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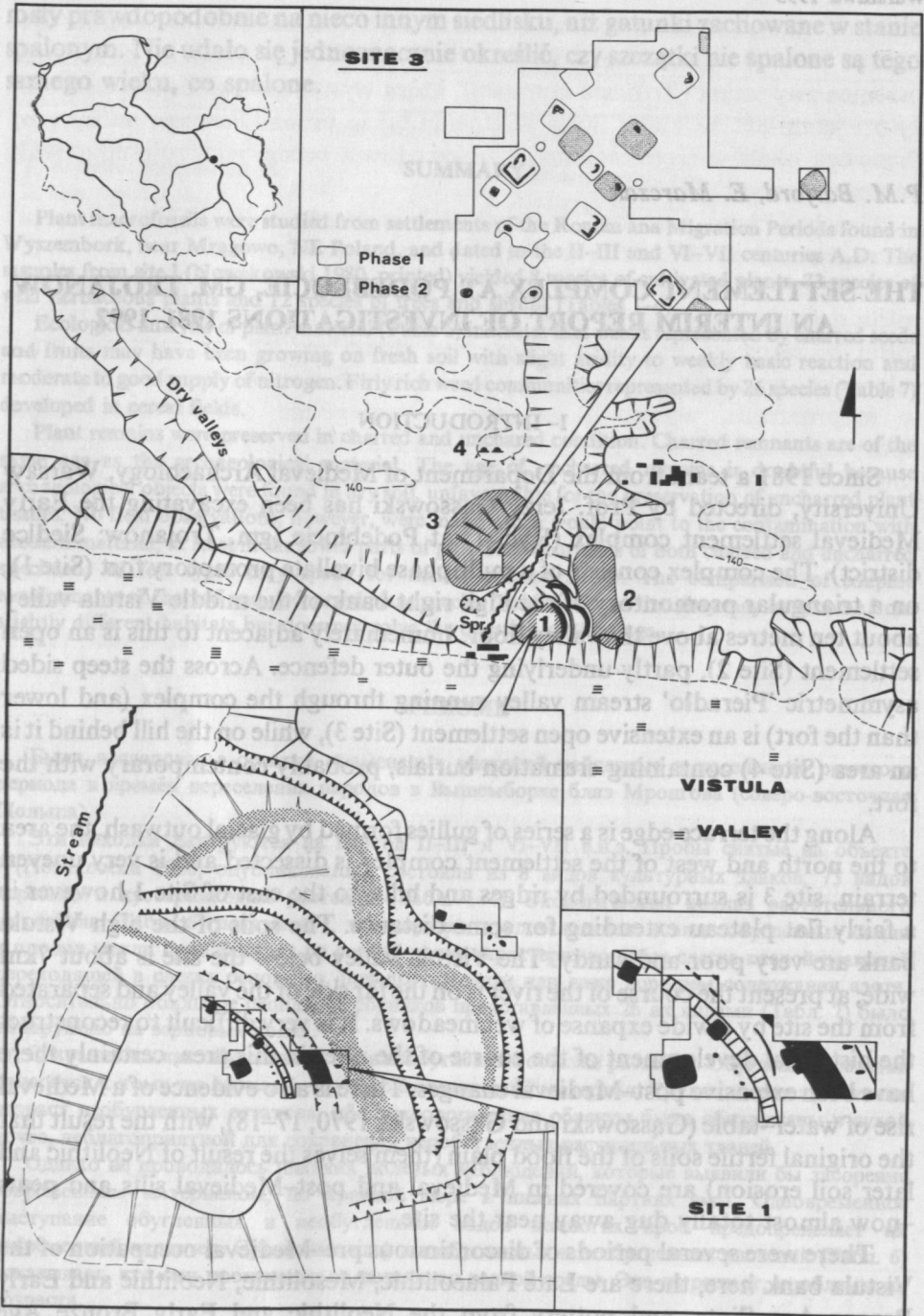
THE SETTLEMENT COMPLEX AT PODEBŁOCIE, GM. TROJANÓW, AN INTERIM REPORT OF INVESTIGATIONS 1981–1992

I- INTRODUCTION

Since 1981 a team from the Department of Medieval Archaeology, Warsaw University, directed by Prof. Jerzy Gąssowski has been excavating the Early Medieval settlement complex (Ryc. 1) at Podebłocie (gm. Trojanów; Siedlce district). The complex consists of a multiphase bivallate promontory fort (Site 1), on a triangular promontory of the high right bank of the middle Vistula valley about ten metres above the valley floor. Immediately adjacent to this is an open settlement (Site 2), partly underlying the outer defence. Across the steep sided asymmetric 'Pieradło' stream valley running through the complex (and lower than the fort) is an extensive open settlement (Site 3), while on the hill behind it is an area (Site 4) containing cremation burials, probably contemporary with the fort.

Along the terrace edge is a series of gullies formed by glacial outwash, the area to the north and west of the settlement complex is dissected and is very uneven terrain, site 3 is surrounded by ridges and hills; to the east of Site 1 however is a fairly flat plateau extending for some distance. The soils of the high Vistula bank are very poor and sandy. The Vistula valley below the site is about 7km wide; at present the course of the river is on the far side of the valley and separated from the site by a wide expanse of wet meadows. It is very difficult to reconstruct the historical development of the course of the river in this area, certainly there have been extensive post-Medieval changes. There is also evidence of a Medieval rise of water-table (Gąssowski and Gąssowska 1970, 17–18), with the result that the original fertile soils of the flood plain (them selves the result of Neolithic and later soil erosion) are covered in Medieval and post-Medieval silts and peats –now almost totally dug away near the site.

There were several periods of discontinuous pre-Medieval occupation of the Vistula bank here, there are Late Palaeolithic, Mesolithic, Neolithic and Early Bronze Age flints, and pottery from the Neolithic and Early Bronze Age (Funnel-Beaker, Globular Amphora, Corded Ware, Chłopice-Wesele and



Ryc. 1. Location and layout of the Podęblowie site and main excavated areas (minor trenches omitted)

Trzciniec Cultures). This material forms a light scatter across all the excavated areas, and indicates early interest in this area for settlement, most of the archaeological deposits formed in these periods has however been destroyed in the excavated areas by later activity. Roman period finds appear absent, as is pottery of the earliest phases (Prague-type) of the Early Medieval period.

The main interest of the site is however the Medieval occupation. The stronghold at Podeblocie is one of the largest (1.3ha) and most complex in the area, it may thus be expected to have had some importance in the settlement hierarchy of the Vistula valley. The settlement complex lies near the junction between three cultural provinces, the Mazovian, the area of Little Poland and the Bug valley area (in the 11th century affected by the expansion of the Kievan state). The whole complex was occupied for several centuries; the excavations have produced a considerable amount of structural and artefactual evidence of several main phases. This article attempts to present a brief account of the site and some of the preliminary results of the study of the material from it in advance of full publication elsewhere.

Research Design and Methodology

The site was only added to the inventory of known strongholds in 1972 as a result of fieldwork by Stefan Wojda, and the first seasons (1981-2) were of a reconnaissance nature, to provide information on chronology and structure. When as the result of the 1982 season the site was found to have well-preserved vertical stratigraphy containing good finds assemblages, excavation was continued as a research project. The current investigations are designed to produce as much reliable information as possible about this settlement complex with the available resources. There are several remaining problems about the layout of the sites and also about the defences of Site 1. One of the most interesting features of all three settlements is the density of structures found, and also the well-preserved pottery assemblages coming from good closed contexts.

The site has been excavated over a number of seasons, often with quite a small excavation team. In addition to the aim of research on the site itself, the excavation is used as one of Warsaw University's main training excavations. These two factors have dictated the method of exploring the site by means of a number of relatively small trenches (usually 5 x 10m) dug immediately adjacent to each other. This allows closer control of the digging and recording by students during the training process, but has sometimes caused problems matching the stratigraphical record from separate trenches dug over a number of years and does not allow whole phases to be excavated at once (Barker 1982, 80).

The excavation was carried out until 1985 mainly by traditional Polish methods of digging by mechanical levels (Hensel and Tabaczyński 1983, 158; Gąssowski 1982, 82-108) with finds referred to an inventory independent of the

layer numbers and linked to it only by later cross-referencing. The latter makes the reconstruction of some of the original assemblages a needlessly difficult process. Since 1985 however the site has been excavated by stratigraphical layers and recorded by a card system (designed by A. Gołębniak). The recording system subsequently underwent a number of further developments, the present system is described by Marczak (1992).

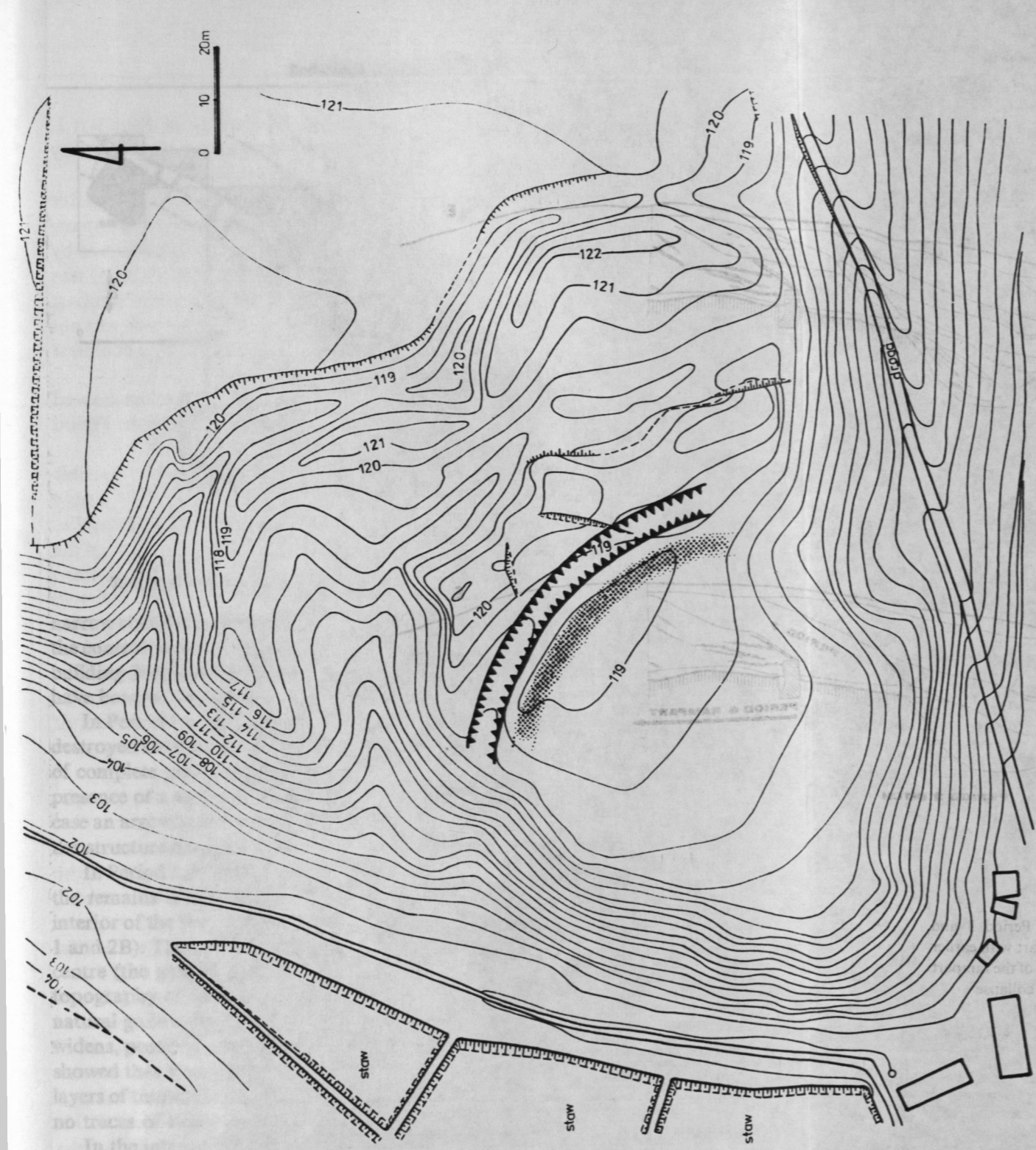
In the account below, the results of the 1981–1991 seasons are summarised, with only slight use of the results of the 1992 season, as several points raised by them still need confirming. Also omitted are the results of several isolated trenches which have been dug near the limits of the settlement areas (at the west end of Site 1 and around Site 3— not shown on Ryc. 1) as these cannot yet be linked with the main phases detected in the main series of excavations. This account supercedes all previous interim reports (e.g., Gąssowski 1987). The preliminary results of a study of the pottery have been discussed elsewhere (Barford and Marczak 1992).

II— THE STRATIGRAPHY

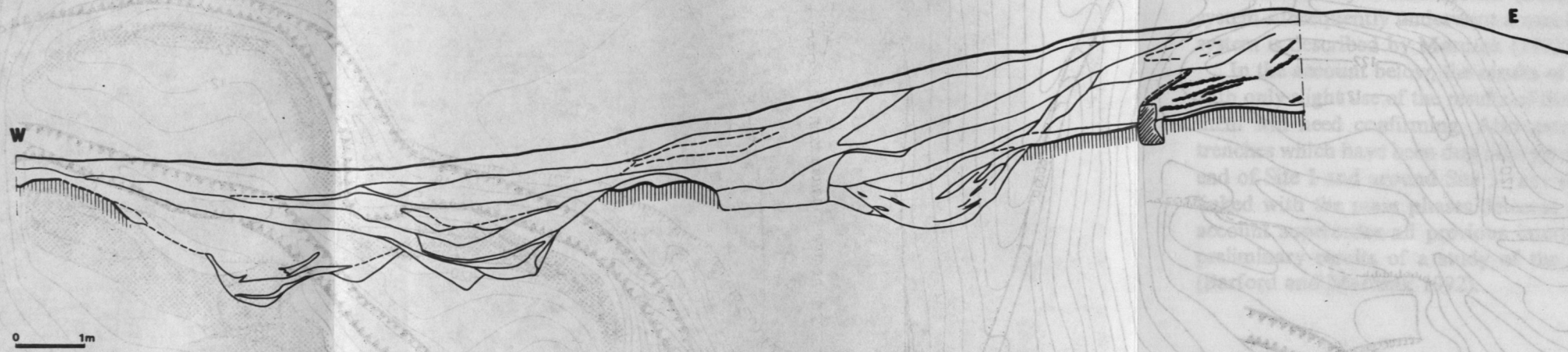
The results of the investigations on all four sites is summarised below. The stratigraphical sequence of Sites 1 and 3 may be divided into several periods of occupation and disuse. For reasons which will become apparent below, Site 1 Periods are written 1.1, 1.2 etc. while Site 3 Periods are written 3.1, 3.2 etc. The chronology of the site periods is discussed in more detail in a separate section below.

Site 1: The earliest Medieval occupation (Period 1.2) consists of a few pits and postholes scattered in the west part of the main excavation, there are also a series of discontinuous shallow ditches which run round the features of this period roughly under the line of the Period 3 rampart. Their function is unclear, they do not seem to have been defensive. One of these ditches contained a large carbonised beam, suggesting that a fire had broken out in the Period 1.2 settlement.

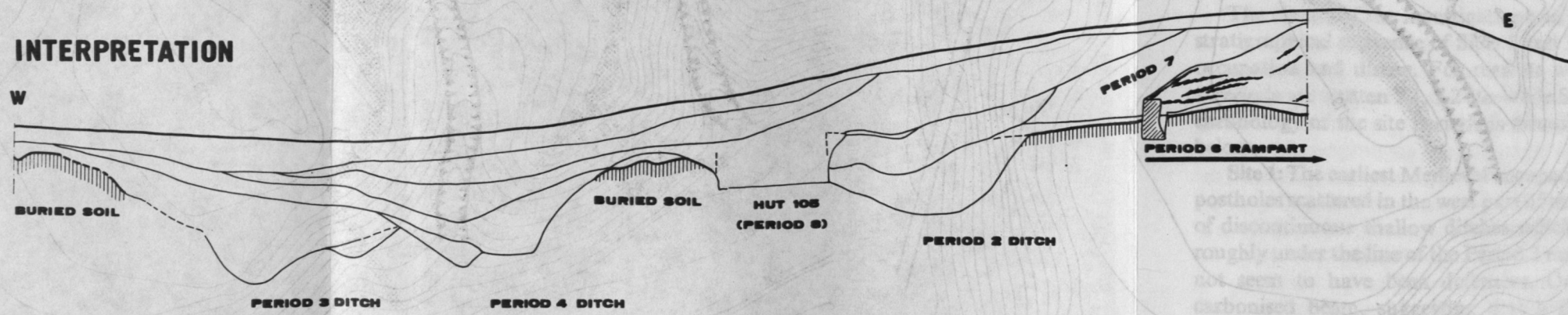
In Period 1.3 the nature of the site changes, a sand and timber rampart was built, but (apart from a few traces on the south side) was later almost completely cleared away (to make way for the Period 1.4 rampart running on its line). The external ditch of this rampart was 5m wide and 1.8m deep and was recut at least three times. The Period 1.4 rampart and ditch (Rampart I and Ditch I—Ryc. 2A) ran along the line of the Period 1.3 defences, the Period 1.4 recut of the ditch (4m wide and 2m deep) being slightly to the east. It was recut at least four times. Only the base of the rampart survived, with timber traces suggesting that it was of layered ("Rusztowa") construction. Along the interior face of the rampart was built a series of mysterious timber structures (Ryc. 3) consisting of a series of



Ryc. 2. Site I: the two phases of the stronghold: A - Period 1.3 and 1.4 (Rampart I and Ditch II; B - Period 1.6 to 1.8 (Rampart II (inner), Ditch II, Rampart III (outer) and Ditch III)

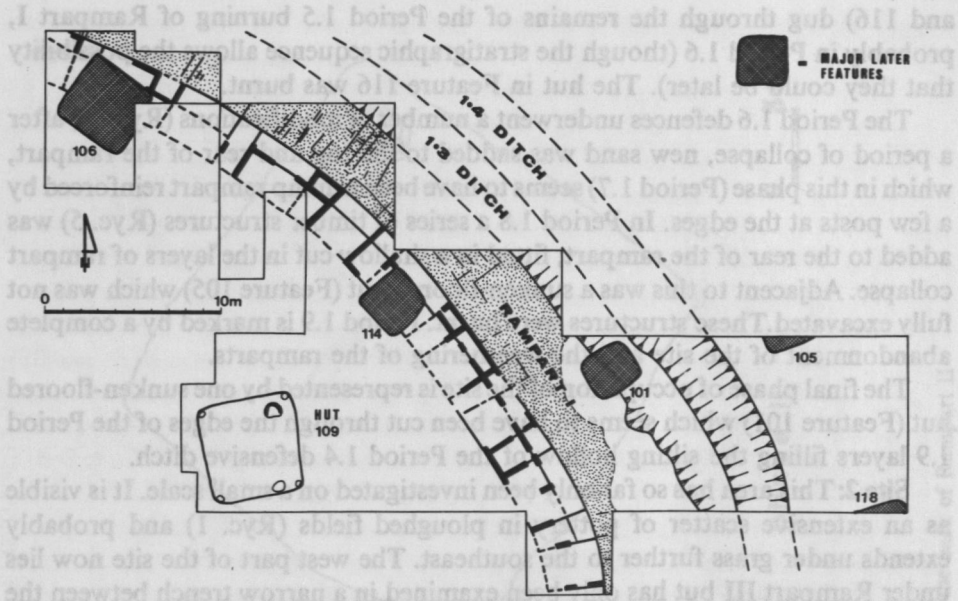


INTERPRETATION



Ryc. 4. Site 1; section through the Period 3 and 4 defensive ditches, and Period 6 rampart with earlier features beneath. The layers on the rear of the rampart are the Periods 7-9 repairs and collapse

Ryc. 4. Site 1; section through the Period 3 and 4 defensive ditches, and Period 6 rampart with earlier features beneath. The layers on the rear of the rampart are the Periods 7-9 repairs and collapse



Ryc. 3. Site 1; simplified plan of the Period 4 rampart and associated structures

narrow corridors opening into a range of rooms. In the interior of the stronghold the contemporary levels have been ploughed away, but one large sunken-floored building (Feature 109) seems likely from the nature of finds contained in its fill to have been of this phase.

In Period 1.5 the whole excavated area shows signs of a disastrous fire which destroyed the Period 1.4 structures. These burning buildings collapsed on a series of complete pots and wooden vessels containing grain. This fact, and also the presence of a series of 14 barbed arrowheads around the burnt remains (in one case an arrowhead was discovered sticking in the timber of the interior of one of the structures) suggests that the fort was burnt during an armed attack.

In Period 1.6 (which seems to have followed quite soon after the destruction), the remains of the Period 1.4 ramparts were dismantled and used to level the interior of the fort. The site was defended on the east by two new ramparts (Ryc. 1 and 2B). The inner one (Rampart II) is straight with an expanded area in the centre (the gate?). Rampart III is formed of two arcs skilfully employing the topography of the area (including two natural gullies). The ditch follows these natural gullies, but in the centre, opposite the probable original site of the gate widens, possibly originally crossed by a bridge. Sections of Rampart II (Ryc. 4) showed that it was built of sand and clay with a vertical palisade at the rear and layers of timbers in the interior. Rampart III was sectioned in only one place, but no traces of timber internal structure were found.

In the interior of the stronghold are two sunken-floored huts (Features 114

and 116) dug through the remains of the Period 1.5 burning of Rampart I, probably in Period 1.6 (though the stratigraphic sequence allows the possibility that they could be later). The hut in Feature 116 was burnt.

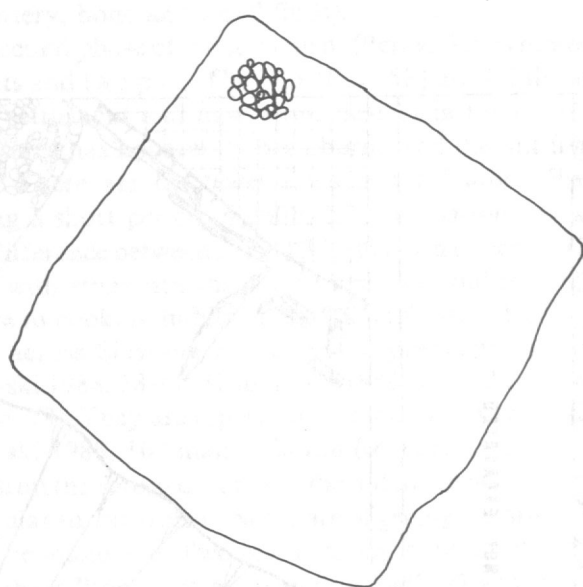
The Period 1.6 defences underwent a number of modifications (Ryc. 4); after a period of collapse, new sand was sadded to the top and rear of the rampart, which in this phase (Period 1.7) seems to have been a dump rampart reinforced by a few posts at the edges. In Period 1.8 a series of timber structures (Ryc. 5) was added to the rear of the rampart, fitted in a shallow cut in the layers of rampart collapse. Adjacent to this was a sunken-floored hut (Feature 105) which was not fully excavated. These structures were burnt. Period 1.9 is marked by a complete abandonment of the site and the weathering of the ramparts.

The final phase of occupation of the site is represented by one sunken-floored hut (Feature 101) which seems to have been cut through the edges of the Period 1.9 layers filling the silting hollow of the Period 1.4 defensive ditch.

Site 2: This area has so far only been investigated on a small scale. It is visible as an extensive scatter of pottery in ploughed fields (Ryc. 1) and probably extends under grass further to the southeast. The west part of the site now lies under Rampart III but has only been examined in a narrow trench between the two later ramparts. A larger trench was excavated directly outside the supposed site of the gate through Rampart III and revealed three pits, and two sunken-floored buildings, one with a stone oven. At least two settlement phases are represented, an early period (2.1) which ended before the construction of the Period 1.6 defences across it (part of it seems to have been burnt first). The settlement of Period 2.2 is restricted to the part of the site outside Ditch III.

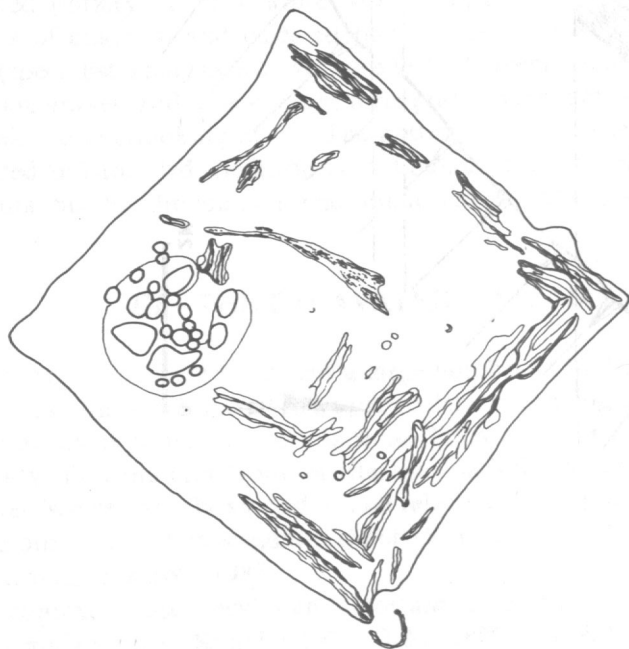
Site 3: fieldwalking and trial excavations have demonstrated the extent of this large settlement (c. 3ha), and a relatively large area in the southeast part of the site has been fully excavated (Ryc. 1). Here, as on Site 2, a layer of truncated ancient soil profile containing finds underlies the modern plough-soil, and this is cut by a number of negative features. Unlike the vertical sequence of the buildup of layers on Site 1, there are few horizontal layers stratigraphically linking these features, thus their seriation has to rely on the finds contained in their fills and the typology of the features. Both seem able to be divided into at least two main groups, and in two cases the sequence of intercutting features supports the hypothesis that one is earlier than the other.

The first phase of the settlement (Period 3.1) is represented by several pits and nine sunken floored huts (seven were habitations, while two seem to have been working areas). In the first phase the main structures represented are a series of squarish huts with stone-clay ovens in one corner (Ryc. 6A). Several of these huts seem to have been deliberately destroyed, and it is tempting to make a correlation with one or other of the phases of burning in the stronghold. Some huts of this phase had well-preserved (unburnt) timbers, preserved in the damp soil of the



0 3cm

phase II



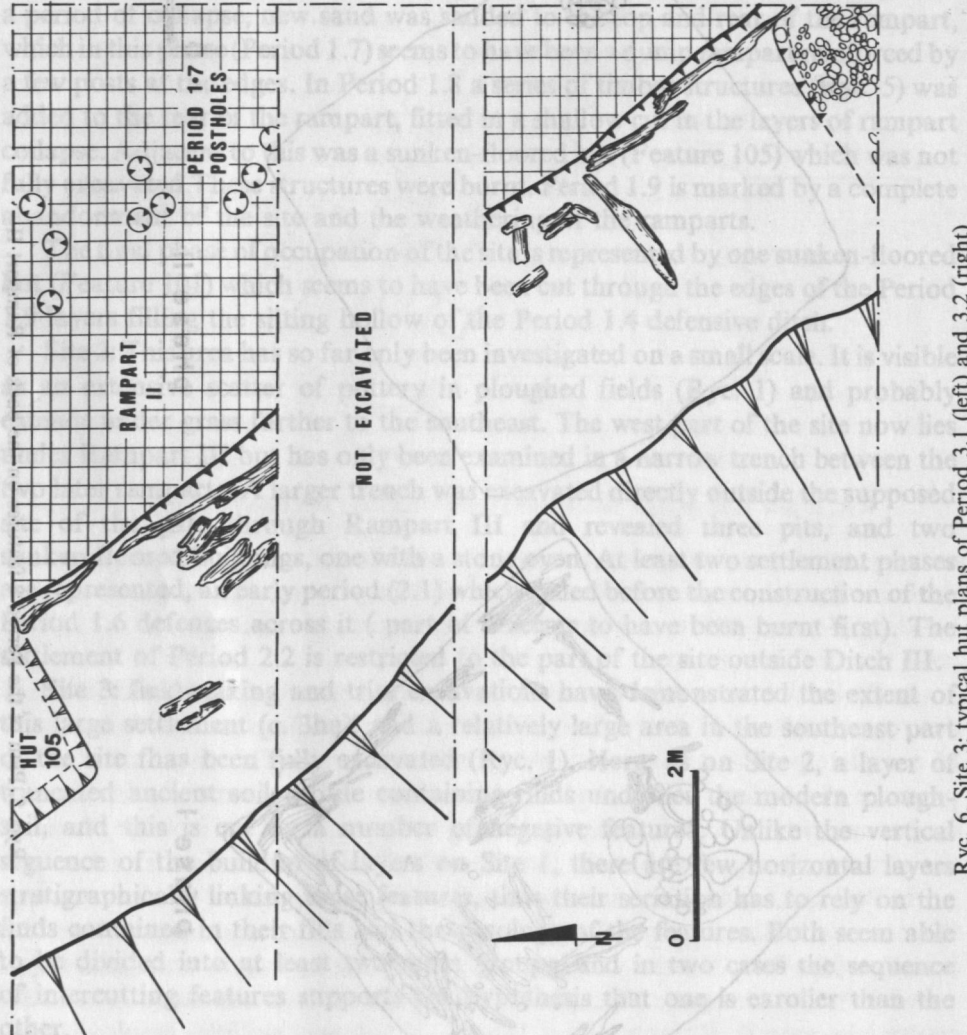
phase I

Ryc. 5. Plan of the Period 8 features on the back of Rampart II

and 116) dug through the remains of the Period 1.5 burning of Rampart 1, probably in Period 1.6 (though the stratigraphic sequence allows the possibility that they could be later). The hut in Feature 16 was burnt.

The Period 1.6 defences underwent a number of modifications (Ryc. 6); after

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Ryc. 6. Site 3; typical hut plans of Period 3.1 (left) and 3.2 (right)

The first phase of the settlement ...
 ... represented by several pits and ...
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 ... in the stronghold. Some huts of this ...
 ... phase had well-preserved (unburnt) tim ...
 ... preserved in the damp soil of the

valley bottom. The hut fills of the first phase of settlement here produced many finds (pottery, bone and small finds).

The second phase of the settlement (Period 3.2) is represented by five features (three huts and two pits). The huts (Ryc. 6B) are a little larger than those of the previous settlement and have stone hearths in the corner. The timberwork of these features has apparently been burnt, and the hut fills contain much burnt material. There are far fewer finds in the feature fills than in Period 3.1, suggesting a short period of rubbish accumulation around the structures.

The difference between Period 3.1 huts with internal ovens of stones or Period 3.2 ones with stone hearths is a distinct one and may represent a fundamental difference in cooking habits at least. The Phase 3.1 huts with their ovens have parallels across Slavdom in the period predating the end of the 8th century (Parczewski 1988, 58-60; Kobyliński 1988, 93-102 and 190-6; Baran (ed.) 1990, 316-2 ryc. 79). They are especially common in southeastern Poland and Podole (Kobyliński 1988, 100 map 5; Baran (ed.) ryc. 79).

Site 4: on the forested slopes of the hill to the north of site 3 are a series of very low irregular surface forms. Some are of geological origin, but at least some seem likely to be manmade. Two low irregular mounds of sand 4m across and 0.3m high on the hilltop were excavated in 1987-90 and produced sherds of badly fragmented pottery, an iron knife with a fuller along the blade, and small fragments of charcoal and calcined bone scattered loose in the earth of the mound (specialist analysis not yet received). It seems quite likely that these mounds are graves, and possibly they form part of a cemetery of scattered graves on the hillside overlooking Site 3. The pottery from this site, due to its highly fragmented and abraded condition cannot be compared with that from the other settlements, but handmade and wheelmade vessels were present.

III - THE EXCAVATED MATERIAL

The excavations have produced a large number of finds, including several hundred small finds (but few of them particularly chronologically-sensitive) and a large quantity of pottery and animal bone. There are several problems involved in the study of the material from the site, the first is the intractability of the finds themselves (see below), the second is their relatively large quantity for a rural site (e.g., 183 boxes of pottery weighing about 750 kg.), the third is the methodology of the excavation before 1985.

The 'context of discovery' is an important factor in the consideration of any finds assemblage (e.g., Schiffer 1976; Buko 1990, 181-221). At Podeblocie it seems that we have almost the full gamut of deposit types, there are assemblages in obvious destruction deposits (the burnt timber structures behind the first rampart, Feature 109 on Site 1 and several features on site 3), there are deposits

of primary rubbish discarded in the fills of abandoned sunken featured buildings and pits on Sites 1 and 3. There are secondary assemblages of material accumulated by natural means in the upper fills of these features, and there is redeposited material in all types of deposits (such as ramparts and ditch fills on Site 1). The nature of material from each context needs to be considered on its own merit to determine what the origin of each finds assemblage (and thus its potential data content) is likely to be. Here considerations such as the number of potsherds from the same vessel in a context and their size and abrasion are of importance (Kobyliński and Moszczyński 1992), as are other features such as secondary burning.

There is therefore some considerable variation in the quality of the information from the various layers and feature fills on Sites 1–3. The contexts of the earliest phases of Site 1 are badly damaged by later activity and small in extent. They thus produce very few finds (excluding potentially contaminated groups from unsealed buried soils etc.). Other layers produce large quantities of material, though it must be accepted that a lot of this is redeposited material from earlier activity. The artefact assemblages of some site Periods are represented only by a few handfuls of sherds from primary silts of ditches for rampart makeup (again of dubious chronological value). On Site 3 the Period 3.1 features produce large amounts of well-preserved material, while features of the second phase produced lesser quantities of material, mainly small sherds; the proportion of redeposited Period 3.1 material in the deposits of the later phase is unknown.

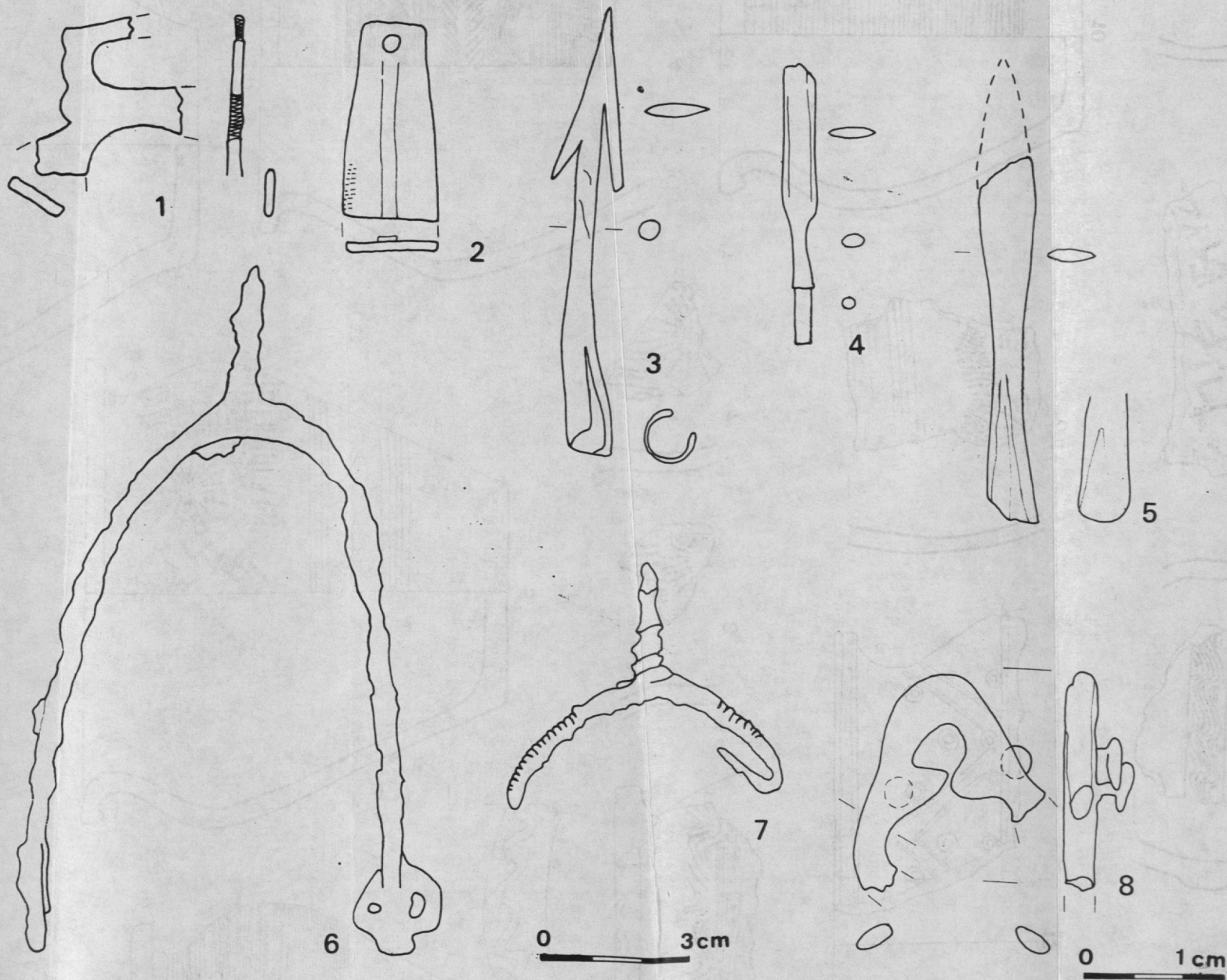
Some of the material was more useful as a primary data source than others. The assemblages from some contexts was mixed while in the ground (e.g., ploughsoil, tree-root hollows), some were badly differentiated during excavation (e.g., clearing immediately under the ploughsoil when features were only just appearing), some layers possibly contaminated before excavation (e.g., unsealed buried soils immediately below the ploughsoil). The pottery and bone from these mixed deposits was all examined, but not considered in detail in the final analyses.

Small Finds

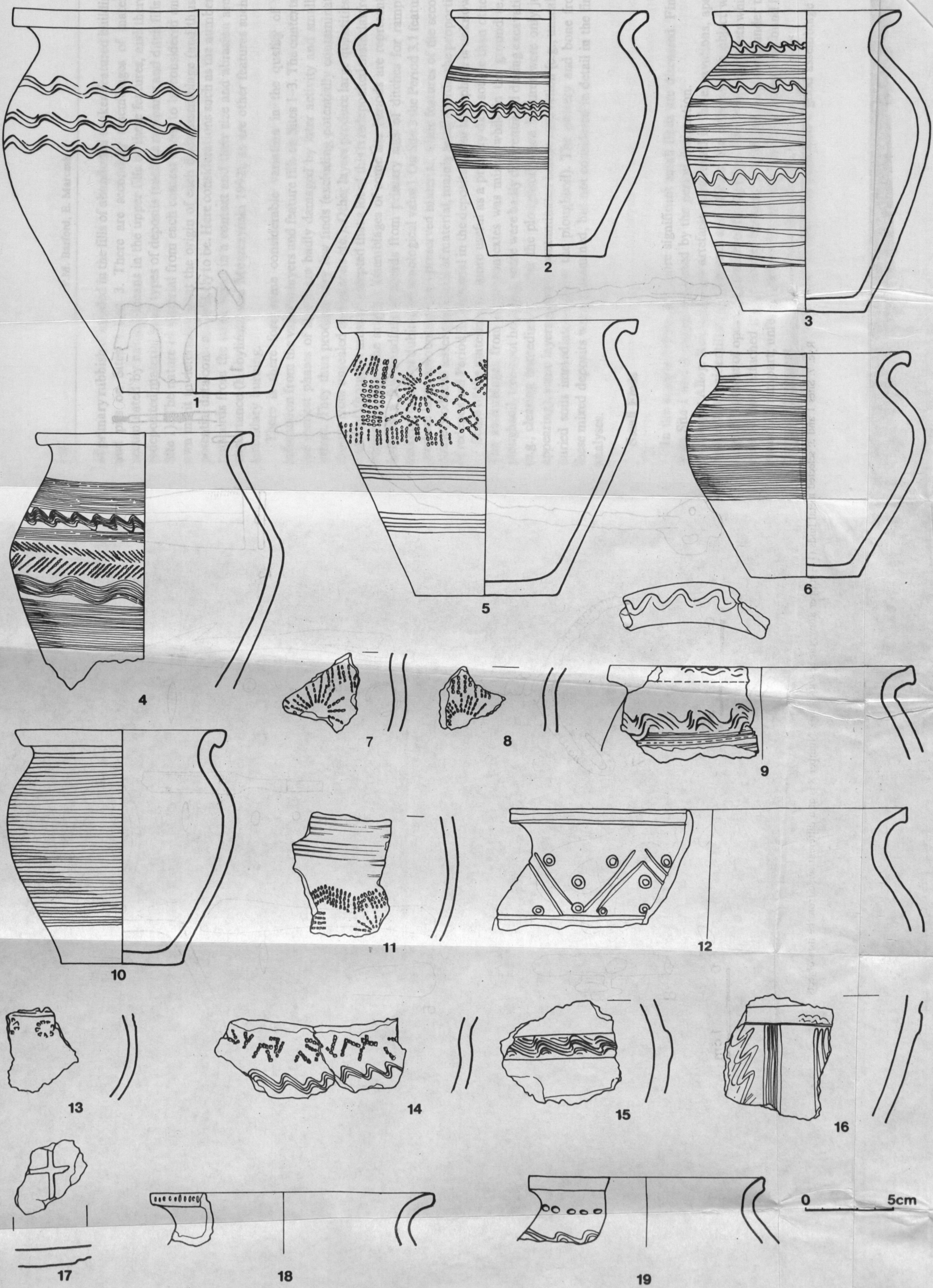
In the section below, the more significant small finds are discussed. Finds from Site 1 and 3 are differentiated by the period designation.

Copper Alloy: Relatively few artefacts were found in the excavations, apart from a few unidentifiable fragments and offcuts, the only notable object was a small fragment of openwork buckle or fitting (Ryc. 7.8). It has two rivets which seem to have attached it to a leather backing. The object was found under the Period 1.1 rampart; unfortunately so far, no close analogies have been found for this small fragment.

Iron Objects: The settlement complex has produced a good assemblage of



Ryc. 7. Sites 1 and 3; selected metal finds (1 – copper alloy, the rest are iron). Number 8 is at a different scale from the iron objects



Ryc. 8. Sites 1 and 3; examples of pottery, typical forms and decorative schemes

iron artefacts, mostly in the form of very small fragments. Nails are virtually absent, as is the case on other sites of the period. The site has produced a number of tool fragments (including a piece of bow-saw blade, awls, axe blade fragments, from Site 1, and sickle fragments from Site 3). The assemblage also contains a good assortment of 36 knife fragments and several buckles. A number of broken fittings and other fragments are of uncertain function. From Hut 109 on Site 1 comes a fragment of trapezoidal iron plate decorated with punchmarks (Ryc. 7.2) which seems likely to have come from a piece of horse equipment. It seems to have been burnt. A second item from the same feature (Ryc. 7.1) seems likely also to have been a harness fitting.

The Period 5 deposits on Site 1 have produced over 14 **arrowheads** and three come from Site 3. Most of them are of the normal barbed form (Ryc. 7.3) which has been found on a number of Slav sites (Nadolski 1954, 60-62 tab XXX), but they are equally common in assemblages from the eastern side of the Frankish kingdom in the seventh century (e.g., von Schnurbein 1987, taf 7.7-9). One arrowhead from Feature 109 (Ryc. 7.5) is of unusual form, with a leaf-shaped blade and socket. An even more unusual arrowhead (Ryc. 7.4) was found in the upper fill of Feature 109, it is extremely carefully-made, and has a long tang, a waisted bolster and a parallel-sided blade. The state of the surface suggests it had been burnt. This form is not found among arrowheads of the adjacent areas, neither south of the Carpathians or on the steppes (where arrowhead typology has been well-studied by Soviet scholars). Very close 9th to 11th century parallels come, however from the territory of the Bulgars on the Volga and Kama, over 1000 km to the east (e.g., Konikov in Medvedar and Khudjakov (eds.) 1987 ryc. 1.11-15). Its presence at Podeblocie is difficult to explain, perhaps it came with Bulgar or Magyar intruders into the area.

Another category of objects worth especial note are the **Spurs**. An internally-hooked decorated iron spur (Ryc. 7.7) from a Period 3.1 hut on Site 3 was dated by Żak and Maćkowiak-Kotkowska (1988, 348 no. 147) to the VII/VIII century. It is notable in this case that the spur came from the external settlement and not from the stronghold -unlike most other early examples of this object type (Żak and Maćkowiak-Kotkowska 1988, catalogue). A Period 3.2 context produced another spur (Ryc. 7.6), of 10th or 11th century type (Hilczerowna 1956).

Metalworking Waste: The small size of the surviving iron fragments probably indicates that larger broken objects were collected up for recycling. There was only a little iron smithing slag (not smelting slag) from the site however, which suggests that although iron-smithing took place nearby, the main focus of this activity was outside the excavated area.

Objects of Stone: Only two quernstone fragments have been found, both from Site 3, but the site produced a number of other fragments of utilised stone. The hearths and ovens were also made of many unworked (fist-sized) fragments of

igneous and metamorphic rock, Since the sands of the excavated parts of the site do not contain stone fragments, these must have been brought to the site from nearby glacial deposits. A few stone (and fired clay) spindlewhorls (mostly of "flattened globular" form) and a couple of roughly-flaked sandstone discs were found. Most of the worked stone however consisted of 12 whetstones and sharpening stones, some showing traces of extensive use.

Objects of Bone: Bone was used on the site as a raw material for objects for several purposes. Most numerous were offcuts and sawn fragments, suggesting that some of these objects were made on site. The most common type of bone object were points made from antler tines and roe deer and sheep/goat tibiae and metapodials, though a fragment of 'ferrule' with incised decoration was also found.

Unworked Animal Bone: The 1981–1992 investigations have produced a vast amount of bone, most of it seems to have been food waste. The bone assemblage has been studied by Beata Kurach (report in preparation) on whose comments the following is based. As on most contemporary sites in the area, most of the bone comes from cattle, pig remains are also frequent. Sheep/goat was less common, and horse seems not usually to have been used as a meat animal. Other species recognised include a few bones of wild species (Elk, Boar, Red Deer, Roe Deer and Wolf). A number of large fish remains were recovered, presumably fished from the Vistula below the site (specialist report awaited, though sturgeon has been recognised).

Pottery: Preliminary results of the study of the pottery have been discussed elsewhere (Barford and Marczak 1992), thus this summary will be restricted to a few basic points.

Most of the vessels found were jars of S-profile. A chronologically-sensitive formal typology is difficult to construct for this site, the same vessel classes occur throughout the stratigraphical sequence.

Much of the pottery was 'decorated' by two main motifs, either overall grooving on the body, a spiral groove running horizontally round the pot, formed by holding a tool against the pot rotating on a wheel (Ryc. 8.6 and 10). The other main type is a wavy line motif, sometimes coupled with a horizontal line both made by a toothed tool such as a comb fragment. At Podeblocie, however, the pottery decoration is more varied than is usual. This is most noticeable in Period 3.1 deposits (and to a lesser extent on Site 1). A few of the variant designs are illustrated on Ryc. 8. A particularly unusual form are the "sunbursts" made by comb-stabbing. Examples of these on Sites 1 and 3 (Ryc. 8.5, 7–8 and 11) carry the same comb-impression, and thus seem likely to be by the same hand (if not from the same kiln batch) and are so characteristic as to provide a chronological link between the site phases. The sherd with figures formed by comb-stabbing (Ryc. 8) is made with a different comb, the figures are perhaps deer or goats. They are rare examples of Slav representative art (Buko

1990 138-9; Cf. Anon. 1931, 311 abb. 18 for a similar design). Wavy-line decoration on the interior of rims occurs here, principally on storage-jars. Decoration on the outer edge of rims (Ryc. 8.9) is also found on several pots. Some large vessels have applied strips of clay which have been decorated with combing (Ryc. 8.15-16). It is not clear why the Early Medieval potters at Podeblocie seem to have shown more imagination in the decoration of their pottery than their contemporaries elsewhere.

In the later ceramic phase (Period 1.8 onwards, 2.2 and 3.2) the pottery is primarily decorated with the overall spiral groove (though combed wavy lines do occur on other vessels). A notable feature of the Podeblocie pot is the near total absence of marks carved on the wheel axis on the base of the vessel. Only one example, a typical simple cross (Ryc. 8.17) has been found in the whole campaign, from a Period 1.9 deposit.

As yet the characterisation of the available clay sources in the vicinity of the site has not been fully researched. Clays are found on the uplands in a series of irregular patches and bands formed by glacial outwash and there are alluvial clays in the Vistula valley bottom below the site, now masked by a thick buildup of medieval and post-medieval peats and flood deposits. The latter are perhaps the more likely source. Petrographic work on the fabrics (Daszkiewicz and Jelitto n.d.) was inconclusive on this point. The crushed rock temper of Fabrics 2 and 3 was formed from the crushing and sifting of previously heated and embrittled rocks (often granitic erratics from glacial deposits). The pottery from Podeblocie may be divided into four main fabric groups.

Fabric 1; Fine clay with little visible temper, apart from an occasional quartz grit 1-1.5 mm diam.

Fabric 2A; Fine clay with sparse added crushed stone temper of varying grain size.

Fabric 2B; Fine clay with copious quantities of added crushed stone temper of varying grain size.

Fabric 3; Fine clay with variable quantities of added crushed stone temper of varying grain size and added (?) sand of varying grain size and quantity.

Fabric 4; Clay tempered with varying quantities of sand, most often medium-grained, though coarse sand is met in some larger vessels.

The vessels can also be divided according to the technology of their manufacture into three main groups:

Group A; Vessels wholly hand-built.

Group B; Vessels hand-built but with part of the vessel (most typically the rim, neck and shoulder) wheel-finished.

Group C; Vessels wheel-made or finished by strong deformation on the wheel, distinguishable from B by a better quality surface.

In addition, a fourth group (Group A]B) was also defined to cover handmade bodysherds and bases which could be of vessels of either Group A or B.

On vessels of Groups A and B traces of coils were sometimes visible in the breaks, in a few cases coil-junctions were the cause of fractures. It is not clear to what extent pots of technological group C were handbuilt before wheel-throwing, some may have been totally wheelthrown. The technological groups have noticeable firing differences when seen as a whole; Group A and B sherds are generally soft fired and oxidised. Sherds in Fabric 3 are generally well-fired but may be oxidised or reduced (brownish tones). Group C vessels are more commonly reduced (greyish tones), though some oxidised sherds occur, these vessels seem likely to have been kiln-fired (well-fired with even colouring suggesting well-controlled firings) while vessels in Fabrics 1-3 are less well fired and could be the products of 'bonfire firings', though in some cases they too may have been kiln-fired.

The relationship between fabric and manufacturing technique is shown below (Table 1, based on a random sample of sherds; correspondance between fabric and manufacturing technique is shown as a percentage of the whole sample):

Table 1

Fabrics:	1	2A	2B	3	4	Total (%)
Group A	1 %	1 %	0 %	0 %	1 %	3
Group A/B	2 %	1 %	0 %	7 %	0 %	10
Group B	14 %	16 %	2 %	6 %	4 %	42
Group C	6 %	7 %	1 %	9 %	20 %	43
Totals (%)	23	25	3	22	25	98 %

Table 1 seems to show (if one ignores a few „stray" values which may be interpreted either as sampling error or as the result of non-standard behaviour by some Early Medieval potters), that there is a broad correlation between fabric and manufacturing processes. Fabrics 1 and 2 seem to have been mainly used for the production of pottery made by manufacturing technique B (totally handmade pots being relatively rare at Podeblocie), while Fabric 4 seems to mainly be restricted to wheel-thrown pots (Group C). Fabric 3 seems to have been used less commonly, but for pots made by both techniques B and C.

The interpretation of this suggests that the pottery was made by potters belonging to two different potting traditions and using different technologies, both of clay preparation and potmaking. This seems to be confirmed by the decorative schemes employed overall horizontal spiral groove decoration tends to be associated with wheel-thrown vessels of Group C (the decoration is easier to do well on a fast wheel than a slow one or tournette) of Fabric 4 (sometimes

Fabric 3). It is interesting therefore to reflect on the appearance of this form of decoration laboriously and irregularly made on vessels which were hand-built but finished on a slow wheel (Ryc. 8.3). Perhaps this was in imitation of the better-finished wheel-formed wares?

We may link the use of sand temper and the fast wheel with specialist craftsmen (Holubowicz 1965), which is also reflected in the standardised formal decoration applied to the vessels. The less well-made and less well-fired pottery of Technology Group B and fabrics 1 and 2 may be seen as the products of a domestic (household) potting industry of limited output and allowing considerable stylistic freedom reflected here in the rather imaginative decorative schemes.

In earlier phases of Sites 1 and 3 the domestic products (Group B) predominate, but pots of Technology Group C appear alongside them, products of specialised craftsmen overlap in time with the household industry. In later phases of Sites 1 and 3, pots of sandy fabrics of Technology Group C predominate (from Period 1.5 at the latest onwards). It is however notable that in these deposits pots of Fabrics 1 and 2 of Technology Group B also occur. Is this material all redeposited ('residual'), or should we allow the continued existence of a household industry competing with the products of specialist craftsmen? Perhaps sherd size and abrasion may be used to answer this question more satisfactorily. The dynamics of this process clearly requires careful consideration. What is clear is however that this is not a simple process occurring overnight due to the „new social conditions” (Hensel 1960, 98-108) caused by the rise of the Polish state. At Podeblocie it has much earlier beginnings.

The original function of the pots is worth briefly considering. Most of the assemblage consists of jars or jar-bowls. Platters, dishes and bowls were almost absent, and vessels for storing and pouring liquids (amphorae, jugs, flasks or flagons) are rare. The jars probably had many functions in the Early Medieval home. The original volume of a sample of the vessels (Barford and Marczak 1992) has been determined from rim diameters. Most of them fell into one of either two groups, most numerous were pots of original volume between 600 and 2600 cm³ (centring around 1200-1600 cm³), while a second group had volumes between 2800 and 7200 cm³ (centring around 4600 and 6500 cm³). A number of storage jars of estimated volume of 10.7 litres were found, and the largest vessel had an original estimated volume about 17 litres. The smaller and medium sized jars and jar-bowls were probably of multiple function. Some were probably used for storage; traces of soot and food chars on others show that they were used for cooking on an open fire. Other more open vessels (jar-bowls) may have been used for eating from. The larger vessels probably served only for storage.

Other Fired Clay: Besides its use in ceramics, clay was used for many other purposes at Podeblocie, for making clay ovens and for daub (some of which was

later preserved by being burnt). The daub from the site has a sandy fabric (suggestive of pottery Fabric 3). Many fragments of *Prażnice* were found. These were of a coarse poorly-prepared sandy fabric, tempered with coarse organic material.

A most distinctive ceramic artefact are the three small fragments of „tablets” from Period 1 contexts on Site 3, bearing signs looking remarkably like writing. These mysterious and controversial objects are discussed in more detail elsewhere (Gąssowski forthcoming).

IV – CHRONOLOGY

The dating of the various periods of the site and their correlation across the investigated area is a problem which requires some discussion. The ten periods determinable in the stratigraphical sequence of Site 1 have to be matched with the evidence from the other three sites. This however causes difficulties, there is no stratigraphical link between the sites. Few of the small finds can be used as chronological indicators, and although there is a series of fourteen C14 dates for the site, their interpretation is not without problems, a few of which are signalled below.

The close dating of the pottery is at present an intractable problem. The assemblage of a ceramic sequence for Site 1 with its complex vertical stratigraphy is in theory possible (though rendered more difficult in some cases by the excavation methodology before 1985 and the lack of large assemblages from the deposits of the early phases). The lack of vertical stratigraphy on the other sites makes the detailed sequence difficult to detect. On Site 3, Period 3.2 produced relatively little pottery, which was badly-preserved in comparison to that from the first phase. The sequence on Site 2 is less clear. Site 4 has produced relatively little pottery. The dynamics of ceramic change in the sequence of deposits of the stronghold were studied in depth, but the pottery here appears in some respects to be fairly homogenous throughout the use of the site. Although there is evidence of a change from the predominance of a household potting tradition to one dominated by products of specialist craftsmen, the complexities of the dynamics of this change are difficult to reconstruct.

Although the general outline of the development of Polish Early Medieval pottery has long been known, there have been problems applying concrete dates to regional sequences and individual pottery assemblages (e.g., Żaki 1974, 177–239; Dąbrowska 1973, 35–44; Poleski 1992, 42–60). Gąssowski has demonstrated (1984, 192–3) that some basic assumptions need questioning, and that many Polish excavators make statements on the dating of their ceramic finds based on what may delicately be termed „semi-intuition”, based partly on educated guesswork, partly on comparison with material from other sites

„dated” by precisely the same techniques. It seems likely that some of the dating schemes in the east of Poland may be as much as one century wrong, perhaps more (Miśkiewicz 1981, 91-102). At Podeblocie there is indeed some evidence that traditional semi-intuitive methods are dating pottery assemblages a century or more too late (see below).

At Podeblocie however we were able to recover a number of samples suitable for Carbon 14 dating at the Laboratory of the Institute of Physics in Gliwice (Pazdur 1983; n.d.). Not all the samples taken have been processed (due to lack of funds). On Site 1 the calibrated results from two samples from a hearth (Gd1622 1115 ± 90 AD) and a burnt timber building (Gd1623 1000 ± 70 AD) „date” the last two stratigraphical phases of the sequence. The other two Site 1 dates are crucial. One (Gd5251 735 ± 30 AD) comes from the burnt timbers of the phase 4 rampart, the other (Gd5267 779 ± 40 AD) comes from the burnt wall timber of a sunken-floored hut (Feature 116) cutting through the destruction debris, the dates are statistically the same, and yet it is felt that an interval of time separates the two constructions (the original excavator proposed that the hut was part of the structure adjoining wall, but post-excavation research has demonstrated that this view is untenable). Possibly the hut was built using old wood, or the sample was taken from the core of an old tree used to build the hut. Another problem is that the eighth century (calibrated) C14 date seems at odds with the rather late-looking pottery assemblage from the feature.

We have six further dates from timbers of four sunken-floored huts on Site 3. Four dates come from two features of Period 3.1 (Gd3447 579 ± 50 AD; Gd5258 644 ± 12 AD [sic]; Gd3449 644 ± 40 AD; Gd5260 818 ± 33 AD). Gd 5260 differs from the other two (Gd5258 and Gd3449) from the same feature. Another two dates come from two features of Period 3.2 (Gd6011 969 ± 60 ; Gd5493 1019 ± 50 AD). As on Site 1, some of the dates were considerably earlier than we were expecting from the conventional dating of the associated pottery.

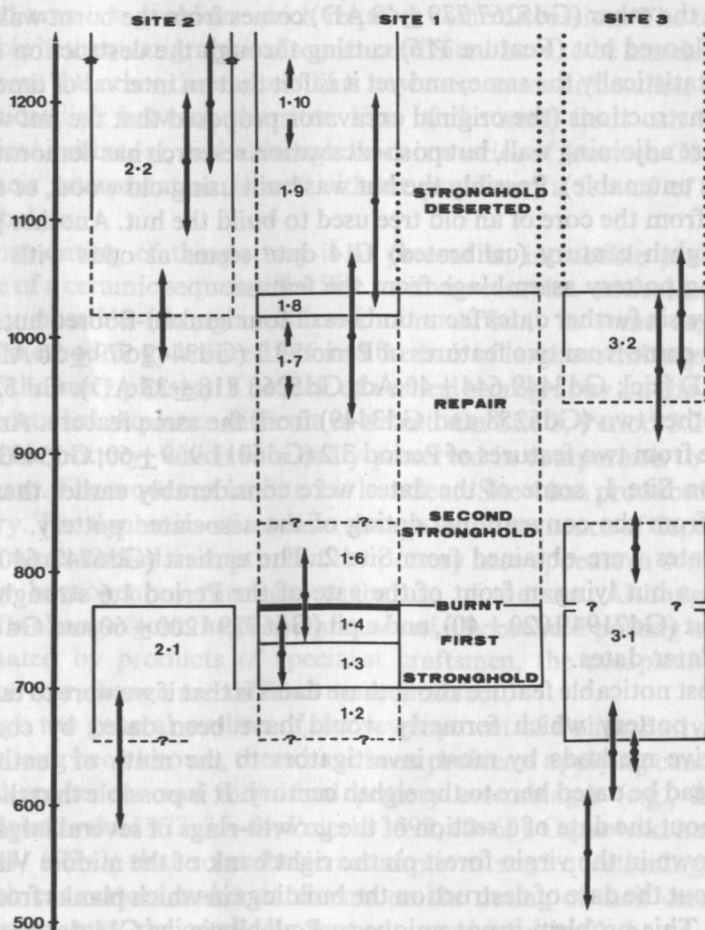
Four dates were obtained from Site 2. The earliest (Gd6747 640 ± 60 AD) came from a hut lying in front of the gate of the Period 1.6 stronghold, while a nearby hut (Gd7194 1020 ± 40), and a pit (Gd6729 1200 ± 60 and Gd 1150 ± 60) produced later dates.

The most noticeable feature about these dates is that if we were to take them at face-value, pottery which formerly would have been dated by conventional semi-intuitive methods by most investigators to the ninth or tenth centuries would instead be dated here to the eighth century. It is possible that the dates tell us more about the date of a section of the growth-rings of several large trees that were cut down in the virgin forest on the right bank of the middle Vistula, than they do about the date of destruction the buildings in which planks from that tree were used. This problem is not unique to Podeblocie, as C14 dates of charcoal from Haćki woj. Białystok and Wyszogród woj. Płock seem also to be far too early in comparison to the conventional dating of the pottery found with it (Z.

Kobyliński personal communication). Clearly much more work needs to be done on pottery from other adjacent well-excavated sites and also more good sealed contexts should be explored and carefully controlled C14 samples taken and dated at Podeblocie.

There are too many problems associated with the interpretation of the C14 dates to allow them to date the features and site periods with any great degree of certainty. In the absence of other evidence however they may be used to advance a hypothetical dating sequence, which is supported by the other (stratigraphical and artefactual) evidence (Ryc. 9).

A precise date for the beginning of the settlement on the valley edge is impossible to give. The C14 dates show that two trees used in early structures on



Ryc. 9. Sites 1-3; suggested correlation of site phasing. Calibrated C 14 dates indicated (see text for discussion).

Site 3 were probably still growing about the middle of the seventh century. Probably Site 3 begins about the end of the seventh century. The precise date of the beginning of Period 1.2 is not at present possible to determine. Possibly Site 2 Period 1 was contemporary with the beginning of 3.1 and 1.2 (or 1.3).

Period 1.3 cannot be dated directly, but apparently lasted long enough (c. 30 years?) for the timbers of the rampart to rot in situ. Period 1.4 has a C14 date which gives a *Terminus Post Quem* of 735 ± 30 . Possibly the timber structures behind the rampart were built in the third quarter of the 8th century. They had apparently not rotted at the time of their destruction, which the C14 dates suggest in all probability should be dated to the end of the 8th century. A burnt layer extending towards Site 2 suggests the latter was also burnt down at this time (and Site 2 has not yet produced material dating to the next two centuries after this event).

The evidence from the 1992 excavations suggests that the break in occupation on Site 1 was not long. No soil formed over the Period 1.5 destruction before the construction of Rampart II. The Period 1.6 stronghold was massive, and clearly of some importance in the settlement hierarchy. Its construction cannot yet be dated precisely, neither can the following phases, which include the Period 1.7 repair to the inner rampart. The Period 1.8 timber buildings on the rear of Rampart II were built of a tree which had been growing in 1000 ± 70 . The dates for Period 3.2 suggest that the buildings they come from had been erected using trees still growing c. 969 ± 60 and 1019 ± 50 (i.e. about the same time as the trees used in Period 1.8 constructions). The new settlement had however a totally different type of sunken-floored building with hearths instead of ovens, this new house type perhaps suggesting a new population had arrived. It is tempting to link this phase of the stronghold with structural changes related to the process of the strengthening of the power of the early Piast monarchy in southeastern Poland. Phase 3.2 seems to have been relatively short-lived (small amount of rubbish produced) and both it and the Period 1.8 structures were destroyed by fire, possibly at about the same time (it would be tempting, but stretching the few facts too far however to link this with the popular uprising of 1034-8). It is notable that the three later dates from Site 2 would indicate that after a period of desertion (of the excavated area at least), which was possibly connected with the construction of the Period 1.6 stronghold, this settlement came back into occupation after the abandonment of Site 3.

After this the stronghold seems to have lost significance and the defences collapsed, but use of the interior seems to have continued, Period 1.9 occupation is dated by a hearth in the silting hollow of the ditch to Rampart I which has a C14 date of 1115 ± 90 . Period 1.10 occupation was on a reduced scale and was not accompanied by a repair of the ramparts. A sunken-floored hut was built inside the circuit of eroded ramparts. Occupation of the area of Site 2 adjacent to the old gate continued until at least the end of the 12th century.

The end of the settlement complex seems to have come perhaps some time in the thirteenth century. It is possible that the reason for this was the rising water table in the Vistula valley, which not only made communication across and along the valley more difficult, but probably led to waterlogging of the best agricultural land in the area—in the valley bottom.

V— CONCLUSIONS

The excavations at Podeblocie have provided some useful information about the development of a small settlement complex over a long span of time, from its beginnings until its demise. As is usual, the excavations (while solving some of the basic questions set at the beginning of the project) have raised many more. It is hoped that continued investigation, building on what has been achieved to date, followed by full publication will add considerably to our knowledge of several material and other aspects of Early Medieval societies in southeastern Poland.

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