

The Royal Palace at Tilleda, Kr. Sangerhausen, D.D.R.: Excavations from 1935-1966¹

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THE siting and planning of the periodic residences of medieval German kings and emperors have long been the subject of archaeological enquiry.² Excavations have been systematically carried out on important royal palaces (*Königspfalzen*—*palatia*), e.g. Werla, Quedlinburg, Magdeburg, Grona and Pöhlde, especially during the past thirty-five years (FIG. 17).

The most extensive excavations have been at Tilleda³ and Werla.⁴ The citadels of both palaces have been completely examined and the investigation of the outer enclosures has reached the stage at which it is possible to give a preliminary survey of the extent and nature of the settlement.

Surveys and recordings of the other defended sites of which there is contemporary documentary record, or in which similar finds have been discovered, took place simultaneously with these excavations.⁵ All these fortified sites are distributed around the Harz, which—as a part of the great Saxon dukedom (*Stammesgebiet*)—contained a large number of estates (*Stammgüter*) of the Saxon kings and Ottonian emperors as well as older imperial estates of the Carolingians.⁶

Tilleda itself is situated on the border of the Goldene Aue district, ten km.

¹ The text was translated into English by my wife and daughter. I am greatly indebted to Mr. S. E. Rigold and Mrs. K. Aberg for checking and correcting the translation. Mr. J. G. Hurst, with the help of Mr. M. Biddle and Dr. C. A. R. Radford, advised me on the translation of the difficult technical terms. Where the translation is uncertain the original German word has been placed in brackets afterwards. Mr. J. G. Hurst accepts full responsibility for the words used, sometimes comments on special difficulties, and has added some English references to help the reader. These notes are signed [J.G.H.].

² Fundamental problems of palace research are formulated in *Deutsche Königspfalzen, Beiträge zu ihrer historischen und archäologischen Erforschung*, I, II (Göttingen, 1963, 1965); see especially A. Gauert, 'Zur Struktur und Topographie der Königspfalzen', *ibid.*, I, 1-60.

³ The excavations at Tilleda were carried out by the Landesmuseum für Vorgeschichte in Halle, in 1935, and 1937 to 1939. They have been continued by the Institut für Ur- und Frühgeschichte der Deutschen Akademie der Wissenschaften, Berlin, since 1958. The results of the excavation of the citadel are published in P. Grimm, *Tilleda, eine Königspfalz am Kyffhäuser*, I, *Die Hauptburg* (Berlin, 1968), which also contains (chapter 1,c) 'Die Geschichte der Pfalz Tilleda' by H. Eberhardt. So far only interim reports on the excavations of the outer enclosure have appeared, mostly in the *Prähistorische Zeitschrift*, xxxviii-xli (1960-63).

⁴ C. H. Seebach, *Die Königspfalz Werla* (Neumünster, 1967).

⁵ P. Grimm, *Die vor- und frühgeschichtlichen Burgwälle der Bezirke Halle und Magdeburg* (Berlin, 1958), pp. 36 ff., 99 ff.

⁶ The *Stammesgebiete* were the large tribal territories which were ruled by a duke (*dux*). In the time of Henry I (919-936) five *Stammesgebiete* formed the German kingdom and Henry had the title *rex Teutonicorum*. The Ottonian emperors were therefore dukes of Saxony and kings of Germany. The *Stammgüter* were originally the private estates of the Saxon dukes but became in course of time royal estates. [J.G.H.].

south of the Harz forest and at the NE. corner of the Kyffhäuser hills in the district of Sangerhausen.

Comparative study of earthworks demonstrated that during the Ottonian period several types of fortification were in use at the same time. Most of the sites consist of two or three parts, being divided into a citadel (*Hauptburg*) and one or two larger outer enclosures.⁷

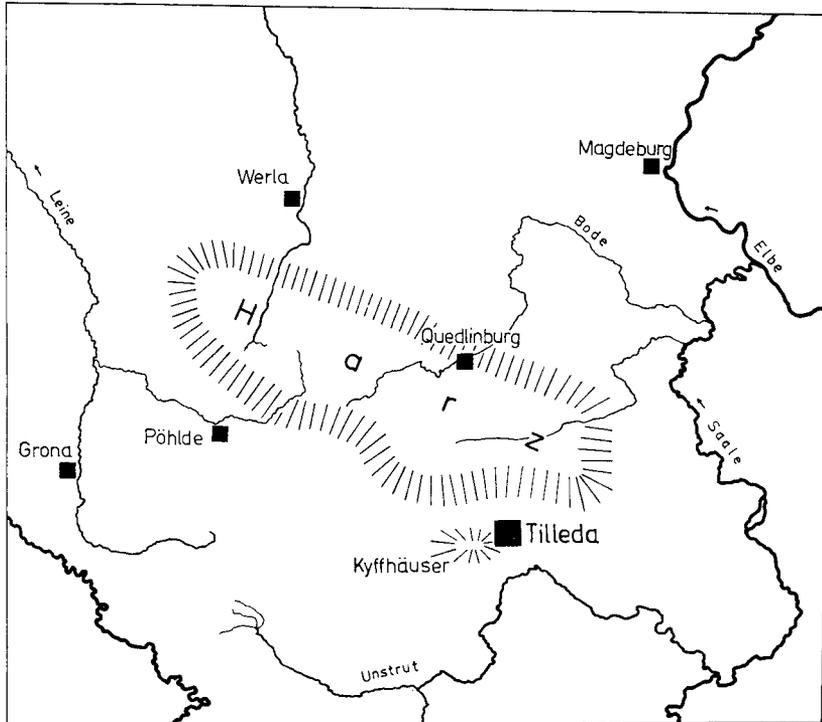


FIG. 17

Sketch-map showing the position of Tilleda (Kr. Sangerhausen) and other neighbouring palaces of the Saxon kings and emperors where excavations have taken place (p. 83 f.)

The defences are variously situated—on a promontory, on the edge of a plateau, in a plain or on sloping ground. There are also some smaller, unicellular fortified sites in similar positions, whose dependent buildings are outside, in an unfortified area.

The palace of Tilleda, like the better known Werla, is situated on a terrace-like spur of elevated land. The spur at Tilleda, called *Pfngstberg*, projects at a

⁷ The translation of the German words *Hauptburg*, *Vorburg* and *Suburb* is difficult because there are no comparable sites in late Saxon England and the word suburb has different meanings in England and in central Europe. In this translation *Hauptburg* has been translated 'citadel' and *Vorburg* 'outer enclosure'. A fairly vague term must be used since the exact purpose of these *Vorburgen* has not yet been fully established. A further complication is that in central Europe the word *Suburb* applies to settlements, fortified or unfortified, which are associated with *Hauptburgen*. In England suburb usually refers to extra-mural settlements and this usage has been retained here for clarity. [J.G.H.].

height of 25 m. from the Kyffhäuser massif. The citadel is on the tip of the projection and has steep slopes on three sides (FIG. 18). Westwards the fortification, continued by the outer enclosure, is precipitous only on the N. and S. sides, while

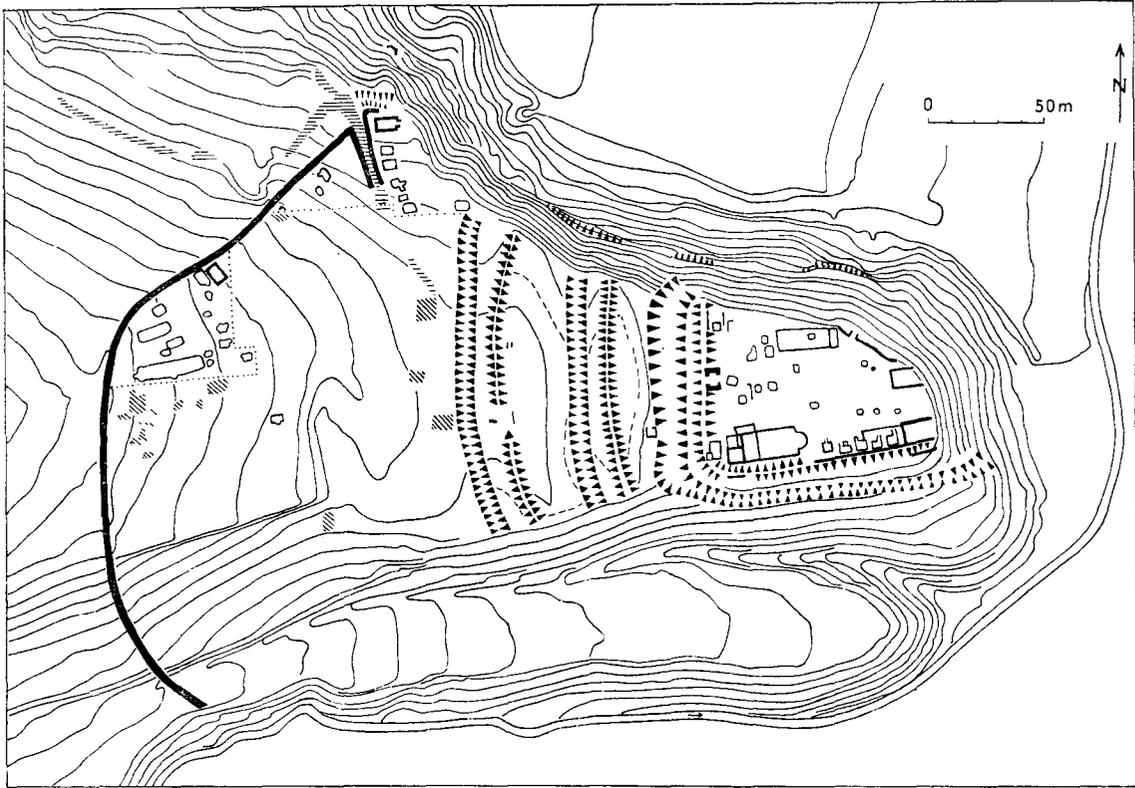


FIG. 18

TILLEDA PALACE (pp. 85, 94)

Plan of the citadel and outer enclosure, showing the fortifications and the internal features revealed by excavation

the W. side is without natural protection. On the low N. part of the hill there was formerly a mere which has been drained in modern times. This gave additional protection to the palace. To give a better idea of the original situation, PL. VIII, A shows the Pfingstberg at Tilleda under flood conditions.

THE DOCUMENTARY EVIDENCE

The earliest mention of Tilleda, then called Dullede, dates from the beginning of the 9th century in a register of endowments (*Güterverzeichnis*) of the imperial monastery (*Reichstift*) of Hersfeld. In this are listed seven *Hufen* (*hubas*) and five *Manse* (*mansus*),⁸ originally a gift of Charlemagne. The site of this older village,

⁸ For the use of *Hufe* (*huba*) and *Manse* (*mansus*) see *The Cambridge Economic History of Europe*, 1, *The Agrarian Life of the Middle Ages*, ed. M. M. Postan and H. J. Habakkuk (2 ed., 1966), pp. 202 and 241; G. Duby, *Rural Economy and Country Life in the Medieval West* (London, 1968), pp. 28-9. [J.G.H.]

and whether there was already an imperial manor (*Reichsbesitz*) at this early date, is still unknown. The palace itself is first mentioned in 972, when the emperor Otto II gave Dullede and some other palaces, referred to as *curtes imperatorias*, as a dowry to his wife, Theophano. Between 974 and 1042 seven surviving documents were issued by German kings at the palace of Tilleda. Frederick Barbarossa stayed at Tilleda in 1174. The latest mention of the palace is in 1194, when the reconciliation between the emperor Henry VI and Henry the Lion took place there. However, in a document of 1420 the phrase 'Hof zu Tullede, da die capelle inneligt' indicates that the palace had declined into a manorial tenement (*Wirtschaftshof*) owing to weakening of imperial power. The manor remained on the plateau for some time, but later was moved down into the valley, where the present village lies.

THE EXCAVATIONS

The palace at Tilleda was never very important, but it was chosen for investigation because the site provided specially favourable opportunities for excavation. There are no modern buildings on the palace area, and disturbance only came from very deep ploughing or from the gathering of stones for building material. There has been a small landslide on the N. and NE. sides, and other parts of the hill have been quarried for gypsum to make plaster of Paris.

By means of stratigraphy and other observations five periods could be isolated. Three of them (periods I–III of the palace) belonged to the time when the palace can be historically attested. Before the first period there was a small military fortification of the 8th century. The end of the palace proper was followed by a fifth period in which the site became a slowly-decaying manorial tenement.

THE FORTIFICATIONS OF THE CITADEL AND THE OUTER ENCLOSURE

The fortifications of the individual parts and the several sides of the palace are arranged differently. First of all it is important to note that the palace, particularly the citadel, was, in fact, fortified, showing that military protection was added to the tasks of administration, justice and control of economy. Unlike Carolingian palaces, where fortification scarcely exists, it is possible to find remains of defences at other Ottonian palaces.

SHAPE OF THE CITADEL

The plan of the citadel is unusual. It could be proved at three corners that the ditch, which ran in a straight line otherwise, turned in a curve and not at a sharp angle (the fourth corner was eroded down the hill), thus forming a trapezoidal or rectangular enclosure. Plans of this type are found in Frankish times and also from the Carolingian period onwards on German territory. Such a layout was apparently taken over by the Franks from late Roman military plans.

FORTIFICATION OF THE CITADEL

The fortifications varied at different periods. In period I there was a timber-revetted rampart at the accessible side to the west, while the sides with steep slopes were not fortified. In period II (FIG. 20, *a*) the rampart was considerably reinforced on the W. side and in front of it a wide flat ditch (*Sohlgraben*) was dug. The S. side also was protected by a rampart and in several places by a wall. In period III (FIG. 20, *b*) the rampart was heightened and the ditch widened, and there was an interrupted wall on the north and south. The first of the five gateways which have been found on the W. side was a simple hollow entrance revetted by posts. The second, third and fourth gates (all belonging to period III) were built of stone embedded in the rampart. Especially impressive is the gatehouse (*Kammertor*) from the 2nd half of the 12th century, belonging to the end of period III (PL. VIII, B). The 5th gate was a gap in the palisade which enclosed the buildings of period IV, flanked by more massive posts.

Moreover, in front of the main rampart and ditch two further banks and ditches were constructed, so that there were altogether three ramparts and three ditches spread over 105 m., one in front of the other. This enlargement of the defensive system is particularly characteristic of the castles of the high middle ages and seems to have developed from the 10th century onwards.

FORTIFICATION OF THE OUTER ENCLOSURE

The fortifications of the outer enclosure also were different on each side. It was limited to the west and south-west, and perhaps to the south, by a wall without a ditch. This wall, 2·3–2·6 m. thick, was found in several places. On the N. side there was a ditch 4·5 m. wide and 3·8 m. deep, which had partly collapsed. The wall behind this ditch was only 1·2 m. thick. Some post-holes found under and behind the wall suggest that originally a palisade, or a rampart revetted with posts, was built instead of the wall.

THE NW. GATE OF THE OUTER ENCLOSURE (FIG. 19)

At the place where the edge of the plateau joins the beginning of the steep slope to the west the foundations of an entrance, 30 m. long, were found. This consisted of two flanking walls (*Torwangen*) of mortared masonry, 1·2 m. broad, which were 4·75 m. apart at the beginning of the entrance passage, decreasing to 2·4 m. at the inner end. On the floor of the gateway were layers of coarse gravel forming two roadways in front of the gate, which united to form one roadway in the interior. There was no trace of a separate gatehouse. The inner ends of the side walls widen a little, so that the plan resembles a trumpet. This kind of entrance is generally called a *Zangentor*. Since the site of the actual timber door is known, it could also be called a gate with a forecourt (*Vorhoftor*), but this name is not quite suitable, because there is no evidence of a gate-tower behind the door. Similar gates have often been observed at Carolingian and Ottonian fortified sites in Germany.

Summarizing we may say that the fortifications seem to show the change from

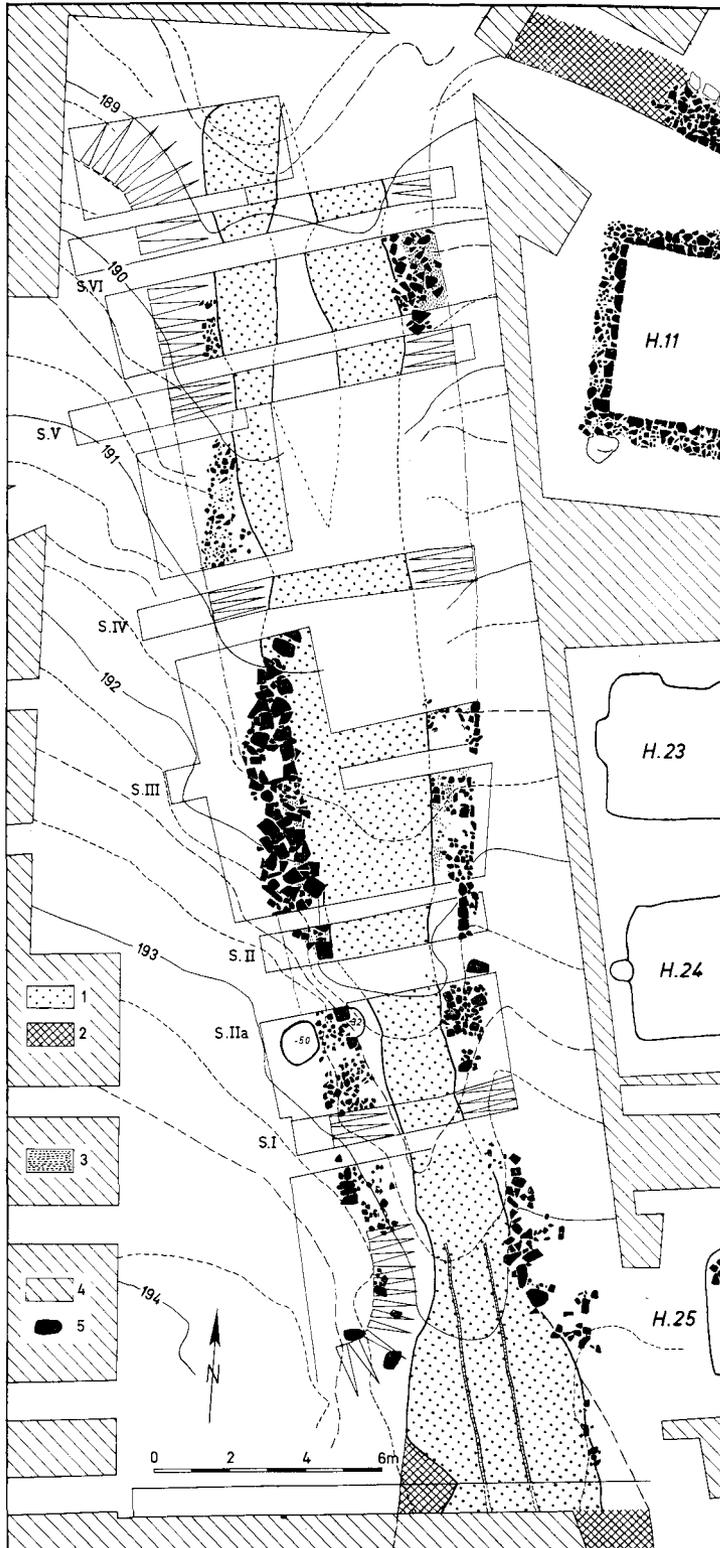


FIG. 19
 TILLEDA PALACE (p. 87)
 Plan of the gateway in the
 NW. corner of the outer
 enclosure, as excavated

Key to symbols as follows:
 1, gravel roadway; 2, dis-
 coloured soil; 3, mortar; 4, un-
 excavated area; 5, stone

primitive timber and earth constructions to the mortared stone buildings of the high middle ages. It is particularly interesting to see that the accessible side of the citadel had only a timber and earth rampart which was never replaced by a stone wall during the whole period of the existence of the palace; only the wooden gates of the citadel were, at an early date, replaced by a stone gate. It is striking that there is no ditch at the accessible side of the outer enclosure, where an enclosure wall, 2·3–2·6 m. thick, was the only protection.

THE BUILDINGS IN THE CITADEL (FIG. 20)

As individual buildings in a palace documentary sources mostly mention the domestic apartments (*Wohnteil*), the banqueting-hall (*Festhalle*) and the church. There are evidences of each of these three main buildings in all the three periods of the palace of Tilleda. Several other buildings were found, such as guard-rooms (*Wachhäuser*), and houses for the attendants and the servants. The buildings of the earliest occupation (8th century) and period I (c. 10th century) are not very different from the buildings of similar fortifications and settlements of the same period, but the buildings of periods II and III are of considerable interest.

THE CHURCH AND KEEP (*Wohnturm*)

The central feature of period II is a building 36·5 m. long and 10·5 m. wide, consisting of two parts, which were built at the same time: the church and a keep-like building (PL. IX, A). The church is 23·5 m. long and 10·5 m. wide with an inset apse in the east. A range of three arches separated the nave from a vestibule (*Vorhalle*), 5·2 m. long, at the W. end, which is accessible from outside through a door, 3 m. wide, in the N. part of the W. wall. The W. gallery was above the vestibule. A square side-building (contemporary with the church) was placed in front of the S. part of the W. wall. The plinth stones survive at the W. corners. Like the pillar-bases of the arcade between the nave and the vestibule, these stones bear a broad, steep chamfer on the upper half, which should date from c. 1000 or the early 11th century. The walls of the square building were sufficiently preserved to prove that there had not been an entrance on the ground floor. It must, therefore, have had its entrance on the first floor like a keep. It would have been possible to walk from this upper floor to the W. gallery above the vestibule of the church and from there the sovereign could hear divine service. Such simple accommodation for a king is quite surprising, but it was certainly most secure for a short visit (FIG. 20, a). This building was rebuilt and enlarged after partial destruction, which must have taken place during the rebellion of the Saxons against Henry IV in 1073. Two new rooms and a solid pair of external stairs were added to the apartments at the west. The spaces between the pillar-bases of the arcade and the W. door were closed and a new entrance built in the N. wall of the church (FIG. 20, b).

The domestic apartments now consisted of three rooms, an entrance hall between them and a flight of stairs outside, while the church was made smaller. The floor in the church, including that in the apse, was renewed and raised.

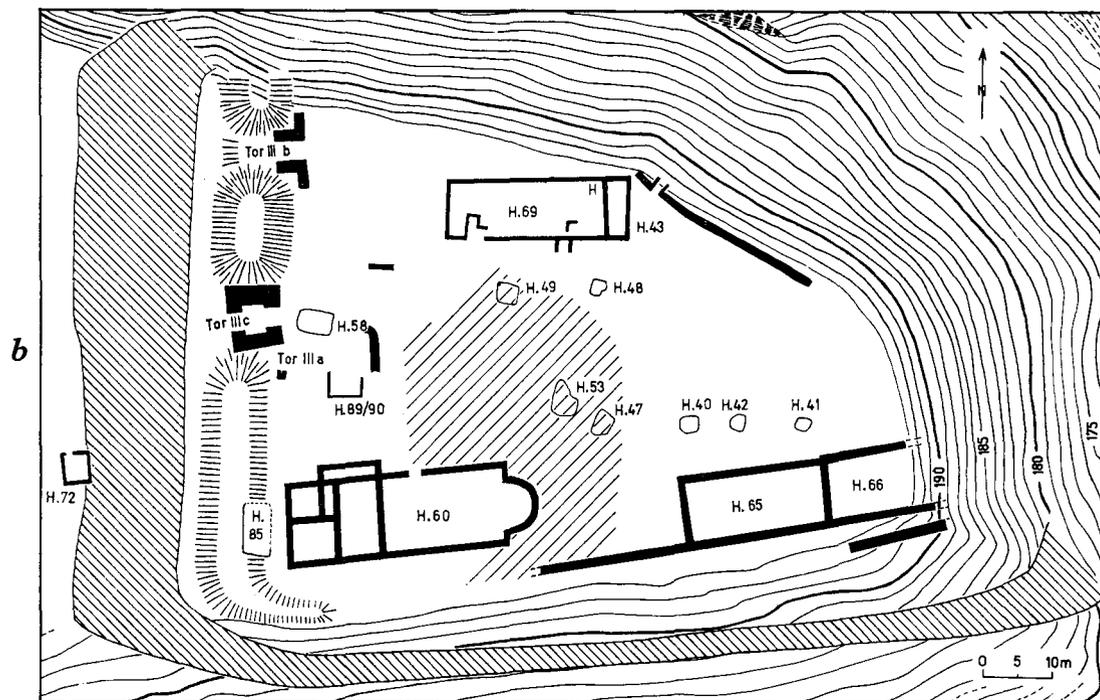
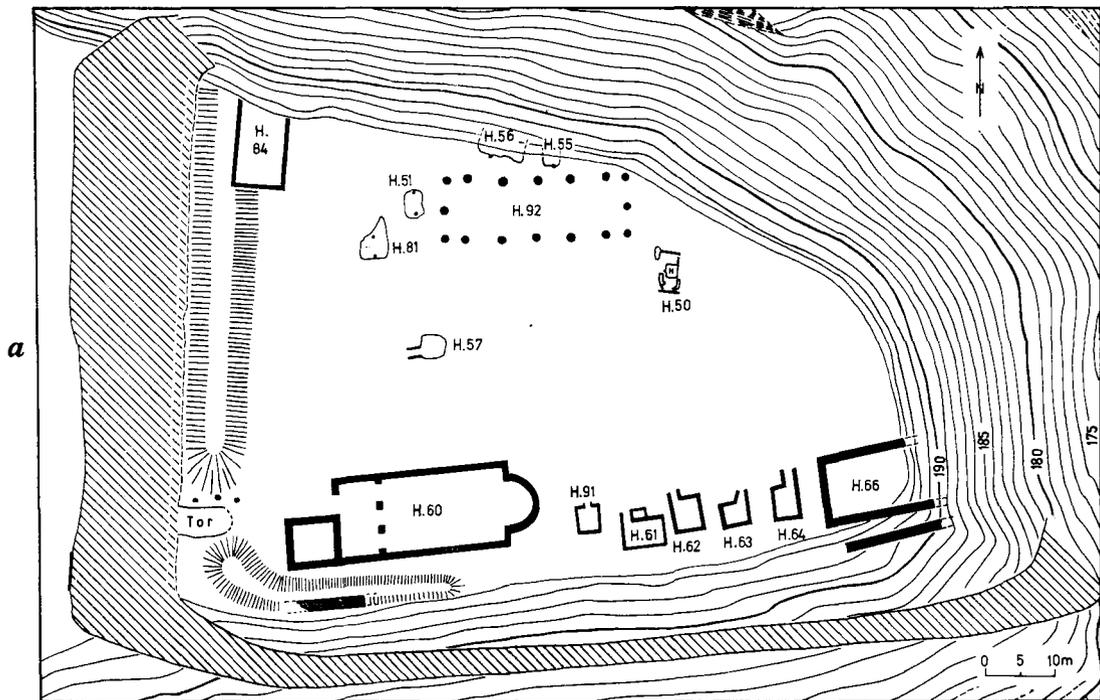


FIG. 20

TILLEDAL PALACE (pp. 87, 89, 94)

Plans of the citadel: a. Period II (11th century to c. 1073); b. Period III (c. 1073 to end of 12th century)

THE BANQUETING-HALL

In the various periods several buildings served as the banqueting-hall. The first was at the NE. corner of the plateau. One corner of this hall has fallen down the slope, so that its exact length is uncertain, but it must have been more than 13·6 m. long and was 9·0 m. wide. Close to the hall a large oven was found, the top of which had collapsed, as well as a sunken hut (*Grubenhau*)⁹ with six posts, which was probably the cook's house.

A hall, 26·7 m. long and 9·5 m. wide, was constructed to replace this one, at the N. side of the courtyard. Its ground-plan was formed by 16 large posts (PL. XI, A; FIG. 21). Pottery indicates that this timber building belongs to the 11th century. In the 12th century a two-roomed building on stone foundations with the same measurements covered the same site. Later this structure was abandoned and one of the two buildings with hot-air heating systems at the SE. corner was used as the banqueting-hall.

OTHER BUILDINGS

In period II there had been a large rectangular building of stone, as well as five small stone buildings sunk into the ground, all entered by ramps. It is not quite clear whether these were cellars of higher buildings or remains of sunken huts. Since they resemble the guard-rooms of the outer enclosure and other stone buildings of the same time, they should be interpreted as lodgings for the members of the royal household. In the 12th century a larger structure which had a hot-air heating system was built over them (PL. IX, B). Unfortunately their upper layers were very much destroyed so that full details of the ground-plan could not be clearly identified.

Apart from these larger buildings, forty-four other buildings, some with foundations, some merely sunken huts, have been found. The following are worth mentioning as samples of the first type:

1. A building, 0·9 m. deep, with an entrance ramp from the west, situated underneath the church. It is possible that it was an improvised chapel of the first period.
2. A house built on a stone foundation on the old ground surface just behind the first rampart in the centre of the W. side. It is possible that this was the main building of the first layout.
3. A foundation, 9·9 m. long and 4·0 m. wide, lying just under the surface. This building may have been the hall of the manor of the 13th and 14th centuries.

Among the sunken huts there were structures without any post-holes. Others had two, or six or some irregularly-placed posts (PL. X, A-E; FIG. 22, a-c). Similar types existed throughout German territory after the Roman period. They are

⁹ There have been many different translations of *Grubenhau*. I think that 'pit-dwelling' should not be used for, although in this case Prof. Grimm thinks this was a living-house, it is now recognized that many of them were used for industrial or other purposes. 'Pit-hut' or 'hut-pit' implies a hole dug to some depth and while they are often of this type, many others are only a few centimetres deep. I therefore prefer the term 'sunken hut'. [J.G.H.]

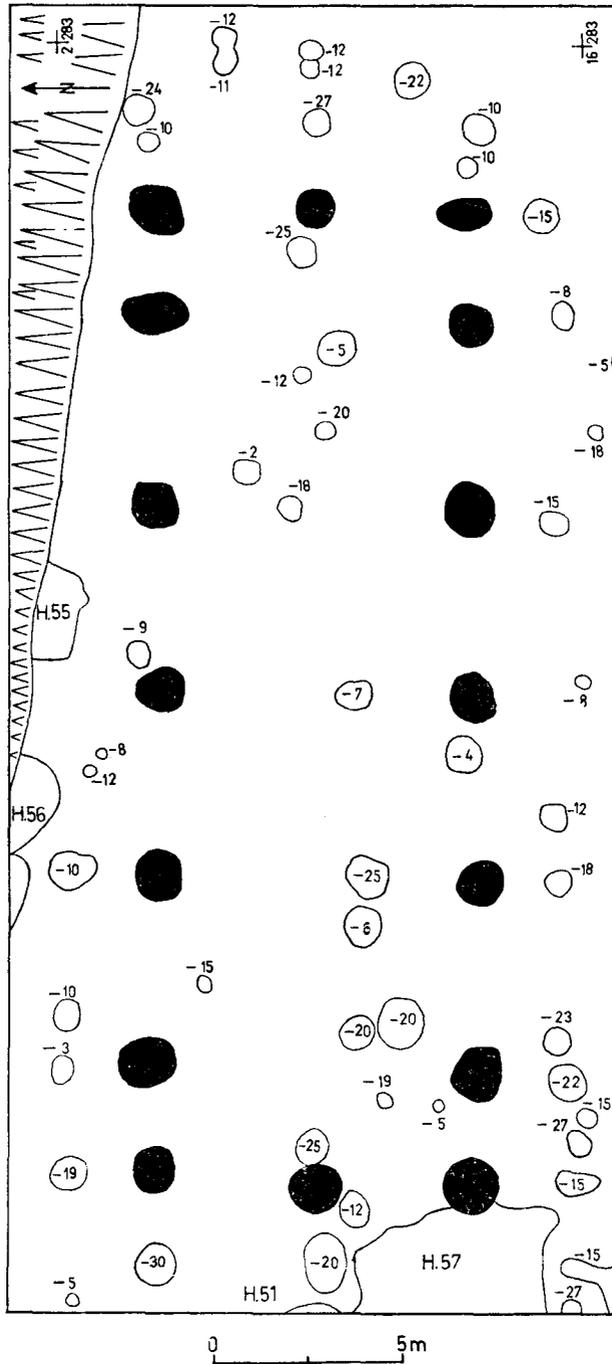


FIG. 21

TILLEDA PALACE (p. 91)

Plan of the hall (H.92 on FIG. 20, a) in the citadel, period II, showing post-holes in solid black

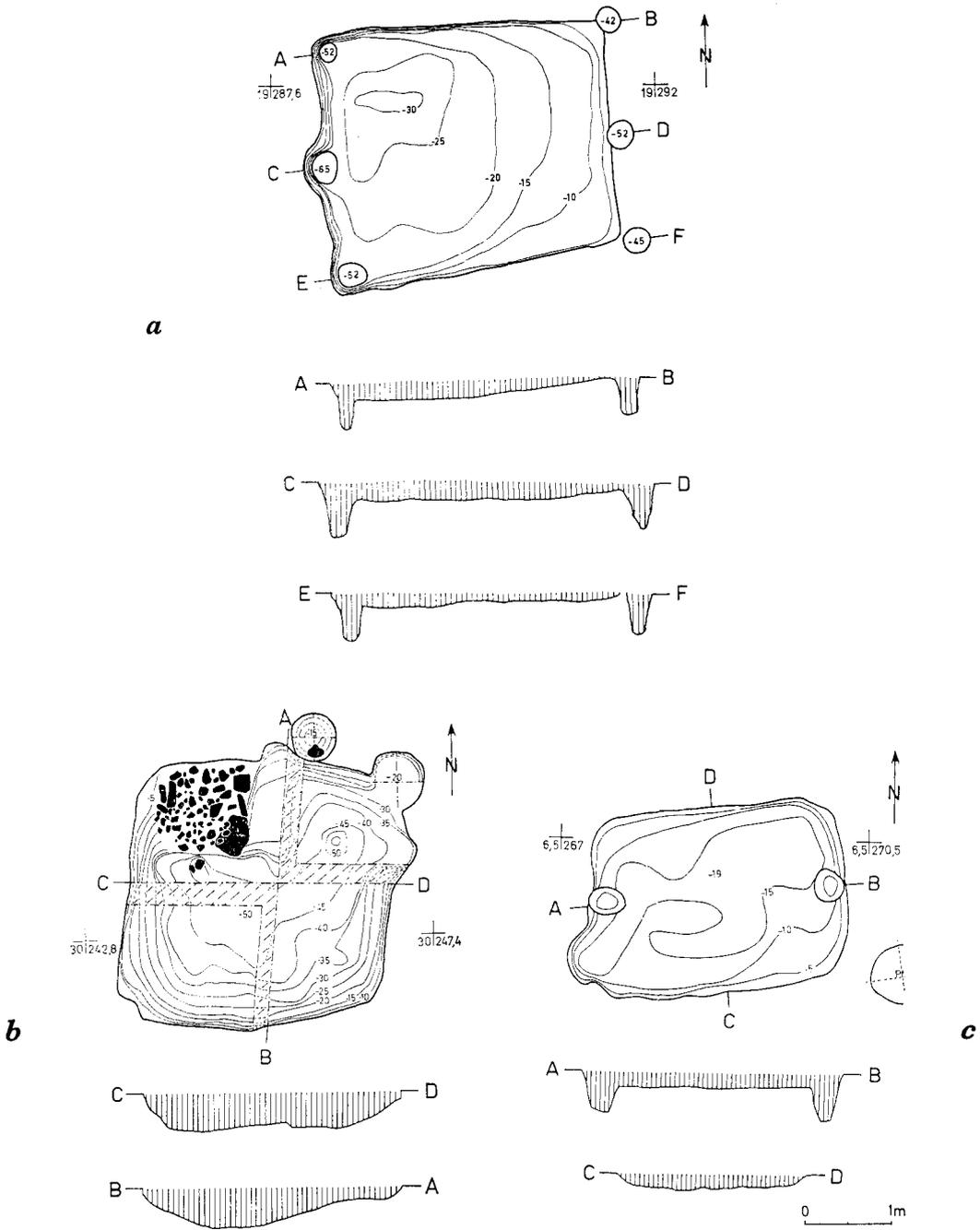


FIG. 22
 TILLEDA PALACE (pp. 91, 94)
 Sunken huts in the citadel: a. Haus 39; b. Haus 78; c. Haus 54

supposed to have been used as dwelling-houses and farm buildings of the poorer peasants.

In the citadel of Tilleda some buildings were placed just behind the main rampart. They seem to be the foundations of dwelling-houses corresponding to the buildings behind the wall of the outer enclosure. Other structures were situated in the W. and E. parts of the citadel. They are believed, on the meagre evidence, to be remains of the houses of the servants, and they show how poor peasants lived in central Germany until the high middle ages, because some of the sunken huts contained pottery of the 12th century and later.

THE PLAN OF THE CITADEL (FIGS. 18, 20)

The ground-plan of the palace remained similar during all three periods. All the buildings of a layout 70 by 100 m. internally were located around an inner courtyard. On the S. side were special buildings of stone—the church, the keep and the buildings to the south-east. At the NE. corner there was the banqueting-hall of period I. On the W. and N. sides there were, side by side, various sunken huts, several stone buildings and the large timber hall. The plan is, therefore, very much like that of an enlarged nobleman's dwelling (*Adelshof*). It is supposed that this plan was based on old German models.

The churchyard with its 420 excavated graves is of special interest. The graves extend nearly 29 m. north of the church, thus preventing the use of the courtyard for festal purposes. Only 6 m. separated the apse and the stone building immediately to the east, among the burnt remains of which were several graves. The smallness of this gap as well as the few grave-goods, all from the 12th or 13th century, prove that the churchyard had not been originally planned in this position, but was moved here later.

The palace was probably destroyed again during renewed rebellions of the Saxons between 1115–1118. On the other hand there are no relevant historical documents from the 1st half of the 12th century, so that it is possible that during this time the palace of Tilleda was quite unimportant. Possibly therefore, parts of the originally empty courtyard were covered with small buildings, while the rest was slowly occupied by the churchyard, extending north from the church. After the manorial period which followed the abandonment of the palace the churchyard still remained in use for a certain time. A small chapel was erected on the ruins of the former church.

THE SETTLEMENT IN THE OUTER ENCLOSURE (FIGS. 18, 23)

Two excavated areas of the outer enclosure as well as remains of buildings which were found in trial trenches show that a large part of the interior had been built over. Altogether, up to 1966, remains of twenty-three buildings have been excavated. One of the excavated areas is situated by the NW. gate, the other is just behind the defences near the highest part of the enclosure. It has not, as yet, been possible to distinguish different periods among these buildings.

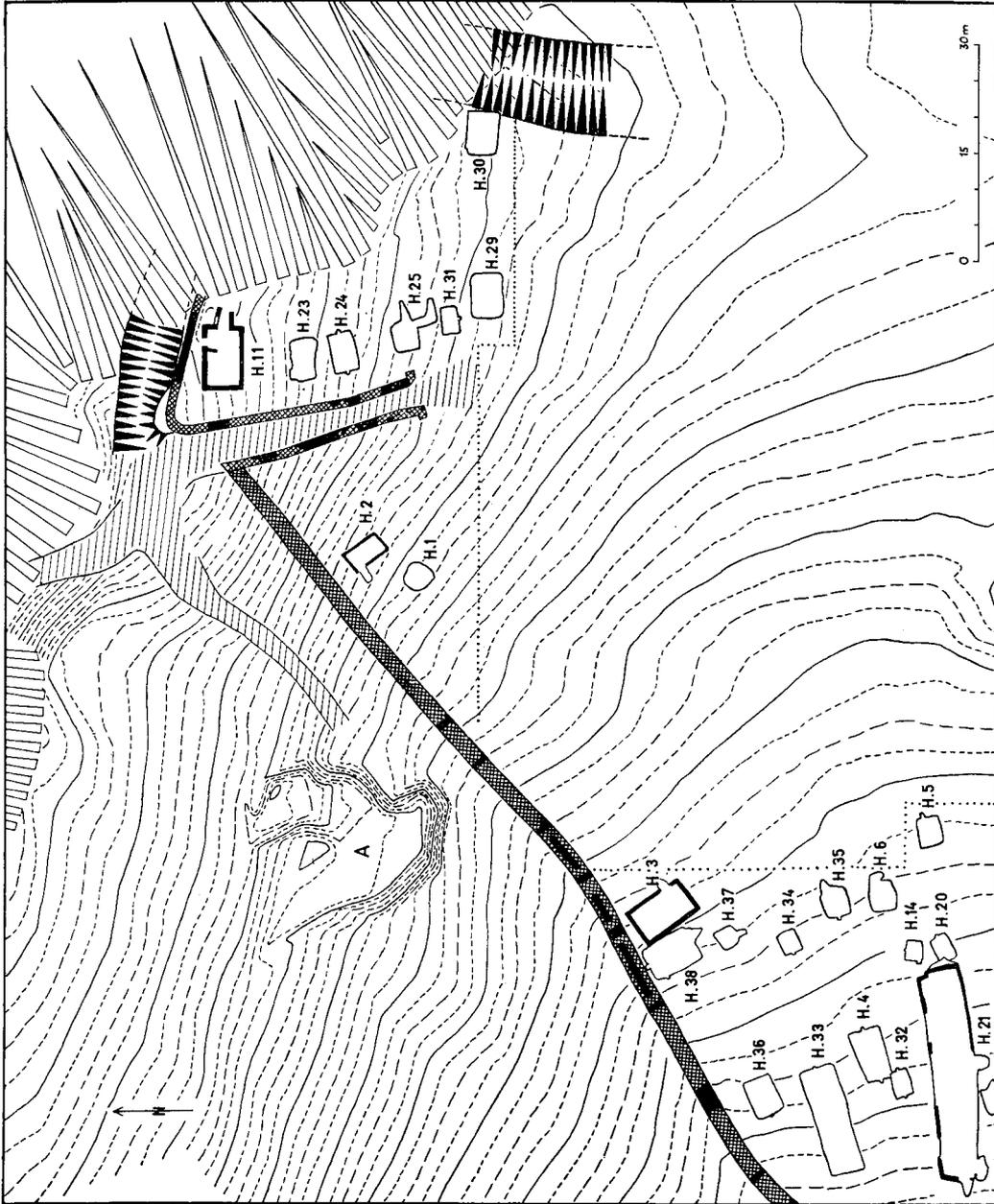


FIG. 23
TILLEDA PALACE (pp. 94, 96 f., 99)
Plan of the excavated areas in the NW. of the outer enclosure

All buildings so far found here were sunk at various depths into the natural soil and belong to the group of *Grubenhäuser* or sunken huts. The depth varies between 15 cm. and 1.4 m. It is possible to distinguish two kinds of dwelling-houses, three kinds of ancillary buildings and one group of special guard-rooms.

DWELLING-HOUSES (PL. XII; FIG. 24, B, C)

Among the ten buildings with hearths five had an oven, four a hearth and one a long pit used for fire. With the exception of the last one all these cooking-places were in the NW. corner.

The ovens had roofs built of stone, with flues at the front (PL. XII, *a-h*). They were constructed in the same way as baking-ovens. Baking-ovens are known from the neolithic period onwards, but this kind of oven inside houses never occurs during the prehistoric period in central Germany. The first internal house-ovens hitherto observed in central Europe were built by the Slavs during the *Burgwall* period.¹⁰ It has been supposed that the type was introduced by the Slavs into Teutonic territory, but, since so few sites have been excavated, we cannot be sure of this.

Four of these houses also had their hearths at the NW. corner. These were always at ground level and paved with small stones or surrounded by vertically-pitched slabs. The soil in and near all the ovens and hearths contained much more phosphate than occurred elsewhere in the houses.¹¹

GUARD-HOUSES (*Wachhäuser*) (PL. XI, B; FIG. 24, A)

The distinctive features of this group are stone foundations built on the ground and an absence of ovens or hearths. So far three have been completely excavated and two others found during trial trenching.

All these buildings were situated at regular intervals just behind the defences. Inside two of them there were two discoloured areas which indicate occasional open fires. They are identified as guard-houses, both because of their position behind the wall and because they are better built than the other sunken huts. Timber bridges probably led from these guard-houses to the wall-walks.

At an oblique angle under the foundation of one guard-house (*Haus 11*) was found a simple sunken hut with post-holes (*Haus 38*) and some early pottery. One of the ridge-posts had been built into the wall of the outer enclosure, so that this building could be a forerunner of a guard-house in regard both to site and, perhaps, function. If so, it is clear that the practice of building a wall with stone foundations came into use during the first part of the existence of the palace.

ANCILLARY BUILDINGS (*Wirtschaftsbauten*) (FIG. 24, D)

Six of the buildings have no evidence of a fire-place; moreover, as they are smaller than all the dwelling-houses, it may be assumed that they were ancillary

¹⁰ A. Pitterová, 'Zum Problem der slawischen Expansion', *Vzник A počátky Slovanů*, v (1964), 175.

¹¹ P. Grimm, 'Phosphatuntersuchungen zur Besiedlung der Pfalz Tilleda', *Ausgrabungen und Funde*, vii (1962), 8 ff.

buildings, many, perhaps, for storage. Their phosphate content is also low. Some were dug deeper into the ground than the dwelling-houses.

IRON-WORKING BUILDING (FIG. 24, E)

A circular building (*Haus 1*), which was sunk 70 cm. into the ground, had in its filling and near by large quantities of iron slag, iron nails and other evidence of iron-working and may be identified as a place where iron was either made or worked. Details of how these processes might have taken place could not be detected.

WEAVING-SHOPS (*Tuchmachereien*) (PL. XIII, A-B; FIG. 24, F)

Two of the buildings of the outer enclosure were specially large. *Haus 33* was 15.6 m. long, whereas *Haus 21* was 28.6 to 29.6 m. long. Both were sunk into the ground with a row of posts up the middle. *Haus 33* also contains some irregular post-holes, but it is possible that they belong to an earlier, Roman, building.

Haus 21 had posts at the inner edge of its pit at intervals of about 1.6 m. In both structures there were long pits extending west-east, 0.4 to 0.8 m. wide and 2.6 to 7.4 m. long, some containing remains of pierced bun-shaped loom-weights, 22 cm. in diameter.

Since these buildings differ in size from the other living-houses of the outer enclosure, they must have been for a special use. The loom-weights in the pits suggest that they were special weaving-sheds.

Small sunken huts with loom-weights have often been found in other settlements, and these may be interpreted as weaving-huts, or as dwelling-houses which were also used secondarily for weaving. Because the long pits in buildings 21 and 33 were placed in the middle of the structure, weaving could not have been secondary: they must have been special buildings for cloth-making. Such pits are necessary for vertical looms, which were used in northern and central Europe in the middle ages and which are still used in modern folk-weaving.¹²

It is reasonable to assume that these large buildings were the remains of weaving-shops such as are mentioned in the Carolingian capitularies and other documents of this period under the name of *genitium* or *gymnaecium*.¹³ These sources enumerate up to twenty-four women working there.¹⁴ A. Geijer¹⁵ has already assumed the existence of weaving-sheds of this kind. When writing about the textile remains in the graves of Birka in Sweden she found excellent cloth, and so concluded that the material as well as the skilful and even work show that this cloth must have been made by professional production on a large scale and with a secure source of supply. This extensive production surely must have been situated outside Scandinavia. In the 9th and 10th centuries the circumstances for such

¹² M. Hald, 'Vaevning over Gruber', *Kuml*, 1963, pp. 88 ff.

¹³ *The Cambridge Economic History of Europe*, II, *Trade and Industry in the Middle Ages* (1952), pp. 359 and 364-5. [J.G.H.].

¹⁴ References to the medieval literature by P. Grimm, 'Zwei bemerkenswerte Gebäude in der Pfalz Tilleda', *Prähistorische Zeitschrift*, XLII (1963), 62 ff.; *id.*, 'Zum Hausbau in der Vorburg der Pfalz Tilleda', *Varia archaeologica* (Berlin, 1964), pp. 364 ff.

¹⁵ A. Geijer, *Birka*, III, *Die Textilfunde* (Uppsala, 1938), pp. 29 ff.

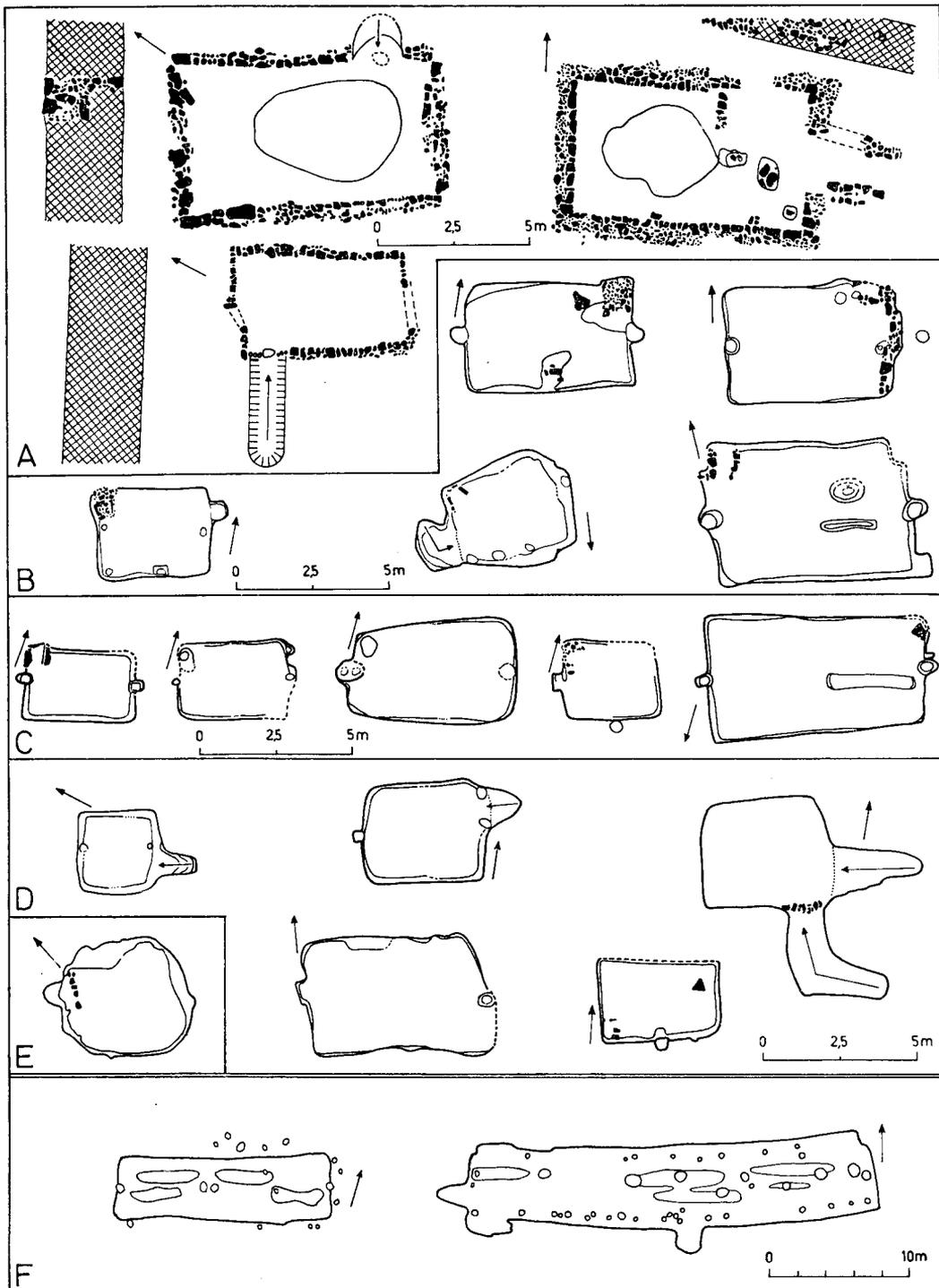


FIG. 24

TILLEDA PALACE (p. 96 f.)

Plans of buildings in the outer enclosure: A. Guard-houses; B. Dwelling-houses with ovens; C. Dwelling-houses with other kinds of fire-places; D. Ancillary buildings; E. Iron-working building (*Haus 1*); F. Weaving-shops (*Haus 33* and *21*)

manufacture existed only in the weaving-sheds of the royal courts or socage tenancies (*Fronhof*). We must suppose that weaving-sheds developed from the *gynaecea* of the Roman period (in which women produced cloth especially to supply the requirements of the court, officials and the army), through weaving-sheds of Merovingian and Carolingian times, to those of the Ottonian period.

At first the discovery of such weaving-sheds at Tilleda was unique, but recently another building (a little smaller) with similar long pits has been excavated in the early medieval fortifications on the Heuneburg beside the farm of Talhof, near Hundesingen village, district of Saulgau.¹⁶

GENERAL

As we have seen, all the excavated buildings of the outer enclosure were sunken huts dug to varying depths. In other Teutonic settlements from the Roman period up to the early middle ages, besides larger buildings constructed above ground, surely belonging to the free part of the population, there were small sunken huts of this kind which must have been the dwelling-houses of the servants, or workshops or storehouses.¹⁷ The same situation seems to obtain in the outer enclosure here, where the houses of the personnel belonging to the palace are to be assumed. The larger stone buildings of the citadel seem to be the corresponding houses of the free people, situated above ground.

Little can be said about the structure of the walls of the buildings. Perhaps timber was used as material, as well as clay. As can be seen from the plan (FIG. 23), only two parts of the outer enclosure show groups of buildings. This is because excavations have taken place only in these two areas; further excavation will bring further foundations to light.

The orientation of the buildings is generally from west to east. However, there are certain variations, which indicate that the direction of the outer defences and the NW. gate had also influenced the direction of these buildings.

Since the results obtained so far demonstrate the possibility of obtaining details of the layout of the whole site, of the structure of the buildings, and particularly of the economy and the culture of royal palaces, the exploration of the outer enclosure will be continued.

FINDS

The number and importance of the finds is not remarkable, because the palace was deserted gradually and the population was removed to the village in the valley.

A great deal of the pottery belongs to the North Sea group (*Nordseegruppe*).¹⁸ This develops from the early red-brown globular pots (*Kugeltopf*) with beaten-out bases (PL. XIV, *h, i*),¹⁹ which are made entirely by hand, through globular pots

¹⁶ W. Kimmig and E. Gersbach, 'Die neuen Ausgrabungen auf der Heuneburg', *Germania*, XLIV (1966), 123 ff., pl. 8.

¹⁷ W. Winkelmann, 'Die Ausgrabungen in der frühmittelalterlichen Siedlung bei Warendorf (Westfalen)', *Neue Ausgrabungen in Deutschland* (Berlin, 1958), p. 516 f.

¹⁸ W. Hübener, *Die Keramik von Haithabu* (Neumünster, 1959); P. Grimm, 'Zur Südostausbreitung der Nordseegruppe der frühmittelalterlichen Keramik', *Prähistorische Zeitschrift*, xxxviii (1960), 126-132.

¹⁹ Pot *i* is a debased form of pot *h*: it contained 12th-century coins.

still with beaten-out bases, but with rims that have been turned (*abgedreht*), with the help of a wheel or a piece of wood (PL. XIV, *d, f, g*), to the blue-grey globular pots with a clear rib-zone on the shoulder (PL. XIV, *e*). Some coarse bases may be precursors of rounded bases (*Kugelboden*), but they may equally belong to the Slavonic ceramics of the 10th and 11th centuries which also occurred in the palace. There were also some wheel-thrown imports from S. Germany and Austria (PL. XIV, *a*) and from the west (PL. XIV, *b, c*). One sherd was identified as true Pingsdorf ware. The origin of others has yet to be established.

The iron objects are those commonly found in settlements of the middle ages: knives, horseshoes, parts of harness, and nails predominate. Other small finds included dice, game-pieces, styli and pieces of gilt jewellery, such as have often been found on market-settlements and in castles.

The coins of the 11th and 12th centuries came from Thuringian mints. There were two isolated finds of globular lead weights, which point to the area where hacksilver was used (*Hacksilberverwendung*) in eastern central Europe.²⁰ One is a globular weight with a small flange in almost undamaged condition and weighing 30·035 grammes; the other one, a weight of similar form, but with a little notch in it, weighs 23·9015 grammes.

²⁰ H. Jankuhn, *Die Ausgrabungen in Haithabu, 1937-1939* (Berlin, 1943), p. 191, fig. 88; H. Jankuhn, *Haithabu, Ein Handelsplatz der Wikingerzeit* (4 Aufl., Neumünster, 1963), p. 52.