in this phase.

### Row 6

There were no separate structural remains in Row 6 belonging to an early phase, and it is therefore assumed that Buildings 115 and 116 date from the beginning of Period 3.

### Passage between Rows 5 and 6

In the tenement passage between Rows 5 and 6 the continuous remains of an unburnt level were recorded over a distance of c 11.5m at the east end, but they could not be followed further west. The surviving remains were generally 2.6m wide, but as in Phase 3.2 there was apparently plenty of room on either side, so the full width of the passage in Phase 3.1 is reckoned to be the same as in Phase 3.2.

The foundations at the west end were rather different from those further south. To what extent there was a single foundation substructure in Row 6 corresponding to Kar 127 is not known, but in front of 127 a continuous, relatively open timber foundation had been erected, Kar 19, stretching right across the tenement, consisting of nine courses of logs. It measured c 18m across (N/S) and 5.4–5.5m E/W, and was orientated so that it continued the line of the tenement to the south. The projecting logs also overlapped here and there, confirming the impression that Kar 19 was contemporary with the front structure on the south side, but there was no other connection between them (cf p 80).

The great timber foundation of Kar 19 gave the impression of having formed the wharf, as a solidly-built ladder 2.80m wide had been placed against it just to the north of the mid-point. The bottom three of its originally four rungs were intact, 70–85cm apart (fig 42). The top rung

would have been at c 80cm above the normal level of low tides, whereas the topmost surviving log in the foundation substructure was at c 45–50cm, suggesting perhaps that the foundations had been reduced in height by one or two courses of logs. This would mean that the ladder originally stood at a steeper angle. When excavated it leaned at c 45 degrees to the front of the wharf with its base at least 4m out. Such a slack angle would seem to be both unusual and impractical, and it is quite possible that it originally leaned at a different angle. It should be pointed out here that the front of the substructure did not really look like the front of a wharf, as the longitudinal logs stuck out over half a metre in several places. In the excavated area to the south, the remains of four deeply buried posts were found in front of Kar 19, and it can therefore be assumed that there was a quay standing on posts in front of the southern half of the tenement at least. The greatest distance to the posts was c 3.5m, and if this indicated the width of the quay from front to back, it would not be impossible that this ran the full width of the tenement – also past the ladder, which would then have stood at a more upright angle. However, there was no evidence for any other posts, which seems strange in this case, since it would imply that in the area where the ladder was found the front of the wharf was pulled further back.

### Summary, Period 3

Almost all the buildings belonging to Period 3 remained standing throughout the whole of the period, except for seven which were replaced with new ones. The period covers therefore two phases, 3.2 and 3.1. With regard to the layout, this period was basically the same as the later levels, but this was the first time during the excavation of this site that the remains of buildings were encountered which had survived with a rich variety of detail. But even if the details varied from one structure to the next, the general layout appeared to be well adapted to the nature of the site. The buildings appear therefore to disclose time-honoured traditions.

Several features attract the attention. First and foremost – and most significantly – the double tenement stood out as a structural or owner-based entity, the rear areas less densely built up, but the elements clearly united at the front by the foundations of the wharf.

In this period we could see Rows 3 and 4 and Rows 5 and 6 as double tenements beyond any doubt, even though the sixth row was only partially present. Row 1 was also fragmentary in this period, but it was nevertheless joined to Row 2 by a tenement passage of normal dimensions, forming a third double tenement. Admittedly, it did not have a clearly defined uniting wharf foundation like Rows 3/4 and 5/6 since it was integrated with Søstergården North, but it nevertheless gave the general impression of being a double tenement.

The fan-shaped layout which was recorded in the upper levels and had been followed back through the centuries did not exist in this early stage, or else it took on a different form. In the central and rear parts of the site the rows were all running parallel with passages of regular width, and this also applied to the front sections of the four northernmost rows, except for the slight narrowing at the seaward end of the double tenement 3/4. The irregularities in the layout had been transferred in some way to Rows 1 and 2 and to the boundary zone with Søstergår-

den. In Rows 1 and 2 the wharf and its foundations were a direct continuation of those in Søstergården's two rows to the south, but at the rear of the site Rows 1 and 2 and Søstergården North deviated from the east/west orientation of the rows further south and took on the more NNW/SSE alignment of the buildings to the north. To judge from the circumstances, it seems that adjustments to the area happened in Søstergården North, since what had been a double tenement to start with went over to become a single row, Søstergården North, in the later periods.

The plan of the site also provides an instructive picture of the wealth of detail which lay behind an apparently stereotyped layout. This variation was most clearly revealed in the different ways in which the front of the tenements were built.

In connection with the description of Søstergården structural details were presented which seemed to disclose a certain rivalry concerning the valuable footage of the waterfront (see vol III, part 1, 113,119). We appeared to have a parallel situation on the Gullskoen site in Period 3, and in particular in Phase 3.2, in that the waterfront in Rows 3 and 5 was unreasonably constricted on both sides compared with the width of the rest of the tenement.

Another structural feature which was seen even more clearly in this period was the use of post-foundations, especially in the earlier part of the period. The adaptation to the natural configurations of the terrain was particularly noticeable here through the differential use of the various foundation types, from the simple horizontal log foundations laid on massive substructures at the rear of the site, through post foundations on the part of the site covering the original beach zone, to the various kinds of connected log substructures laid on top of vast deposits on the deeper sea-bed beyond the edge of the underwater shelf.

In Phase 3.2 this was the first time during excavation that a seventh row was recorded. As it was only separated from Row 6 by a narrow eaves-drip gap, it could represent the southern row of the next double tenement.

Towards the end of the period St Lawrence's Church was built in the rear part of the site. It stood partly on previously undeveloped land and partly in the north-west corner of St Mary's churchyard. Burials from the early phase covered the whole of the excavated area south of St Lawrence's, running underneath the later St Mary's Guildhall.

Throughout the whole of the period, but especially in the earlier phase and particularly in Row 5, an extensive activity in connection with the slaking of lime and dressing of stone was carried on.

A couple of the buildings in this period had wooden floors and earth-filled wall benches and it is reasonable to regard them as places of assembly.

There were several buildings supported on upright posts whose sub-floor area was enclosed to form a cellar.

### Period 2

#### Phase 2.2, burnt in Fire VII (1170/71) (pl 14)

The detritus from Fire VII ran as a continuous layer throughout the full length of the site as far west as the edge of the underwater shelf around 95–96y, varying in

thickness from 2–3cm to 20cm. It was separated from Fire VI by deposits which increased in thickness from c 45cm at the rear of the site to c 100cm at the west end. These deposits contained concentrations of wood-chips, earth and moss and they appeared to continue westwards under the foundations of the buildings rebuilt after the fire.

Apart from Row 4, where on the whole only occasional remains of posts had survived, and Rows 6 and 7, which could only be documented by their foundation substructures, the remains of buildings were clearly recognizable on the ground, and in some places they were very well preserved. This level comprised 20 buildings:

- Row 1 Buildings 483, 484, 485 and 486;
- Row 2 Buildings 42 and 494;
- Row 3 Buildings 487, 43, 488, 40, 489 and 490;
- Row 4 Buildings 502 and 498;
- Row 5 Buildings 499, 66, 46, 41 and 38;
- Row 6 Building 210.

#### Row 1

Even though the structural remains were limited to foundation posts, their form and partly also their arrangement were such that it was possible to identify at least four separate buildings, 483–486.

Building 483 (P5,XIV) consisted of two, or possibly three, foundation posts with abutting vertical wall-planks marking the north-west corner of an elevated structure with a plank wall enclosing the space beneath the floor. An area of c 1m x 2m of the building lay within the excavations.

Building 484 (O5,XIII–XVIII; O6,IX–XI; P5,XIV–XVII; P6,X,XI) comprised 10 foundation posts possibly belonging to a single structure. Eastern limit of the south wall around 116y; western limit at c 111.1y. Length c 4.8m; width 3.7m.

Building 485 (N5,XII,XV; O5,XIII,XV–XVIII; O6,IX–XI) was indicated by a group of seventeen posts which structurally and stratigraphically appeared to indicate an entity. Length c 5.5m; width c 3.8m.

To the west of Building 485 there were the remains of six posts which without doubt were related to one building, 486. Like the three buildings described above, this lay 25–40cm to the south of the tenement passage. At its west end it was probably attached to one of the stone-filled substructures, or caissons, Kar 40, marking the seaward limit of the row. Kar 40 measured c 1.9m x 1.6m and was constructed with twelve courses of logs. At the front it lay at 50cm below site datum, showing that it could hardly have functioned as a wharf. A post which was recorded c 2m in front of it presumably belonged to a post-built quay in front.

Building 486 (N6,XII,XIV) was indicated by six posts. The three on the far northern side, and to some extent also two of those on the south side were situated on the front line of the row. Recorded length c 3m; actual length probably 4.5–5m. Width c 4.5m.

Throughout most of the periods we have dealt with the location of the boundary with Søstergården was for the

most part conjectural. In Period 2, however, the question seemed to be definitely solved, and moreover confirmed the interpretation in the upper levels. As in Period 3 Søstergården North consisted of two separate rows with a passage between them, and this layout was probably used right out to the front of the property.

#### Row 2

The tenement passage was marked relatively clearly, and so was the southern part of Row 2 on its north side. This consisted of a line of 25–26 posts generally well spaced, but without any clear division into separate buildings. Of the row's northern wall alignment there was once again a line of well-preserved foundation posts, but the separation between this row and Row 3 to the north was a matter of guesswork. In some cases the identification of individual posts was also uncertain, but this does not affect the dating of the loose finds.

In grid-squares P4 and P5 at the eastern end of the site, the southern wall alignment of Row 3 seemed to follow the southern boundary which was located in Phase 3.2. This could therefore be taken as a guide for determining which posts marked the north wall of Row 2. An eastward-facing gable-wall in the south-eastern part of grid-square P4 was indicated by a board set on edge against posts, and this has been taken to indicate a post-built structure, Building 42.

Building 42 (O4,X,XI; O5,XIV–XVIII; P4,VII–IX; P5,XIII, XIV) consisted of 20–21 posts presumed to be contemporary, which seemed to form the outline of a building. It is possible that part of the sub-floor area was enclosed. Probable eastern limit on the south side at 116.80y. Western limit estimated at 112y from the surviving posts, and this coincides with the corresponding western limit of Building 472 in Phase 3.2. Length c 5.2m; assumed width 5.7–5.8m.

To the east of Building 42 a further structure was suggested by the existence of four posts but this has not been allocated a separate building no.

On the west side of Building 42 at this level the posts continued in three rows, indicating not only the north and south walls, but also the central axis of a building, but there was no clear evidence showing its limits. On the basis of the assumed western limit of Building 42, it is possible to defend the suggested location of the eastern wall of the adjacent building, 494, but the position of its west wall remains unsolved. The distance between Building 42 and the assumed front of the row was c 17m. On the basis of the usual 3–5m for the wharf, there would be reasonable room for three buildings in front of Building 42, but there is no point in attempting to identify the dividing point between them on the grounds of the available evidence provided by the posts. As the best preserved of these were at the eastern and western ends of the row, we have chosen to divide them simply into two groups, and have given a separate building no. to the eastern group, which was the best represented.

Building 494 (O4,X–XII; O5,XIII–XVIII) was associated with thirteen posts in grid-squares O4 and O5. It was a good 90cm from Building 42. Western limit uncertain, possibly in the western part of grid-square O5. Assumed length 6.2m; assumed width c 5.8m.

To the west of 494 the situation was and still is unclear. There were possibly five posts which belonged to this phase, but there were several which were hewn and unburnt. From the circumstances they ought to belong to this phase, since Building 138, which burnt in Fire VI, was apparently in use throughout the whole of Period 3. The posts in question included two from the longitudinal central axis and two, or possibly three, from the north wall. Regardless of which posts are interpreted as belonging to this phase, it must be assumed that the building that they represented continued over the foundation substructures Kar 34 and Kar 37 and that there was a narrow post-built quay in front of these. Two hewn posts with transverse supports at the base stood 1.5–1.6m in front of the substructures. A good 2m away was a massive post with ship's hawsers by its base, which may have been an ordinary front post belonging to the quay or had possibly been located in front of the quay as a mooring post, though the latter would seem an unlikely interpretation.

#### Passage between Rows 1 and 2

Despite the fact that nothing was left of the passage surface, the finds gave a good picture of its position and construction, since the foundations were basically intact throughout the whole tenement. Towards the rear three pairs of posts were joined together with transverse locking beams and there was another pair of posts at the west end, in front of which was a ladder marking the seaward extent of the tenement (fig 43). Also towards the front were two square stone-filled caissons, Kar 35 and Kar 36, the latter one of which was situated just behind a line of caissons running north/south along the edge of the underwater shelf.

This construction would have required a deck of transverse planks. The distance between the pairs of posts measured from the centre of the posts was, from east to west, 1.50m, 1.40m, 1.75m and 1.60m. The corresponding width of the passage at each pair would have been 1.20m, 1.10m, 1.40m and 1.25m. As the plan shows, the northern row lay close up against the passage, while there was a gap of 50–60cm in places between the south side of the passage and the south row. This situation apparently encouraged the dumping of certain kinds of rubbish, such as food waste.

#### Row 3

With the exception of a ground-wall up against the tenement passage, there were no surviving structural remains from the level burnt in Fire VII in a 10m wide belt west of the later Building 48, St Mary's Guildhall. The fire-layer itself, however, sloped evenly down towards the west and varied in thickness from 1cm to 25cm. In the western part of this area, around 122–123y, there was a marked drop of c 20cm in the ground surface at the same point where the fire-layer stopped. The level continued as a brown organic deposit full of twigs for 1–1.5m as far as Building 43, which had burnt.

Six buildings were recorded in Row 3: 487, 43, 488, 40, 489 and 490. The first two of these, towards the rear of the tenement, lay directly on the ground surface. The remainder were on post foundations. With the exception of Building 40, the remains consisted solely of vertical structural elements whose chronological relationship proved difficult to determine.



Fig 43 Remains of a ladder in front of the passage between Rows 1 and 2 in Period 2 (–1170/71). Looking east.

Building 487 (Q3,IX) was only identified from its northern ground-wall, which had survived in two sections, giving a total length of c 7.1m. The western stretch was c 4.2m long. As there was some doubt whether this had been one building or two, only one building no. has been allocated to these remains, which applies essentially to the western stretch of walling. It consisted of a single row of stones one course high, lying more or less on the same level as the contemporary passage.

While Building 487 seemed to cover the full width of the row, the layout of the area immediately to the west was rather irregular. The next identifiable structure was Building 43.

Building 43 (P3,IX,IX.1; P4,VIII; Q3,IX,IX.2; Q4,VII.2) lay c 3–3.2m back from the passage and possibly extended into the area of Row 2 to the south, although this must be treated with some reservation. It consisted of the remains of relatively wide floorboards laid on massive longitudi-

nal joists which had been placed on several layers of birch bark. In the eastern part of the building there were two layers of bark, separated by a layer of earth 3–4cm thick, and underneath was a stone-paved surface which may have belonged to the previous building on this spot, Building 68. The eastern edge of the floor was marked by boards set on edge, but the layers of birch bark continued beyond the edge of the floor both eastwards for c 50cm and northwards for 70–80cm. It is therefore tempting to interpret these features as evidence for traditional earth-filled box-benches along the inner face of the walls, with the floorboards stopping at the front of or just under the bench. On the south side the building continued beyond the edge of the excavations. The western limit was not recognizable, and the northern limit was more or less indicated by the extent of the layers of birch bark. There was a scattering of bark and building timbers further north, including three wide boards running longitudinally, probably in their original position. If these belonged to a structure, it must have been a separate building. The details concerning the wall-benches and the original limit of the floor in the north-eastern part of Building 43 provide a fairly clear indication of the eastern extent of the building. Eastern limit at the edge of the site c 121.8y, with definite evidence as far west as 117.40y. Maximum recorded length c 5.2m; recorded width c 2.5m.

It is possible that the longitudinal boards which lay up against the passage belonged to the floor of a small building, but it is probably more sensible to interpret them as part of a wooden paved area leading to Building 43. On account of this uncertainty they have not been allocated a building no.

Further west, rows of burnt posts indicated more structures, but their differentiation into separate buildings caused problems. North-west of Building 43 there was a group of posts which had mostly burnt in Fire VII, in one case clearly secondarily. The number and position of the posts suggested more than one building, but a comparative analysis of their bases and tops did not help to separate them into individual phases, nor did the dendrochronological samples produce any measurable results in this case, and it has therefore been necessary to base a chronological differentiation on conjecture, using mainly their minor differences in height. As a result, four of the posts have been related to Phase 2.2, burnt in Fire VII, and have been assigned to Building 488, while the remaining seven have been assigned to Building 495 and placed in the unburnt Phase 2.1 under Fire VII. It should be added that as this concerns the same limited area, the allocation of posts to one or the other building is of no real significance. Nor is the difference in time particularly great.

Building 488 (P3,VIII,IX.1; P4,X,XII) was probably an elevated building with a sub-floor enclosure, like Building 69, with posts surviving from the west and north walls. Western limit on the north side at c 113.8y. Maximum recorded length c 1m; assumed width 2.6m.

Also in the next building to the west, Building 39, there was no doubt that the traces of burning on some of the foundation posts dated from Fire VII, whereas the

building had clearly been pulled down before the fire. To what extent this might apply to all the posts could not be determined with certainty. Some of the area probably lay open in connection with the extensive lime-slaking process for a time before the fire. Building 39 is described under Phase 2.1 below.

Building 40 (O4,XII) lay just to the west of Building 39 and must have been built at about the same time, in Phase 2.1. It was comprised of foundation posts on all four sides, parts of the supporting timbers and the remains of floor-joists made from relatively thin logs laid transversely. The remains of vertical cladding from the east wall survived below floor level. Eastern limit on the north side at 108.30y; western limit at c 103.5y. Assumed length c 5.3m; width c 4.4m.

Between Building 40 and the front of the foundation substructures 32–34, which in the usual manner formed the seaward termination of the row, there were 13 or 14 posts. These may date from this phase, but apart from those at the rear they formed no obvious pattern, and there was no basis for establishing any division into separate structures. However, it is reasonable to assume that in this 10m long stretch, including the substructures, there had been two buildings. With some reservation we have chosen to interpret the rear posts as Building 489 and to place the more randomly located posts in association with the substructures as the foundations of another building, 490.

In contrast to the layout further south, one of the foundation substructures, Kar 33, in this row projected forward from the front alignment. As this was repeated again in Row 4 to the north the situation is commented on after the description of that row.

Building 489 (N4, XII–XIV; N3,XII–XIV) was associated with seven or possibly eight foundation posts, of which three apparently indicated the north wall and four marked a line across the building. An eighth post possibly indicated that the building was wider and that the north wall was supported at the front by Kar 31. The posts covered a length of c 3.5m and a width of either 3.6m or 4.6m.

Building 490 (M4,XII; N4,XII–XIV; N5,XII–XIV) was associated with a group of six or seven foundation posts and the stone-filled substructures 32 and 34 in front. It lay generally between grid-lines 99.00y and 93.00y.

#### Row 4

Fire-layer VII formed a continuous deposit over most of Row 4 and was clearly separated from the overlying deposits of Fire VI, except at the eastern end where the two fire-layers sometimes ran together. As pointed out in connection with Row 3, there was a marked drop in the ground surface also in this row in the western part of grid-square Q2, reflecting the original terrain. To the east of this point and also slightly west of it, the deposits between the two fire-layers as well as under Fire VII consisted for the most part of gravel. In the middle of the row, this went over to a deposit of wood-chips and earth mixed with gravel, and finally to the west the usual homogeneous brown organic deposits were recorded.

There were no clearly identifiable buildings in this row, but some foundation posts indicated a wall alignment on the

north side over a total distance of 15–16m in grid-squares N3, O3 and P2 and formed a clearer structural association in the adjacent parts of N3 and O3. The posts to the west fell into two groups, one group marking the northern wall line, the other the central axis of a building. In addition a single post seemed to indicate the south wall and the width of the row. For practical reasons, these posts have been grouped together under Building 498.

At the eastern end some fragments of beams may have been associated with the four posts marking a northern wall alignment over a distance of 12m, in which case they would have belonged to the north and west walls of a building. The posts may indicate one or two buildings, but have been assigned a single building no., Building 502.

Building 502 (O3,IX.1,X; P2,VIII) comprised four massive posts from the north wall and some fragments of beams which may have come from the north and west walls. Easternmost post at 17.40x/109.70y. Assumed western limit of the north wall at 13.80x/117.80y. Recorded length 12.5m; width c 5.5m.

Building 498 (N3,XI–XIII; O3,IX–XI) was associated with nine, or possibly eleven, posts over a total length of at least 6m. The width may have been c 4.7m.

The front of the two rows was marked by the substructures Kar 27 and Kar 28 in Row 4 and by Kar 32 and Kar 33 in the row to the south.

Under the circumstances it would seem that the two rear substructures, 27 and 32, and possibly also the northern part of Kar 34 formed the front foundations of the wharf-front buildings. As there was no trace of any posts either in front of or beside the projecting substructures, Kar 28 and Kar 33, these asymmetrically located structures would most likely have formed the foundations of the tenement's quay. However, without a separate deck carried on posts in front, the arrangement would have been rather unsatisfactory as Kar 28 stood on or just slightly above the zero contour. It is therefore tempting to believe that the surviving features do not give a satisfactory representation of the original circumstances, and that there would have been a separate post-built quay in front, such as was found further south in this phase. This assumption would imply, however, that Kar 28 and Kar 33 must have formed part of the foundations beneath the buildings in the two rows. An alternative solution would be to have post-built quays in front of Kar 28 and Kar 33 with the waterfront pulled back between them, but it would seem pointless to have an inlet right in front of the tenement passage. One is left with the conclusion that there ought to have been a post-built quay in front of the whole tenement and that substructures 28 and 33 formed part of the foundations for the buildings.

#### Passage between Rows 3 and 4

Under the north-west corner of the later St Lawrence's Church, a stretch of paving was recorded 50–70cm below fire-layer VI. It consisted of split logs laid transversely on beams, which had been laid over a lower layer of split logs lying transversely on longitudinal beams. An area of c 1 m<sup>2</sup> was uncovered. This feature had clearly nothing to do with the burials above and below it, and with some hesitation it has been interpreted as the remains of a passage. On account of some traces of burnt deposits it was regarded as associated with a fire-layer and it has been

related to Fire VII. It is readily admitted that the basis of this interpretation is rather weak, since it would appear remarkable to lay out a passage over earlier graves c 3–4m inside the presumed north-west corner of the churchyard. On the other hand, we have seen that shortly after Fire VI, in Phase 4.1, the graveyard was temporarily extended over earlier buildings in the area (see p 66).

Even if the remains of log paving are not accepted as a passage, the level must still be regarded as a fire-layer, which helps to establish a chronological dividing point in the use of this part of the churchyard. It can therefore be concluded that there were at least four phases of burials before Fire VI.

In the rear part of the passage within the tenement proper the remains of supporting joists and some transverse boards were recorded over a distance of 18m, but the continuation of the passage was shown by a line of stone-filled foundation substructures – Kar 29, Kar 30, Kar 31 and Kar 32 in front – placed at regular intervals out to the edge of the underwater shelf and covering a distance of c 40m. These caissons were used on the gently sloping tidal beach and the transition to dry land was marked by post foundations. At the rear of the site the passage was laid directly on the ground. In this area it was c 1.3m wide.

#### Row 5

For the first 4.5m west of the later St Lawrence's Church (Building 50), there was a dirty grey gravel layer, apparently redeposited and lacking any traces of Fire VII, but with burnt deposits on top. Three posts and a post-hole may have belonged to a building from this phase or from Phase 3.1. Unfortunately, the documentation of this part of the site is not entirely reliable. The feature has been assigned to Building 499.

In the rear part of the site there was a slight drop towards the west in the contemporary ground-surface as far as Row 5, indicated by the traces of both Fires VI and VII. The gravel deposits lay up to 50cm higher on the east and south sides of Building 66 and as much as 60–70cm higher on the north side. This may have been due to the fact that Building 66 had been cut back into the sloping gravel level, but the piling up of the surrounding gravel deposits to the east was interpreted during excavation as secondary with regard to Building 66, partly on account of the mixed nature of the deposits. A feasible explanation is that the gravel was redeposited in connection with some major foundation work, for example the digging of the foundations for St Lawrence's (see p 74). However, this can only apply to the deposits to the east of Building 66, as those to the north must predate the building, as is shown by steps leading from the contemporary ground-surface on the north side down to the floor-level of the building (figs 44 & 45). Nevertheless, the possibility that the deposits to the east were derived from the foundation work for St Lawrence's cannot be entirely dismissed, which would therefore date the church to the 1160s, but one is naturally reticent to draw this conclusion from such slight evidence. Such an early date for St Lawrence's would also seem at variance with the relatively large number of graves beneath its south wall, where a dozen skeletons belonging to St Mary's graveyard – within which St Lawrence's was built – were recorded in four or five levels. Such a high frequency of burial in this peripheral area of the graveyard is difficult to reconcile with an

early date for the building of St Lawrence's, since the use of the graveyard would presumably not be earlier than the date of St Mary's itself, and it was not begun until the 1140s at the earliest (Lidén & Magerøy 1990, 98–99). However, since the existence of an earlier church on the site cannot be dismissed, the frequency of burials in the graveyard cannot really help us in providing a definite date for the erection of St Lawrence's, and one is left with a later date, some time before Fire VI, in the 1180s or 1190s.

Building 66 must therefore be regarded as being cut down through a previously redeposited and disturbed gravel layer. Fire VII ran as a clear and continuous layer 10–15cm thick over the remains of the building, and it was covered by the detritus from the fire up to 50cm thick and indistinguishable in places from the remains of Fire VI above. This mass of burnt material was probably scraped together over the lower-lying building in order to level out the site.

From Row 5 the remains of four, or possibly five, buildings were recorded: 66, 46, 41 and 38, with the remains of a building on posts, 499, to the east of 66. Building 499 may, however, have belonged to Phase 3.1.

Building 499 (Q1,XII,XIII,XIII.1) comprised only three posts and a post-hole. Limits unknown.

Building 66 (Q1,XII,XIII,XIII.1; Q2,XIV–XVI) was a timber-frame structure with so-called "open corners", ie with a pair of posts placed slightly apart at an angle across each corner, instead of an ordinary corner post. The posts at all the corners had survived except the south-east corner. Preserved were also the sill-beams and in places the burnt vertical wall planks. The building otherwise contained a relatively intact floor with longitudinal boards secondarily overlain in places with transverse boards. Down from the contemporary passage led a well-preserved gangway. Eastern limit of the south wall at 126.00y; western limit at 121.80y. Length 4.30m; width 5.70m.



Fig 44 Side view of steps leading down from the passage to Building 66 in Phase 2.2. Looking east. (Cf next illustration.)



Fig 45 Front view of the steps between the passage and Building 66 in Phase 2.2. (Cf previous illustration.)

To the west of Building 66 the fire-layer had been removed for 6–6.5m and the level continued with a sudden drop of 50–60cm to Building 41. Between the two buildings lay the remains of an unburnt wooden surface of boards laid longitudinally which appeared to belong to a separate building, 46. Despite the lack of burning, it is assumed that it must have burnt at the same time as Building 66, whose level it continued to the west.

**Building 46** (P1,III.1; P2,VIII; Q2,XIII) consisted only of floorboards laid side by side longitudinally and detached from the walls. The full extent E/W was intact since several of the boards still had their transportation holes, which would have been near the end of the plank. Against the southernmost surviving board was a fragment of a single upright wall-plank, probably from the south wall. The floorboards lay directly on the gravel deposit. Eastern limit on the south side at 121.50y, western limit at c 118.5y. Length of floor c 3.3m; width 5.10m, possibly 5.50m.

Building 46 lay on a deposit of gravel which was 60–70cm thick at its western end. Here stood the next building, 41, which like Building 66 to the east had been cut down through the gravel and stood on a levelled-up layer of sand and gravel overlying fist-sized or slightly smaller stones.

**Building 41** (O1,IV; O2,XII; P2,VIII) consisted of the severely burnt but partially intact floor with the boards laid side by side transversely on longitudinal joists and detached from the walls, together with the sill-beams and parts of ten of in all twelve roof-bearing posts. Like Building 66, the corners were open. A well-preserved gangway led down from the contemporary passage. Eastern limit of the south side at 116.60y; western limit at 111.60y. Length c 5m; width 5.40m.



Fig 46 Building 38, with a vertical plank wall enclosing the area beneath the floor to form a cellar. The bottom of the cellar was covered with an "insulating" layer of old planks and branches. Burnt in Fire II (1170/71). Looking south.

Over the next 2.50m to the west of Building 41 fire-layer VI had been removed on account of relatively extensive lime-slaking activities between Fires VII and VI, while the following 2.8–3m were dominated by ordinary deposits heavily mixed with wood-chips. The ground-surface at this time seemed to be marked by an 8–10cm thick layer of concentrated wood-chips separated by 25cm from the underlying stony beach deposits. The next building, 38, lay 5.20m west of Building 41.

**Building 38** (N2,VI.1,VI.2,VII,VII.1,VIII; N3,XII–XIV; O2,XI,XI.3,XII,XIII; O3,X–XII) was a post-built structure whose sub-floor area was enclosed with upright planks set side by side (fig 46). Both the foundation posts and the wall-planks were embedded in the thick wood-chip layer. Previously-used boards and beams placed side by side covered half the bottom of the sub-floor area, and above these and covering the whole area was a layer of sticks 8–10cm thick which were laid in the other direction. Between these and fire-layer VII, which lay 10–20cm higher, were some discarded building timbers. The groundframe of the building was intact except in the north-west corner which had been disturbed by the later well-sequence 10-19-16. Eastern limit on the south side at 107.00y; western limit at 102.60y. Length 4.60m; width 5.90m.

As in the southern row, there was little remaining of any buildings in the western part. The foundations for buildings ended with the small caisson, Kar 26, on the south side, but there was no corresponding substructure in the northern half. Four posts just behind Kar 26 must have belonged to the row in this phase, one of them being under the south wall. The distance from Building 38 to Kar 26 was 11m, indicating that there could have been two more buildings in front of 38.

An immense post with ship's hawsers around its base

stood 1.35m west of Kar 26 and there were five more posts in the northern part of the row stretching at least 5m in front of the substructure. This may indicate a narrow quay or jetty up to 5m long in front of the northern part of the tenement and a very short quay, or even none at all, in front of the southern part. However, it is hazardous to draw too definite a conclusion on the basis of the available evidence, since it may only be coincidental which posts had survived. The five posts in the northern part of Row 5 may have belonged to a construction which also included the tenement passage (see comments on the passage below). The very large post to the south may have served some special function.

#### Row 6

In the area north of St Lawrence's lay some burnt remains of a structure, Building 210, with the deposits from Fire VII directly on the natural gravel. Apart from this area the eastern and central parts of the row lay outside the excavations. In the M grid-square were the remains of four substructures which had been reduced in height (20–21, 51–52). These must all have belonged to Row 6, together with the substructure Kar 49 in grid-square L2, presumably marking the western end of the row. Their total width was 5.25m and their location indicated that there had been a wide gap of 5m between Rows 5 and 6, which appeared to be representative for the entire length of the site.

**Building 210** (Q -1,XIV.1,XV,XVI; R -1,XV–XVII; R1, XVIII–XX) comprised parts of floor-joists running E/W with occasional remains of floorboards, and a total of seven posts, one each at the south-east and south-west corners, one on the east side where there was also a pad-stone for another post, one on the west side with two more pad-stones, and three in a row down the centre, clearly indicating that the mid-axis was orientated N/S. Eastern limit on the south side at 133.60y; western limit on the south side at 128.10y. Width E/W c 5.7m; recorded length N/S c 6m.

#### Passage between Rows 5 and 6

As in the previous phase, the great width between the two rows was not used in its entirety for the passage. At the rear of the property at least, there was an open space on either side of a narrow pavement, occasionally interrupted by transverse gangways between the paving and the buildings. The wooden pavement was rebated into massive longitudinal joists, which in the rear part of the property lay directly on the natural gravel, especially outside Buildings 66, 46 and 41, where natural lay relatively high. The joists were held in place here by slender stakes driven into the gravel on both the inside and outside. At the eastern end the line of the passage was marked only by the rows of stakes; westwards both the joists and the surface planks had survived.

Where the gravel gave way to the gently-sloping tidal beach, the joists were carried on two pairs of posts, while towards the edge of the underwater shelf further west they were supported by small stone-filled caissons (Kar 23, Kar 24, Kar 25 and Kar 38). The average width of the passage was 1.9–2m.

From the higher ground at the rear of the site an al-

most intact flight of steps led down to Building 66 (figs 44 & 45 and pl 14). How it was structurally united with the passage could not be seen, but at its lower end it lay at the same height as the upper edge of the sill-beam on the north side of the building. It consisted of planks on transverse joists running down to the building with battens plugged to the planking to provide footholds. A similar construction 9.50m to the west led down to Building 41. Further west the passage was more or less on the same level as the sill-beams of Building 38, so there was no need for a flight of steps, but the passage appeared to have been widened here with a separate stretch of paving running right up to the building, in the same way as was recorded outside Building 37 in Phase 3.2. To what extent there was a similar arrangement on the north side of the passage or whether there was just a c 2m wide gangway leading to the buildings could not be determined from the available evidence.

In front of the caissons forming the western termination of the tenement were four posts and five more in front of Row 5, all placed at regular intervals. They presumably indicated a quay supported on posts reaching to c 3.8m in front of the leading caisson, Kar 38. As the representativity of the posts was uncertain, it is difficult to make any further comments about the extent of this quay, but it appeared to correspond to the southern part of the passage and the adjacent area of the southern row, Row 5.

Beneath the passage just to the north-east of Building 38 were the remains of a stone-filled caisson, Kar 22, which had been reduced in height. It was not associated with the passage and must have belonged to a building phase under Phase 2.2, in other words an initial phase, 2.1, in Period 2 (pl 15). As it lay on a line with the four substructures, 23, 24, 25 and 38, which have been associated with Phase 2.2, it suggests that these may also have been used in an earlier, presumably unburnt, phase in Period 2, since the front of the built-up area remained the same throughout the period.

#### Row 7

Apart from the remains of two small stone-filled caissons, Kar 50 and Kar 136, which lay on a line with the other caissons along the outer edge of the beach, Row 7 lay entirely outside the northern limit of the site. Kar 50 and Kar 136 must have formed the south-westernmost foundation of the row and served to indicate the continuation of the skew alignment of the waterfront which was running SE/NW in this phase. Since these caissons, as mentioned previously, filled up the outer line of the beach, they reflect the topographical situation at the time when Period 2 began, perhaps 15–25 years before Fire VII.

#### Phase 2.1, an unburnt level under Fire VII (pl 15)

As was pointed out in the comments concerning the level burnt in Fire VII, there were the remains in the easternmost part of Row 3 of 2–3 levels under Phase 2.2. Buildings 43 and 488 in Row 3 and Building 41 in Row 4 all had forerunners in Phase 2.1, to which six buildings in all can be dated: 68, 69, 495 and 39 in Row 3 and 44 and 496 in Row 5. With the exception of Building 68, these all consisted of the relatively high-standing remains of posts and vertical wall planks, most of them burnt, by all

accounts secondarily in Fire VII. But there were also traces of an earlier fire. Moreover, there was reason to believe that with the exception of Buildings 43, 488 and 41, all the buildings from Phase 2.2, together with the passages and the long waterfront construction, had been in use in Phase 2.1.

#### Row 3

Building 43, which had burnt in Fire VII, contained floorboards and joists lying on an insulating layer of birch bark, under which in the eastern part of the building was a raised area of stone paving from an earlier structure.

Building 68 (P3,IX.1,IX.4; Q3,IX,IX.1,IX.2) consisted of an area of stone paving limited on the northern and western sides by logs notched together at the north-west corner. Eastern extent uncertain. To the south the building continued beyond the edge of the excavations. Recorded eastern limit on the south side at 122.40y; corresponding western limit at 119.60y. Maximum recorded length 2.80m; recorded width c 2.9m.

Building 68 stood, like its successor Building 43, in the southern part of the row either with or without some other structure in the northern part. This suggests a lengthwise division of the row such as was recorded in the lower levels in the tenements to the south and also further west in this phase (Buildings 69 and 495). Immediately west of Building 68 lay the remains of a clearly defined structure, Building 69, on the same line as Building 68 within the southern part of the row. Its width as interpreted was such that on the south side the building ran over the property boundary recorded in the later phases. To the north of Building 69 thirteen or fourteen posts occupied a limited area and indicated a building, or possibly two successive buildings, Buildings 495 and 488, indicating that the row here was divided lengthwise.

Building 69 (P3,X.1,X.4; P4,VIII,VIII.1,XII) was an elevated structure with an enclosed sub-floor area occupying the southern part of the row. Remains of the upright wall planks had survived, and possibly also a contemporary beam at the base of the wall planks. A massive beam on the inside of the west wall marked the width of the building. Unclear details in the ground-frame of the building as well as inside the building could suggest that it had gone out of use before Fire VII and that part of the site both before and after the fire lay open and had some other function. It has proved difficult to interpret the features which belonged together. The southern wall lay outside the excavated area, and the eastern wall was not located. Eastern limit on the north side at c 118.8y; western limit c 114.8y. Length 4.2m; width c 4.8m.

As mentioned above, some burnt and unburnt posts between Building 69 and the tenement passage indicated the existence of one, or more likely two successive buildings. Four of the posts have been associated with Building 488 and placed in Phase 2.2. The other seven, which were all unburnt, have been assigned to Building 495 and placed in this phase. See also the comments on p 85, where attention is drawn to the uncertainty of the evidence.



Fig 47 The various linings of the composite Well 5/4/2. The primary Well 5 was log-built, the next Well 4 was revetted with horizontal boards slotted into upright corner posts; the innermost and youngest Well 2 was of similar construction. Wells 2 and 4 may be part of one and the same well. Seen from the south-west.

Building 495 (P3,VIII,IX.1,IX.4,X,XII) was related to a debatable selection of seven posts marking the west, south and north walls. Maximum recorded length c 3.3m; width 2.75m.

Building 39 (O3,X; O4,XI,XII,XII.2,XIII; P3,IX,XII; P4,VIII) consisted of posts and fragments of upright wall planking in the sub-floor area. The eastern and southern extent of the building were indicated by a layer of moss up to 35cm thick in the interior. Most of the structural details were burnt in Fire VII, but a large lime-slaking pit which partly overlapped the area occupied by the foundation posts showed that the burning must have been secondary. The south-western corner had been removed during the digging of Well 5 in Phase 5.2 (figs 47 & 48). Eastern limit on the north side at 112.70y; western limit at 108.70y. Length 4.50m; width c 4.3m.

Even though Building 39 was somewhat wider than Building 495, it also indicated that the row was divided lengthwise.

It was pointed out in Phase 2.2 that Building 40 must have been contemporary with Building 39, on account of their parallel development and the height of the base of the wall planks. In some places, however, the east wall in Building 40 was burnt 30–40cm below the top of the partly unburnt wall planks in the adjacent west wall of Building 39. This sort of situation was encountered else-



Fig 48 The corner posts of Well 4 inside the log frame of Well 5. Seen from the south-west.

where (for instance, in Building 38 in Row 5 in Phase 2.2) and no special weight need be attached to it. If any chronological significance is to be read into it, then Building 40 should be earlier than Building 39 and there are no other grounds for maintaining this. On the contrary, they must have been built at the same time, but Building 39 had been taken down before Fire VII, whereas Building 40 burnt in the fire. The surviving remains of Buildings 489 and 490, which were recorded to the west of Building 40, consisted entirely of foundation posts and can provide no chronological evidence as long as the dendrochronological samples have not provided measurable results. However, there are good reasons for believing that the row continued further west over backfilled deposits overlying the beach area.

#### Row 4

While there were the remains of four buildings in Row 3 which were limited to Phase 2.1, there were hardly any identifiable structures in Row 4. Considerable amounts of gravel and earth were deposited on the site of the row, however, bringing it up to the level of Phase 2.1. As there had only been one passage level in the period which was terminated by Fire VII, it must be assumed that both Building 498 and Building 502 related to the row of posts to the east, both of which have been placed in Phase 2.2, must have been erected at the beginning of the period, and thus also belong to Phase 2.1.

#### Passage between Rows 3 and 4

There are reasons for assuming that all the elements in the passage described in Phase 2.2 were laid at the beginning of the period (see p 86).

#### Row 5

In Phase 2.2 the remains of four buildings were recorded: 66, 46, 41 and 38, and possibly also 499. Apart from Building 41, they all seemed to have been erected at more or less the same time, probably in Phase 2.1. Building 41 on the other hand had a forerunner in Building 44, which has therefore been placed in Phase 2.1. To the west, the row continued with the structures described in Phase 2.2.

Building 44 (O2,XII,XIII,XIII.2,XIV; P2,VIII–X) was an elevated building with a sub-floor enclosure, like its neighbour to the west, Building 38. It consisted of posts and upright wall planks from the whole of the south and the west walls and the western part of the north wall. Of the eastern wall apparently only one post had survived, the rest having been removed by the later construction of Building 41. Along the inner face of the western wall a line of stones 30–40cm across lay at the foot of the wall planks, and the base of the sub-floor room was covered with several layers of branches, apparently as an underlay for the moss which had been stored here. Eastern limit on the south side at 113.7y; western limit at c 109.3y. Length c 4.6m; width c 4.4m. The wall planks stood along the inner face of the sill-beams.

Just outside the north wall of Building 44 were the remains of vertical boards and upright posts in the sand, similar to those in the adjacent part of 44, while a little further east a post under the later Building 41 could have been contemporary with these board fragments. It was not clear, however, whether these belonged to a building or to an enclosure. If it were the latter, this would be at variance with the later established property divisions in this area, whereas if they were part of a building, it would indicate the same lengthwise division of this wide row as was recorded in Row 3 and in the other tenements to the south. The evidence for this being a building are so strong that it has been allocated a separate no., Building 496. Its minimum extent was 4m.

Of the passage between Rows 5 and 6 attention is drawn to the caisson, Kar 22, which was found standing on its own and reduced in height under the passage from Phase 2.2 (see p 89). This clearly belonged to an initial stage of the period.

#### Summary, Period 2

The site was fully developed right out to the waterfront at the beginning of the period, which has been divided into two phases, 2.2 and 2.1. In this period the built-up area covered the beach and the waterfront itself was marked by a long row of caissons along the edge of the underwater shelf (pl 14), presumably joined together with horizontal timbers. It is assumed that these indicated the front edge of the buildings with quays supported on upright posts in front of them. A ladder, which had leaned

up against the front of the quay in one place, had survived.

In this period there was no evidence for the fan-shaped layout recorded in later periods, nor for the break in the alignment of the tenement which had been present in the upper levels. The rows ran parallel with each other and with equal width, clearly reflecting the topography.

Definite buildings were documented in all the rows, with the exception of Row 4, while in Rows 6 and 7 there were only the remains of the foundation substructures at the front. Of the 25 buildings belonging to this period, only two had foundations of horizontal timbers, and these were both at the rear of the site. All the rest were supported on upright posts. One building in Phase 2.1 was log-built; all the rest were apparently timber-frame structures, with a large number having the sub-floor area enclosed with upright wall-planking. In Row 5 two buildings lay below the level of the tenement passage and these had been provided with plank stairways. The excavated remains of these two buildings (Buildings 41 and 46) have been reconstructed in the Bryggens Museum.

The tenement passages consisted of narrow plankways supported on posts in the beach area, on caissons at the front of the built-up area, and laid directly on the ground at the rear of the site.

In several of the rows, but especially in Rows 3 and 4, there had been an extensive activity associated with the slaking of lime, making use of pits of various sizes, which were either unlined or else lined with clay or flat stones. This activity was carried out both before and after Fire VII.

## Period 1

### Phase 1.2, burnt in Fire VIII (fig 49)

In the transition zone between the beach and dry land the remains of at least three building phases earlier than Fire VII were found in Rows 3 and 4. In addition to Building 45, which was clearly defined, there were post-holes and traces of enclosure fences.

Some of the post-holes contained fragments of wood, but these were in such an advanced state of decomposition that neither physical nor chemical dating methods could be applied. A relative time sequence could be established through a combination of stratigraphic analysis, conjecture and elimination based on mutually exclusive features. Some posts in the north-eastern corner of the site have also been placed in this period.

The partly double row of posts on the Søstergården North site which carried a gangway or jetty running down the beach to the edge of the underwater shelf was dated to Period 1. As this was the only feature belonging to this period in all the tenements south of Gullskoen, it has been included here for the sake of completeness. (For a full account of this feature, see vol 3, part 1, pp 125-26 and fig 8).

### Row 4

The most clearly defined building, which was at the same time the most remarkable of all the buildings recorded in the excavations, was Building 45, standing on the transition between dry land and the beach.

Building 45 (P2,IX,X; P3,IX,IX.1,IX.5,X,X.1; O3,X,XI, XI.2,XII) consisted of the well-preserved remains of most of the roof-bearing posts, sill-beams, split-log walls, and a transverse floor of thin pine logs laid side by side. Most of the west end had been either originally open or else closed by a movable door. After a time the building was extended 2.40m westwards, with all the features of the original building repeated in the extension. Eastern limit on the south side at 118.90y; western limit at 108.70y. Length 11.20m; width c 4.8m at the west end and 4.25m at the east end (fig 50).

As the interpretation of Building 45 and its relationship to its surroundings and to Fire VII are key issues in the understanding of the earliest recorded structures, a detailed account of the recorded evidence is given first.

The upright wall staves had all been broken off well below the level of Fire VII, but the roof-bearing posts stood at least as high as the fire level and in places reached 25-30cm above it (fig 51). They had consequently been associated with Fire VII, despite the fact that there was clear evidence, even recognizable during excavation, that Building 45 must have gone out of use before the fire.

The deposits between fire-layer VII and the floor of the building were 35-60cm thick and consisted of a fairly clean layer of gravel at the top and a mixture of gravel, earth and wood-chips below, with ash and charcoal intrusions at the bottom. It is quite clear from the section through the building (fig 51) that Building 45 can in no way be associated with Fire VII in the sense that it was destroyed in the fire. The deposits lying between the floor and the fire-layer must date from after the demolition of the building, which must therefore have taken place prior to the fire and quite independently of it. Moreover, there was evidence of a new building in the following period on the same site. Of this later building there were at least four posts in a row from its north wall. It was not found necessary at first to allocate a building no. to these, but when it was seen that this could give the impression that this area lay open in Period 2, Building No. 502 was retrospectively assigned to these posts.

The further analysis of the chronological situation of Building 45 could in fact be concentrated on the status of the building itself and what gave rise to this status, but as there are other reasons for disassociating it from Fire VII, these will be mentioned first.

It has already been pointed out that traces of burning on the top of some of the posts could have been caused by Fire VII. While this possibility could not be ignored, it is difficult to prove. Several posts stuck up 25-30cm above fire-layer VII, but this could not be taken as proof that the traces of burning were from that fire. A complicating factor was whether the traces of burning were primary or secondary, or even both; in other words it was open to question whether the building itself burnt down in the fire. This is a point to which we shall be returning in due course.

It has been pointed out in another context (vol 3, part 1, p 19) that the horizontal layers on the site generally were greatly compressed and that horizontal features had subsided considerably more than vertical ones. Divergences in contemporary elements ranged from 25-30cm to as much as 70cm or more depending on the nature and consistency of the layers themselves and the underlying strata.

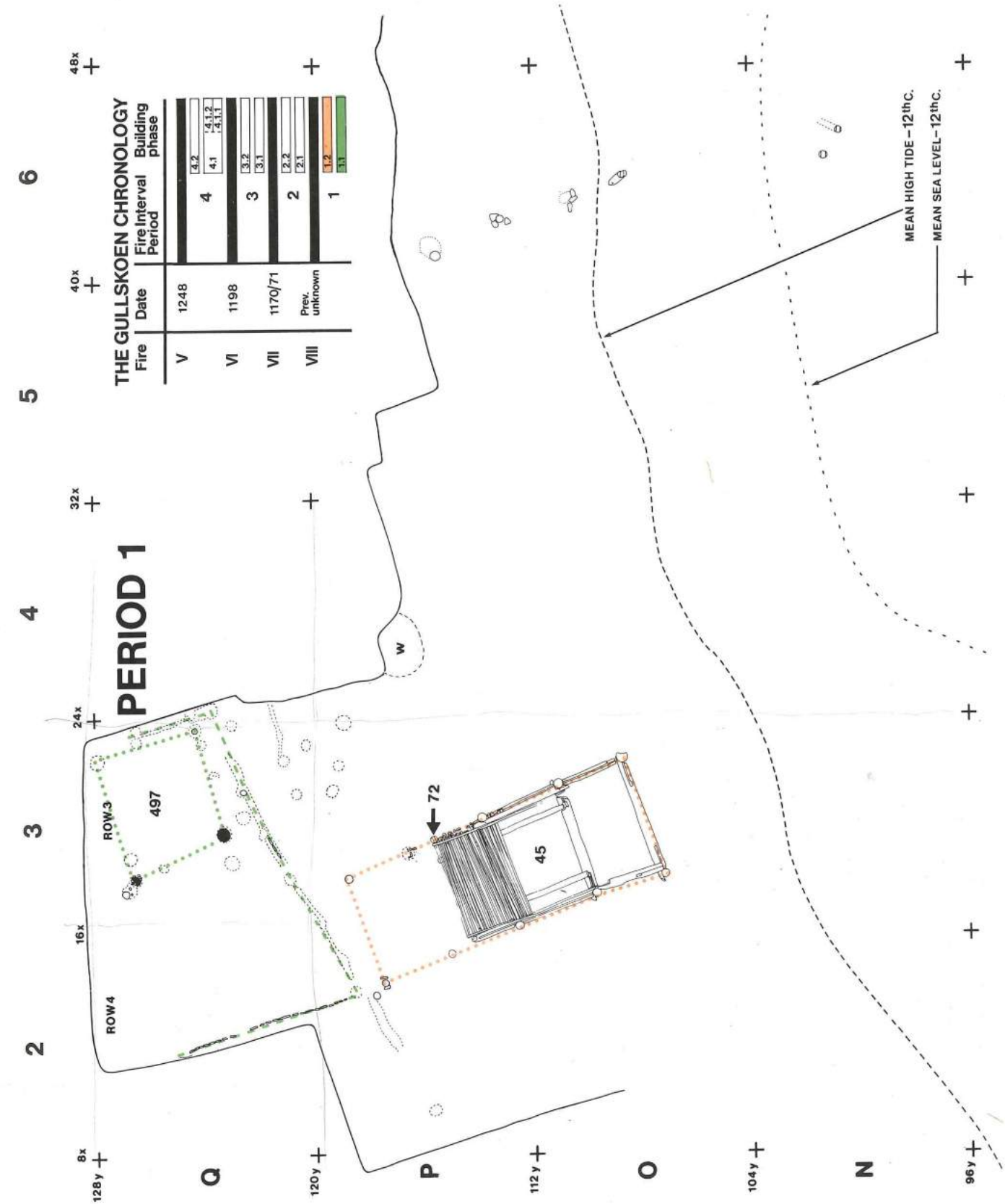


Fig 49 Plan of Period 1, burnt in Fire VIII. The latest buildings are marked in green.



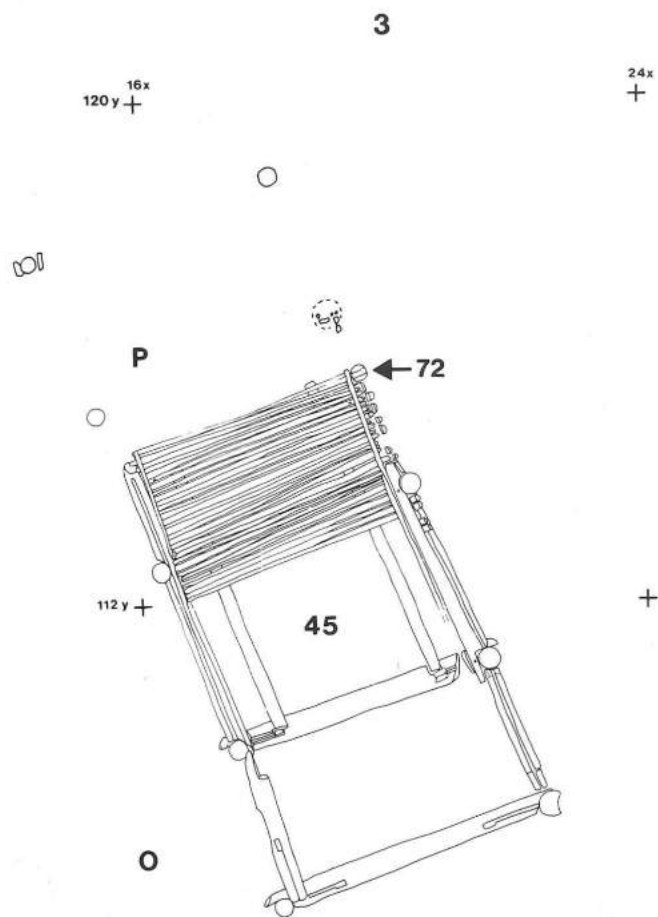


Fig 50 The posts and wall planks of Building 45.

In the case under discussion, the posts were standing on firm gravel and any subsidence must be related to the surrounding horizontal layers of deposits. That the tops of the posts at the time of excavation projected above the later and originally higher fire-layer VII must be regarded

as quite normal. As the dating of the building was not dependent on the relationship between the burnt tops of the posts and Fire VII, the situation was no more than a confirmation that Fire VII either had originally been higher than the tops of the posts or had caused secondary damage.

One of the clearest examples of a similar situation in which a building had been subjected to secondary burning was Building 397 in Søstergården North. This belonged to the unburnt phase 5.1, but some of its foundation posts, which were up to 1.35m high, had been burnt at the top in Fire IV which terminated the following phase 5.2 (cf fig 52 showing the relevant part of the section).

An important part of the evidence for the dating of Building 45 was the passage running along the south side of the building. This passage, which belonged to Period 2 and which had burnt in Fire VII, had been laid directly on the natural beach gravel at the rear of the site (east of 118y). The next 8-10m was supported on a pair of posts and the front 20m rested on longitudinal logs carried on small stone-filled substructures placed at more or less regular intervals down the beach (pl 16). One of the supporting posts in the central section, which will be referred to from now on as Post 72, stood on the line of the south wall of Building 45, but in this position it could not have belonged to the building, even though the vertical wall planks ran right up to the post on the west side (fig 50). In addition, the distance to the next post to the west broke the rhythm of the wall structure, so that Post 72 appeared as a foreign element in the building (cf plan fig 50). On the other hand, the continuation of the wall eastwards was marked by two wall planks beside a post-hole, whose location fitted in with a regular pattern for the posts. This hole would have marked the only one of the building's ten posts which did not survive, but it is our firm belief that Post 72 was actually the missing wall post and that it had been moved to a new position and re-used as a supporting post for the passage. It had the same dimensions as the other posts and was in the same state of preservation. It contained in addition a feature which revealed its original function as a wall post. With

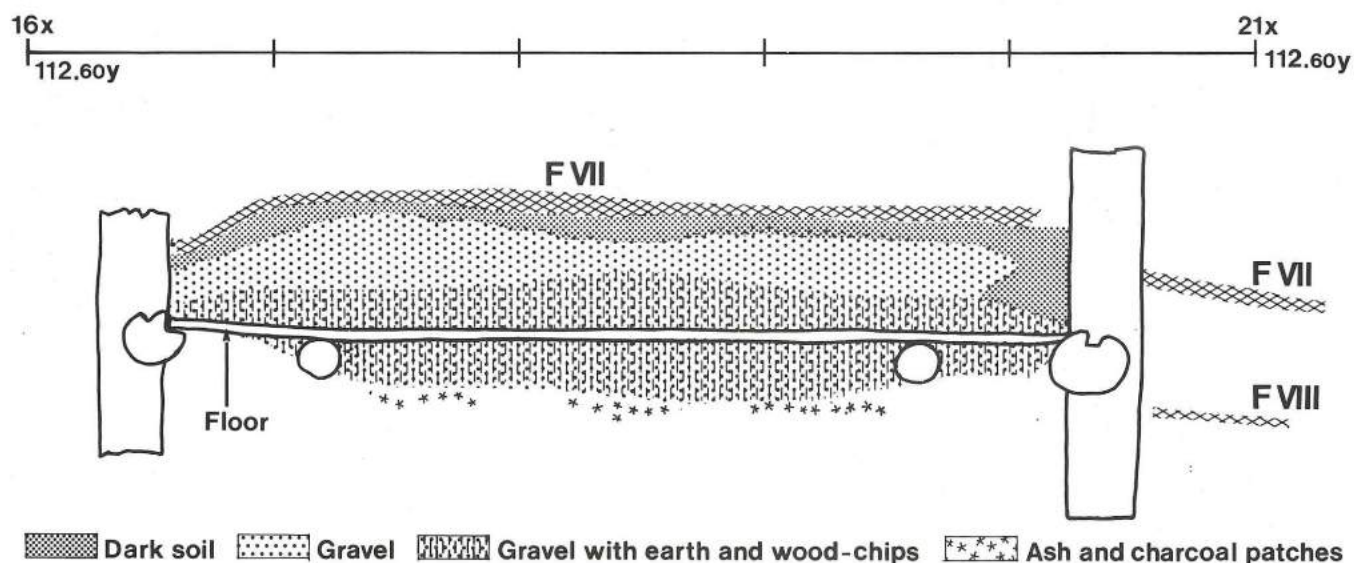


Fig 51 Cross-section through Building 45, looking east.

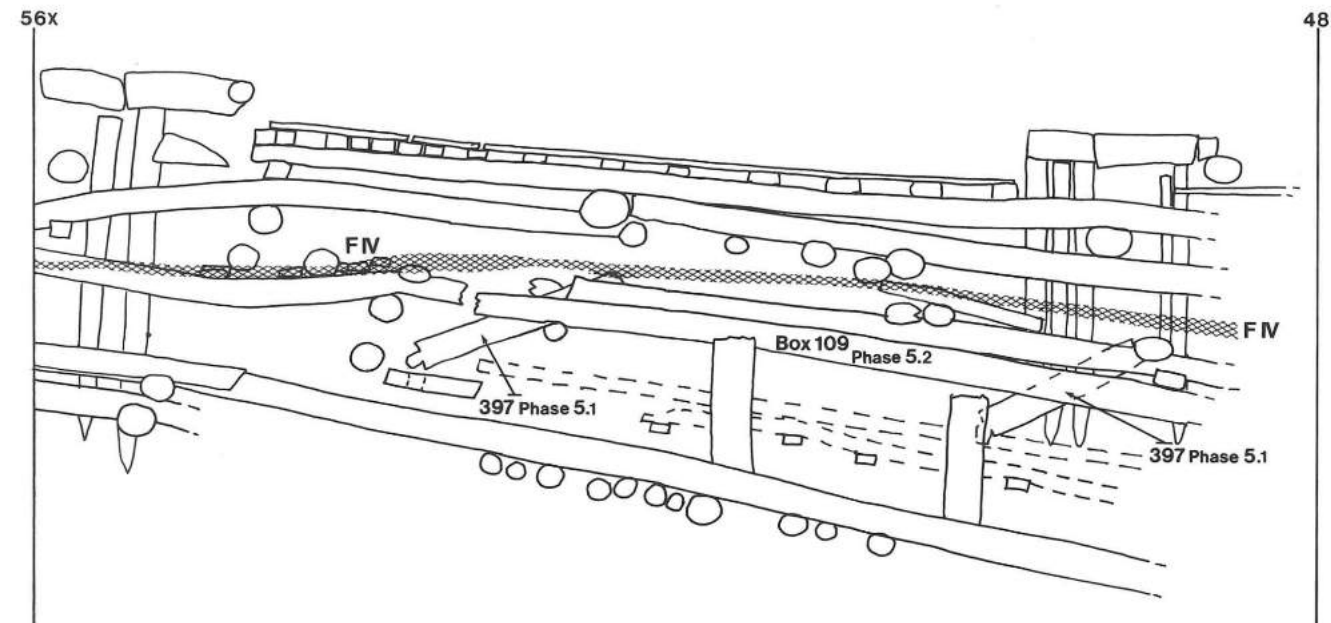


Fig 52 Part of long-section 85 through Søstergården South, showing the posts supporting Building 397 in the unburnt level over Fire V but secondarily burnt in Fire IV. Looking south.



Fig 53 The third post from the west in the south wall of Building 45 with a hole for the wooden nail which can still be seen in the sill-beam, now lying below its original position. Looking south.

the exception of the easternmost post, all the posts on the south side had a hole for a plug for fixing the sill-beam to the post. Naturally enough, these holes with the remains of the wooden plugs in place were on the inward-facing side of the posts (fig 53). Post 72 also had a plug-hole, but it faced in another direction. This has been taken as further evidence that the post was originally one of the wall posts in Building 45 and that it was moved when the building was demolished. In the position in which it was found, it formed part of a building phase which was established after Building 45 had gone out of use and which was terminated with Fire VII. The water-front lay on the edge of the underwater shelf, while Building 45 must have been the front building with most of the beach in front of it (cf fig 49).

It must be stressed, however, that the identity of Post 72 was of course not the deciding factor in determining its chronological situation. In the position in which it was found it must have belonged to the passage which burnt in Fire VII at the end of Period 2.

The relationship between the passage and Building 45 was further clarified by the rear foundation substructure, Kar 29, from Period 2, which lay up against the south wall of the extension to the building (pl 14). Stratigraphically it overlapped the south sill-beam of the extension, confirming our hypothesis that the passage which burnt in Fire VII was later than Building 45.

Regarding the question as to whether Building 45 burnt down or was intentionally demolished, it should be noted that there were other traces of burning which were earlier than Fire VII.

Unfortunately, the stratigraphy in the rear part of the site was not continuous and lacked clarity since there were no structural remains which could link together the various isolated deposits of sand, gravel, wood-chips and refuse, the layers of charcoal, the fire detritus which had been burnt to a red colour, and the scattered evidence from lime slaking. Even fire-layer VII, which was clearly defined further west, petered out over the eastern part of Building 45 into an almost symbolic layer containing charcoal. Beneath this, the elements mentioned above were recorded to the east and south-east of Building 45, and partly also in the eastern half of the building. Just to the south-east of the building the heat-reddened fire deposits were found c 25cm below Fire VII and they continued eastwards beneath the section of the passage which burnt in the same fire. This area also contained concentrated deposits characteristic of the lime-slaking activity, but everywhere the charcoal layer resulting from this activity was different in character from the fire layers. In the pits and their immediate vicinity the plant content appeared as a finely crushed granular mass, while in the fire-layers there were fragments of charcoal of various sizes. In the field-notes there was usually a clear differentiation between the plant content in the layers derived from the lime-slaking activity and the pure fire-layers. There was reason to believe therefore that both inside and outside the eastern part of Building 45 there were the remains of a fire earlier than Fire VII, and this has been designated Fire VIII in our chronological sequence (fig 5).

Establishing the fact that there was a fire earlier than Fire VII from 1170/71 was important, but it was more important to establish whether there were relatively clear grounds for suggesting that Building 45 had burnt down or whether it had been demolished on purpose.

Several of the wall posts in the building were unevenly burnt at the top, but it has been pointed out that this could in theory have happened secondarily in Fire VII in the winter of 1170/71. By this time the posts must have been buried for their full height, if not more, by the deposits which were recorded below Fire VII. However, it is hardly likely that a fire in this front area of the settlement – an area of scattered buildings on damp ground – could have been so intense that it penetrated below the contemporary ground surface. This situation alone should suggest that we ought to interpret the traces of burning as original and not the result of a later fire, in other words caused by Fire VIII. Nevertheless, we shall ignore this possibility and consider alternative methods for interpreting the building.

All the surviving parts of the building, the sill-beams, wall planks, posts, floorboards and joists were in an unusually good state of preservation. The building had therefore been in a good condition at the time it went out of use and had clearly not been a victim of decay or lack of maintenance. The only two possibilities left are intentional demolition and fire.

None of the wall posts had any axe marks or other signs of drastic treatment, but as there could be some doubt as to what extent such traces might have been obliterated by Fire VII, we shall not pursue this point for the moment. On the other hand it would seem most unlikely that posts up to 35cm thick and 2–2.5m high would have been cut through halfway up when they could easily have been pulled out and re-used. To chop through them would seem absurd considering the extensive re-use of timber which was documented during the excavations. For example, Gulliksen (vol 3, part 1, Appendix II, 149) has reckoned with a 30–50% re-use of timber as a minimum. The whole situation would seem much more reminiscent of the jumble of more or less burnt building timbers which would have been the result of a fire and which was otherwise so well documented at Bryggen.

In our opinion, only the destruction in a fire can provide a reasonable explanation why a solid and apparently fairly new and well-maintained building should have been put out of use. As Building 45 was followed by a particularly expansive period in which the built-up area along the whole shore-line was extended right down the beach using high foundations, this might indicate that not only Building 45 but also the whole area along the beach had been affected by the fire. Seen in a wider perspective, the alternative involving an intentional demolition would seem even less likely than when Building 45 is considered in isolation.

All the points which have been brought up and discussed suggest that Building 45 was destroyed in a fire previous to Fire VII in our fire chronology, but the documentary sources contain no references to a fire earlier than 1170/71.

As mentioned above, the remains of Building 45 were in an excellent state of preservation and showed little signs of wear, but as the building had been extended at a later stage, it must have functioned for some 15–20 years. If Period 2, which terminated with Fire VII in 1170/71 and which contained evidence for two phases in places, is reckoned to have lasted 20–30 years, then Fire VIII must be dated to around 1140–50 and Building 45 could have been built around 1125–30.

In the area behind Building 45 a number of posts and

post-holes were recorded whose only common link was that they were earlier than Period 2 and could not be meaningfully grouped together or assigned to any of the rows (fig 49). The relatively large number (21 in all), their mutual relationship, and the level of their bases make it likely that they represent more than one building phase. The most obvious feature was a cut running across the site at an angle and containing the remains of posts and vertical planks placed edge to edge. It was clearly noticeable in the pale sand and ran across Rows 3 and 4 for a total length of 16m, ending with posts to the north and south. At the south end a similar cut containing the remains of planks and post-holes was recorded eastwards for 2.80m and at the north end a narrower cut with occasional plank fragments could be followed eastwards over a distance of 5.70m.

The transverse row of planks ran along the foot of the bank at the top of the beach, more or less marking the transition between the beach and dry land. Compared with similar constructions in the early levels of urban excavations in the Germanic area, this feature must surely be the remains of an enclosure or property boundary. Moreover, it happened to coincide with the property boundary of the double tenement consisting of Rows 3 and 4 in the later phases (see for example plates 8 & 9).

In continuation of this transverse boundary fence but 25–30cm further to the north-west the remains were found of a 30cm wide cut heading towards an isolated post-hole under the north-east corner of Building 66 from Phase 2.2. It is possible that the cut and the post-hole belonged together and formed part of a similar enclosure.

Approximately 1.5–2m to the west of the southern part of the main enclosure fence, were the remains of a similar cut associated with one or possibly two posts. It was only recorded over a distance of 2.5m and cannot therefore be automatically interpreted in the same way as the feature to the east. It is not impossible, however, that it indicated the bottom of the enclosing wall below the floor-level of a building raised on posts, in which case the feature could be associated with six or seven of the post-holes, but it seems hardly likely that the post-holes were all contemporary. Lacking any criteria for a justifiable selection of related posts, one is left with the possibility that they belonged to two separate building phases, but the situation was too diffuse to be able to allocate a building no. Chronologically, they ought all to be earlier than Period 2, which would place them either in Phase 1.2, which burnt in Fire VIII, or in the preceding phase 1.1.

At the east end of the site inside the main enclosure there were 12 post-holes, some of which contained fragments of posts, which in two cases were burnt. Once again it would be unreasonable to associate all the posts with a single building. On the basis of their location and the level of their bases, seven or eight of the post-holes fall into a pattern and have therefore been assigned to Building 497. This is, of course, purely conjectural and must be treated with every reservation. It should be noted here that the post-holes inside the enclosure and also those immediately to the west were significantly larger in diameter than the post-holes further west in the beach area. This may indicate that on the gravel bank there had been a structure with roof-bearing uprights, whereas the holes and posts to the west had generally been foundation posts, with the exception of those associated with Building 45.

The dating of the structural remains in the rear part of the site can only be approximate and relative. Most of the remains were limited to the edge of the dry land and were all found beneath considerable layers of earthy sand and gravel under Fire VII. As pointed out above, two of the posts were burnt.

In the south-west quarter of grid-square R-1 in the north-eastern corner of the site, four posts were recorded under Building 210 from Phase 2.2, burnt in Fire VII. These must belong to an earlier phase, even though they could not be dated more closely. Two were relatively large, one being a split log with a diameter of c 50cm, which had been buried c 30cm in the gravel surface with its flat side facing north. It could therefore have belonged to the south wall of an early building. It has not been drawn on the plan of Phase 2.1.

On the plan showing Phase 1.2, burnt in Fire VII (fig 49), the burnt posts are indicated in solid black. They must all predate Fire VIII, but cannot be further differentiated.

If the remains which were recorded in the rear part of the site represented only two building phases older than Period 2, the earlier one, Phase 1.1, could date from 1110–1115 at the latest.

In grid-squares N6–P6 in the boundary zone between Gullskoen and Søstergården the remains of a gangway were recorded, running out over the beach to the edge of the underwater shelf. It has been interpreted as the counterpart of the isolated gangways or jetties recorded in the medieval excavations at Borgundkaupangen in Sunnmøre (Herteig 1972, fig 2; 1974, fig 2; 1975, p 28 & fig 4). Like the Bryggen example these ran out into the water without any buildings on either side. As this gangway was the only recorded structural feature from Period 1 in the tenements to the south of Gullskoen, it is mentioned here to complete the picture of the site in this period.

## SUMMARY, GULLSKOEN

### *Period 1 (fig 49)*

During the closing stages of the excavations contact was established for the very first time with the ground surface on which the initial development took place. In the north-eastern corner of the site near St Mary's Church, at the point where the beach ran up to dry land, the earliest structural remains from the excavations were recorded, consisting of no less than four separate building phases earlier than Fire VII (1170/71). The earliest two phases were associated with the traces of a fire which was separated from Fire VII by a layer of earth, gravel and wood-chips 50–60 cm thick. One of the buildings in particular, Building 45, was quite clearly separated from both Fire VII and the level associated with that fire, and the only satisfactory explanation is that it must have burnt in an earlier fire. This means that the earliest traces of burning must be interpreted as a separate fire, which we have labelled Fire VIII. This fire is not referred to in the documentary evidence, but it is thought to have taken place

around 1140–1150, so that Building 45 and the structures contemporary with it may have been erected around 1125–1130. Traces of other structures, for the most part posts and post-holes, are thought to represent an earlier building phase which would date back to the time around 1110–1115 at the latest.

From this period traces of an enclosure were recorded at the front of the bank marking the top of the beach. These would seem to indicate the boundary of a plot, whose width of 16m corresponds closely to the double tenement of Rows 3 and 4, which was later laid out here.

At that stage the wide beach was used as working area for loading and unloading boats and it had therefore been consolidated with a dense layer of small stones. The excavations stopped at this level, since a test trench in the disturbed beach area produced pure clay c 30cm below the stone layer. At what time this stone surface was laid is not known, but it was probably after a long period in the course of which waste deposits had accumulated on top of the clay. The consolidated surface went out of use after Period 1, since the structures in the following period extended right over the beach to the edge of the underwater shelf.

#### Period 2, up to 1170/71 (pl 14)

After the period represented by Building 45 came to an end (c 1140–1150) the first real development towards the sea commenced, with the tidal zone and sea-bed right out to the edge of the underwater shelf being taken into use for building. It represented an expansion of 20–30m which included the dumping of large quantities of organic deposits and some gravel. The buildings extended in long parallel rows, which already at this stage were arranged in double tenements: two rows of buildings with a central passage.

As the property boundaries which were recorded in Period 1 prior to Fire VIII correspond closely to the width of the subsequent double tenement in Period 2, it is possible that the double tenement arrangement is already reflected in the building pattern in the rear part of the built-up area in the first quarter of the twelfth century.

In the course of Period 2 we must assume that St Mary's was built and its churchyard laid out in the rear part of the Gullskoen area. At least three levels of graves were recorded in the furthest north-western corner of the churchyard. From the traditional conception of how the burial ground was disposed, this would suggest a relatively intense use of the churchyard in this early period. However, we have pointed out that the use of this peripheral area can have a normal explanation in that members of the lower classes, who were clearly in the majority, would have been allocated these burial areas. Moreover, the frequency of peripheral graves may have increased with the burial of non-natives at times of unrest.

On the Gullskoen site the remains of seven, or possibly eight, rows of buildings were recorded.

Rows 1 and 2 now shared a common passage and must be regarded as a regular double tenement, even though all the structural elements (the buildings and the passage) were separate entities. The eaves-drip gaps on the north and south sides were narrow and marked the boundary with the adjacent properties. It should be noted especially that the relationship with Søstergården was particularly

clear and provided a good basis for recognizing this as a property boundary in later phases when it was less evident. In Row 1 there were the remains of three buildings, as opposed to two in Row 2. The remains of posts, however, suggested that the development was the same in both rows.

At the rear of Row 3 a number of changes took place during the course of Period 2. Buildings 68, 69 and 495 were replaced by new structures (Buildings 43 and 488) and Building 39 was also clearly pulled down before the end of the period, which was marked by Fire 2 during the winter of 1170/71 (cf pl 14). In this rear part of the row the layout was irregular, in that there was a smaller structure, Building 495, situated on the north side of Building 69. This irregularity was emphasized by Building 39, which only took up a part of the width of the row. Towards the end of Period 2 a succession of lime-slaking pits indicated a relatively extensive use of adjacent areas of Rows 2 and 3 for industrial purposes. This activity seems to have taken place in the open air, partly at the expense of the building area, as shown by Building 39. This was an elevated structure whose sub-floor area was enclosed by a vertical plank wall, a type of structure also found at the rear of the tenements further south. Here, as in so many of the other buildings of this type, the "cellar" area was filled with a compact deposit of moss.

The row, which is assumed to have been fully built up in Phase 2.1, comprised six buildings in both phases of Period 2.

There were no obviously identifiable structures in Row 4, but two groups of foundation posts indicated buildings, which were labelled 502 and 498. Row 4 was seen as making up a double tenement with Row 3, the two rows being separated by a central passage. The eaves-drip gaps on the north and south sides were less than 1m wide and therefore to all intents and purposes impassable, although a single person could get through.

Row 5 extended from the northern boundary of the eaves-drip gap running alongside Row 4 and consisted of six or seven buildings, of which four were clearly identifiable. One of these, Building 44, was replaced after a time by a new structure, Building 41. The passage which ran down the north side of the row was shared by the next row, which was indicated at the western end by foundation substructures Kar 20–21 and Kar 51–52. Rows 5 and 6 thus made up a third double tenement in this part of the site but it was rather special with regard to the width and passage layout. The total width of the tenement was c 17m, or 17.7–17.8m when half the eaves-drip gaps were included, compared with 11–11.5m, which was the average width of the other properties in the Gullskoen area. The total tenement width was accentuated by the seemingly extravagant use of a wide space between the passage and the buildings on either side. Two of the buildings to the rear of Row 5 were connected to the passage by means of a gangway or flight of steps c 1.8m long. A similar arrangement seems to have been used for Row 6 further west, while alongside Building 38 the paved surface was widened by an apparently separate stretch of wooden paving which may indicate the presence of a gallery or pentice at ground level. How this can be related to the fact that Building 38 was an elevated structure with a sub-floor enclosure while the rest of the buildings in the row were ordinary warehouses is not apparent from the archaeological material. The layout and dimensions of this

tenement made it appear much more imposing than all the other tenements in the Gullskoen area of the excavations. Further south, however, tenements of similar width were recorded.

In the north-western part of the site, a log foundation structure was uncovered, which would have belonged to a seventh row. This is commented on further under Period 3.

#### Foundations

While the surviving remains of buildings from Period 1 indicated the exclusive use of either post-built structures or buildings erected on foundation posts, in Period 2 there was a differentiation in foundations which seemed to depend on the ground-surface. Over the well-drained glacial deposits at the rear of the site the buildings lay directly on the contemporary ground-surface, whereas over the beach area they seem to have been raised on posts, with the exception of the front part of Row 6, which had log-built foundation substructures. At the edge of the underwater shelf the built-up area ended with an imposing arrangement of stone-filled caissons.

#### The waterfront

With the exception of Kar 33 and Kar 28 in the double tenement of Rows 3–4 and Kar 38 in Rows 5–6, the caissons at the front of the Gullskoen area formed a slightly curving line, which followed the line of the beach and the edge of the underwater shelf. These nine caissons formed a natural continuation of the front caissons in Søstergården, Engalgården and Bugården in this period.

When the site of Dreggen 10–12 was excavated in 1973 prior to redevelopment, a similar substructure was recorded with its front at 69.00x/-26.00y. This lay c 30m to the north of the northernmost caisson in Gullskoen, Kar 136 in Row 7, and was moreover in line with the row of front caissons. There can be no doubt that this indicated a direct continuation of the line of foundation substructures which we had followed across the whole site from Bugården in the south over a total length of 105m (cf pl 14).

These caissons were log-built structures filled with stone, and were almost square, ranging from c 1.7m to c 2.4m long, with the majority around 2m. The sides were usually strengthened at their mid-point with a vertical beam, passing through holes in transverse logs laid at right angles at the top and bottom. None of the caissons had survived for the full height, but the approximate height, which was indicated in many cases by the upright pieces, probably ranged from c 1.5m to c 2m.

The base lay usually somewhere between -50cm and +10cm, with the majority lying between -30cm and -15cm, which would mean that at average low tide the water would have risen c 15–30cm up the sides of the caissons. There can therefore be little doubt that they did not function as wharfs, and this was further confirmed by the presence of upright posts in front of the whole row of caissons which must have belonged to individual post-built quays. In the double tenement of Rows 1–2 yet another indication was provided in particular of a ladder in front of the projecting passage.

The row of caissons can be interpreted as the front foundation substructures of the buildings in the rows and thus presents a total picture of the seaward facade of the built-up area in the middle of the twelfth century. The picture

is completed by the more irregular alignment of the separate post-built quays in front.

In the double tenement of Rows 3–4 the projecting caissons Kar 33 and Kar 28 could have been used as the foundations of a quay, while in Rows 5–6 the projecting caisson Kar 38 was in line with the tenement passage and may have formed the back foundation of a post-built quay further out.

Taking the whole waterfront into consideration, one is struck by the poor agreement between the caissons and the rows and passages (cf pl 14). In some cases there was agreement, while elsewhere they were located asymmetrically to the buildings. Perhaps one should not attach too much weight to this lack of exactitude, since it is a well-known fact that there are few medieval buildings where the angles and dimensions are exact, yet it seems rather too simple to settle for this explanation. The very scale of the system and the homogeneity in its layout, dimensions, use of raw material and execution are so striking that one is tempted to regard the whole system as a grand, carefully co-ordinated scheme. The harbour area could have been backfilled and built up with passages and the front caissons before the various buildings were erected, which may account for the lack of agreement which was found between the caissons and the house rows in some places. This would seem at any rate to be a reasonable explanation.

#### The passages

Attention has already been drawn to the way in which the rows in this period were arranged in pairs flanking a passage, and that these three elements formed the basis of the local development. The three passages in the Gullskoen area were constructed in the same way as in the tenements to the south: narrow, independent constructions on foundations which were carefully adapted to the topography of the ground surface and related to the distance from the sea. At the top of the beach they were laid immediately on the underlying gravel; further down the beach to about mean sea level the foundations were supported on pairs of posts; while over the sea-bed and out to the edge of the underwater shelf the posts were replaced by log-built caissons filled with stones. The different types of foundations were united at the top in the same way as the caissons along the edge of the underwater shelf.

#### The width of the buildings and tenements

The width of the buildings varied from tenement to tenement, and also partly within the rows themselves (for specific details, see the descriptions of the buildings). Of greater interest, and above all of greater consequence, are the dimensions of the double tenements or building plots, for whereas the dimensions of the buildings fluctuated in the course of time the established property boundaries – along the mid-line of the eaves-drip gaps – on the whole were maintained during the redevelopment of the property, even when the situation within the tenement was rather erratic.

The width of the double tenements in Period 2 was as follows:

Tenement	Excluding eaves-drip gap	Including eaves-drip gap
Rows 1-2	c 11.5m	c 12m
Rows 3-4	c 12m	c 13m
Rows 5-6	c 16m	c 17.5m

### Period 3, 1170/71-1198

In spite of the fact that Period 3 only covered the 27-28 years from the winter of 1170/71 to late summer 1198 it probably consisted of the most extensive building activity and the greatest new development relatively speaking. In all the Bryggen tenements the waterfront was extended or adjusted and in each tenement there were two distinctive building phases, though a few buildings seemed to last the whole period. After Fire II in 1170/71 there appears to have been a relatively moderate extension into the harbour of the built-up area (Phase 3.1). Later, in Phase 3.2, a much more extensive redevelopment took place in which the waterfront was pushed radically forward. This was achieved by the depositing of material on the sea-bed, often in vast quantities, on top of which medium-sized foundation substructures were constructed and filled with earth. In contrast to earlier, the respective double tenements now showed up as clearly defined units, being particularly distinguishable by the individually formed waterfronts (cf pls 11 & 13).

### Phase 3.1 (pl 13)

As pointed out earlier, Row 1 lies in the boundary zone between the E/W orientated tenements to the south and the Gullskoen area where the properties lay at an angle. This important dividing line, which was characterised by unconventional layouts, fell between the systematically excavated area to the north and the more summarily investigated area to the rear of the southern part of the site, which was partly excavated by machine in 1971-72. The interpretations which are essential for our understanding of the layout must therefore be based to a large extent on comparative material.

### Rows 1 and 2

Rows 1 and 2 were the most clearly identifiable with a particularly well-preserved passage between them, which like the other two passages in this phase was supported on upright posts for its entire length, in contrast to the differentiated foundations of the passages in the preceding period. Building 478 in the southern row and Buildings 479 and 480 to the north were replaced by new buildings in Phase 3.2. Beyond the edge of the underwater shelf two large earth-filled substructures were erected to form the waterfront as in Søstergården, in front of which a row of posts indicated the presence of a post-built quay in front of each row. The rest of the tenement had post foundations.

The general orientation of the property tended more towards a NE/SW direction, which meant that it was at a slight angle to the shoreline and to the line of the underwater shelf, but the new waterfront which was added took

on an E/W orientation, so that there was a slight change in the alignment of the tenement just behind the first building. This break in the alignment, which lay at around 98y on the site grid, was maintained at this point throughout the whole of Period 3, even though the built-up area was pushed significantly further forward in Phase 3.2. The width of the property was possibly fractionally more than in Period 2.

The boundary with Søstergården in this period was not definitely recorded anywhere, since no structures were found on the adjacent site of Row X in Søstergården. As we have seen, the rear part of Søstergården North was in fact a double tenement with a southern Row Y containing Building 126, a central passage, and a northern Row X, in which there were no recognizable structures. Thanks to the clearly defined Building 478 in Gullskoen's Row 1, the boundary with Søstergården could be identified, being in fact a continuation of the situation in Period 2. The conditions in the front part of the site, however, were less clear, due partly to the lack of recognizable buildings and partly to the narrowing of the property. This narrowing was a consequence of the change in orientation from a more ENE/WSW alignment to the E/W orientation further south, the changeover being absorbed in this boundary zone and perhaps particularly within the area of Søstergården's northern row. From being a regular double tenement at the rear of the site it narrowed at the seaward end to a single row with accompanying passage, most likely by the elimination of Row X in the area 96-100y, whereas Row Y continued westwards, possibly with a greater width. To what extent this situation affected Gullskoen's Row 1 or the double tenement Rows 1-2 is not known, but it is possible that the elimination of Row X allowed for a better width for the wharf-front buildings on the Gullskoen side, especially in Row 1. This would have been quite possible since in the wharf-front foundations the northern row in Søstergården appeared to be physically integrated with Rows 1-2 already in Phase 3.1.

### Rows 3 and 4

The buildings in Row 3 seemed to have remained standing throughout the whole of Period 3. The two westernmost buildings, 28 and 137, were timber-frame structures, and possibly also the next two buildings to the east, 24 and 25. Both these and Buildings 64 and 492 at the eastern end, of which only scattered traces were recorded, stood partly on ground walls and partly directly on the ground surface.

Several of the buildings in Row 3 clearly had differentiated functions. With their earth-filled wall benches, Building 24 and 25 must have functioned as living quarters, while Building 137 was an elevated structure with a sub-floor enclosure and must have served as a storage building of some kind like the other structures of this type.

In Row 4 Buildings 62 and 135 clearly remained standing throughout the whole of the period, while Buildings 33 and 35 in between them were only associated with Phase 3.1. Buildings 62 and 33 were raised on ground-walls; the others stood on upright posts, with a ground-wall between the posts in the case of Building 35. The width of the row was the same as in Period 2, or just slightly wider.

The tenement passage between Rows 3 and 4 was recor-

ded over a distance of c 34m. At the rear of the site it was laid directly on the ground; elsewhere it was raised on upright posts. It was c 1.9m wide at the back and 1.7m wide at the western end.

The waterfront was not definitely identified, but posts on a sill-beam in alignment with the waterfront buildings to the north and south indicated where the waterfront would have been in Rows 3-4. Of the front foundation substructures belonging to Period 2, Kar 28 and Kar 33 seemed to have been re-used in this phase, which was generally marked by the use of post foundations. At the far western end was a post-built quay in line with that to the south.

In contrast to the Rows 1-2, which had a break in alignment in the longitudinal axis, the double tenement of Rows 3-4 followed the same skew alignment right out to the waterfront, which meant that the seaward facade and the front of the quay lay at an angle compared with the rows to the south. As we shall see, the NE/SW orientation of the waterfront which was found here continued into the double tenement of Rows 5-6 to the north.

### Rows 5 and 6

After Fire VII the central part of Row 5 was used for lime-slaking activities, followed later by the erection of two buildings, 481 and 493, of which only flagstone floors had survived. These must in their turn have been replaced fairly quickly by new buildings. The other buildings in this row could date from the initial part of the period when the area was used for industrial purposes.

Like most of the buildings in Row 5, the buildings in Row 6 whose remains had survived seemed to have stood throughout the whole of Period 3, which is probably the reason why there was nothing which could be specifically associated with Phase 3.1 in the small area which could be investigated. However, there was clear evidence for a waterfront which was a continuation of that in Row 5, with a c 18m long foundation, Kar 19, running across the tenement. It was not clear whether this formed the foundations of the tenement's seafront building or whether it supported a wharf. A wide ladder could suggest that Kar 19 indicated an extensive wharf area. However, since the ladder was not on the line of the tenement passage but was in front of the southern part of Row 6, it may have led directly up to a doorway in the front building. This uncertainty concerning the true function of this foundation substructure was emphasized by the fact that several of its longitudinal beams stuck out to an unnecessary extent. Furthermore, traces of posts probably belonging to a quay were recorded in front of the southern part of the tenement. Even though most of the posts were lacking as they would have come outside the excavated area, it is tempting to assume that there was a post-built quay running along the front of the tenement, possibly recessed at the point where the ladder was recorded. An alternative explanation is that the ladder, which was found lying at an angle, had been standing at a relatively upright angle in front of the wharf, which continued in an unbroken line across the width of the tenement.

As is clear from the wharf, the width of the tenement was the same as in Period 2.

### Phase 3.2 (pl 11)

The majority of the buildings which were erected in Phase 3.1 apparently continued in use right up to Fire VI in 1198 and these have therefore also been included in Phase 3.2. What was quite new in this phase was the great development of the waterfront and the building technique which was employed there. Also erected in this phase was the little stone chapel dedicated to St Lawrence.

### Rows 1 and 2

Already in the first phase of Period 3 Rows 1 and 2 were identifiable as a double tenement, and this was also the case in Phase 3.2, even though the situation in Row 1 was not quite as clear, a point to which we shall return.

Row 2 on the other hand was relatively intact in the rear and central sections, but at the waterfront end only the foundations had survived. Apart from Building 471 at the rear of Row 1 and Building 472 at the back of Row 2, the structures were raised on upright foundation posts. At the front, the earlier structures in the harbour were removed and the built-up area extended seawards over an integrated system of medium-sized log substructures filled with earth, which were laid out in several rows behind and beside each other. At the front, the tenement foundations ended with a large combined log substructure, Kar 114, running across the tenement for 16.60m and supplemented on the seaward side by a quay on posts. A new tenement passage was laid over the preceding one with the surface boards running partly longitudinally and - as at the back - partly transversely.

The layout of the northern part of the tenement in other words was clear enough, but in those areas in the southern part where the evidence was not totally lacking it could just about indicate that the building pattern was the same as in Phase 3.1.

It is readily admitted that the poorly structured log arrangement with two or three courses of logs which was a continuation of Building 471 in Row 1 could be interpreted as the basis for a planked surface just as easily as the original foundations of a building. Moreover, the removal of the upper layers by machine in 1971/72 prevented us from establishing its actual termination to the south. In spite of the fact that the building pattern in this boundary area against Søstergården clearly altered in character from east to west, there were reasons for assuming that the layout was the same as in Phase 3.1 (see therefore the description on p 78). Particular attention, however, is drawn to the arrangement at the front of the tenement, which in Phase 3.2 clearly showed that Søstergården North, regardless of whether it had one or two buildings at the front, was completely integrated physically in the double tenement of Rows 1-2 to the north, whereas the relationship with the row to the south would appear to have been somewhat strained as far as the foundations can reveal.

### Rows 3 and 4

Only two of the buildings in Row 3 erected in Phase 3.1 were standing throughout the whole period. The others were gradually added as the eastern part of the property became available after its initial period of use for industrial purposes.

In Row 4 Building 33 and probably also Building 35 were replaced by 34 and 135, both of which stood on foundation posts.

The width of the property was the same as in Phase 3.1.

The tenement passage was paved partly with transverse and partly with longitudinal boards laid directly on the remains of the preceding level.

The waterfront was built up according to the same methods as the tenements to the south, using a series of small substructures. These were stabilized at the front by a row of posts, which also carried the deck of the quay. Since this waterfront of Rows 3 and 4 did not project further forward than the building line of the neighbouring tenements, it can only be concluded that communication along the quays was not possible in this area (cf pl 11). As can be seen from the plan of the waterfront in this phase, the front section of this double tenement was pressed in between the neighbouring tenements to the north and south, and this must have created a significant disadvantage for the sea-going traffic, which this tenement, like all the others, was so dependent on.

This noticeable lack of adaptation may be due to more profound reasons and attention is drawn to the similar lack of adjustment further south between the North and South Rows in Søstergården in Periods 3 and 4.

While the width in the rear part of the tenement remained the same, the waterfront in Phase 3.2 was reduced from the earlier c 11m to around 8m.

#### Rows 5 and 6

In the course of Phase 3.2 a chapel dedicated to St Lawrence was built at the back of the site, partly within Row 5 and partly in the adjacent area of St Mary's churchyard. To the north of St Lawrence's, it was not clear whether the site of the early Building 210 from Phase 2.2 was redeveloped. This would seem most likely, however, in which case the tenement passage between Rows 5 and 6 would have been shut off to the east.

Row 5 contained the remains of five buildings, four of which – 37, 133, 134 and 413 – had predecessors in Phase 3.1. The three buildings at the rear, 67, 63 and 37, were built directly on the contemporary ground surface, with the ground-walls surviving in places, while the three to the west, 133, 134 and 413, were all erected on foundation posts.

At the western end of Row 6 traces of posts indicated at least two more buildings, 115 and 116, and possibly also a third.

In many ways the tenement passage was very like the passage in Period 2: an unusually wide gap between the two rows (c 5.3m), but a narrow paved section (3m). While the gaps on either side of the paved strip in Period 2 were about the same width, the unpaved part in Phase 3.2 was mostly limited to the south side of the paving. The rear part lay directly on the previous passage, but the front section was raised on posts. What the gap alongside Row 5 was used for could not be deduced from the archaeological evidence. In some places it may have been an open space as in Period 2; elsewhere, such as adjacent to Building 37, the available area may have been covered by a pentice or gallery at ground level as in places in Period 2.

The tenement waterfront lay mainly outside the excavations, but the available evidence indicated a wide exten-

sion on earth-filled log substructures similar to Rows 3–4. It is possible therefore that the front substructures were stabilized in the same way and that they functioned as a quay.

In a northward extension to the excavations traces of two buildings were found, belonging to a seventh row, which may have been the southern half of a new double tenement. The two buildings, 477 and 500, which stood on posts with sub-floor enclosures, may date to Phase 3.1. Building 477 was c 4.5m wide and had an eaves-drip gap of c 50cm on its south side against Row 6, while the St Mary's Church Road, whose location was revealed in 1979 to the north-west of our site, lay c 3.5–4m away to the north. The continuation of this road towards St Mary's Church cannot be determined in detail, but with a certain adjustment of its possible position there could be room for an eighth row of buildings.

A particularly remarkable feature with the development in this phase was caused by the change in the longitudinal alignment in Rows 1–2 to the south, which began in Phase 3.1. This meant that a waterfront could be established which was in line with that of the tenements to the south with their more E/W orientation. Rows 3–4 and Rows 5–6 on the other hand consistently followed their traditional skew alignment with the result that there was a break in the line of the waterfront (cf p 80). Another distinctive feature was the integration of the internal foundations of the respective tenements, so that they appeared as independent units in the waterfront with no connection between Rows 2 and 3. In this way the significance of the double tenement as a major feature in the development was emphasized even more, and showed even more clearly which elements belonged together. Already in the next period it was found that this gave rise to certain problems.

#### Period 4, 1198–1248

Apart from Row 5, the waterfront in Rows 1 and 2, and some sections of the passages, the building pattern in the Gullskoen area remained unchanged from the beginning of this period right up to its termination by Fire V in 1248.

#### Phase 4.1 (pl 10)

##### Rows 1 and 2

The only surviving remains from the initial phase 4.1 were fragments of transverse boards in the rear part of the passage, four foundation substructures in the middle, and the remains of a drain. For these two rows the reader is therefore referred to Phase 4.2 and to the preceding Phase 3.2.

After the fire in 1198 the tenement's waterfront was dismantled and the area was filled up to the level of the quay with large quantities of deposits. These were then consolidated with logs laid lengthwise close together on top, after which the actual foundations for this phase were laid. These continued westwards beyond the edge of the excavations.

#### Rows 3 and 4

In Row 3 all the buildings remained standing throughout the whole period and they are described under Phase 4.2. At the eastern end of the tenement the area where Buildings 64 and 62 had stood in Phase 3.2 was used temporarily as part of the graveyard.

The foundations in the middle of Row 4 could suggest that at the beginning of Phase 4.1 they were first reduced in height. Otherwise the situation was the same as in Row 3.

In the tenement passage, however, there was clear evidence for two separate levels, with the joists and transverse boards belonging to Phase 4.1 being recorded over a distance of c 27m.

The foundations of the waterfront which burnt in Fire V at the end of the period were apparently fully built in Phase 4.1 (see the comments under Phase 4.2).

#### Rows 5 and 6

Row 5 was the only row with clearly defined remains of structures belonging to this initial phase of Period 4. There were four buildings in all, spread throughout the length of the site with the exception of a c 15m stretch in the centre which could not be excavated. The two buildings to the east, Buildings 16 and 58, and the westernmost one, Building 117, seemed to have been either post-built or were raised on post foundations. Building 217 in the western half of the row may have been a log-built structure (lafted).

In the area to the north of St Lawrence's Church three buildings belonging to Row 6 in Period 4 were recorded, two of which – Buildings 207/208 and Building 206 – are thought to belong to Phase 4.1. These buildings, which followed each other in time, blocked the access eastwards to St Mary's Church.

There were otherwise no identifiable traces belonging to the first phase in Row 6.

All traces of a seventh row had been removed by machine; nor were there any traces of a first phase in this period in the waterfront. This continued westwards beyond the edge of excavated area.

#### Phase 4.2 (pl 9)

##### Rows 1 and 2

Apart from the remains of Building 104 at the eastern end of Row 1, the archaeological situation was more or less the same as in the preceding phases, with sections of Row 1 and the adjacent areas of Søstergården completely missing. The few traces which were found were unfortunately so vague that nothing definite could be deduced about the development in this phase. It is therefore not clear whether Row 1 stopped at Building 104 or whether it continued westwards. From the situation in grid-squares L7 and K7 there was plenty of room for buildings as far as c 87–88y, at which point the widened passage took over. If there had been room further west for two buildings standing side by side, then they would surely have consisted of a wide main building and a narrow side building, both of which would have belonged to Søstergården North (Row X) like the contemporary situation in Søstergården

South. To accompany Buildings 400 and 401 in that row, there must have been one or possibly two main buildings, but a layout like this could not have continued down to the wharf since the plot continued to narrow westwards. If Row 1 did continue beyond Building 104 to the central or even the western part of the site, it could never have extended as far as the waterfront. From the situation in the southern part of the property, Buildings 121 and 399 show that it must have been Søstergården North's Row Y which continued westwards in grid-squares K, L, and M.

Row 2 consisted of five buildings standing in a continuous row representing a variety of structural types and functions. Building 99 at the eastern end was the earliest example on the Gullskoen site of a dwelling house. It had two rooms, the western one of which had a clay floor and a stone-built fireplace in the north-east corner. There were also indications that it had an upper floor which projected at the western end with a privy below at ground level. The next building to the west, Building 98, also had privy at the western end. Of the other buildings only the foundations had survived.

While Row 1 was a foreshortened row, Row 2 continued in a straight line, running at a slight angle right down the site. The width of the buildings varied somewhat, from c 6m at the east end to c 4m, alternatively 5m, at the western edge of the site. The maximum width of the tenement was around 13m and lay at c 96y.

Continuous stretches of the tenement passage were recorded to the east, where it measured c 1.8m wide, and to the west, where the width was up to c 5.5m.

In the waterfront area the Phase 4.1 foundations were dismantled, after which new foundations were laid on top of massive deposits.

The western end of the tenement lay outside the excavated area and its exact location is not known, but from the contemporary situation in the neighbouring tenement to the north it can be reasonably assumed that the seaward facade lay around 71–72y and the end of the quay at c 67–68y.

#### Rows 3 and 4

In Period 4 the double tenement of Rows 3–4 showed the same development as the neighbouring tenement to the south, in that the northern row, Row 4, was intact, while Row 3 to the south was truncated. It is possible that the use of the eastern area of this row for burials extended further west than in Row 4.

Row 3 consisted of only one definite structure, Building 27, which followed the property boundaries from Period 3, but Building 20, which lay immediately to the west in Row 4, was so wide – up to 7m in width – that it extended right across the passage and continued c 1.5m into the southern row. This may have been one of the reasons why the rest of the southern row remained undeveloped. To both the east and the west of the wide Building 20 the northern row had the earlier narrow width of between 4.10m and 4.60m, but despite this, there were no obvious structural remains in the adjacent area of Row 3. It is not impossible that the central stretch of the row contained a building or two which had left no traces, but to the west of 87–88y the property narrowed to such an extent that there was no room for a southern row.

In spite of the fact that the width of Row 4 fluctuated

greatly, its northern boundary remained the same, running obliquely in a straight line right down the site.

As a result of the varying width of the buildings, the tenement passage followed an irregular and unconventional course. At the back of the site to the east of the Building 27 in Row 3 and Building 21 in Row 4, a passage ran across the tenement, and there was a similar cross-passage on the west side of these buildings, leading in the case of Row 4 to a privy right against the eaves-drip gap adjacent to Row 5.

The width of the property varied from c 11m at the east end to around 9m at the western edge of the site. The tenement ended around 74.5–75y, with the front of the quay at 69–70y.

#### Rows 5 and 6

Row 5 contained the remains of eight buildings in all, the easternmost of which stood just in front of St Lawrence's Church. The archaeological situation was characterized by obscure building limits and unclear details. Within buildings, but even more so between them, the traces of industrial activities were recorded associated with the slaking of lime and the dressing of soapstone.

Row 5 varied in width between 5m and c 3.4m.

Apart from the area to the north of St Lawrence's containing Building 205 and an area at the western end, Row 6 lay beyond the edge of the site. The two buildings to the west, Buildings 114 and 474, stood on foundation posts, with the area beneath the floor of 114 enclosed by a plank wall.

Like its predecessor, the tenement passage followed an irregular course with a width of up to 6m and with open areas between the paving and the southern row.

The total width of the tenement was over 15m.

#### Period 5 (1248–1332)

Before the reconstruction work after Fire V began, the central area of the site was given over to an extensive workshop activity involving dressing soapstone and slaking lime. This may indicate that higher priority was given to the restoration or rebuilding of the surrounding ecclesiastical buildings – St Mary's, St Lawrence's, St Catherine's – than to private needs.

In contrast to the 50-year-long Period 4, consisting essentially of a single building phase, Period 5, which lasted 84 years, consisted generally of two distinct phases. In both phases the same boundary lines were more or less followed and the layout was basically the same as in Period 4. In other words, Period 5 also had truncated rows, obviously a result of the fact that the tenements in this northern area were slightly fan-shaped, narrowing towards the sea. The rear boundary of Rows 3 and 4 was apparently adjusted to accommodate the St Mary's Guildhall, which was built in the course of Period 5.

#### Phase 5.1 (pl 8)

##### Row 1

Once again the boundary between this row and Søstergården defied identification, even though more traces of structures had survived on the Søstergården side in this

period, especially in grid-squares L and K 7/8 where Buildings 395–397 were clearly identifiable. On the Gullskoen side the surviving remains only served to complicate the picture.

In this phase Row 1 consisted of Buildings 458 and 459 at the far eastern end of the site, while the next structure, Building 457, was displaced so far to the south that it was difficult to determine to which row it belonged. It clearly interrupted the alignment of the rows and also to some extent the traditional width of the rows. It was tempting to interpret it as a survivor from the previous Row X in Søstergården North, but it was difficult to decide where to place the dividing line between Building 457 and Building 395 to the west in Søstergården, not least because the alignment of the surviving traces suggested that Søstergården North continued eastwards in a practically straight line as far as c 96y – just as in Phase 4.2. It seemed therefore more sensible to see the eastern continuation of Søstergården North as lying contiguous with the southern wall of Building 457, separated by just a narrow eaves-drip gap. On the basis of this interpretation, it would have been Row Y which continued westwards to the waterfront, as suggested previously (p 78), while Building 457 must be regarded as an irregularly sited structure in the foreshortened Row 1.

The width of the row was 5.1–5.6m to the west, and 5.5–5.7m to the east.

The interpretation put forward here fitted in well with the picture of the later development, which became more and more clear: that Row 1 was cut off, while Row Y in Søstergården continued to exist. Up to Fire V the waterfront foundations of the latter row were integrated into those of the double tenement Rows 1–2, but from Phase 5.1 onwards the rows in Søstergården had their own foundations. The row still faced north, perhaps even with responsibility for the maintenance of the adjacent part of the passage (The Old Church Road), but to all intents and purposes it now lived its own life, continuing also to be physically independent from Søstergården South.

##### Row 2

In Phase 5.1 Row 2 consisted of four distinct structures, as well as two small undeveloped areas in the initial period following Fire V. The two buildings to the east, Buildings 464 and 97 were erected on solid ground-walls and may have been lafted (ie log-built), while the two at the west end were raised on posts. The buildings decreased in width westwards from c 6.4m in Building 97 to c 5m.

#### Passage between Rows 1 and 2

The tenement passage was clearly documented at the east and west ends but was irregular in the centre of the site, where there was a cross-passage to the east of Building 457 in Row 1. To the west of this building it is not impossible that there were more structures, the alternative being a significant widening of the passage here. At the east end it measured c 2m; between Buildings 97 and 457 it was c 4.7m; west of Building 457 it may have been at least 9m; at 96y it was c 8.2m wide; and at the front it narrowed again to c 5.5m.

#### Rows 3 and 4

Four separate buildings were recorded in Row 3 in this phase, but partly contemporary with this development and partly preceding it in an initial stage immediately following Fire V, there was an extensive industrial activity both outdoors and indoors. In one area this activity continued into Phase 5.2.

The four buildings, 218, 220, 221 and 219 stood gable to gable in the central and western part of the row, the rest of which was paved with wood. The buildings had survived for varying periods of time, which was only to be expected in an unburnt phase. Thus, Building 221 was partly contemporary with the neighbouring Building 220 from Phase 5.2, while Building 219 must have been demolished before the others in Phase 5.1. Buildings 218 and 221, and possibly also 219, were log-built. Building 221 had apparently gone through a dramatic period, since its north wall, which had been lafted (jointed) at both corners into the end walls, had been removed and replaced by a new timber-frame wall c 35cm further in.

The medieval Town Laws for Bergen, which were undergoing revision at this time, not only included regulations concerning the width of a passage, but also dealt with the power of the public authorities to intervene in cases where buildings spread beyond stipulated boundaries: "Our properties shall be built upon in such a way that a man carrying a pound weight [approximately 148 kg] can pass through the narrowest part, back and forth between the Street, [ie today's Øvregaten] and the wharfs... But if a man erects a house or gallery out over such a passage, the fine shall be 1 mark of silver and the house must be removed within five days. If it is not removed, then the bailiff and councillors shall call in to a moot at which men shall be appointed to go and chop down as much of the house as stands on or over the street or wharfs, thoroughfares or lanes or courtyards, which are smaller than now decreed..." (Magnus Lagabøters bylov VI, 4).

In our case it is reasonable to see the apparently dramatic change in the width of Building 221 as a reflection of the intention behind the Town Law. In its subsequent phase it was provided with a flight of stairs leading from the passage to the upper floor.

The width of the buildings in the row varied from 4.4m at the east end to 3.8m at the west.

Row 4 in this phase consisted of five buildings forming a continuous row. Building 214 at the west end seems to have continued in use right up to Fire IV.

Also in this row, areas were given up to various workshop functions, including the dressing of soapstone. As mentioned above (p 50) it is tempting to associate this activity with the obvious need for the repair and rebuilding of the stone-built churches in the neighbourhood: St Mary's, St Lawrence's, and St Catherine's.

From the boundary adjustments which took place and which seemed to be associated with the St Mary's Guildhall, it is reasonable to assume that the planning of the hall began immediately after Fire V.

Building 15 at the eastern end of the row was a two-roomed structure consisting of a narrow antechamber with a wooden floor and a large main room, which had a flagstone floor, a corner fireplace, and an earth-filled box-bench along one wall at least.

The buildings in the row varied in width from 6.10m to 4.50m, narrowing to the west.

To the east and west of the buildings in Row 3, the tenement passage was unusually wide, ranging from c 5.5m to the west to between 5m and 7m to the east. In the stretch between the opposing rows of buildings it varied in width from 2m to 2.2m.

The tenement ran obliquely in a straight line, and narrowed from a total width of c 12.8m at the east end to approximately 10m at the western end of the site.

#### Rows 5 and 6

Throughout its entire length Row 5 was dominated by the traditional workshop activities involving pits of various sizes, which were sometimes found filled with clay, and sometimes contained a mixture of lime, charcoal and soapstone waste. This activity, which in some places must have gone on throughout the whole of Period 5, took place both outdoors and indoors. As a result of this activity, which in places had produced false fire-layers and traces of burning, the identification of the different buildings was often difficult both in plan and in the vertical record.

Of the five buildings whose remains had survived the easternmost two showed signs of extreme wear. The floors in both these buildings were laid with prefabricated floorboards, which still retained the holes that had been made for transporting them. In one of the buildings there were indications of a traditional earth-filled box-bench.

The width of the buildings in the row varied from c 5.1m to c 4.2m.

Of the sixth row in this phase, only a few traces had survived at the extreme western end of the site and in the area to the north of St Lawrence's Church. (Building 204). The area in between was not excavated at this level, and consequently the tenement passage was only located over a distance of a couple of metres.

The full width of the in Phase 5.1 is not known; the maximum recorded width was c 14m.

#### Phase 5.2 (pl 7)

All the buildings from Phase 5.1 with the exception of two were replaced by new ones. Nevertheless, the layout was exactly the same as far as could be ascertained from the surviving evidence. As already mentioned, the industrial activity continued in Phase 5.2, particularly in Rows 4 and 5 on the north side of the site. To the south the situation was even less clear than in Phase 5.1.

#### Rows 1 and 2

No traces of any structures were recorded in Row 1 in this phase.

Row 2 contained four buildings taking up the whole of the excavated area, with a privy between the two western ones. Some of the buildings were large, and their width varied from c 6.6m to c 5m.

The Old Church Road was characterized by some partial resurfacing and a poor state of preservation. In places it had been entirely removed. To the east there was an extra level in between Phases 5.1 and 5.2. The road measured c 2.3m wide at the rear of the site, increasing in width westwards.

Otherwise, this tenement was much the same as in the preceding phase. Its total width is unknown.

#### Rows 3 and 4

In the preceding phase, the rear part of Row 3 had been given over to general access with the buildings concentrated in the central and western area. In this phase the situation was reversed, with the surviving remains of buildings at the rear of the site and a wide, open passage at the front. The width of the buildings varied from c 4.3m to 3.7m.

Row 4 contained the remains of four buildings forming a continuous row running from the Guildhall at the east end. The two western buildings were long structures, one divided into two rooms, the other with several divisions. There were fireplaces in the two eastern buildings. The width of the buildings varied from 5.54m to 4.20m.

While the northern row of this tenement ran evenly alongside the central passage, the adjacent facade of the opposite row was irregular on account of the variation in the width of the buildings. The passage had been affected by these conditions. At the rear of the site it measured 2.2–3m in width; immediately west of the truncated row it was c 6.8m, and at the western edge of the site it measured c 4.5m wide.

The total width of this double tenement was c 12m at the east end and c 9.5m at the western edge of the excavations, while the full width of the property was 12.10m to the east and c 10m to the west.

#### Rows 5 and 6

Like Row 4, Row 5 contained the remains of continuous buildings, but later activities here confused the picture in places. Close to St Lawrence's Church at the east end there seems to have been a stone-paved cross-passage, but the use of the site as far west as the first building was otherwise unclear.

Within two of the buildings traces of an extensive lime-slaking industry were recorded, which seemed to have gone on for most of Period 5. A large stone-walled pit lined with clay was part of this activity.

The width of buildings in Row 5 varied from 4m to 5.5m.

There were no traces of the sixth row, which would have lain entirely outside the excavated area, but the southern edge of the tenement passage was recorded over a distance of c 18m.

In this phase, the eaves-drip gap adjacent to Row 4 to the south was apparently used in the eastern part of the site as a kind of passage.

#### Period 6, 1332–1413

Period 6, which covered 81 years, consisted of two distinct building phases, 6.1 and 6.2. In each of these phases there were two levels in the passage belonging to the southernmost tenement (Rows 1 and 2), and these were designated as levels 6.1.1/6.1.2 and 6.2.1/6.2.2. This passage, which was later known as The Old Church Road, showed signs of extreme wear, and a reasonable explanation for this is that it was already being used as a public thoroughfare at this time.

The previously established layout and property boundaries were followed with painstaking accuracy right through

Period 6. In a couple of cases the boundaries varied by 50cm at the most, but this could have been due to subsequent structural movement or local subsidence. Once again, parts of the properties were used for the traditional industrial activities, but on the whole this was confined to Row 5, especially towards the end of the period. The poorly defined boundary with Søstergården in the central and rear parts of the site continued to be a problem.

#### Phase 6.1 (pl 6 & fig 19)

##### Row 1

Apart from some structural remains in the western part of the site, which must have belonged to Søstergården North, the only surviving remains from Row 1 on the south side of The Old Church Road were from a ground-wall beneath the north wall of a single building, 436. The row did not continue further west, and the area to the east appeared to be undeveloped. At an early stage in the first building phase after Fire IV (designated as Sub-phase 6.1.2), Building 436 was replaced by a new structure, Building 438, and at the same time Building 437 was erected on the open land to the east. The area to the west, however, continued to be used as a passage.

##### Row 2

In the second row there were the remains of a continuous row of buildings. Building 430 to the west was log-built and unusually well preserved in plan. Between this and the neighbouring building to the east, Building 435, the remains of a privy were recorded, again in a relatively good state of preservation.

The width of the buildings in this row decreased evenly from 5.8m in the east to 4.1m at the west end.

The width of the tenement at the east end can only be estimated: here a width of 12.5m was recorded. At the west end the recorded width was 11.6m and the actual width is assumed to have been approximately 15m.

As mentioned above, there were two levels in the passage, and at each level a very wide pavement was recorded in much more detail than previously. Large areas were intact, but the state of preservation on the whole was poor. The maximum recorded width was c 8m at 88.00y, but the passage was probably 10m wide or more just to the west of the end of Row 1.

#### Rows 3 and 4

In the eastern part of Row 3 two wells were constructed after Fire IV. A large building with a clay floor in the central part of the row was the only structure; the rest of the row was laid out as a passage.

Large areas of Row 4 remained apparently undeveloped in the first part of the period following Fire IV. The remains of three buildings were recorded, with widths varying from 4.5m to 5.8m. The building at the west end had been made a little wider, since the neighbouring row to the south was truncated.

Both Row 4 and the tenement passage continued practically right up to St Lawrence's, the passage being particularly well preserved throughout its length. Its width towards the east ranged from 3.1m to 2.2m. West of the

end of Row 3 it was 7m wide, but it narrowed to c 5m further west.

The full width of the property was around 12m in the centre of the site.

#### Rows 5 and 6

The central part of Row 5 was not excavated, and the situation to the east was not clear. Westwards the site was extended by 16m at this level to c 56y.

Judging from its construction and contents, Building 9 in this row could have been a stonemasons' workshop.

The alignment of the row carefully followed the previously established pattern, and the width of the buildings increased from 4.8m at the east end to 5.3m in the centre, and then decreased again to c 5m at the west end.

The sixth row and most of the tenement passage lay outside the excavated area.

#### Phase 6.2 (pl 5 & fig 17)

The development which followed in Phase 6.2 was on the whole a copy of the previous level, except that the site was more densely built up. The fifth row was still strongly dominated by workshop activities.

Row 1 was truncated. As in Sub-phase 6.1.2 (the latter part of Phase 6.1), there were only two buildings at the east end of this row.

Building 93 at the rear of Row 2 was divided into two rooms with traces of a clay floor and with a corner fireplace in the eastern room. Between the two western buildings in this row, 428 and 429, the gap which was recorded at the equivalent point in Phase 6.1 had been retained but perhaps no longer contained a privy. The width of the buildings was more or less the same as in Phase 6.1, ranging from 5.8m at the east end to 4.5m in the west.

The total width of the property was clearly the same as in the previous phase.

Of the two levels in The Old Church Road in this phase, the first one, 6.2.1, was relatively continuous and in an excellent state of preservation, but the later level, 6.2.2, was badly burnt and missing in places. The width was as in Phase 6.1.

Row 3 was truncated at about the same place as in Phase 6.1, but now consisted of two buildings, compared with only one earlier. The width of the buildings ranged from 4.5m to 4m, and in Building 7 to the east a corner fireplace was recorded. The rest of the row was the same as in the period's first phase.

The eastern end of Row 4 adjacent to the St Mary's Guildhall was also closed off in this phase, but the buildings no longer abutted the hall. In fact, there was evidence to suggest that there was an external passage running between the end of Rows 3 and 4 and the Guildhall, which probably had an upstairs gallery or garderobe containing a privy projecting from the west end over this passage.

Row 4 itself contained the clear and continuous remains of six buildings in all, with widths varying from 4.7m to 4.5m, and with the widest building at c 5m at the western end. This building, 132, which was also the longest, was probably taking advantage of the open area to the south, like its predecessor, Building 185 in Phase 6.1.

The tenement passage was recorded over the whole

length of the property, but it was badly burnt and poorly preserved in places.

The width of the passage and the total width of property were the same as in Phase 6.1.

St Lawrence's formed the eastern end of Row 5 in the same way as the Guildhall formed the end of Row 4. Row 5 was otherwise strongly dominated by the industrial activities which were traditional here and which now involved stone-walled pits of various sizes, such as those inside Buildings 6 and 441. The actual outlines of buildings were on the whole difficult to identify. Their widths varied more than before, ranging from c 6.2–6.3m to c 4m.

Of the tenement passage associated with Row 5 only a narrow stretch a few metres in length was recorded.

The rest of this tenement lay to the north beyond the limits of the excavated area.

#### Period 7, 1413–1476 (pl 4)

In spite of the fact that Period 7 covered 63 years, there were only traces of a single building phase, but from this period onwards the effects of the catastrophic fires were aggravated by modern disturbances. Nevertheless, the most important features in the development pattern were generally identifiable, such as the layout of the different properties and the boundaries between them. The constant problem of the width and limits of Row 1 and The Old Church Road was still present. All the essential features followed the traditional pattern in every detail.

Rows 1 and 3 continued to be truncated rows, consisting in each case of only two buildings at the rear of the site, with the same widths as in Period 6 or just a few centimetres narrower. This was clearly of no consequence for the location of the property boundaries.

In the double tenement of Rows 3–4 the rear boundary was again formed by the St Mary's Guildhall. Only scattered traces of Row 4 had survived, but the tenement passage could be followed almost the length of the tenement.

Also in Row 5 there were only scattered remains of structures. The easternmost building contained a large stone-built hearth lined with clay which practically filled the building. It was associated with the traditional lime-slaking activities, evidence for which was also recorded in the adjacent structure, Building 448. The width of the buildings ranged from 6.7m at the east end to c 5.7m at the west.

The north-western corner of the site contained traces of the foundations of a building in Row 6 belonging to this period.

#### Period 8, 1476–1702 (pl 3)

It had been possible to follow the development of the site stage by stage over a period of approximately 350 years, observing how first the beach and then the back-filled harbour had been taken into use as building land, and how the original property boundaries and the layout of buildings and passages within them followed an established pattern. With the fire in 1476, which marked the end of Period 7, the mutual relationships within the Gullskoen

area ceased and the reason for this is found in the surviving written sources which explain how a fire break was established to protect the principal and vital areas of Bryggen by leaving some of the tenements to the north of Søstergården undeveloped. Apart from two named properties in the area, Miklagard and Atlegard, which were said to be derelict (Lorentzen 1952, 118), we do not know how much land was left open, but there were no traces within the excavated area of the next catastrophic fire in Bryggen which affected the area to the north of Søstergården in 1527. This may of course be due to poor conditions of preservation or to later disturbances in this area, but it is most likely due to the fact that the c 22m wide site north of Søstergården actually lay open at this time.

From the middle of the sixteenth century onwards, new buildings began to encroach, but probably very little was represented in the archaeological evidence from the fire in 1702. The few poor traces which were recorded showed that the old building alignments were repeated, and a more detailed analysis has also demonstrated that the alignment of the earlier property boundaries was also repeated, although the boundaries were represented in another way than before.

Remains of buildings were only recorded in the north-western part of the site. To the south, the northern boundary of The Old Church Road was marked by a post fence, whose significance was emphasized by the existence of a line of large well-spaced trees. This boundary coincided with the southern building-line of the earlier Row 2, and was also characterized by a change of direction at about 80y, reflecting the earlier situation. This showed that in Period 8 Row 1 had been entirely absorbed into The Old Church Road, while Row 2, which was now physically separated from the rest of the tenement, had probably lain undeveloped since 1476. The possibility cannot be ignored, however, that this and some of the other abandoned sites were sporadically built on at times during the 260 years between 1476 and 1702, but we are deprived of any evidence.

On the northern side of The Old Church Road there was the undeveloped site of Row 2, plus an open area 17–18m wide corresponding to the site of Rows 3–4. This wide gap, which therefore covered the former Rows 2, 3 and 4, was bounded to the north-west by Buildings 419 and 420. These two buildings may have been part of the southern row of a double tenement of relatively large dimensions, with Buildings 417 and 418 possibly forming the northern row, so that the two rows coincided with the limits of our previous extra wide tenement consisting of Rows 5 and 6. The northern boundary of this tenement was not recorded.

This level also included the foundations of Building 181, a large building probably built in stone. It lay at right angles to the traditional building line.

#### Period 9, 1702–1955 (pls 1 & 2, figs 8 & 9)

The archaeological evidence for Period 9 contained the remains of three phases, limited to the western and central part of the site. Phase 9.2, which ended the period, consisted more or less of the buildings which were destroyed in the 1955 fire. The earlier phases, 9.1 and 9.1.1, comprised mostly the ground-walls of buildings.

There was a complex system of drainage channels in the central and rear part of the site.

The main outlines of the earlier periods were once more recognizable in the layout of the buildings and property boundaries, apart from a few scattered and chance remains in the two earlier unburnt phases.

Up to the fire in 1955 the western and more regular part of the site was occupied by three rows of buildings, one adjacent to Søstergården on the south side and the other two lying close together on the northern side of a tenement passage which widened towards the rear of the site. This property, which we know by the name of Gullskoen, actually covered the site of five of the previous rows, Rows 1 to 5 inclusive. In 1702 it formed the northernmost property on Bryggen, but its northern boundary adjacent to the new wide street of Dreggsalmenning lay some 10m or so to the south compared with the earlier buildings, which in the High Medieval period were bounded by the St Mary's Church Road.

### TENEMENT NAMES IN THE GULLSKOEN AREA

In our description of the site, we have avoided attaching particular names to the various rows and tenements apart from Gullskoen itself in Period 9. Our main objective has been to present the archaeological material in such a way that it can be placed alongside the relatively disjointed and somewhat vague picture provided by the documentary evidence. Local historians have found it difficult to correlate the different interpretations of the tenements with the deserted properties which were located in the Gullskoen area. The problem is particularly apparent after 1476. This is partly due to the fact that different standard lengths of *alen* were in use, but it was mainly because the topographical details, on which the descriptions and measurements in the documents were based, were not known. This included the northern edge of The Old Church Road, the location of St Lawrence's Church and the St Mary's Guildhall, the western limits of St Mary's churchyard, and the line of the waterfront. We now know practically all these and have therefore a better basis for making a more concrete evaluation.

Even though an essential part of the problem lies in the period after 1476, it is inseparably tied to the traditional ideas about the named tenements and their boundaries in the High Middle Ages. This applies particularly to the location of the earliest known named tenement, Miklagard, whose name means literally the great or large property. Miklagard is first mentioned in connection with King Sverrir's attack on King Magnus Erlingsson in the summer of 1183 (Sverri's saga 83; Sk 99–100; Flat II 602–03), where we are told that Sverrir's men went up past Miklagard to St Mary's churchyard. The location of the property is more explicit in connection with the attack in 1206 on King Sverrir by the men of the Bagler faction, who fled from St Mary's Churchyard past St Lawrence's and down through Miklagard (Sk 277; Eirsp 455; Fms IX 225).

If we study the layout of our tenements from the period around 1206 (Phase 4.1, pl 10), we can see in theory at

least two possible escape routes: one to the north of St Lawrence's through the tenement of Rows 5–6 and one to the south through Rows 3–4. On the basis of the archaeological evidence we have characterized the tenement of Rows 5–6 as the great property, since it was clearly distinguished from the other tenements in the Gullskoen area on account both of its total width and of the width of its individual rows. The archaeological material would therefore seem to point unequivocally to Rows 5–6 as the Miklagard in the documentary sources. Nevertheless, it is difficult to reconcile this with the total situation, because all the evidence suggests that in Period 4 the tenement was closed off at the churchyard end by Building 207 just north of St Lawrence's, with just a narrow opening c 3/4m wide between St Lawrence's and the adjacent building. This was no passage in the usual sense of the word, but merely a narrow gap which could never have provided an escape route for a large body of men. The account refers to a great crush at the tenement gateway and many men falling there, but this tenement gateway could not have been at this place. This fact alone precludes the identification of Rows 5–6 as Miklagard and it is also supported by what the documentary sources otherwise tell about the named properties of Bryggen.

In addition to Miklagard, two other properties are mentioned by name in the northern part of Bryggen, Sveinsgard and Gullskoen, although there is no specific information about their location. As we have heard (p 108), Miklagard and Atlegard were not rebuilt after 1476 (see fig 54). Together they must have made up a considerably large open area north of Søstergården, a point to which we shall be returning in due course. No traces were found in the excavated area of any buildings which burnt in the next fire in 1527, yet according to the written sources the following tenements north of Søstergården burnt down in that fire: Sveinsgard, Gullskoen, Bremergard and Skjeggen (Bruns 1900, 394). After this fire, Gullskoen was said to be the northernmost tenement on Bryggen with Sveinsgard to its south most likely forming the northern side of the open area north of Søstergården. If the location of Sveinsgard and Gullskoen at that time was identical with their location in the High Middle Ages – and there is no reason to doubt this – and if our Rows 5–6 formed the historical tenement of Miklagard, there would not be enough room for the other properties.

It will be recalled that traces of a seventh row were recorded to the north of Rows 5–6, and it is reasonable to assume that there was yet another row before the St Mary's Church Road, which would have formed the northern limit of this built-up area (see pls 11 & 12). Both Sveinsgard and Gullskoen were double tenements and Knut Helle (1982, 196) has pointed out that they must have lain within the maritime trading area as determined by the Town Law, to the south of the St Mary's Church Road, Rows 8–7, and 6.–5. This confirms our hypothesis that Rows 5–6 cannot be identical with the historical Miklagard of the High Middle Ages.

Our archaeological evidence refers only to the ground plan, and tenements could therefore have differed greatly in height or shape without this being reflected in the archaeological record. Criteria other than area may have given rise to the epithet of "great" and the interpretation of Rows 5–6 as Miklagard can therefore be rejected.

We are thus left with the alternative escape route for the Bagler men, along the south side of St Lawrence's and

down the passage between Rows 3 and 4. This way from the churchyard must have been open at least as far as the tenement gate, because the graveyard at this time spread beyond St Lawrence's as far as the tenement buildings.

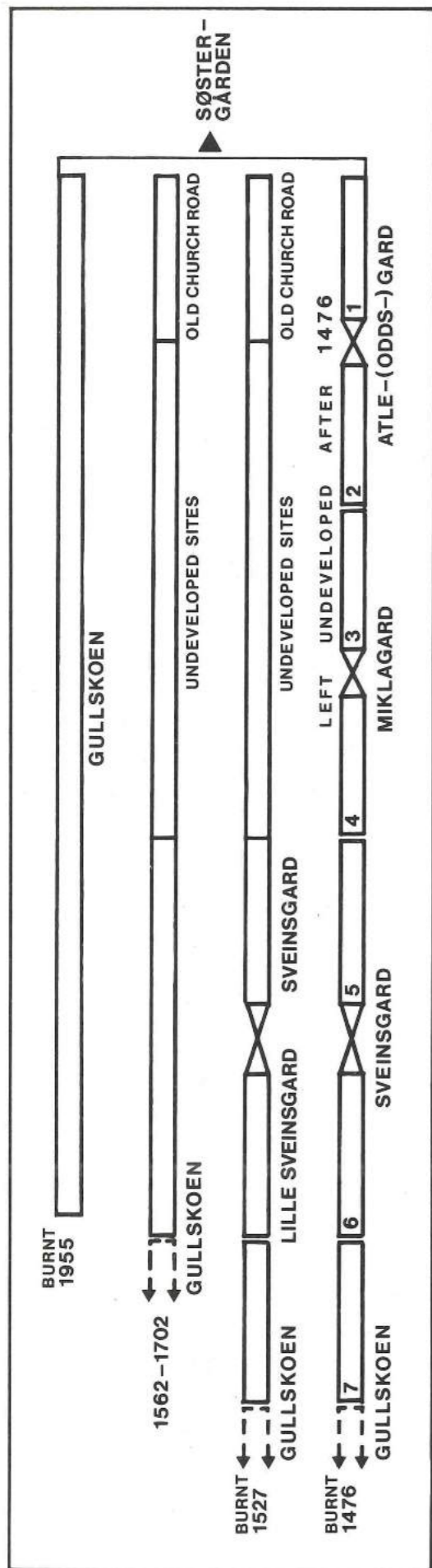
Before Rows 5 and 6 were excavated and interpreted, we had been of the opinion that Rows 3 and 4 corresponded to Miklagard, and this was taken up by Helle (1982, 236). It was an interpretation that allowed room within the 7–8 rows which we had uncovered between the St Mary's Church Road and Søstergården for all the tenements named in the written sources: (from north to south) Gullskoen, Sveinsgard, Miklagard and Atlegard. Concerning the situation regarding the property or properties referred to variously as Atlegard, Otto gard and Atto gard, see Helle 1982, 237–38; this may have been the neighbouring tenement to Søstergården in the High Middle Ages, ie our Rows 1–2.

With the abandonment of Miklagard and Atlegard after 1476, Sveinsgard formed the northern flank of the open space facing Søstergården (see fig 54). In the 1527 fire, Sveinsgard and Gullskoen, the northernmost two tenements on Bryggen, both burnt down again, but what happened to this area afterwards is not really known. By the middle of the century, however, as we have seen, some interest began to be shown in the area, and the picture which we get at the time of the 1702 fire shows that the properties had been redivided, or perhaps combined, a process which continued at a faster pace right up to 1955. The width of the properties, which had been generally narrow in the medieval period, also increased (see pl 3).

From various accounts and surveys of these properties a detailed picture can be obtained of their location and mutual relationship in this period. How much weight should be attached to these sources is, however, an open question. At times they are clearly misleading; or else they are so vague that every scholar who has studied them has drawn a different picture of the circumstances. It must be remembered that the documents date from 80 or 90 years after the properties were laid waste.

A typical example is a survey in 1562 by Erik Rosenkrantz, the governor of Bergenhus Castle. It is relatively concise, with clearly given measurements which refer to points which can be verified, but it cannot be correct since quite obviously the wrong address has been attached to it: it purports to refer to the site of Atlegard whose east end is said to stretch 12.72m (23 *alen*) southwards from the stone vault which had originally been the church of St Lawrence, while further down the site it measured 15.48m (28 *alen*) (see for example pls 8 & 4). The width and location of the east end show that the site of Atlegard in 1562 according to Rosenkrantz coincided with our Rows 3–4, which we have related to the Miklagard of the historical sources. This cannot be reconciled rationally with the situation described above. From our plans it can be seen that Rows 3–4 ran in a relatively straight line westwards without the increase in width implied by the survey of Atlegard. On the other hand, the measurements for the site referred to as Atlegard agree well with the open area prior to 1702 which lay between The Old Church Road (whose boundary was marked by a fence and line of trees) and the contemporary buildings to the north (Buildings 419 and 420) (pl 3). But this area corresponded to the combined sites of Rows 3–4, our Miklagard, and Row 2, our medieval Atlegard (fig 54). It is reasonable therefore to assume a direct connection be-





tween the measurements given for the supposed site of Atlegard in 1562 and the open area in 1702. The relating of this property by Rosenkrantz to Atlegard must therefore be due to some misunderstanding or confusion of properties, even more so in that the same document places Miklagard further south on Bryggen (Helle 1982, 236-37). Among the local historians who have been concerned with this problem, Koren-Wiberg regarded Miklagard and Atlegard as one and the same property, and Bernt Lorentzen maintained that the measurements given for Atlegard were actually the measurements of Miklagard (Lorentzen 1952, 118).

The Rosenkrantz document also shows that in 1562 it was no longer Sveinsgard which lay to the north of the site of Atlegard (= Miklagard), but Gullskoen, and it is tempting to see a direct association between this Gullskoen and our double tenement consisting of Buildings 419/420 and 417/418 in Period 8, which burnt in 1702. The boundaries and widths also coincide with our earlier double tenement of Rows 5-6, Sveinsgard. Since on the basis of the Scholeus engraving of Bergen from c 1580 there are reasons for believing that Gullskoen at this time consisted of three rows, it could be his two southernmost rows which we uncovered in the excavations. After 1702, the final division of the properties took place, with Gullskoen being moved right up to Søstergården by taking over all the properties from Row 1 to Row 5 inclusive.

We still have the question concerning the identification of the so-called Nagel's plot (*Nagels Grund*) (cf p 11). In 1563 it was supposed to lie on the south side of Gullskoen and it may have been built on shortly after. If, as Helle has assumed (1982, 706), Nagel's plot was the southernmost of Gullskoen's three rows as seen on the Scholeus engraving, it could be identical with the row consisting of Buildings 419/420 from Period 8 ending in 1702. It must therefore be a later - and temporary - name for Sveinsgard South, since in 1562 Gullskoen was said at this time to have taken over the southern part of the former Sveinsgard.

The archaeological evidence does not allow any room for a separate Nagel's plot north of The Old Church Road. The name must therefore be an innovation from the sixteenth century and the site must relate to one of the rows in the former properties in this part of the excavations. As the plot was apparently built on shortly after 1563, it ought to be visible on the Scholeus engraving from c 1580. On this basis it is reasonable to accept Helle's interpretation (1982, 706) that it was Gullskoen's southernmost row in the second half of the sixteenth century and corresponds to our Row 419/420 from Period 8.

Fig 54 Sketch section of the buildings in the Gullskoen area showing the location of the named tenements from 1476, 1527, 1562-1702 and 1955. Looking east.

## MAIN FEATURES IN THE DEVELOPMENT OF THE WHOLE SITE

### Prior to Period 2 (up to c 1145-50)

In the southernmost part of the site, in Bugården and Engelgården South, the excavations had to stop before the bottom levels were reached. In Engelgården North and Søstergården the backfilled deposits of the harbour basin were investigated right down to beach level, but contact was not established with the initial development surface. In the rear northern part of the Q grid-squares, the excavations went as deep as the original gravel deposits, which had apparently been exposed for some time, since they had become overblown with several extremely thin layers of fine light sand. Between 8m and 10m west of the area later occupied by St Lawrence's Church and the St Mary's Guildhall, the layer of gravel ran into the wide beach zone, whose surface consisted of a mixture of fist-sized and smaller stones lying on sand and gravel mixed with clay. This surface was traced for c 70m right across Gullskoen, Søstergården and Engelgården North. The length of the beach zone from the edge of the gravel at the rear out to the edge of the underwater shelf varied between c 20m and c 30m. At mean sea level, approximately two-thirds of the beach would have been exposed (cf Herteig 1969, 98-100). A trial trench at the rear of Row 2 in Gullskoen produced pure blue clay at a depth of c 30cm below the layer of small stones and this was considered to be what is usually referred to as natural. Over the whole of the beach zone the upper levels of gravel and sand were mixed with wood chippings and

charred fragments of wood, on top of which lay the small stones (fig 55). These must have been intentionally deposited here after the area had been in use for a time, in order to provide a firm ground surface for the loading and unloading of ships and other work on the beach, and the mixed deposit underneath must be a result of this activity. The stone layer must have been deposited during Period 1 at the latest, some time in the first half of the twelfth century, and went out of use at the beginning of Period 2, in the middle of the century.

The excavations stopped at the stone layer in the beach zone, but the trial trench in Gullskoen which had produced the blue clay was found later not to be representative for the whole beach area. When the building contractors started work on the site in 1979, we were confronted by a new and totally unexpected situation, since the mechanical excavators revealed three stratigraphically successive layers of occupation deposits in Søstergården beneath the beach level from Period 1 under Fire VIII. These deposits have been described and interpreted by K Krzywinski (1984, 3-36).

Since the strata were revealed in a vertical face and not by means of an ordinary excavation, a summary is given here in chronological order. There were in all eight successive sets of deposits beneath the stone layer from Period 1 and common to them all was the fact that the strata dipped steeply towards the sea (Krzywinski 1984, figs 3 & 5). The three deposits containing occupation material, which are numbered 3, 5 and 7 on fig 56, were separated by inorganic layers of fine and coarse gravel, sand and silt. The primary layer (1) was of "glaciomarine or subglacial origin" and according to Krzywinski was deposited around 10,000 14C-years BP (figs 56 & 57). The earliest



Fig 55 Continuous widespread layer of small stones laid on the beach in Period 1 in the first half of the 12th century at the latest. The stone layer was covered with a thin layer of clay and had gone out of use by the middle of the century, in the opening phase of Period 2.

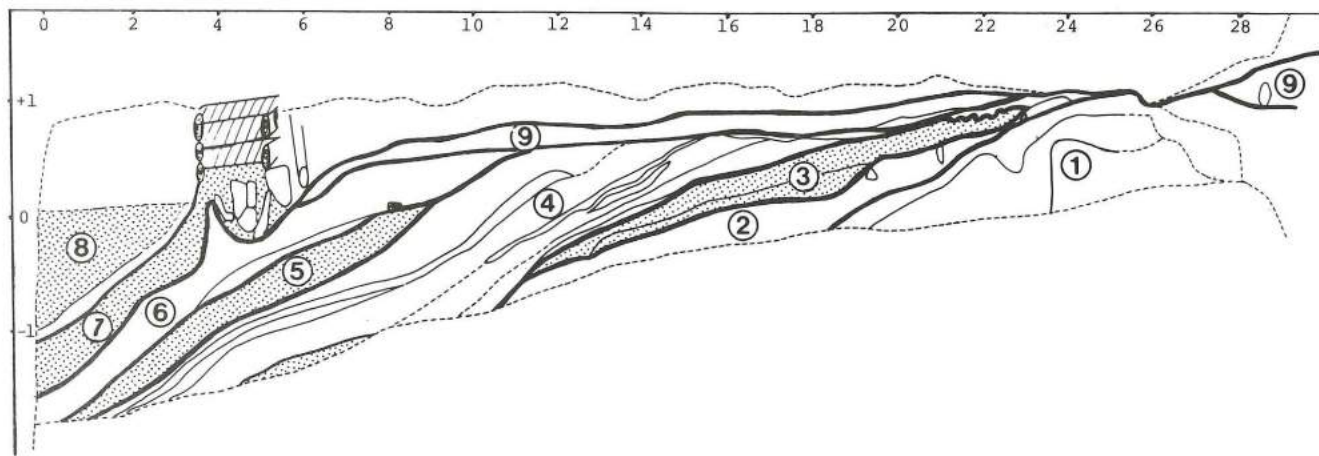


Fig 56 The stratigraphical sequence of the deposits revealed after building work began on the site. Looking north. Layers 3, 5 and 7 are organic deposits indicating early occupation. (After Krzywinski 1984.)

occupation deposit (3) was 20–30cm thick and contained charcoal and charcoal dust, and pollen grains from pine, birch, ribwort plantain, alder, and minor amounts of hazel, ash, elm and lime, as well as barley and weeds of cultivation. In addition to these terrestrial components, there was such a significant amount of phytoplankton that the whole layer was regarded as having been deposited under water. From the radiocarbon analysis, the deposition could have happened in the fifth century BC.

The next occupation deposit (5) coincided with the edge of the underwater shelf and dipped from +10cm to –2m, below which depth it became inaccessible. The maximum thickness of the deposit was 16–18cm. It had also been deposited under water, but the components of branches and twigs, grain, human parasitic worms and so on, demonstrated that it had first been deposited on land. The layer was dated by radiocarbon analysis to the period between AD 600 and 800, being most likely earlier than AD 700. The period of deposition is thought to have been short.

Deposit 7, which was stratigraphically later than deposit 5, was located further forward above the front of the underwater shelf and dipped more steeply. It was separated from the earliest urban occupation layers by a thin layer of sand. It ran out from under the front foundation caisson, KAR 41, from Phase 2.2, burnt in Fire VII, and dipped westwards beyond our reach at a depth of c -1.60m. Its contents of wood-chips, hazel nutshells and moss clearly indicated its terrestrial and human origins, and *Trichuri trichiura* eggs showed that human excrement was also present in the deposit. In its composition it corresponded generally to the thick layers of urban occupation material redeposited in the waters of the harbour. Radiocarbon dating placed the layer in the period AD 1000–1070, alternatively AD 1090–1150.

Of these early deposits, layers 3 and 5 reflected important aspects of the man-made landscape on the east side of the bay of Vågen in the Iron Age. They had been washed down into the sea in floodwater from a brook which ran into the area of the excavations. At the mouth of the brook they apparently formed a delta whose horizontal strata were atypical for the area generally, but they may have varied with changes in the amount of floodwater and alterations in the course of the brook.

The earliest layer (3) reflected an early agricultural environment with grain, weeds of cultivation, and pasture on the eastern slopes immediately above the shore. It was radiocarbon dated to 400–500 BC.

The next layer (5) from the seventh or eighth centuries AD showed that the landscape had undergone changes as a result of increased human activity. The forest had been drastically reduced and agriculture had expanded correspondingly. Oats, barley and wheat were grown or consumed. The nature of this layer was very similar to the later layer 7 and to the deposits of medieval waste. Even though certain features distinguished the redeposited layer 5 from the later layer 7, they showed such a striking similarity that the activities which had produced them must have been the same.

The contents of layer 7 from c 1000–1150 were identical with the urban occupation deposits, so that the activities responsible for producing urban waste must go back essentially to the seventh or eighth centuries. This does not necessarily imply an urban environment, but suggests that along the east side of the bay there was a scattered settlement which left its traces in the form of domestic waste and rubbish derived from basic occupations and that this need not have been so very different archaeologically speaking from the early urban environments.

To get an idea of the nature or size of the activities recorded, one is entirely dependent on the sections which were recorded and analyzed. So far there is no archaeological material nor any other supporting evidence, and the analysis of the sections provides no quantitative results. Krzywinski's idea of a "coastal village" (1984, 33) was based mainly on the presence of human excrement, from which he deduced a superfluity in relation to the requirements needed to fertilize the fields. The present material, however, is too limited to support such a hypothesis, but the discovery of human excrement gives an interesting perspective with regard to the royal manor which soon afterwards was established at Ålrekstad 2.5km further inland. It must have soon needed its own harbour facilities in the bay of Vågen and in this way would have contributed to the establishment of some kind of settlement along the shore. Regardless of which of the two radiocarbon dates for layer 7 is the most likely, the earlier (1000–1070) or the later one (1090–1150), there can hardly be any

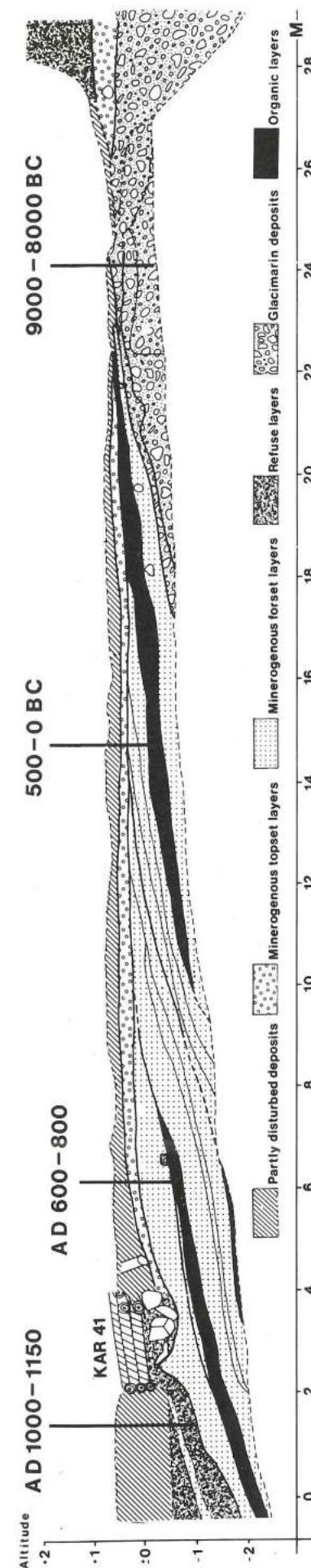


Fig 57 The radiocarbon dates of the most important layers in the section shown in fig 56. (After Krzywinski 1984.)

doubt that this shoreline settlement developed continuously into the earliest excavated structures along the beach from the early twelfth century. It can therefore be maintained that the local settlement can trace its origins to the early Merovingian Period (7th century), but any further comment concerning the nature and extent of this early settlement is not possible in the light of the present state of research.

At the end of the period represented by deposit 7 the whole beach area was taken systematically into use. To both the north and the south a bed of small stones was laid in order to consolidate the beach surface in connection with a more extensive period of use involving the loading and unloading of boats, etc (cf figs 49 & 55). The use of the beach in this way must have ceased at the beginning of Period 2, c 1140–1150. With the speed at which the development happened, also confirmed by the historical sources, there is no reason to postulate a date earlier than the mid-eleventh century for the consolidation of the beach. A century later it had been built over and had gone out use.

Traces of floodwater deposits similar to those in layers 3, 5 and 7 did not occur any higher up in the recorded section. This could suggest that the brook was diverted, or that the area above the shore had been put to new uses which eliminated the further possibility of deposition in this way, or it was a combination of both reasons.

The structural change shown after layer 7 must reflect new functions for both the beach area and the land behind – in other words, that it was in this period, the latter part of the eleventh century, that the area was first taken fully into use for building purposes. It was a development that happened relatively quickly and was coordinated throughout the whole of the area covered by the excavations. Moreover, it was a development that illustrated well the account in the historical sources of the town's foundation at the end of the eleventh century and its rapid growth. Our earliest phases reflected in reality an enormous dynamic force. Already before the middle of the twelfth century the front warehouses had reached the beach area (cf fig 49). It is possible that the enclosure recorded at this level behind Building 45 marked the outer boundary of the domestic settlement in the preceding phase. Building 45, which must have been a warehouse or boathouse, stood further forward than any other building recorded in this period along the 70m long front. Even though only two buildings could definitely be dated to Period 1, the enclosure which surrounded one of them (Building 497) fitted fairly well with the later property boundary of the double tenement of Rows 3–4 in Gullskoen. This would suggest that the property boundaries in this area, as they manifested themselves throughout the whole of Bryggen's history, must have been established in the course of the first half, or perhaps even the first quarter, of the twelfth century at the latest.

## Period 2 (c 1145–50 to 1170/71)

In the middle of the twelfth century the beach ceased to be used for loading and unloading cargo and for beaching vessels. With the exception of Bugården, which could not be excavated to the bottom levels and for which there is therefore practically no information from this period, the built-up area was extended across a wide front down the beach, representing an expansion of 20–30m. The waterfront was established along the edge of the underwater shelf, with small stone-filled caissons forming the foundations and with post-built quays in front. Parallel rows of buildings ran back in pairs in the double tenement pattern, an arrangement for which there was clear evidence across the whole of the Gullskoen site and into Søstergården, whose North Row at this stage consisted of a regular double tenement. As the site of Søstergården's South Row was the same width as the North Row, it too could have been a double tenement, but unfortunately no traces had survived, partly on account of the removal by machine of the overburden and upper layers. In Engelgården there were only surviving remains of its northern row, but these indicated that there would have been a similar row to the south. As mentioned above, the situation on the Bugården site at this stage is not known, since the excavations did not continue to the bottom, but there was nothing to suggest that the regularity of the settlement pattern stopped here.

From the whole site there could therefore have been 14 rows of buildings in this period, divided into seven double tenements. On the far northern side a foundation substructure was recorded which could have belonged to a separate row, possibly from yet another double tenement.

In the Gullskoen area two separate phases were recorded in this period, 2.1 and 2.2.

Another characteristic feature of the development in this period was the use of differential foundation techniques adapted to the underlying strata. Towards the rear of the site, on the gravel bank at the top of the beach, the structures lay directly on the contemporary ground surface, or were occasionally supported on a row of stones. Over the beach zone, the buildings were raised on upright foundation posts; and along the edge of the underwater shelf and also in places on the lower part of the beach, stone-filled caissons were used. All but one of the buildings were timber-frame or post-and-beam structures and some of them were raised off the ground with the gap under the floor being enclosed to form a kind of cellar. This kind of building seems to have had a special function, since the cellar area often contained concentrated layers of pure moss. The site seems otherwise to have consisted of single-storey buildings used for storage purposes.

In the rear part of Gullskoen there was evidence for a specialized activity in the form of pits, some of them lined with stones, which were used for the production of slaked lime. This could well be associated with the building of St Mary's Church which occurred at this time. The graveyard attached to the church extended at its maximum extent as far as the beach area.

The long row of stone-filled caissons located along the edge of the underwater shelf apparently marked the waterfront, and the post-built quays in front seem to have been attached to the individual properties behind without any transverse access along the front.

## Period 3 (1170/71–1198)

Period 3 consisted of two separate building phases, 3.1 and 3.2. There was still nothing from the rear part of the Bugården site, and the corresponding areas of Engelgården and Søstergården only had scattered remains on account of disturbances during the mechanical excavation of the overlying layers. Nevertheless the characteristic layout could be easily recognized: clearly defined rows of buildings and passages in the central and rear parts of the site, and at the front of the site a more complex system of foundations under the buildings which were now advancing steadily further out into the waters of the harbour.

On account of the lack of definite evidence in the southern area due to the circumstances mentioned above, one can only conjecture what the development might have been there, but the traces which were recorded showed clearly enough the basic features in the layout. This was based on the double tenement pattern which, with the exception of a minor but characteristic adaptation to the changing conditions, extended to the water's edge. While the buildings in Period 2 ran in more or less parallel rows right out to the waterfront along the edge of the underwater shelf, Phase 3.1 introduced a new situation in that the expansion into the harbour was greater in the area from Gullskoen's Rows 1–2 southwards than from this point northwards. The curving shorter shoreline which was thus created meant that the properties at the transition point – Row 1 in Gullskoen and Søstergården's two rows – were squeezed together at the seaward end. As a result it is unclear whether both Søstergården's North Row and Gullskoen's Row 1 continued westwards. It is likely that one of them at this stage was cut short at some point behind the waterfront. Which row was eliminated is unclear, but from the following period onwards right up to Period 7, which terminated with the 1476 fire, Gullskoen's Row 1 was truncated near the middle. From Period 4 onwards a similar thing happened to Row 3 in Gullskoen for the same reasons.

The situation described here must be regarded as the practical adjustment of an originally regular plan, whose origins may lie in an intentional exploitation of the land area. But the development along the waterfront does not suggest any mutual co-operation among the various property holders, with the possible exception of Søstergården North, whose waterfront in Phase 3.1 followed the development in Gullskoen's Rows 1–2. In Phase 3.2 it was physically integrated with its northern neighbours, while the row on its south side developed independently. This is a feature which was repeated throughout the whole of the medieval period and did not apparently change until after the fire in 1702.

Throughout the whole of Period 3 the waterfront and presumably also its seaward facade followed a very varied course, emphasized especially in the southern half of the site, and there could not have been a continuous access along the quays.

The buildings again in this period were dominated by timber-framing, but a small log-built structure was recorded in Phase 3.2. In the front area over what had once been the beach, raised buildings with sub-floor "cellars" were recorded, including two in a seventh row on the northern edge of the site. Buildings with the traditional earth-filled wall-benches along all four walls also appeared in this period, presumably functioning as meeting-rooms.

The chapel of St Lawrence's was erected on a site covering the rear part of Gullskoen's Row 5 and the adjacent area of St Mary's churchyard to the north-west.

## Period 4 (1198–1248)

The surviving remains from this relatively important 50-year period did not demonstrate any particularly expansive development, except for a few buildings which were replaced in Gullskoen's Row 5 and some adjustments to the waterfront in the middle part of the site. (It has been suggested elsewhere (Herteig 1985, 73) that a possible explanation for this may be that the need for expansion in this period was covered by extending upwards, in other words by erecting buildings taller than the single-storey structures which apparently so far had characterized the extension westwards.)

In Bugården and Engelgården the earlier principle was on the whole retained, using log foundation substructures on a relatively moderate backfill with post-built quays in front; in Søstergården North and Gullskoen's Rows 1–2, however, the immediate off-shore area was backfilled right up to the height of the old quays and then logs were laid close together down the site to consolidate and level the surface for the actual foundations. At the front there were presumably post-built quays as in the other tenements. Even though the line of the quays is not known in the central part of the area, the seafront was probably relatively even in this period. In those places where it was recorded, as in Bugården and Engelgården and in Gullskoen's Row 4, it ran along c 69y on the site grid, giving the impression of a rather straight alignment and representing an expansion out into the harbour basin of approximately 10m in this period.

The layout of the properties was the same as before with different types of foundations reflecting the underlying strata. There were still some buildings with sub-floor enclosures or "cellars", but there was also a log-built structure, Building 211, among all the timber-frame buildings. Concerning the actual use of the area, a building with a fireplace occurred for the first time (Building 99).

At an earlier point in the period the area just to the south-west of St Lawrence's Church was still being used as a burial ground, but it was later taken into use for building purposes.

## Period 5 (1248–1332)

Period 5 included two phases, in both of which the main features of the established layout were continued, but apart from Bugården and possibly in Engelgården and Gullskoen contact was not established with the seaward termination of the rows, since the waterfront had now progressed beyond the western edge of the site. If Bugården can be taken as an example of the seaward expansion, the built-up area was extended in two great bounds of 7.5m and 12m respectively out into the harbour basin. The increasing depth of water was compensated for to some extent by considerable backfilling.

The number of both log-built structures and hearths increased, possibly indicating living quarters in a couple

of cases. Among the hearths a new type appeared, associated exclusively with workshop activities which occupied a great part of the Gullskoen area before the rebuilding after Fire V began. The slaking of lime and dressing of building stone must have been related to the neighbouring stone-built ecclesiastical buildings. It would appear that in the first part of Period 5 this group of buildings was augmented by the building of St Mary's Guildhall. It seems to have been completed by 1276 at the latest, from which time on it was used for the city's legislative assembly (NgL II, 187). It was built within the western part of St Mary's churchyard, immediately south of St Lawrence's Church.

Between Phase 5.1 and 5.2 there was a general increase in building area with even the smallest buildings now possibly having two storeys.

## Period 6 (1332–1413)

As a direct result of a local fire in 1393, which spread from the south into Bugården, Engelgården and at least Søstergården South, there were three phases of development in Period 6 in these tenements and partly also in the adjacent area of Gullskoen. The other rows in Gullskoen had two phases each, but in each phase there were two levels in the passage known as The Old Church Road between Rows 1 and 2.

The considerable seaward expansion which had characterized Period 5 now slowed down. Phase 6.1 showed an expansion of c 8m, and in Phase 6.2 there was just a slight adjustment of 1.5m. The expansion in later phases could not be determined as the rows continued westwards beyond the edge of the excavations. Even the buildings showed the same characteristics and tendencies as in earlier phases: a clear increase in log-built structures and a further differentiation of hearth types, which in the rear part of the site reflected the special functions of the buildings, such as lime slaking, dressing building stone, and so on.

In The Old Church Road four levels in all were recorded during the course of this period.

## Period 7 (1248–1332)

In spite of the fact that this period covered 62–63 years there was only evidence for a single building phase. This followed the established pattern exactly. The truncated rows in Gullskoen, Rows 1 and 3, which had been a permanent feature since their establishment in Period 3, disappeared at the end of this period. The stone vault, Building 386, which had been erected in Søstergården in the latter part of the previous period, continued in use, and two new stone-built structures, Buildings 107 and 374, were erected in Engelgården. In Gullskoen's Row 5 there were still traces of the traditional workshop activity based on lime slaking. Rows 3–5 still ended in St Mary's Guildhall and St Lawrence's Church.

The types of buildings were difficult to determine, but there were clear indications of lafted (log-built) structures in every tenement and really no definite traces of timber framing.

## Period 8 (1476–1702)

With its 226 years, Period 8 was the longest period without a major fire represented in the excavated part of Bryggen. Nevertheless, except in Bugården South, there was only evidence for one building phase. The reason for this may lay in the fact that the state of preservation of the archaeological material was nowhere near as good as in the earlier periods.

Of Engelgården and Søstergården only a limited section was excavated in grid-squares K and L and this revealed nothing new about the layout of the tenements. In Gullskoen on the other hand a new situation was encountered with the rear part of the built-up area apparently taking on a new function, but it obviously still took account of the old property boundaries. The northern edge of The Old Church Road was now indicated by a plank fence and a row of trees. A similar fence recorded in grid-squares K5–6 marked the rear limit of the buildings on the sites of Rows 2–4. Documentary sources show that the open area beyond was used for cabbage plots and herb gardens.

The fire in 1476 appears to have had significant consequences for both St Lawrence's and the St Mary's Guildhall. Some time after the fire the church building passed into private hands and it is described in the middle of the sixteenth century as a fine two-storey house. The St Mary's Guildhall, which also had two storeys, had served as the meeting place for the city's legislative assembly for a short time before it became the "priest's house for St Mary's", probably after 1476. Both buildings were destroyed in a local fire which affected the area by St Mary's on 29 July 1675 (Koren-Wiberg 1908). For further details the reader is referred to the discussion under Period 8 in Gullskoen (pp 22 and 23).

## Period 9 (1702–1955)

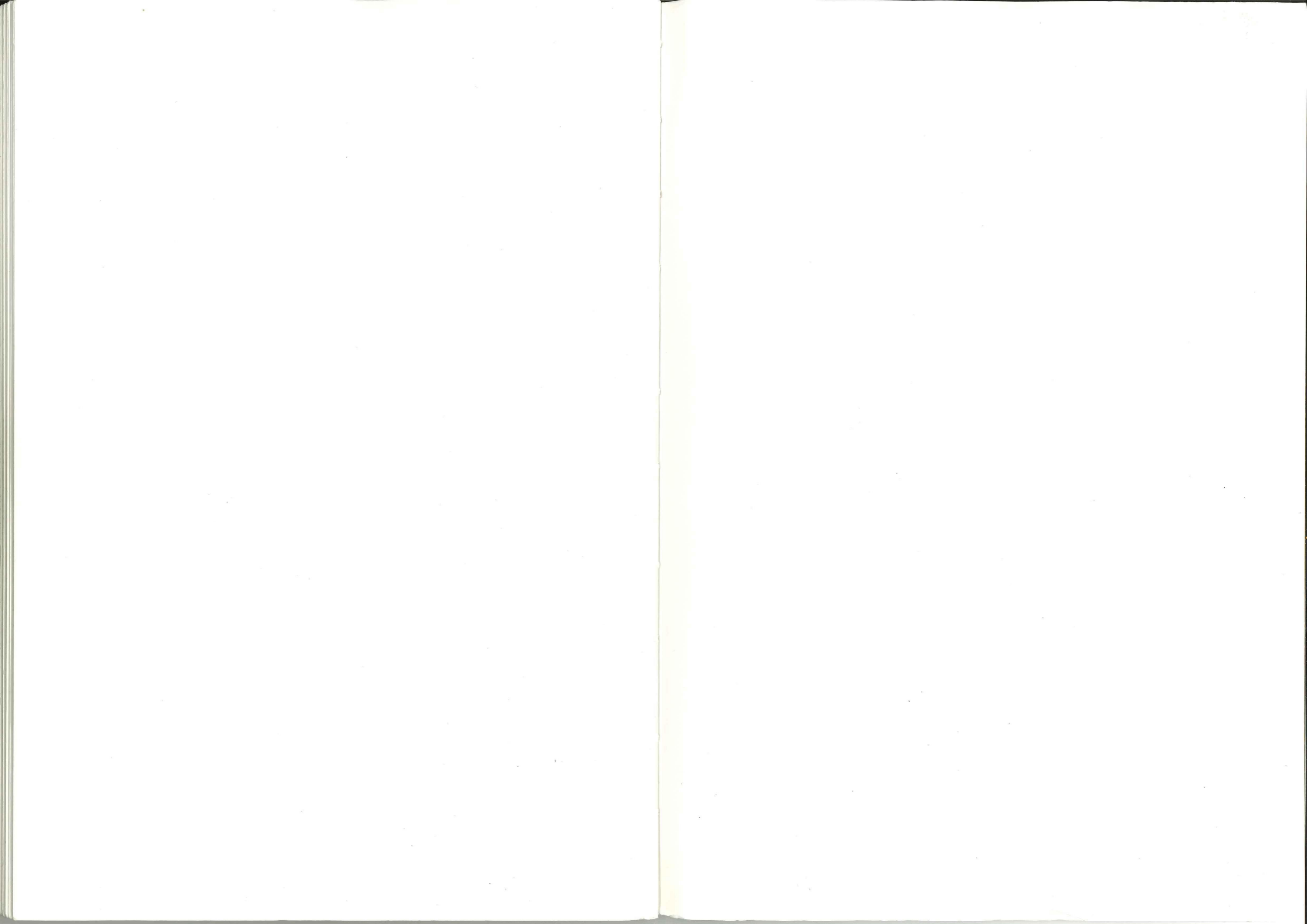
In this period we were presented with the buildings from our own time. The picture was dominated by relatively long rows of lafted (log-built) buildings generally with

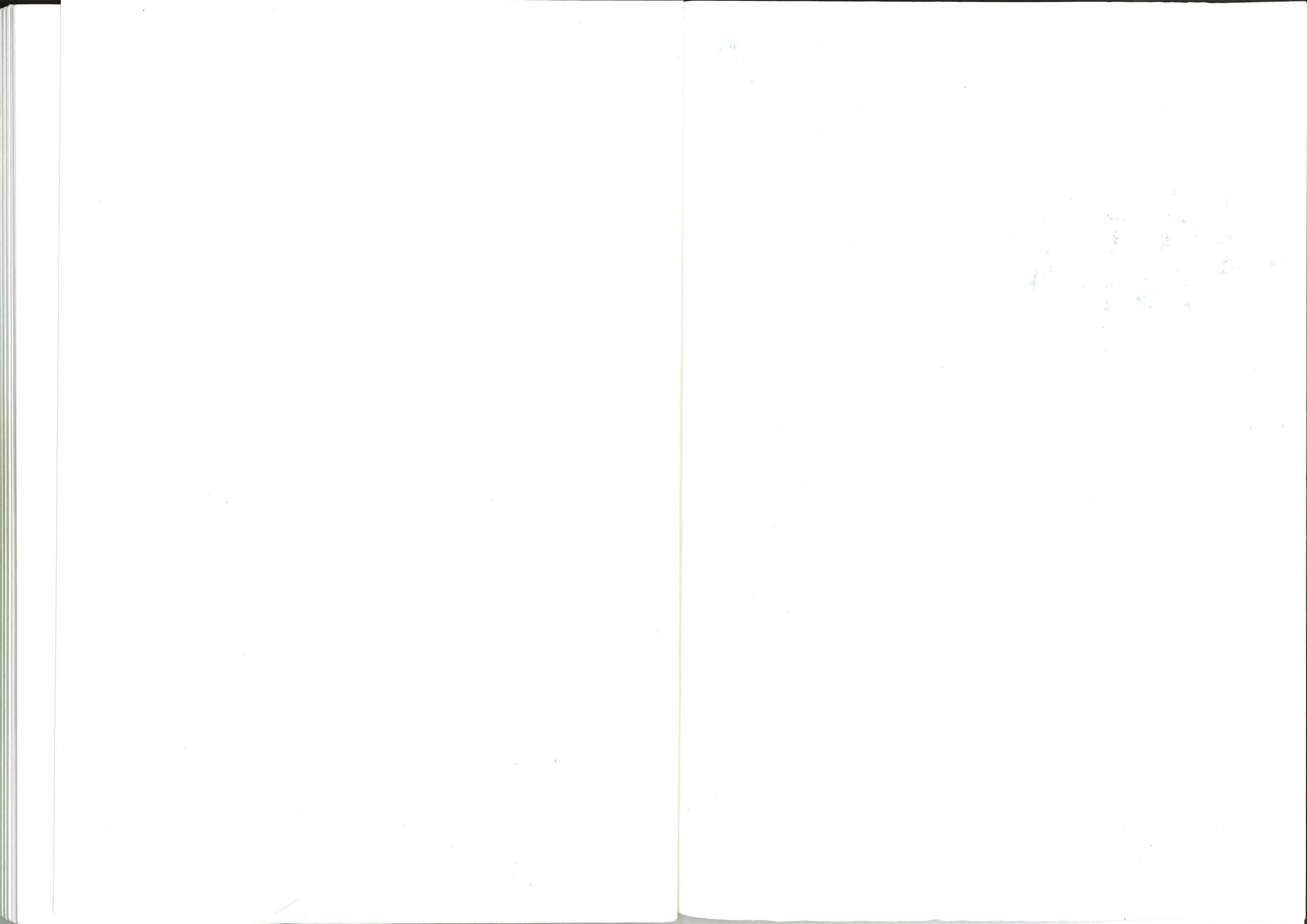
three storeys and maintaining 700-year-old traditions in the actual layout of the properties. Within the southernmost three tenements only a few buildings were replaced in the course of this long period, but Gullskoen went its own way, probably as a result of a more intensive and untraditional use of the buildings, especially in the present century. The Old Church Road was eliminated and the earliest development here in this period was difficult to identify since the upper, more recent layers had either been removed or were badly disturbed. After the earlier rows were incorporated in the later Gullskoen property, the old property boundaries were built over and the site used as required, especially in recent times. This led to a totally unconventional layout and pattern of building in the central and rear areas, while the front area maintained the impression of the former situation, although with only three rows: a double tenement with a side-annexe to the north. The former boundaries were still reflected in some places, however, such as the northern limit of Building 404.

In the eighteenth and most of the nineteenth centuries the buildings to a great extent served their old purposes as warehouses, storerooms, offices and living quarters for the population of Bryggen. Gradually the living areas were also converted to warehouses, more and more for goods other than dried fish and fish products. The present century has seen an increasing degree of commercialisation of Bryggen, with various kinds of retail shops, restaurants, workshops, and other functions being introduced. Since the fire in 1955, which was the direct cause for the excavations, the surviving part of Bryggen has been placed under special care, and nine rows in all have either already undergone extensive restoration, or else are about to be restored. Bryggen is now one of the four Norwegian monuments on UNESCO's World Heritage List. In the area which was destroyed in the 1955 fire the front warehouses have been reconstructed and integrated into a new development at the rear.

## BIBLIOGRAPHY

- Bl Magnus Lagabøters bylov, transl (into modern Norwegian) by Robberstad, K. Kristiania 1923.  
Bruns, F, 1900 *Die Lübecker Bergenfahrer und ihre Chronistik*. Berlin.  
Christensen, A E, 1985 Boat finds from Bryggen, *The Bryggen Papers*, Main series, vol 1, 47–280. Bergen, Oslo, Stavanger, Tromsø.  
DHMS Det Hanseatiske museums Skrifter, Bergen.  
DN *Diplomatarium Norvegicum* I– Christiania/Oslo 1847– .  
Eide, O E, 1973 *De toskippede kirker i Oslo*, Master's thesis, University of Oslo (mimeographed).  
Eirspennil *Eirspennil*, AM 47 fl, ed Jónsson, F. Kristiania 1916.  
Flat *Flateyrbók* ed Vigfusson, G, & Unger, C R, I–III. Christiania 1860–68.  
Fnr *Fornmannasögur* IX, København 1835.  
Grimnes, Ø W, 1937 Bergens topografi i middelalderen, *Bergens historiske forenings skrifter*. Bergen.  
Gulliksen, S, & Thun, T, 1990 Dating of a floating tree-ring chronology from Bryggen in Bergen. *The Bryggen Papers*, Main series, vol 3, part 1, 145–51. Bergen, Oslo, Stavanger, Tromsø.  
Harris, E C, 1973 Bergen, Bryggen 1972, The evolution of a Harbour Front, *World Archaeology* 5:1. London.  
Helle, K, 1982 Kongssete og kjøpstad. Fra opphavet til 1536, *Bergen Bys Historie*, I. Bergen.  
Herteig, A E, 1969 *Kongers havn og handels sete*. Oslo.  
— 1972 Archäologie und Stadtgeschichte, *Kiel Papers '72, Frühe Städte im westlichen Ostseeraum*, Symposium des Sonderforschungsbereich 17, 32–40. Kiel.  
— 1974 Der Kaupang von Borgund in Sunnmøre, *Vor- und Frühformen der europäischen Stadt im Mittelalter*, 146–58, Göttingen.  
— 1975 Borgund in Sunnmøre. Topography, history of construction, state of research, *Archaeological contributions to the early history of urban communities in Norway*, Inst for Comp Res in Human Culture, Ser A, Forelesn XXVII, 23–48. Oslo.  
— 1985 The archaeological excavations at Bryggen, "The German Wharf", in Bergen 1955–68. Excavation, stratigraphy, chronology, field-documentation, *The Bryggen Papers*, Main series, vol 1, 9–46. Bergen, Oslo, Stavanger, Tromsø.  
— 1986 Details from the Bergen Medieval Waterfront, *Conference on Waterfront Archaeology in Northern European Towns No 2, Bergen 1983*, 69–78. Bergen.  
Holtmark, A, 1961 *Sverres Saga, En tale mot biskopene*. Oslo.  
Kaland, P E, See Krzywinski, K, & Kaland, P E.  
Koren-Wiberg, C, 1899 Det tyske kontor i Bergen. Bergen.  
— 1908 *Bidrag til Bergens kulturhistorie*. Bergen.  
— 1921 *Bergensk kulturhistorie*. Bergen.  
Krzywinski, K, & Kaland, P E, 1984 Bergen — from Farm to Town, *The Bryggen Papers*, Suppl series, 1, 1–39. Bergen, Oslo, Stavanger, Tromsø.  
Lidén, H-E, & Magerøy, E M, 1990 *Norges Kirker, Bergen*, III. Oslo.  
Lorentzen, B, 1952 Gård og grunn i Bergen i middelalderen, *Det Hanseatiske Museums Skrifter*, 16. Bergen.  
Lüdtke, H, 1989 The Bryggen Pottery, I. Introduction and Pingsdorf Ware, *The Bryggen Papers*, Suppl series, 4. Bergen, Oslo, Stavanger, Tromsø.  
Magerøy, E M, See Lidén, H-E, & Magerøy, E M.  
Marstrander, L, 1983 En almenning i Bergen, *Hus, gard och bebyggelse*, XVI Nordiska Arkeologmötet, 121–132. Reykjavik.  
NgL *Norges gamle Love*. Christiania/Oslo 1846–1966.  
Scharffenberg, P, 1703 Property survey in Lübeck's Bergenfahrerarchiv.  
Sk *Skálholtsbók yngsta*, AM 81a fol, ed Kjær, A, & Holm-Olsen, L. Kristiania, 1910–47.  
Sverres saga, See Holtmark, A.  
Thun, T, See Gulliksen, S, & Thun, T.





**THE BRYGGEN PAPERS** is a series of publications giving a scholarly presentation of the archaeological finds from the excavations at Bryggen – The German Wharf – in Bergen, which took place between 1955 and 1968.

Bryggen was the economic centre of the old Norwegian capital. Later – in Hanseatic times – Bergen became one of the largest and most important seaports and commercial centres in Northern Europe. The excavations at Bryggen have revealed extensive material which provides valuable information about the development of the city as well as of European cultural history in general.

The present volume covers the Gullskoen area. Now that the final stratigraphic/chronological analysis of the excavation is complete, documentation has been given of some 500 buildings or parts of buildings, 55 wells, 18 latrines, 31 hearths or fireplaces of different construction and function, together with quays, streets and passages. The volume concludes with a comprehensive summary of the main stages in the topographic development of the site from late Migration or early Viking times up to the last centuries.

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