

The Ussen project: large-scale settlement archaeology of the period 700 BC-AD 250, a preliminary report

The large-scale archaeological excavations in the municipality of Oss—where in the course of eight years c. 120 house plans, some hundreds of subsidiary structures, more than 400 deep pits and wells and two large cemeteries were unearthed—have contributed significantly to our understanding of the process of Romanization in the southern part of the Netherlands.

1. Introduction

In the past 25 years extensive investigations of Iron Age and Roman period settlements have been carried out in the northeastern part of the sandy region in the southern Netherlands, i.e. the coversand plateau in the northeast of the province of North Brabant and the river dunes in the adjacent river-area. These investigations were conducted mainly by the Institute of Prehistory of Leiden University (IPL) and, to a lesser extent, by the Dutch State Service for Archaeological Investigations (ROB). Since 1962, the year in which the IPL was set up, the investigation of the above-mentioned periods has been centred in this region. That the research was started in this particular area is no coincidence: when Dr. P.J.R. Modderman was appointed head of the institute, he brought the investigations on the Kamps Veld near Haps, which he had been directing while in Amersfoort, along with him to Leiden. During the following 25 years, the investigation was for the greater part continued in the same area – by G.J. Verwers – and finally culminated in the 'Maaskant project'.

Figure 1 shows the area discussed above and the locations of the settlements from the period 700 BC - AD 250 that were excavated in the period 1960-1985. The excavations concerned are the following: Wijchen-De Berendonck (*fig.1:1*), Wijchen-De Pas (*id.: 2*; Van den Broeke 1984), Haren (*id.:3*), Oss-Ussen (*id.:4*), Oss-Zaltbommelseweg (*id.:5*), Oss-IJsselstraat (*id.:6*; Verwers 1978), Nuland-Kepkensdonk (*id.:7*), Escharen (*id.:8*), Beers-Kraaienberg (*id.:9*; W.J.H. Verwers 1978), Haps (*id.:10*; Verwers 1972), Gennep-Heijen (*id.:11*; Bloemers 1983), Den Dungen (*id.:12*), Sint-Oedenrode-Everse Akkers (*id.:13*; Heesters 1977; Van der Sanden 1981) and Son and Breugel-Hooidonksche Akkers (*id.:14*; Van den Broeke 1980). A few of these investigations (Wijchen-De Pas, Haren) yielded no structures, but mainly pottery and faunal

remains. The majority, however, did bring to light structures, in the form of plans of houses and outhouses and also wells. In general, the scale of the various investigations was small to moderately large and in no case did it exceed 5 hectares.

The investigation at Oss-Ussen constituted a rigorous break with this small-scale tradition. During the course of eight years a total area of c. 30 hectares was unearthed and submitted to archaeological research. Around this large-scale investigation a regional project will be centered, in which the, in many cases unpublished, excavations discussed in this introduction will also play a part.

In the following pages a preliminary report will be given of the results gained during the Ussen excavation. It is not intended to be a balanced synthesis. Some aspects are omitted while others will be stressed. The final chapter indicates the theoretic framework within which the data will in due time be evaluated¹.

2. Situation, geology and post-Roman changes of the site

The site is situated in the (former) hamlet of Ussen, to the northwest of the town of Oss (topographical map 45E; *fig. 2*). Until 1976 the only buildings in the area, situated to the north of the railway-line 's-Hertogenbosch-Nijmegen and to the west of the road to Lith, were a few farms. These farms were often built on a terp to protect them against the disastrous consequences of the *Beerse Overlaat*, which caused the inundation of a large area almost annually from 1472 till 1942.

From a geological point of view, the site is located on the northern edge of the Peelhorst, directly to the east of the Peelrand Fault (*fig. 3*). The subsoil consists of Pleistocene riversands (Kreftenheye/Veghel formations), on top of which coversand was deposited in the last part of the Weichselien period (Twente formation). The thickness of this aeolian deposit decreases by about a metre from the south – where it measures c. 1.20 m. – to the north of the site. North of Oss the Pleistocene sands are covered by Holocene river deposits, mainly formed from the Atlantic period onwards (Betuwe formation). The formation of levees and flood-basins in this area is dated to the Sub-boreal (Van Diepen 1952) or the beginning of the

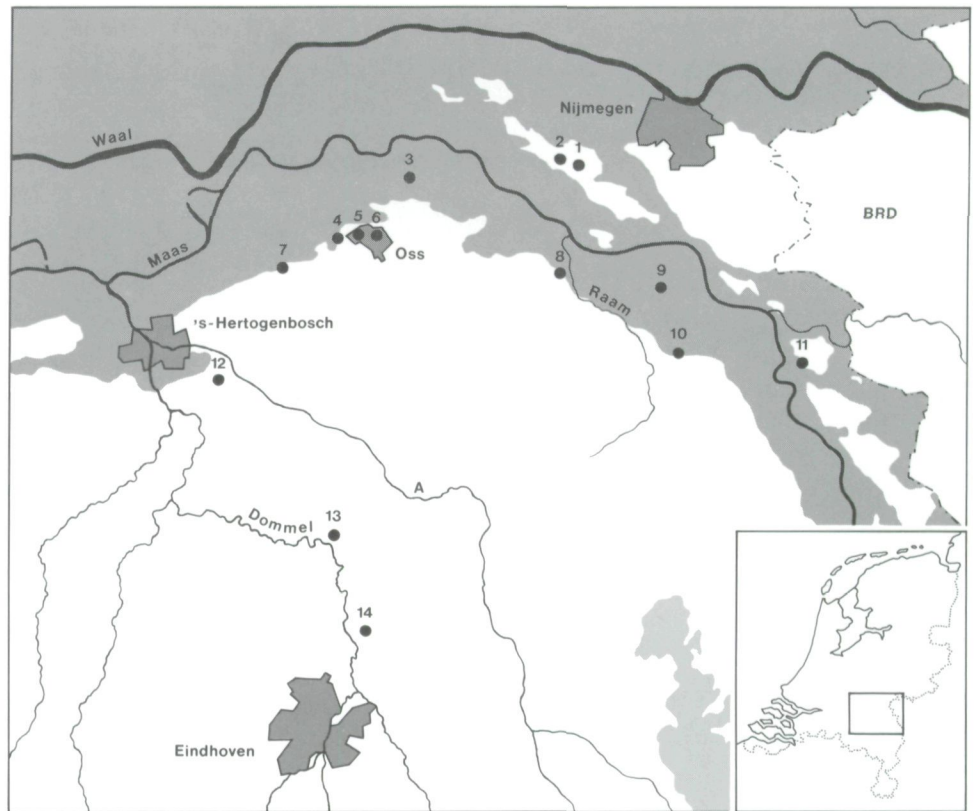


Fig. 1. North-east North Brabant: the locations where settlements of the period 700 BC – AD 250 were investigated in the period 1960-1985; for the meaning of the numbers see the text.

Subatlantic period (Pons 1957). Sandy soils covered by a thin layer of clay separate the site from the basin deposits proper. The clay in the top layers of this transitional zone contains drift sand that was probably blown there from the south in historical times.

From the Medieval period onwards the site was gradually and completely covered by an ancient cultivation soil or *es*-layer, consisting of a mixture of manure and mainly grass sods. This layer was nowhere thicker than 90 cm. When this area was brought under cultivation in the course of the Middle Ages, the original soil profile was greatly disturbed by digging activities. In some places there was a dark, humic layer beneath the *es*-layer, which can be interpreted as an illuviation horizon from an old podsol soil. Often however, the *es*-layer lay directly on top of the C-horizon. All this means that almost nowhere the old surface of the Iron Age or the Roman period was preserved. The first level at which features showed up clearly lay roughly 30 cm. below that.

Medieval traces are very scarce at Ussen. A plan of a barn could possibly be dated in the 12th century (*fig. 4a*; Theuws 1985, 62-63). A pit and two wells date back to the 13th and 14th centuries (Datema 1984). Also of Medieval

date are in all probability a few rectangular pits containing butchery refuse. All these features were discovered in a confined area in the western part of the site. The rest of Ussen yielded only a few stray sherds, mostly recovered from ditches. In the post-Medieval period numerous ditches were dug to divide the land into lots. These ditches, part of which was until fairly recently still visible in the landscape, and, to a lesser extent, the subrecent sand-winning trenches² have obliterated a considerable part of the pre- and protohistorical features and have made a definite interpretation of others quite impossible (*fig. 4b*).

3. History, organization and strategy of the investigation

In September 1976 the municipality of Oss started the 'plan Ussen', according to which, over a period of ten years, a farming area of 1.5 x 1.5 km was to be turned into a housing-estate of the town of Oss. When the work was started with the digging of an ornamental pond, an important part of the 'natural' component of the future residential quarter, members of the archaeological team of the Society of the Regional History of Maasland (*Heemkundekring Maasland*) discovered various features



Fig. 2. Oss: location of the site; the investigated area is indicated in dark grey.

indicating that the area had been occupied in the Roman period: a well and part of a house plan.

Dr. G.J. Verwers, who, in 1974-1975, had directed the excavation of a Roman-period settlement in the IJsselstraat in Oss, was warned and he immediately started a two-week rescue excavation. Thanks to the help of many people, particularly the contractors, the firm Louwers from Oss, part of a settlement dating from the Roman period could

be unearthed. It was immediately realized that in Ussen there was a chance of giving the settlement research in the southern Netherlands an additional spatial dimension: a total area of more than 200 hectares was going to be turned completely upside down, which (theoretically) offered the opportunity of studying for the first time the relations between contemporary settlements and between settlements and cemeteries. This opinion was shared by the

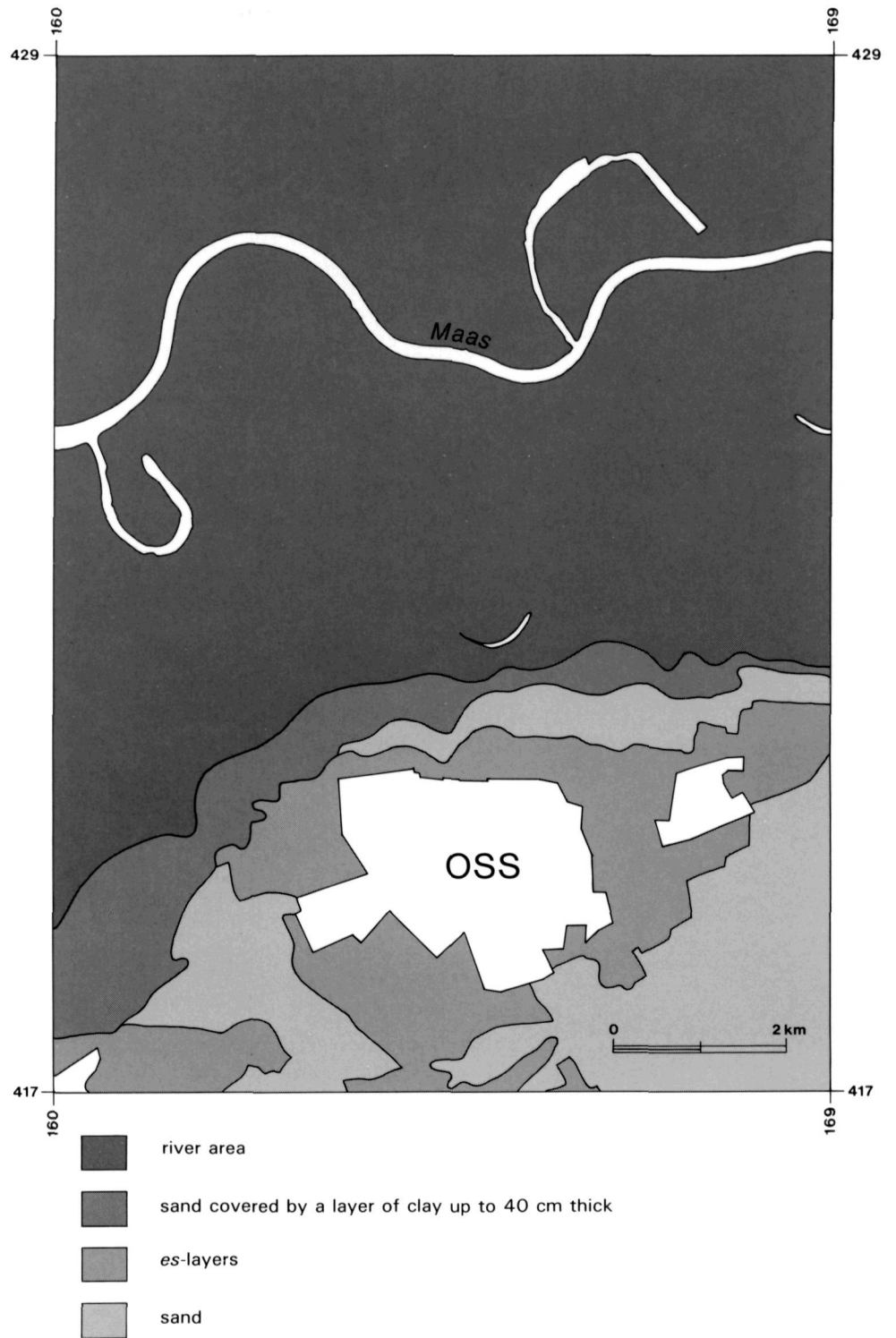


Fig. 3. Oss: geological and pedological situation; the information was obtained from the soil maps 39 O and 45 O.

other members of the Institute, Prof. Dr. P.J.R. Modderman and Dr. C.C. Bakels.

In the autumn the first discussions took place between the IPL, the Mayor and Aldermen of Oss and the contractors. The IPL was given the opportunity to submit the trench that had been dug for the main sewage-pipe to an archaeological investigation before the pipe would be laid in it. The investigation of this trench, which cuts across the entire site, was thereupon conducted intermittently from Leiden. The results of the survey were so promising that it became desirable to continue the investigation in the same manner, but with a full-time worker, operating from a permanent field base. An appeal for financial support was handed in to the Mayor and Aldermen of Oss and to the County Council of North Brabant. The two departments decided to furnish half each of the salary of the appointed 'scientific project assistant' for a period of two years. As from September 1977 Drs. J.J. Assendorp filled this post. The strategy followed from then onwards was as follows: the project assistant directed the work on the road and building trenches – which was possible because the municipality of Oss had stipulated that the contractors were to postpone their construction activities to make time for archaeological investigations – during which he was assisted by labourers provided by the *Directie Aanvullende Civieltechnische Werken* and later by workers provided by the *Werkvoorzieningschap N.O.-Noord-Brabant*. Where a concentration of features was discovered, the assistance of a second team, directed by a field technician, was called in from Leiden to extend the excavation beyond the building

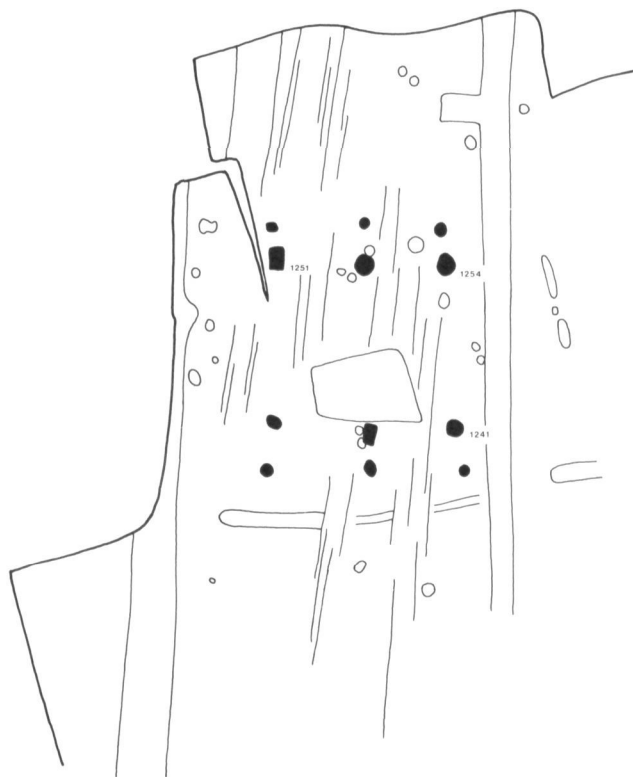


Fig. 4a. Oss-Ussen: post-Roman disturbances of the site. Medieval occupation traces in the form of a barn intersecting a Late Iron Age house plan.



Fig. 4b. Oss-Ussen: post-Roman disturbances of the site. Subrecent ditches and sand-winning trenches intersect a Roman period house plan in the Zomerhof quarter.

trenches, thereby documenting the horizontal extent of certain features. The students' annual training excavation was also fitted into this framework. The assistance of the second team of workers could be called in thanks only to extra credits from the university of Leiden, which were used to cover the high machine costs.

In the course of that period it became clear that the investigation would have to be continued. The province, the municipality and the university were once more prepared to fund the investigation until the end of 1981. In the meantime, in 1979, the current investigation in the region of Oss had been incorporated in the *Maaskant project*. The main object of this project, in which the excavation at Ussen was to occupy a key position, was the reconstruction of the occupation history of the Maaskant region, i.e. the area to the north of the line 's-Hertogenbosch - Oss - Herpen and south of the Meuse. On January 1st 1980 Drs. R.R. Datema succeeded Assendorp as the responsible project assistant. The archaeological supervision of road and building trenches was continued, and so was the intensification of the investigation in areas which appeared to be rich in features. Part of the latter research was once more carried out during student training excavations. On account of the unusual nature of the discovered features, the quarters Loovelt and Lockaert were excavated prior to the digging of road and building trenches. Within two years the southern part of a large Roman period settlement surrounded by a double ditch was investigated. In December 1981 the excavation at Ussen was closed, on the one hand because there came an end to the external funds, on the other because Verwers considered it most urgent to start analysing the by that time enormous assemblage of data. Until now all attention had been focussed on one main object, namely collecting as many primary data as possible. The consequence of this was that hardly any start had as yet been made on the analysis of the data. Nor had the survey plans of the excavation trenches been drawn yet. This work was started in 1982. The Netherlands Organization for the Advancement of Pure Research (ZWO) gave Drs. P.W. van den Broeke the opportunity to compose a typo-chronology of the native hand-shaped pottery from the southern Netherlands, focussing on the material from Ussen; the IPL contracted the author for the analysis of the features and the other find categories as well as the completion of various plans.

That same year it was decided to carry out one more field training excavation at Oss, with the aim of determining the northern limit of the occupation in general, and of the large enclosed settlement in particular. This took place in the period April - May. A few months later Prof. Verwers accepted a post in the National Museum of Antiquities in Leiden (RMO) and after much deliberation, determined to

stop participating in the project. The IPL, consequently, kept the scientific responsibility. In the autumn of that year it was decided to uncover the ditch-enclosed settlement as completely as possible. In January 1983 the work could be started when the route of the road running northwest-southeast across the settlement, the *Gewandeweg*, was altered. In the summer of the same year a large part of the northwestern corner of the settlement was excavated. Financial and technical support were provided by the RMO. It was expected that the investigation of that part of the site would be closed in 1984, but that the northeastern corner, where a farm was still in operation, would as yet remain inaccessible. In the early part of 1984, however, the building activities were accelerated and it seemed possible to extend the investigation to that corner after all. In March a team of amateur archaeologists and volunteers, directed by Drs. A.B. Döbken, started to inspect the road trenches before the sewers and cables were laid. This often meant a race against time. Excavation trenches were dug at regular intervals in places where this was thought useful, i.e. parts of the inside of the settlement which, during the past years, had not been disturbed by the foundations of outhouses and the consequences of normal farming activities (fodder storage pits, rubbish pits etc). In places where the yield of nyrons and empty sauce bottles became too prolific, the work was stopped. In July this investigation, which could be carried out thanks partly to a subsidy from the 'emergency fund' of the Province of North Brabant, was closed. This also meant the official - and third - end of the Ussen excavation.

In the autumn members of the archaeological team of the Society of the Regional History of Maasland made supplementary observations in the western part of the Ussen plan and managed to record, among other things, one complete house plan and various fragments of other plans. This team's contribution to the investigation has, from the first day onwards, been of incalculable value. Whenever possible they assisted the excavation team from Leiden, but more often they worked in the evenings and weekends. They managed to excavate and document what would otherwise have been lost on account of the great rate at which the investigation had to take place. They walked the fields and collected surface finds, inspected building trenches and drew the Institute's attention to important matters which would otherwise have been destroyed unnoticed. Even now, after the official end of the excavation, they keep a close watch on the digging activities in Ussen and seize every opportunity of setting up an archaeological investigation. Without the contribution of these enthusiastic and expert local amateur archaeologists the result of the Ussen project would not have been what it is today.

To conclude this paragraph, a few methodical aspects. The size of the excavation trenches was, for a large part of the

site, determined by the length and the width of the road and building trenches. Road trenches for example, were only seldom more than six metres wide (*fig. 5*). The excavation trenches that were dug in addition to the already existing road and building trenches were given a standard width of 10 m and a variable length (sometimes up to 300 metres). In most cases these trenches were dug alternately, after which, once the finished trenches had been back-filled, the intermediate ones were dug out. A disadvantage of this system was that many long house plans, which almost always lay at right angles to the longitudinal axis of the trench, could never be observed and recorded as a whole.

Almost all deep pits and wells were sampled, often several times, for the purpose of seed analysis (2 litres), but only occasionally for pollen analysis. Post-holes and foundation trenches were on the other hand not systematically sampled. Most of the wells were sampled for wood analysis. Samples were taken of the remains of the internal roof-posts of the Roman period houses to determine the type of wood and, only recently, for the purpose of dendrochronological analysis and recording tool-marks. In 1983 a few house plans were sampled for the purpose of phosphate analysis to enable conclusions (if any) to be drawn regarding the functional division of the farms. All features were excavated with a spade; in no case were the contents of the pits or wells sieved. Only during the last years of the investigation was a metal detector used. The excavation was carried out at a time when the IPL did not yet have its own computer. In the field the data were

therefore not suited to automatic processing. When the systematic study of the data was started (1982), the features and the finds recovered from them had become so numerous and the available time and manpower was so limited, that it was decided not to adapt the data after all. The data were therefore analysed completely in the traditional way.

4. The archaeological evidence

4.1 PREHISTORY

4.1.1. *Settlements.*

Fragments of two flint axes and a tanged and barbed flint arrowhead are the oldest artefacts recovered from the new town district. Of these Neolithic objects two can be easily dated typologically, respectively in the Vlaardingens and Bell Beaker period. All three artefacts were found in the northern part of the site. Two were recovered from features dating back to the Iron Age, the third artefact is a stray find. These objects were either lost in the Neolithic during certain activities on the spot – hunting, felling trees – or were found elsewhere by Iron Age people who took them along with them as a curiosity.

The first traces indicating occupation found within the limits of the new housing estate date from the Early/Middle Bronze Age. These are two groups of features in the north of Ussen. In the first place there is a series of five wells, one of which yielded thick-walled pottery, tempered with quartz-grit. All wells were timber-lined structures – a hollowed-out tree-trunk with a small diameter – as were also found in other, contemporary sites in the area (Oss-



Fig. 5. Oss-Ussen: the digging of a road trench with a width of c. 6 m.

IJsselstraat and Herpen; Verwers 1981). From one of the five wells a C14-date of 2995 ± 35 BP (GrN-9981) was obtained. The second group of features was discovered only recently, when a trench was being dug for water-pipes, and comprises a large part of, in all probability, a rounded rectangular ditch and a few pits, lying both within and outside the ditch. Coarsely tempered pottery and unburned faunal remains were recovered from these features. That this group of features also belongs in a settlement context seems plausible; a definite interpretation will, however, have to await more extensive research. The quality of the features, which are situated beneath a thin layer of clay, and our scarce knowledge of settlements from this period certainly seem to justify a prolonged investigation.

The next period, the Late Bronze Age, left no settlement traces in Ussen. Not until the beginning of the Early Iron Age do occupation concentrations start to appear over large parts of the terrain, and it is here that the Ussen project starts to contribute important information to the settlement archaeology of the southern Netherlands. The main elements we are concerned with in the following seven centuries are the plans of farms and granaries, deep pits and (timber-lined) wells. Traces of ploughing and field boundaries were not found in Ussen, so that it can never be ascertained where these activities were carried out. The analysis of this assemblage of data – and of that of the Roman period – will be able to focus on four different, successive levels:

- a. the various separate structures
- b. the yard
- c. the settlement
- d. the micro-region (i.e. Ussen)

For all levels the Ussen project will be able to provide new information. Late Iron Age house plans were for example uncovered here for the first time. These plans differ clearly from the preceding Haps type of house plan, which, until now, was assumed to have continued unaltered until well in the Roman period (Verwers 1972, 121). On the level of the yard we will be able to form a picture of the nature and the diversity of the annexes, their specific location (cf. Roymans 1985), the occurrence of yard-enclosures and the location of wells in the yard.

For the two highest levels it will be possible to draw conclusions regarding the number of yards constituting a settlement and the spatial distribution of these communities: the settlement pattern. These aspects have so far not or hardly been studied in the southern Netherlands. Naturally several 'solutions' (models) are conceivable for the last three levels, because our present methods of dating building plans do enable us to determine 'archaeological contemporaneity', but not true contemporaneity. Separate clusters of farms, which, on the basis of the finds

recovered from the post-holes, we would interpret as contemporary settlements, may actually represent the final accumulative pattern resulting from a dynamic cycle of a single settlement. The consequences for the demographic interpretation are obvious. In the next paragraph some attention will be paid to various aspects of the settlements in Ussen from the Early Iron Age (7th century) onwards. In the final report the structural as well as the spatial aspects and their variability will be dealt with in more detail.

One of the most striking aspects of the occupation of Ussen is that the further we progress in the Iron Age, the richer and more complex the picture becomes. As opposed to the three or four house plans from the Early Iron Age there are dozens dating from the Middle and Late Iron Age, scattered over a much larger area. One of the reasons for this discrepancy may simply be that the older a house plan is, the greater the chance of it being obliterated, particularly if – as in the case of Early Iron Age farms – no exceptionally deep holes were dug for the pairs of roof-posts. In some places wells of a certain period as well as traces of later occupation were discovered, but no house plans contemporary with those wells. These wells appeared to contain the usual settlement debris, so that the conclusion that e.g. later occupation and/or cultivation can cause plans of farms to disappear seems justifiable. This is by no means a soothing thought.

In the period 700-500 BC the occupation was confined to the west, northwest and north of Ussen. The rest of the site is devoid of occupation traces of that period. In the earliest phase three concentrations of features can be identified; in two cases a house plan was discovered. After a shift, we once again see three centres, lying at most 500 metres apart, appearing in the course of the 6th century. A house plan was only found in one of the centres; the other two contained only wells, pits and granaries. What an Early Iron Age farm looked like is shown in *fig. 6:a*. It is one of the oldest plans of Ussen, dating from the 7th century BC. The dimensions are 17.5 x 8 m. The location of the enclosing wall is marked by a shallow ditch. In the long walls the ditch is interrupted by the two opposing entrances. Outside the wall were numerous holes which at one time contained the posts supporting the hipped roof. Inside the house we do not see the relatively deep holes of central roof-posts, as we usually find in the houses in these southern sandy regions, but shallow holes for several rows of roof-posts. The four-aisled layout provides a link with the similar plan found in Nijnsel, which Beex and Hulst connected with the Drakenstein phase of the Hilversum culture (this date is however based on finds recovered from a few storage pits in the surroundings of this plan; cf. Beex and Hulst 1968, 127). If this association is correct, this means that the four-aisled house from Ussen is the

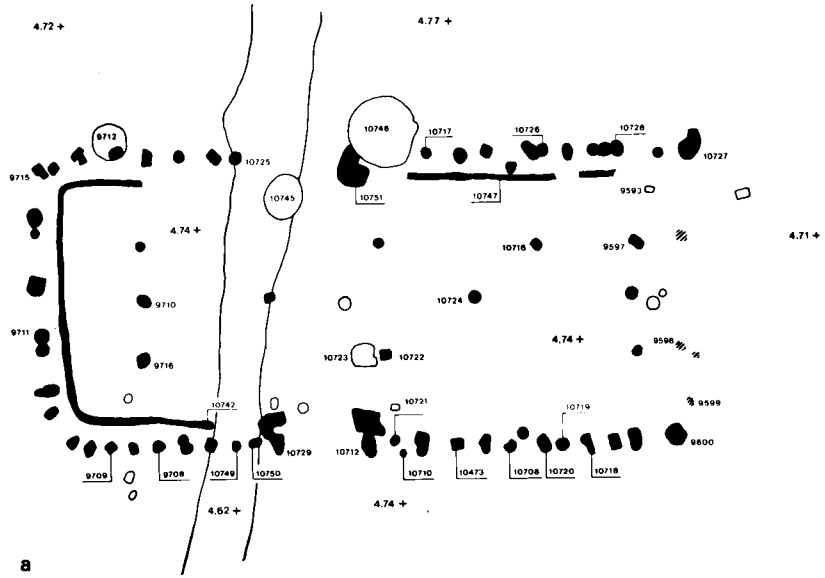
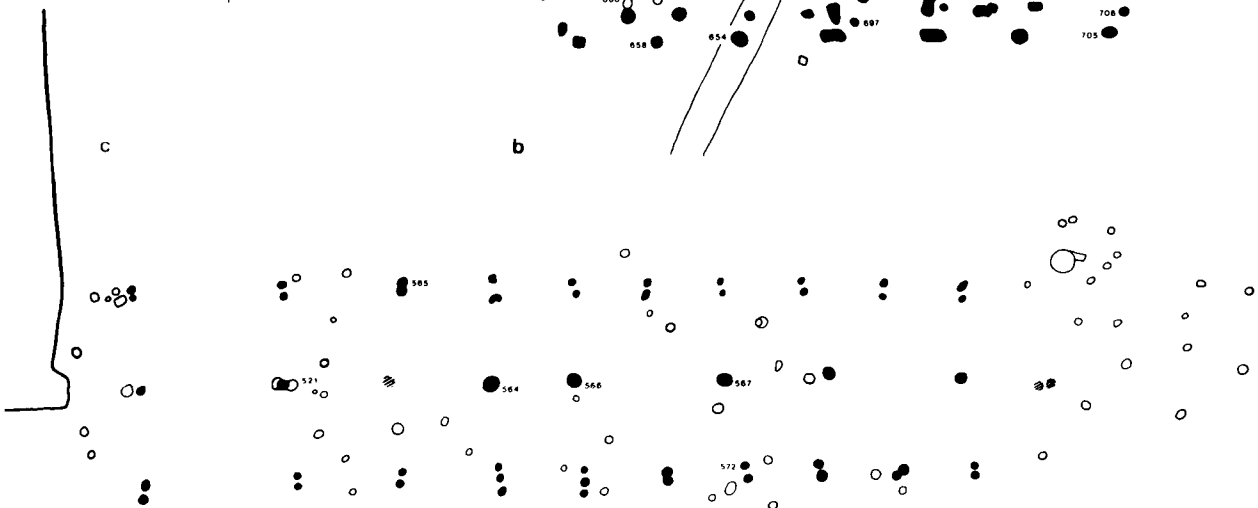
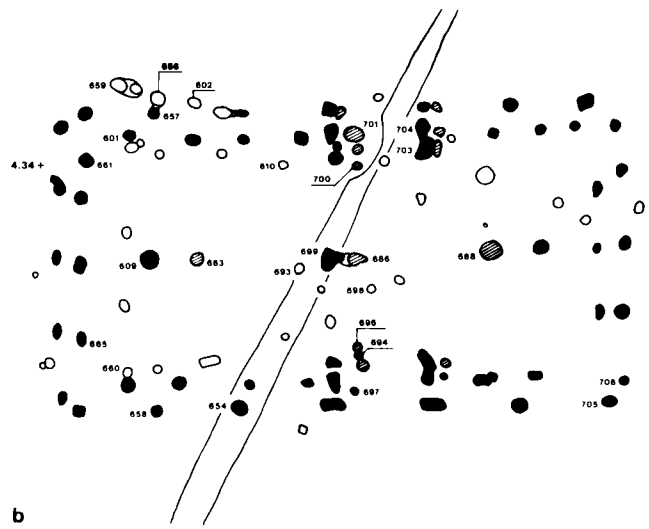


Fig. 6. Ossen-Usse: house plans of a. the Early Iron Age, 7th century BC; b. the Middle Iron Age, 4th century BC; c. the Late Iron Age, 3rd-1st century BC; scale 1:200.



final phase in the development of a tradition that lasted for over 500 years³.

In the first half of the Middle Iron Age the occupation remained concentrated in the same area where it had been concentrated in the previous centuries. A strange coincidence is the fact that we cannot ascribe a single plan of a farm to this period. The situation is better in the second part of this period. Throughout almost the entire new housing estate, i.e. for the first time also in the southern and eastern part, we find traces of this period (large part of the 4th century and first part of the 3rd century BC). At different points in the terrain various house plans were uncovered, but never more than four or five together. Our first impression is that these were not all in use at the same time. It is also remarkable that particularly in the central part of Ussen monuments interpreted as graves and 'contemporary' house plans occur in each other's immediate surroundings.

These houses differ clearly in size, construction and orientation from those dating from the Early Iron Age (*fig. 6:b*). On the other hand we note a strong similarity with the farms unearthed by G.J. Verwers in Haps in the 1960s (Verwers 1972). These farms are characterized by a two-aisled plan, a double row of wall-posts, of which the inner row had an enclosing function, whereas the outer row supported the roof, and entrances exclusively in the long walls. The length was never more than 20 metres – a restriction that did not apply to the houses of the Early Iron Age. At some point during the 5th century BC the change to the above-described Haps houses must have taken place on the southern sandy soils. For the time being, however, we have no examples from that period. The pattern in the Late Iron Age shows new shifts with respect to the preceding phase. In the southeastern part of Ussen the occupation came to an end at the beginning of this period and shows a marked expansion in the northeast, whereas in the rest of the area the occupation seems to have continued normally. Nowhere do we find more than two or three farms in each others immediate vicinity and then it is still a matter of doubt whether these were in use at the same time. A remarkable phenomenon is that farms were rebuilt on the same spot, often with a change in orientation. During this period the homestead underwent a change: the Haps houses were replaced by two-aisled farms with wall-posts set in pairs (*Fig. 6:c*). These wall-posts were placed close together, suggesting a wall ran between the posts. Both posts may then have had a supporting function. The short walls show some variation: they are often missing, sometimes double posts are visible on the longitudinal axis of the house, sometimes there is a semi-circle of double posts, in which in one instance a (stable) entrance is visible. The length of the houses often exceeds that of the Middle Iron Age houses; plans with a

length of over 30 metres occur. In one of the plans of this type sherds of a cork urn were found, which may indicate that the youngest representatives were still found in the first century AD.

At a fairly late date in the Late Iron Age the so-called foundation trench houses suddenly appear alongside the type discussed above. These are plans in which the location of the perimeter wall is marked by a more or less deep ditch. One of the earliest examples – first half of first century BC – is shown in *fig. 7*. The two-aisled house measures 14 x 7 m. and has three entrances in the long walls, two of which face each other. Two of the four deeply founded central roof posts are in line with the short wall. At the bottom of many of the deep central pits the remains of rectangular oak poles, clearly showing tool marks, were found. It seems quite reasonable to assume that this type of house was covered by a gable-roof. A special feature of this house is the partition wall directly to the east of the double entrance. This immediately raises the still unanswered question of its significance. It is hardly likely that the living quarter or the stable was confined to this small area. We may even wonder whether domestic animals were kept in this type of house at all. There are clear differences between the early foundation trench houses from the various 'contemporary' settlements, lying in each others immediate surroundings – an aspect about which, until fairly recently, we had no information. Finally a few preliminary remarks concerning the outhouses in the Iron Age settlements. These structures, often found in the immediate vicinity of the farms, seem to be largely limited to the buildings already known to us from investigations elsewhere: granaries with either four, six or nine posts. However, there seems to be a clear development in these structures in the sense that the last category is the youngest in the row. In so far as they are datable, every one of them dates from the Late Iron Age. The Roman period storage structures provide links with this native development of which they are the logical continuation.

4.1.2. *The cemetery.*

One of the features to which – in retrospect – too little attention has been paid, is the extensive prehistoric cemetery. This cemetery, of which about fifty sepulchral monuments have been excavated, is unusual for three reasons; in the first place there is the scattered distribution of the graves. Unlike most urnfields, the cemetery revealed almost no clusters of graves. Although the cemetery must originally have contained more graves – in quite a few cases only nine or ten centimetres of the grave pits and a few grammes of cremation remains had survived –, this scattered distribution does not seem to be only imaginary. A second characteristic is the relatively large number of



Fig. 8. Oss-Ussen: square grave monument from the end of the Middle Iron Age, with a timber setting on the inside of the ditch; the dimensions of this monument are 18 x 18 m.

structure measure 19 x 17 m. Cremated bones were observed in the centre, so that we know for certain that we are dealing with a sepulchral monument here. A broad, deep post-Medieval ditch was dug diagonally across the large eastern part, which has completely disturbed the centre: it is therefore uncertain whether cremation remains were buried here and therefore whether this is indeed a funerary structure. The possibility that, as far as the Netherlands are concerned, we are dealing with an exceptional monument, may certainly not be excluded. The dimensions greatly exceed those of all sepulchral monuments of that period, the Middle Iron Age. The structure is reminiscent of the south German *Viereckschanze* and north French sanctuaries, although we must then immediately note that there are clear differences in scale and complexity. In the smaller Dutch variant neither a temple nor a sacrificial shaft nor large quantities of offerings were found (cf. Schwartz 1960; Brunaux/Meniél 1973). The reason for this may lie partly in terms of conservation – since the soil is deficient in lime, no skeletal remains have been preserved –, but it is more likely that cultural factors play a part here.

4.1.3. *The material culture*

The fact that in the thousand years that the Ussen site was occupied a large number of deep pits was dug, is the reason why we are relatively well informed about the material culture and its development: after they had lost their primary function, many of the wells and pits were

intentionally used as refuse pits. For a much longer period of time the near-filled pits will have acted as ‘artefact-traps’, in which material ended up by chance. In total approximately 150,000 finds were recovered from these features.

The bulk of the material consists of hand-shaped pottery, most of which was produced locally. As revealed by the diatom analysis, only a relatively small percentage was clearly produced elsewhere, in all probability in the coastal area of the Netherlands. The pottery will not be discussed in any detail here. Typology, variability, technology and provenance as well as the chronological developments will be treated at length elsewhere (Van den Broeke in preparation; for the coastal pottery see Van den Broeke 1982). Suffice it to mention that the analysis of the pottery produced a division in 12 phases for the Iron Age earthenware, a much more refined division than the existing system (Verwers 1972). For certain categories of finds the period in which they occurred can now, for the first time, be given with some precision. This applies for example to the truncated pear-shaped and triangular loom weights, sling-stones, glass bracelets and the tephrite saddle querns and mill-stones. Sling-stones for example, do not occur before the Middle Iron Age, reach their high point during the Late Iron Age and disappear completely in the course of the first century AD. This development is synchronous with the situation depicted in the historical sources: increasing unrest in the last centuries BC, followed by the Roman pacification in the early part of the Principate. The

developments in the use of Mayen basalt, used for grinding corn, can also be followed better now, although the material has only survived fragmentarily; during the investigation large pieces crumbled when touched. From investigations elsewhere we know that basalt occurred in these regions from the Late Bronze Age onwards (Van der Sanden 1981, 324; Van Heeringen 1985, 378); from the Middle Iron Age onwards the lower stones were shaped like a saddle⁴, a shape which, in Ussen, was not replaced by the round millstones until the first century BC. However, other querns remained in use alongside these tephrite ones.

No confirmation was found at Ussen for the opinion that flint continued to play a part in the Iron Age⁵. Only one silex object was found, a burnt fragment of a sickle, which was recovered from a pit containing Early Iron Age pottery. This context is not unusual for this type of object in the southern sandy region. Three other fragments had previously been found in Wijchen-de Pas (Van den Broeke 1984, 92)⁶.

Metal objects were only found sporadically. A (presumed) ear-ring dating from the 6th century and one Nauheim fibulae dating back to the first century BC were the only bronze objects recovered. Iron objects are also scarcely represented: three fibulae and a few knives. During the entire Iron Age there are clear indications of local iron working and – indirectly – of bronze casting. As to the first activity, we can only mention the occurrence of slags, sometimes encrusted on sintered loam; as regards the second activity, there are the crucibles, which can hardly be connected with anything but bronze-casting.

A category of finds that has produced much new and interesting information is that of the objects made of organic material. These were found well preserved beneath the ground water table in the deep pits and wells. Among the most remarkable finds are:

- a step ladder, consisting of a 1.70 m long tree-trunk that had been cut to a point and in which three steps had been carved (Early Iron Age);
- a 90 cm high vessel with two solid handles, made of a hollowed out alder (early Middle Iron Age);
- the centre piece of a tripartite oak disc-wheel, whose nave has also been preserved (end of Middle Iron Age) (cf. Bloemers e.a. 1981, 103)⁷;
- a bucket with solid handles (Late Iron Age);
- a 90 cm high oak plank shaped like a highly stylized human figure (Late Iron Age);
- fragments of a very fine wicker basket of willow twigs (Late Iron Age).

These rare wooden objects wake us up to the fact that we have a very incomplete and distorted picture of the material culture of the Iron Age in the sandy region, a picture in which only pottery appears to play a part.

4.1.4. *Ecology and economy*

Unfortunately it is not possible to reconstruct the environment of Ussen during the thousand years that the site was occupied on the basis of direct evidence: no peat that could be sampled for pollen analysis has as yet been found in the immediate surroundings. Information on the physical environment can only be obtained through the analysis of pollen and seeds from the deep pits and wells and the analysis of the wood that was used to line the wells. However, there are clear limits to the results that can be gained in all categories.

Pollen analysis of the contents of wells and pits gives hardly any insight into, for example, the extent of forest in the neighbourhood. Herbs often predominate in these spectra; herbs, whose pollen may have got into the pit or well either through the air or through human intervention (Bakels 1980, 126). We are faced with the same problem, the diversity of sources, in the case of the seeds (other than of crops). Seed analysis produces a list of species that can be interpreted in various ways. A large part of the seeds often originated in the immediate surroundings of these wells, i.e. came from plants and trees that grew around the well or elsewhere in the yard. Part of the seeds may have been intentionally deposited in the well or pit, for example in the form of left-overs, green food, litter etc. In many cases there is room for doubt (Bakels 1980, 1984). A disadvantage of the third approach, the analysis of the wood used to line the wells, is that we do not get an accurate impression of the original assemblage of trees, but are left with a man-made selection based on practical or symbolic considerations (cf. Therkorn et al. 1984). Of the various species found at Ussen, *Alnus*, *Salix* and *Quercus* are predominant. Alder occurs in the form of a hollowed out tree-trunk, but more often do we find alder twigs – along with willow twigs – in the wattled wells. On one occasion the hollowed out tree-trunk of an oak was found; the other oak finds were posts and the planks that were used to line the wells. All species were available in the immediate surroundings: oak in the sandy region, alder and willow in the valley of the Maas further north.

There are two sources for the investigation of the crops at Ussen: the (carbonized) seeds from the wells, pits and (occasional) post-holes and the seed-impressions found in pottery. Silos as are found in the higher sandy region were never used in Ussen on account of the high water-table, so that we shall have to make do without what could have been the most informative source in this respect. Particularly the impressions in pottery, to which systematic attention was paid, are a relatively rich source. So far casts have been made and identified of more than 60 (out of a total of c. 100,000 sherds). The picture emerging from this analysis agrees fairly well with the one produced on the basis of the only rarely occurring carbonized seeds found

in the various features. This scarcity is reminiscent of, for example, the situation in a site like Son en Breugel-Hooidonksche Akkers (Bakels/Van der Ham 1980). It is, however, in violent contrast with, for example, the number of carbonized seeds recovered from the Medieval settlement at Dommelen. In one house plan more carbonized seeds of crops were discovered here than were found in the entire site of Ussen (Van Vilsteren 1984). Both sources, the impressions and the carbonized seeds, confirm the familiar picture of the southern sandy region, in which *Hordeum* and *Triticum* are predominant. It is, however, worth noting that now, for the first time, it can be demonstrated that the Celtic bean (*Vicia faba*) was cultivated in these regions before the Roman period.

As already mentioned in the introduction, in the field only the faunal remains found during trowelling were collected. The absence of skeletal remains of birds⁸ and fish is therefore not surprising. However, the fact that no bones of these small animals were observed when the hundreds of sacks of soil samples were sieved, suggests that this was not an important component of the total spectrum of animal skeletal remains.

The archaeozoological investigation of the recovered faunal remains is yet to be carried out. Dental remains are, for understandable reasons, overrepresented in that faunal material. The assemblage of bones found below the water-table also included other skeletal parts. The total volume of the recovered zoological material is regrettably small and, like the palaeobotanical evidence, too little to allow quantitative conclusions to be drawn. Spindle-whorls and loom weights are indirectly indicative of the occurrence of a certain species of animals: both artefacts imply the presence of sheep.

4.2 ROMAN PERIOD

4.2.1. Settlements

Three Roman period settlements were discovered in the excavated part of Ussen. These settlements were investigated to a varying extent. Of the southernmost settlement, situated in the *Zomerhof* quarter, presumably only the northern part was excavated. The settlement lying to the north, discovered when the pond (*vijver*) was being dug and therefore henceforth termed the *Vijver* settlement, was also only partly excavated. In this case we are dealing mainly with stray observations made in road and building trenches. Most attention was paid to the large *Westerveld* settlement situated to the north-east of the *Vijver* settlement. A conscious attempt was made to excavate this settlement as completely as possible; at present two thirds of the occupied area has been investigated.

The difference in the degree of completeness of the various settlement plans and the way in which they were sampled – stray observations versus large excavated areas – account

for the fact that questions regarding, for example, the size, lay-out, internal differentiation and continuity from prehistoric times onwards cannot be answered as satisfactorily for all three settlements. This will become clear in the following.

Of the southernmost settlement (*fig. 9:a*) an important part of a total area of approximately 125 x 125 m was investigated. During the excavation the northern and eastern limits of the settlement were determined. There is no reason to assume that the southern and western limits of the excavation coincide with those of the settlement. There is no additional information – in the form of surface finds or previous find records – which can be used to determine, if only by approximation, the original size of the settlement. Three different farmsteads, lying apart from each other and each with its own enclosed yard and annex(es), were discovered in the excavated part of the site. These may well have been in use at the same time. The farms had all been rebuilt on the same spot. Some farms had even been rebuilt several times, producing oblong plans like those found in Noordbarge, of which it can often not be ascertained which parts are contemporary (Harsema 1980, 40-43). The foundation trench houses are either two-aisled or partly two-aisled, partly three-aisled. The impression created by this settlement is one of simplicity: a restricted range of pottery types (among the terra sigillata only plates and bowls), few glass fragments and no building material such as roof-tiles etc.

The typical Late Iron Age plans on the northern perimeter of this native Roman settlement, a house plan with only native pottery in the ditches and the discovery of a silver fibula of Almgren 22 type⁸ suggest continuity of occupation. However, this is contradicted by the imported pottery. No ceramic products were found that can be dated exclusively in the first century AD. At the moment it is most likely that this settlement (or part of it?) came into being around the end of the 1st/beginning of the 2nd century AD. On the other hand, the possibility that the part dating back to the 1st century lay more towards the south, in the direction of the Amsteleindstraat, may not be excluded. The *Zomerhof* settlement was abandoned altogether in possibly the beginning of the 3rd century. For the *Vijver* settlement (*fig. 9:b*) the situation is even more uncertain. Only a very incomplete description can be given of this settlement. Remains dating from the Roman period were recovered from an area of over 500 x 250 m. Of this total area about 1.3 hectares have been investigated by means of regular excavation trenches. Other information was obtained from stray observations made by members of the Society of Regional History. These observations consist of 1. *Landesaufnahmen*, 2. excavations of isolated, conspicuous features such as wells in e.g. road and cable trenches, and 3. excavations of (parts of)

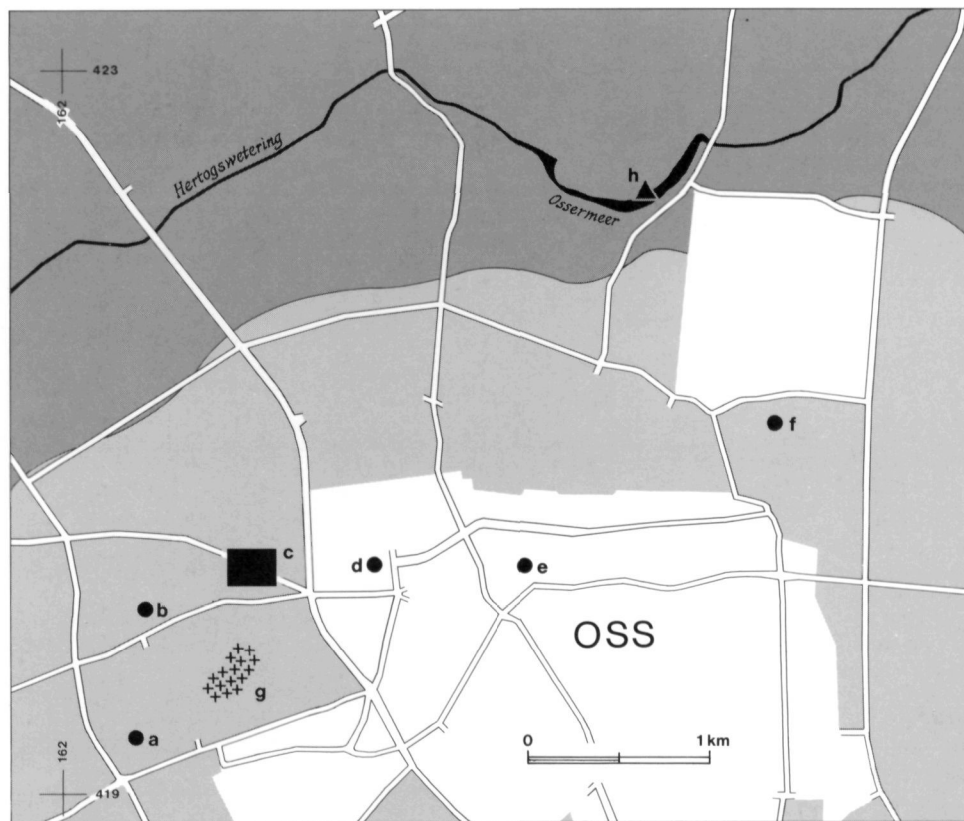


Fig. 9. Oss: location of Roman period find-spots; the light grey and dark grey areas indicate sand, respectively clay.
 a. Zomerhof settlement; b. Vijver settlement; c. Westerveld settlement; d. Zaltbommelseweg settlement; e. Eikenboomgaard settlement; f. Jsselstraat settlement; g. cemetery; h. find-spot of, among other things, coins and net weights.

building trenches, during which on several occasions groups of features, such as e.g. a house plan, could be recorded.

On the basis of the now available data it is hardly possible to form a satisfying picture of this settlement. In the part excavated by the IPL there is a 25 m long house plan with a large horreum lying a short distance away from it. It is tempting to interpret the two structures as belonging together, but the finds recovered from them were unable to confirm this. About 50 m west of this concentration there is a plan of a completely different type of house, much smaller and much more robust. A similarity between the two is that the eastern parts of the houses show no pits for the central roof posts. In the first house the posts set against the walls may have served this purpose. All the other (six) partly or entirely investigated house plans in the Vijver settlement also show clear structural differences; no identical plans were found.

The problem regarding the historical continuity can be solved no more than that concerning the lay-out of this native Roman settlement. Several house plans were found

of the type shown in *fig. 6:c*, which is usually dated in the Late Iron Age. However, one of these yielded two fragments of a cork urn. In the absence of more specific knowledge of the circumstances under which the finds were discovered, the interpretative choice between occupation in the first century or contamination of a later date can no longer be made. A few wells in the immediate vicinity which also yielded this porous pottery seem to argue for occupation in the 1st century AD. It is however remarkable that these are practically the only indications. Among the other pottery finds the fragments that can be dated to the 1st century can be counted on the fingers of one hand.

The remaining ceramic material dates from the 2nd century/first half of the 3rd century. Unusual finds among the recovered remains are: a few fragments of glass, a couple of wire fibulae, ten coins, among which coins of Nero and Commodus - the majority, however, dates back to the Antonine period -, and finally a wallfragment of terra sigillata with a graffito, consisting of parts of two different names. Just like in the Zomerhof settlement, no



Fig. 10. Oss-Ussen, Westerveld settlement: the outer enclosing ditch, seen from the east; three successive phases, of which the northernmost is the youngest.

typically Roman building material was found.

The northernmost settlement, lying in the Loovelt and Westerveld quarters (*fig. 9:c*), opens better perspectives for answering the questions mentioned earlier. Of the more than 75,000 m² occupied by this settlement, almost 50,000 m² have been subjected to archaeological investigation. The areas that were not investigated are mostly parts that could not be excavated: the asphalt road to Alem, which is more than 20 m wide and cuts right across the settlement in a southeast-northwestern direction, and plots with old buildings that were not broken down (only in the eastern half). The aim to excavate this settlement as completely as possible should be seen in the light of the gradually accepted opinion that it is not justified to sample at settlement level.

We know the exact size of the settlement for the simple reason that its boundaries were clearly marked in the Roman period, a phenomenon now also known from various other, contemporary settlements in the southern Netherlands. In Ussen this boundary consisted of two ditches, lying c. 4 m apart, which formed two rectangular enclosures round the settlement. The sides of this settlement have an average length of respectively 320 (E-W) and 235 m (N-S). In the northern arm a clear entrance was observed. Both ditches were cleaned out and shifted somewhat on several occasions during the occupation of the site (*fig. 10*). The original depth must have been c. 60-100 cm. Scattered over the enclosed site, which covers an overall area of almost 7.5 hectares, the plans of about 40 farms and dozens of outhouses (*horrea* (*fig. 11*) and barns) were found, as well as more than 70 wells, which can be

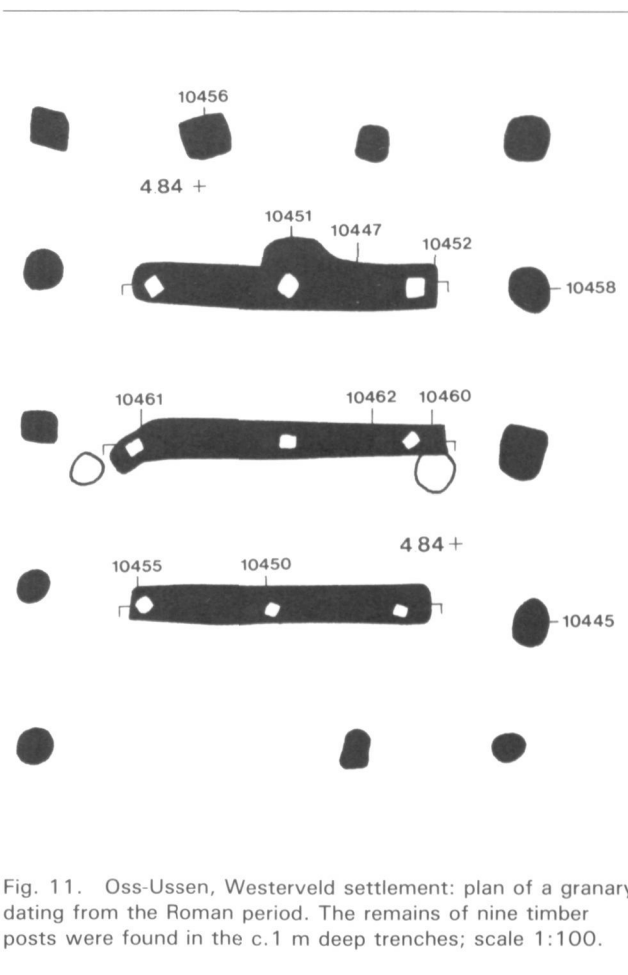


Fig. 11. Oss-Ussen, Westerveld settlement: plan of a granary dating from the Roman period. The remains of nine timber posts were found in the c. 1 m deep trenches; scale 1:100.

associated with the enclosing ditches. The shallow ditches enclosing the yards within which the various elements were situated are visible particularly in the southern part of the settlement. No functional interpretation can as yet be given of one structure, a large square ditch with sides of over 40 m and a (possibly contemporary) palisade in the centre. Pottery fragments date this exceptional structure in the 1st century AD.

Several times the various farms that were in use in this settlement had dimensions exceeding by far those of the homesteads of the previously discussed settlements. Lengths of 40 m. were found on several occasions. The most common type of farm is that with a clear structural division: a two-aisled and a three-aisled part, often of unequal length (*fig. 12*). Thanks to the unique occurrence of a few cattle boxes, it could be ascertained that the three-aisled part of the house was the area in which the animals were stabled. Occasionally a farm consisting of a central three-aisled part inserted between two living quarters is found. A plan in the western half of the settlement is a variation of one of the two basic types discovered here (cf. *fig. 7*). The house is surrounded by deep ditches lying at right angles to the walls. It is assumed that there is a connection between these ditches and the roof-tiles found in this house. Our first interpretation is that this was a house with a porticus, covered by a tiled roof. The overall dimensions of this unusual building are 25 x 12.5 m. Differentiation was also established in the case of the wells. In the two previously discussed settlements only wells faced with wattle (Zomerhof) or wells lined with wattle and timber (Vijver) were found, but in this settlement

hollowed out tree-trunks and wine barrels were also used for this purpose. Particularly the wine barrels, one of which bore various stamps, are unusual. They were imported from some external source, imply certain contents and found their way to the settlement at a very early stage. The unusual character of the enclosed settlement is also stressed by the first results of the ecological investigation (par. 4.2.4) and by the remains of the material culture. Almost all the unusual finds of the Roman period were found in this settlement. This applies not only to the luxury pottery, the glass ware, jewelry, utensils such as keys etc., but also to products of a religious nature (par. 4.2.3). Characteristic building material was also concentrated mainly in this settlement, just like the refuse of the iron industry.

As a last remarkable phenomenon a ditch system adjoining the enclosing ditches on the outside must be mentioned here. This was observed on the north, west and south sides. The longest distance was measured in the north-eastern corner of the settlement, from where – by means of borings – a ditch could be followed for more than 180 m in a northerly direction before it disappeared. On the western side two ditches of over 100 m can be postulated. It may be assumed that all these ditches were field boundaries. The analysis of the pollen may be able to confirm this interpretation¹⁰. These ditches yielded (scarce) finds of the Roman period; no finds dating back to that period were, however, recovered from the areas enclosed by the ditches.

The enclosing ditches raise the question of local continuity, which, for the first time, can be answered without reserve.

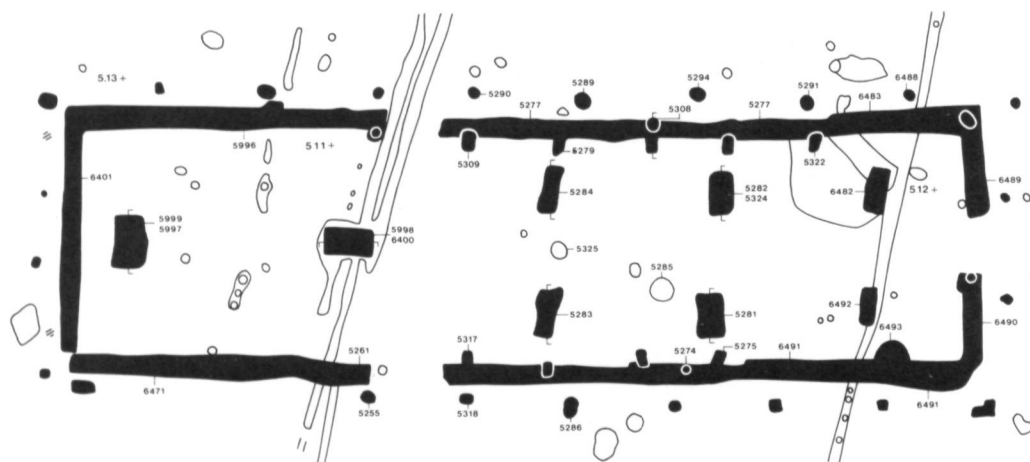


Fig. 12a. Oss-Ussen, Westerveld settlement: house plan from the 1st century AD, with a two-aisled and a three-aisled part, scale 1:200.



Fig. 12b. View of a few intersecting Roman period house plans. The two-aisled part (house on the left, background) and the three-aisled part are clearly visible. Traces of the stable boxes are only visible in the house on the right.

The occupation continued uninterrupted until the 3rd century AD, which is confirmed by the architectural developments as well as by the flow of imports that was already starting to get under way in the Augustan-Tiberian period. Many of the earliest imports were recovered from the innermost enclosing ditch. It seems most likely that this ditch was constructed in the early part of the first century AD. Whereas this ditch was filled up again in the same century, the outer ditch remained in use for at least the main part of the 2nd century¹¹, until this ditch also lost its function, as appears from the wells that were dug through the filling.

4.2.2. *The cemetery*

In the Roman period there was a cremation cemetery in the centre of Ussen, to the east and south of the set-

tlements discussed above (Döbken 1982). A large part of this cemetery, which lies apart from the necropolis discussed in paragraph 4.1.2, was excavated in the period 1977-1979. It extended north-south for over 400 m, whereas in the north, where a clear limit appears to have been found, it covered at most 200 m from east to west. In total approximately 200 monuments that can be interpreted as graves were unearthed in this area. These graves are not distributed homogeneously over the area described above. Concentrations and bare patches are clearly visible. This may partly reflect reality, but may also be caused by the fact that not all the graves had been dug as deep. In some cases the main burials and the peripheral structures were dug no deeper than the (only sporadically preserved remains of the) old soil profile, i.e. did not reach the C-level. This means that when the land was

brought under cultivation, in the course of the 2nd millennium AD, all the graves were levelled and some even vanished completely in the furrows.

The discovered graves can be split into three main categories – the same categories we came across in the older cemetery: rectangular ditches, ring-ditches and flat graves (*fig. 13*). Subdivisions can be made within these groups, such as open or closed, square or oblong, with or without (internal) palisade, large or small. Only two monuments do not belong to the three main groups. One of these is a rectangular palisade enclosing a central burial beneath a small mortuary house. The other exception is a combination of the two main types, in which a small square and a large round monument are joined together in a key-hole shape. The presence of an animal's burrow in the round part of this monument is one of the few indications that the graves were originally covered by low mounds.

Burials were not found in all of the grave monuments surrounded by a peripheral structure. A few of these graves were only partly excavated, as a result of which the centre was not uncovered. A different explanation must be found for the monuments which were completely excavated and which nevertheless revealed no burials (in c. 50 cases). If we do not want to allow for cenotaphs, the most obvious solution is to assume that the burials were hardly or not at all dug into the ground and were therefore completely destroyed by Medieval farmers.

In three quarters of the cases (c. 70x) in which cremation remains were discovered these concerned 'reasonable' amounts and therefore true burials. In other cases, particularly where shallow pits containing charcoal and a few fragments of burnt bone are concerned, we may wonder whether we are dealing with a decapitated grave or with the remains of a pyre. Only three times had the cremated remains of the deceased been placed in an urn. On one occasion they had been buried in a wooden chest; in all the other cases a block of bones was found without any trace of the original container. Only very rarely were cremation remains discovered in a peripheral structure. In general, the grave goods found accompanying the cremation remains are rather sober; in only one case the gifts are (by regional standards) spectacular. No grave goods were found in half of the graves. That this is such a high figure naturally depends on the fact that no central burial was or could be observed in more than 80 graves. Most of the graves that did yield grave goods often contained no more than secondarily burnt pottery fragments, sometimes of several pots. These were found along with the cremated remains and/or in the ditch, where present. Complete ceramic gifts are relatively rare; no more than 25 were found, half of which were smooth-walled jars. With the odd exception, these intact vessels had not been in con-



Fig. 13. Oss-Ussen: view of a few square and round grave enclosures in the Roman period cemetery.

tact with the fire of the pyre. Other gifts are iron knives (3x), sling-stones (1x), pierced bone (1x) and glass ware (5x). Almost all these objects had been burnt along with the deceased. Small nails (shoes?) and a chain of small rings (belt?) may represent remains of clothing. The frequently found burnt nails with lumps of encrusted charcoal are possibly to be interpreted as the remains of the burnt bier.

The glass objects mentioned above were concentrated in the northern part of the cemetery. With one exception, they are limited to a group of six large graves, lying on the northern perimeter of the necropolis. These graves stand out not only because of their size, but also on account of their position and the gifts found accompanying the deceased, of which the glass objects form an important element. A burnt square or cylindrical bottle was found in three graves, the fourth yielded burnt glass of a similar bottle as well as an intact, uncharred ribbed bowl (*fig. 14*). The cremation remains have not yet been systematically

analysed. In general, the bone was well burnt and had survived in a fragmentary condition. The theoretical maximum weight was not found once (cf. Herrmann 1976, 196), the total amount was often even less than 500 grammes. During a first inspection by the author of the burnt remains it was also ascertained that the large northern graves seem to have contained exclusively adults. In one of the two large ring-ditches of this group the remains of the pyre were still there. During the preliminary analysis it was also noted that burnt animal bone had been found in at least five graves; one grave even contained the bones of several different animals. The presence of pig, sheep/goat and bird¹² was ascertained.

Finally some remarks on the time limits within which this cemetery developed. There is no doubt about it that the oldest graves had been constructed long before the Roman period. A few C14-dates in the 1st and 2nd century were obtained. Grave 2497, for example, which is intersected by a square ditch containing remains of a burnt girth-beaker, produced a date of 2135 ± 55 BP (GrN-10725). The oldest imports from the cemetery are to be dated in the first half of the first century AD: fragments of Gallo-Belgic girth-beakers, cork urns and terra-nigra pottery types Holwerda 112 and 461 (Holwerda 1941). These early types were found particularly, but not exclusively, in the southern part of the cemetery; the northern part contained the later types. The group of large graves does not seem to start developing until in the Flavian period and then continues until at least the middle of the 2nd century. It is difficult to say when the cemetery went out of use. The youngest grave-goods seem to be a terra sigillata plate Dragendorff 31 and a terra-nigra-like so-called Arentsburg bowl. Typical 3rd century types were not found, so that we may assume that the cemetery in Ussen fell into disuse before the end of the 2nd century.

4.2.3. *The material culture*

The contents of the many dozens of wells and pits in the three settlements and the grave goods found in the cemetery provide a good basis for the study of the changes that took place in the material culture in the first centuries AD. The changes in the earthenware are the most conspicuous. The native pottery underwent changes in shape, finish and decoration, but at the same time it started to play an increasingly less important part. This development becomes apparent if we compare the contents of a late 1st century well with that of one dated well in the 2nd century. In the first case the hand-made pottery occupies a primary place (c. 75%), three quarters of a century later its overall percentage in the total pottery spectrum has fallen to 10% or less.

The part played by this native earthenware is slowly but surely taken over by imported, mostly wheel-produced,

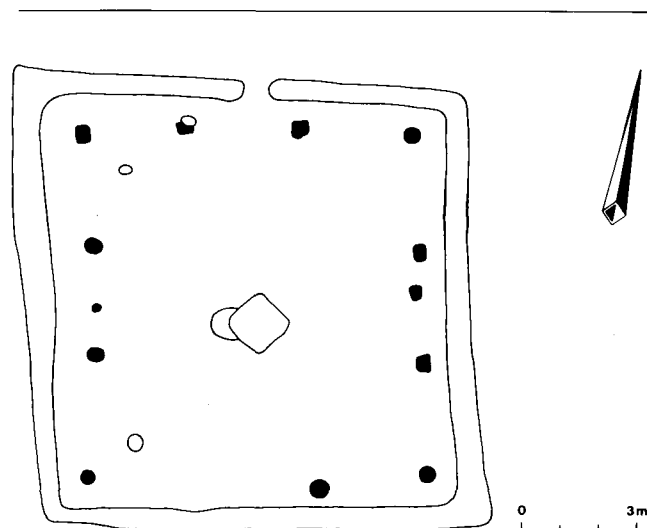


Fig. 14a. Oss-Ussen: one of the large graves (1281) on the northern perimeter of the Roman period cemetery.

pottery. The range of pottery types found in many other sites is also represented at Ussen: terra sigillata (Arretina, South, Middle and East Gaulish), Gallo-Belgic ware (terra rubra, terra nigra, cork urn) colour-coated pottery (particularly beakers), smooth and coarse wares (flagons, amphorae-like flagons and plates), terra-nigra-like ware and finally the abundantly occurring thick-walled pottery (amphorae, dolia and mortaria, of which ten of the last category bear a stamp). Ceramic types such as incense cups and oil-lamps are not represented.

With the exception of the glass ribbed bowl from the cemetery, glass ware has often survived only fragmentarily. The types represented comprise square and cylindrical jars, ribbed bowls, small bottles and a trulla. This glass occurs in various colours. Wooden cups were also used alongside the pottery and glass ware, as shown by two morphologically different specimens.

Glass also forms part of one of the most beautiful ornaments found in Ussen, a bronze ring with a blue glass gem into which a human figure has been carved (nicolo). Glass in the form of the La Tene bracelets fell into disuse in the course of the first century AD. However, the bracelets are found regularly in 1st century contexts, contrary to the common opinion that they had lost their importance by the beginning of the Roman period (cf. Peddemors 1975, 108). The last categories of ornaments to be mentioned here are the melon beads, the bronze bracelets and the fibulae. The latter are better represented than in the Iron Age. With the exception of one silver and three iron fibulae, the 35 found specimens are all of bronze. These are spoon-bow, eye, arched (Almgren 22)

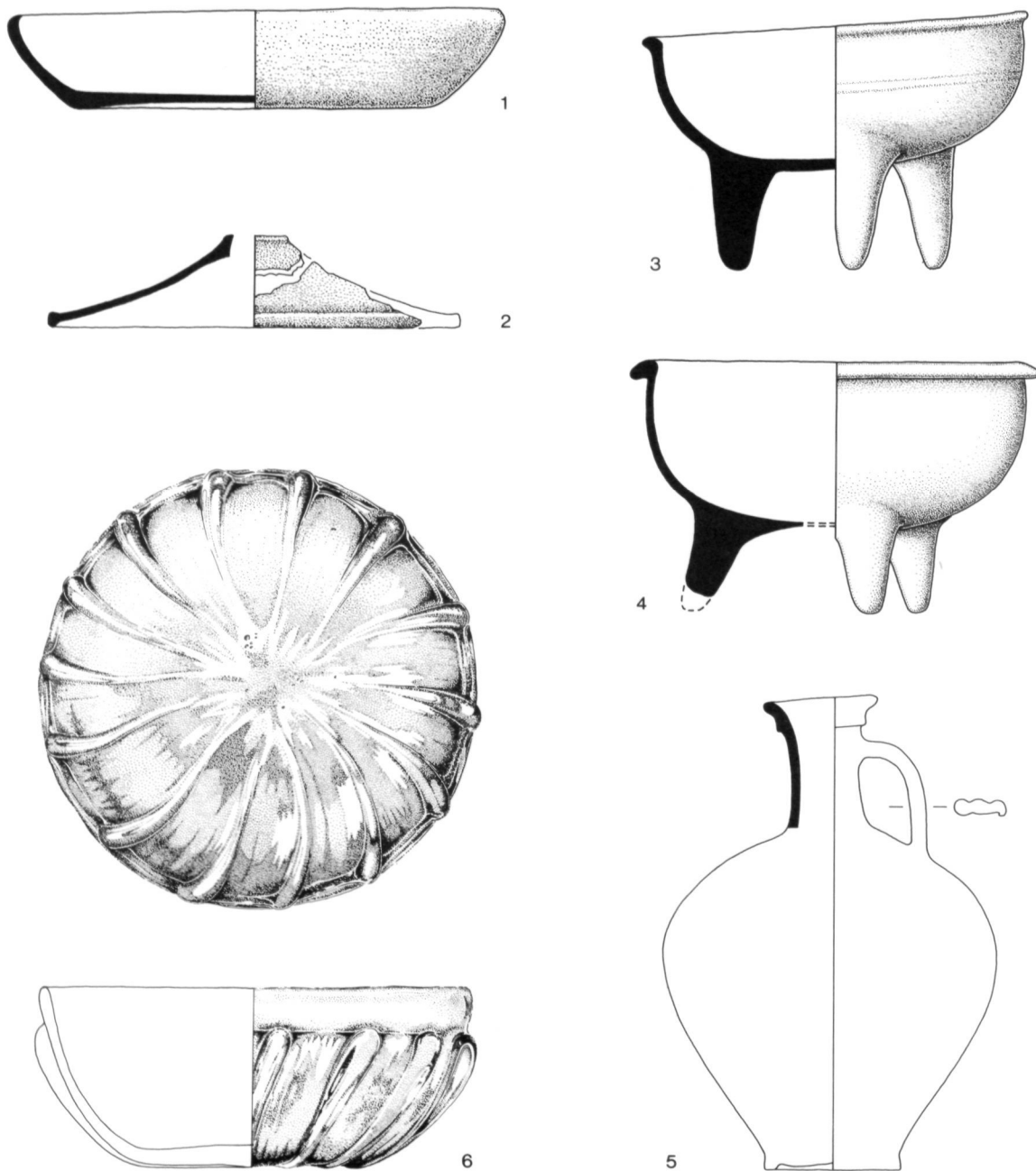


Fig. 14b. Grave-goods found in the central grave pit of monument 1281: 1. plate; 2. lid; 3-4. small bowls on three legs; 5. flagon; 6. ribbed bowl of green glass (1-4,6: scale 1:2; 5: scale 1:4).

and kinked (Almgren 19), but particularly wire fibulae. Clothing was found three times in the form of shoe fragments (below the water-table). One of the fragments belongs to a carbatina shoe, made of goat's skin and decorated with four rows of grooves arranged in a herring-bone pattern.

New elements are various materials related to the house, such as roof-tiles, pierced slates, tufa and nails. The regular occurrence of iron nails in the house plans suggests that structural problems were no longer all solved by means of tenon and mortise joints, as had presumably been common until that time. Also new are the iron and bronze keys of various dimensions; whether they actually imply the use of locks in the houses remains an open question.

Many of the recovered tools undoubtedly already existed in the Iron Age, but, for whatever reason, were not discovered in that context. These are iron adzes, axes, knives and a wooden hammer. The other tools concerned are artefacts of which the design was altered in the Roman period. Whetstones now usually have a flat, oblong shape (cf. Bloemers 1978, 322, no. 398) and the basalt upper stones of the mills are in this period characterized by a clearly raised border with a ribbed outside, border and upper surface (cf. Harsema 1979, fig. 7).

Very few coins were found in Ussen: in total no more than 15 specimens. The oldest found is the Augustan denarius RIC 350, the youngest a dupondius of Commodus.

Finally the eternal group of miscellaneous objects. Of the four discovered remains of pipe-clay statuettes only one can be placed with certainty in the Roman period; this is the plinth of a human figure, probably a deity. The other three are most probably Medieval. Quite exceptional is a piece of an earthenware mask¹³ still showing part of the ear beneath which a perforation is visible. The remaining objects comprise artefacts such as a stylus, chest mounting, lids (inlaid with enamel), glass gaming pieces, a lead 'spindle whorl' and various bronze, lead and iron objects, of which the original function can no longer be ascertained.

4.2.4. *Ecology and economy*

The general comments made in paragraph 4.1.4 concerning the problems involved in the reconstruction of the landscape, the scarcity of carbonized seeds of crops and the state of preservation of the zoological material, also apply to the Roman period. However, for the first centuries AD we have various new sources, whereas some sources are now of much less importance. This shall be illustrated below.

A new source of information are the peripheral ditches of the graves of this period¹⁴. Pollen samples taken from four of these features have been analysed. These samples were

all collected from the bottom of the ditches of graves lying in the northwestern part of the necropolis. The results of this analysis are as follows: *Alnus* amounts to 65% of the tree pollen, followed by *Corylus* with c. 30%, *Quercus* (1%), *Ulmus* (1.5%), while the remainder is divided mainly among *Betula*, *Fagus* and *Pinus*. Of the herbs *Ericales* (41%) and *Gramineae* (36%) predominate. The picture presented by this spectrum for the direct surroundings is one of an open landscape, in which grass and heath occupied an important place, with here and there a little coppice and hardly any trees (the pollen of alder originated further away in the valley of the Maas; De Jong 1982).

In the pollen spectrum the oak plays only a minor part. The identifications of the wood found during the excavation, however, show that oak was in fact quite important to the occupants of the settlements at Ussen and was used frequently. The numerous square, timber-lined wells, the hollowed out tree-trunk wells – with diameters ranging to more than 1 m – and the remains of internal roof-posts found in the farms, clearly testify to this preference. However, it is not likely that these oaks grew in the immediate surroundings of the settlement. The alder and willow wattled wells remained in use alongside those lined with oak.

There is a clear decrease in the seed impressions in pottery. The reason for this is obvious: in the course of the Roman period the local pottery, produced in and around the house, was gradually replaced by imported ceramics. At this moment we think that these impressions and the carbonized seeds recovered from the various features hardly differ from those from prehistoric contexts. Quite unusual are the uncharred fruits of the broad cocklebur (*Xanthium strumarium*), coriander (*Coriandrum sativum*) and beet (*Beta vulgaris*). The last two were found in the enclosed settlement; in one case all three species were found together in a well.

Finally the archaeozoological remains. Additional information is provided by the analysis of the remains of animals found accompanying the dead. It appeared that this was the fate of pigs, particularly piglets. The indirect indications of sheep-breeding – spindle-whorls and loom weights – are still present in the Roman period. The boxes observed in the stable area of a large farm are the only indication that cattle was stabled in these parts of the houses.

5. **Prospects**

The Ussen excavation originally formed an important component of the Maaskant project, formulated in 1979. The main aim of this project was described by the initiator, G.J. Verwers, as follows: to gain a detailed insight into the occupational history of this region and to pay par-

particular attention to the environment¹⁵. In this context the Ussen project may certainly be considered a success. For this part of the Maaskant region a diachronic description can be given of the occupation in the millennium ranging from 700 BC to AD 250. It even seems reasonable to assume that the occupation of this area continued almost uninterrupted from the Early/Middle Bronze Age until well into the Roman period. We now know what the pottery, houses and graves looked like in the various periods. That we know hardly anything about the vegetation is owing to the mere fact that no suitable sampling locations have (as yet) been found in the immediate surroundings of the site.

When the Ussen project changed hands, in 1983, the original objectives and the definition of the research area were altered. The objectives of the project were reformulated partly under the influence of the stimulating investigations in the adjacent region, the Kempen (Slofstra et al. 1982, id. 1985). This investigation, which was started early in the 1970s, has experienced a similar development: the original aim, to draw a (static) cultural diagram of the region, had to give way to a more dynamic ideal, the analysis of socio-cultural processes, of which a systemic approach to culture forms the basis. The objectives formulated by these investigators can also be considered relevant to our region, the area between the Peel, Maas and Dommel, except for the fact that the time limits were kept much narrower. For this region – henceforth termed meso-region – the main archaeological objectives will be the analysis of the development of the settlement system in the period 700 BC - AD 250 and, coupled with this, the process of Romanization. Particularly this last aspect, the incorporation of the native communities in the Roman Empire, the way in which this integration was brought about, forms the main theme of this regional investigation. In order to be able to follow the process of Romanization, a model of native society on the eve of colonisation will have to be given. Unlike, for example, the already mentioned Kempen region, where hardly any Iron Age settlements have been investigated (cf. Roymans in Slofstra et al. 1982, 52-56; id. 1985), our meso-region offers sufficient starting-points for a fairly detailed description. The chronological range of this region is also wide enough. Settlements from all subperiods of the Iron Age have been excavated and lend themselves, to varying degrees, to the investigation of the levels mentioned in paragraph 4.1.1. A problem is that some periods are only represented in a restricted part of the meso-region. Late Iron Age house plans, for example, are known exclusively from the Maaskant region and not from the higher Pleistocene sandy soils. This is however not considered an insurmountable problem. Not only the settlement plans, but also the ecological data and the cemeteries will be used to construct

a model of the native community. Although Roymans (in Slofstra et al. 1982, 53) correctly commented that the urn-fields do not lend themselves to analyses of a sociological nature, demographic information can – with the necessary reserve – be derived from them (cf. for a simple case Van der Sanden 1981). It has already been postulated by several authors, on the one hand on the basis of written sources (Roymans 1983, 51), on the other on the basis of regionally studied surface finds (Willems 1983, 109), that the socio-political level of the society in the wider region did not rise above that of the tribe. The investigation of the excavated settlements and cemeteries will have to adjust/further specify this model and (if possible) present a more differentiated picture¹⁶.

Around the beginning of the first century AD the process of integration of the region into the Roman Empire started. During, most probably, the first half of the 1st century a large part of the meso-region became part of the *Civitas Batavorum* (Van Es 1981, 215; Rüger 1968, 34; Willems 1983, 107-108; cf. too Bogaers 1960/61, 271) and shortly after officially of the province *Germania Inferior* (Bogaers o.c., 265)¹⁷. In a few recent publications (in Slofstra et al. 1982, 29-33, 56-61; 1983), Slofstra has developed various stimulating ideas, based on theories of sociologists, anthropologists and geographers, in order to better conceptualize this process. Of primary importance in his works are Norbert Elias' theory of state formation and the theories on peasants and patronage in the peripheries of complex societies on state level.

The development outlined by Slofstra for the northwestern periphery of the Roman Empire can be summarized as follows¹⁸. Despite the administrative organization, beginning urbanization and improved infrastructure, the tribal structure remained unaltered for three quarters of the 1st century AD. Contacts with the local élite (lineage heads) were based on the principle of 'indirect rule'. Not until after the Batavian revolt, in 69/70, was the process of Romanization – and therefore also detribalisation – speeded up. The frontier army was greatly enlarged and indirect rule started to give way to a formal administrative organization, in which the old tribal elite was allowed to play a part. The progressing urbanization and the emergence of the *villae* went hand in hand with the development of the native population into peasants, i.e. farmers with a traditional agrarian technology who are dominated by outsiders and are no longer purely self-supporting, but who create a surplus that disappears as taxes or via markets. Contact between these peasants and the higher levels was maintained via the rural elite, the occupants of the villas who also occupied posts in the bureaucratic machinery. These patron-client relations, occurring on all levels of society and finally culminating in the person of the emperor, are the integration mechanism

connecting the lowest stratum of the community with the higher, administrative levels of the state. The villa proprietors or the urban élite not only had control over the means of production, but also over access to the market. Graphically represented, the only partly commercialized market system has a dendritic shape, with the price determining market at the apex. The framework presented by Slofstra seems to offer a good starting-point for an analysis of the settlement system in the meso-region, which, however, will not be done in this article. Nevertheless, a few preliminary remarks can already be made. In the early Roman, i.e. pre-Flavian, period various imports found their way to the Westerveld settlement. This flow of goods started at an early date, as attested by the occurrence of several fragments of amphorae and Arretine sigillata from the Augustan-Tiberian period. Prestige objects were also imported in the following, Claudian-Neronian period: e.g. terra sigillata and wine in barrels. By this time the settlement had already separated itself from its surroundings by means of at least one ditch. The possibly contemporary Vijver settlement also yielded cork urn fragments, but no pre-Flavian sigillata or wine barrels. This would suggest that the early imports were distributed quite selectively. This is also stressed by Willems' regional study (1981). The region investigated by him is the area constituting the northern part of the civitas Batavorum, the same civitas to which most of our meso-region also belonged. This study revealed that early imports are rarely found outside Nijmegen. Arretine sigillata for example, occurs almost exclusively in military contexts and only sporadically in native contexts (o.c., 139, fig. 25). These early imports may indicate the presence of persons with a higher status, who acted as intermediaries with the Roman state. They may then represent diplomatic gifts (cf. Brandt 1983, 141) which were used, e.g. via the lineage heads, to keep the hinterland quiet. The possibility that the presence of the army stimulated the tribal production (corn, cattle) and that the lineage heads exchanged their own surplus products for luxury goods (cf. Roymans 1983, 58) may certainly not be excluded. These exchanges between Romans and lineage heads may also have been made possible by a surplus obtained via a native system of tribute payment. Part of these Roman goods will have flowed to the other members of the community, maybe even literally (wine). In the cemetery discussed in par. 4.2.2. that, in my opinion, belongs to the enclosed settlement, the assumed pre-Flavian élite is not conspicuous for e.g. grave goods such as glass and terra sigillata. In the southern part of the cemetery, however, a monument was excavated, with a palisade on the inside, that was slightly larger (8.5 x 9.5 m) than the rich grave from the Claudian period discovered at Bladel-Kriekeschoor (Roymans in Slofstra et al. 1982, 99-100). Although no finds were recovered, a

date in the pre-Flavian period does not seem implausible for the grave at Oss¹⁹.

The developments in our region after the Batavian revolt, when the old élite really started to be admitted into the administrative machinery, are to be seen against the background of new and prospering older centra: Castra and Batavodurum/Noviomagus in Nijmegen, and Elst, Cuijk, Halder and Rossum inland; three of the four smaller centra are situated in our meso-region. The first villae now start to appear in the country (e.g. Druten; Hulst 1978). Although only a few have so far been excavated in the Batavian area, it would appear that many more await discovery. We have hardly any empirical information on the relations between these villae and the native settlements. Slofstra's model allows for variation in the degree of 'peasantization' (1983, 88). This can range from landless peasants living on the villa grounds, via peasants living in their own settlements and doing part of the work for the villa proprietors, to communities with a tribal organization structure that remained relatively autonomous.

So far no stone-built complex resembling that at Plasmolen or Hoogeloon to which the native Roman settlements at Ussen may have been related has been found in the neighbourhood by excavation or survey. The nearest villa of that kind seems to be the one that can be postulated near the rich graves at Esch (cf. Van den Hurk 1973, 1975, 1977).

Could it be that there was a villa on the site? This question may not be as strange as it first seems. The enclosed settlement in particular deserves all attention in this respect. That the latter is not an average settlement may appear from the description in par. 4.2.1. and the comments on the cemetery belonging to it. If the rectangular blocks of tuff and the large amount of slate discovered on the site had been found on the surface, without further knowledge of the features associated with them, the conclusion would have been that we are probably dealing with a stone building – more precisely a villa (cf. Willems 1983, 184-185). However, no foundations and/or robbing trenches were discovered on the site²⁰. But then a villa does not necessarily have to be built of stone. The ROB excavation at Druten-Klepperhei showed that even the main building may have been built entirely of wood (Hulst 1978). If we also employ functional rather than morphological criteria to define a villa – 'a farm which is integrated into the social and economic organization of the Roman world' (Rivet 1969, 177) – then elements like wall-paintings, baths etc. no longer play a decisive part. In this context we could regard the previously mentioned portico house as a potential main building. This unusual plan is dated in the 2nd century AD on the basis of the finds associated with it. Although most of the features and finds

of the enclosed settlement are yet to be analysed and interpreted, we can already say that the settlement shows no regular arrangement of main building and annexes as is the case in Druten and as we indeed *could* have expected. The Rijswijk-de Bult excavation, however, shows that a similar lay-out is not the law of Medes and Persians, but that a slightly less formal arrangement is also possible (Bloemers 1978; Van Es 1982). The investigation of the villa in Hoogeloon also points in this direction. The excavators consider it possible that various native farms around the villa were still in use and functioned as 'outhouses' of the villa (Slofstra/Bazelmans 1985).

The cemetery, and in particular the group of large graves, can also be included in this discussion. The glass objects found here are, by regional standards, quite numerous (cf. Willems 1981, 196-197). These glass finds, a few bottles and a ribbed bowl, are prestige objects often encountered in the graves of the rural and urban elite (Van den Hurk 1973, Bogaers/Haalebos 1985). In one case (grave 1281; *fig. 14*) it could be ascertained that some of the valuable gifts, such as a glass ribbed bowl and two tripods were already 'old' at the time when they were deposited in the grave. This phenomenon was also observed in, amongst others, the graves at Esch (Van den Hurk 1975, 88; *id.* 1977, 123). Besides these similarities there are of course marked differences between the Ussen graves and those of the monumental type. Apart from the difference in scale – size of the grave and number of grave goods – there is in my opinion an important difference in the location of the graves. The occupants of certain stone villae (Hoogeloon, undoubtedly also Esch) were buried in a separate area, which is not the case at Ussen. Here the local élite was

buried along with the rest of the community, be it in a prominent position on the edge of the cemetery (cf. for a plan of this part of the cemetery Bloemers et al. 1981, 113). This different location of the graves possibly implies that this local elite stood far less aloof from the rest of the community than appears to have been the case with the occupants of the stone buildings mentioned above.

On the ground of these and other considerations one is tempted to conclude that one of the rural settlements from the Roman period in Ussen – i.e. the Westerveld settlement – developed into a villa-like complex, in which all the contemporary farms formed an organizational entity, directed at producing a surplus for the market. In a wider context, the final result must be considered extremely modest and the question remains why, for instance, the main building did not develop into a more representative structure. The economic basis was undoubtedly agrarian, in which cattle will have played an important part. One of the most interesting aspects of the investigation is that the development into a villa can be traced from as early as the Late Iron Age onwards, an opportunity offered by only few similar settlements.

The differences noted between the contemporary Roman period settlements can perhaps be explained in terms of vertical relations. The question as to how the top of this micro-regional social pyramid was integrated in the web of the outside world, remains. It does not seem very likely that our villa occupants occupied posts in the official administrative machinery of the civitas of the Batavians²¹.

manuscript concluded November 1985.

notes

1 So far, only a few brief surveys have been published: see W.J.H. Verwers/G.A.C. Beex 1978, 21-22; W.J.H. Verwers (ed.), *Archeologische Kroniek van Noord-Brabant 1977-1978*, Eindhoven 1981 (Bijdragen tot de studie van het Brabants heem, 19), 35-39; *id.* 1979-1980, *Waalre* (Bijdragen tot de studie van het Brabants heem, 23), 29-31.

2 For the so-called sand-winning trenches see Van den Hurk 1973, 197, *fig. 6*. His interpretation is based on 17th century historical sources.

3 If the assumed relation between the house plan and the silos is doubted, there is the possibility of connecting the plan with the scarce Iron Age sherds from one of the silos. The farm at Nijnsel would then have to be dated in the Early Iron Age at the latest, but by doing so, we would be robbing ourselves of the only Bronze Age house plan in the area south of the large rivers.

4 Cf. Van Heeringen (1985, 378); compare for an earlier beginning H.E. Joachim, *Zu eisenzeitlichen Reibsteinen aus Basaltlava, den sog. Napoleonshütten*, *Archäologisches Korrespondenzblatt* 15, 359-369, particularly 362.

5 See e.g. S.K. Arora, *Metallzeitliche Flintindustrie, Das Rheinische Landesmuseum Bonn* 1985, 83-85.

6 The comment in Roymans 1983, note 63, that flint sickles were still in use in the Late Iron Age must be due to a mistake.

7 The authors wrongly included this wheel fragment in the chapter on the Roman period.

8 During the first analysis of the cremation remains a fragment of a bird's tibiotarsus was found in one of the graves in the prehistoric cemetery.

9 This type of brooch is usually of bronze and dated to the first half of the 1st century AD. A silver specimen from the cemetery of Ulpia Noviomagus 'points out that this type may have been worn in the Flavian period or even later' (J.K. Haalebos, *Fibulae uit Maurik, Oudheidkundige Mededelingen uit het Rijksmuseum van Oudheden te Leiden*, in press.)

10 Cf. for a negative result W. Groenman-Van Waateringe in Bloemers 1978, 452-456, in particular 452.

- 11 It is not yet certain whether both ditches were open at the same time. The 1st century finds from the outer ditch may well represent material from other features that were disturbed when this ditch was dug.
- 12 Most of the burnt animal bones are from piglets. Bones of piglets were also found in the 4th century cemetery in Nijmegen. Cf. R.C.G.M. Lauwerier, Pigs, piglets and determining the season of slaughtering, *Journal of Archaeological Science* 10, 1983, 483-488.
- 13 Earthenware masks of the Roman period have so far not yet been found in the context of a rural settlement. Cf. e.g. J.J.C. van Hoorn-Groneman, Römische Maskenfragmente, *Babesch* 35, 1960, 75-79.
- 14 The peripheral ditches of the prehistoric graves were not sampled for the purpose of pollen analysis.
- 15 Apart from a brief mention in Verwers 1981 (note 1), 38, the Maaskant project has not yet been outlined in literature.
- 16 A wider framework than the meso-region will be used for the construction of the model. For the higher (macro-regional and supra-regional) levels cf. Willems 1981, 11.
- 17 The Oss region undoubtedly formed part of the civitas Batavorum. The southern border of this civitas cannot be determined with certainty. Bogaers noted that the discovery of the altar at Ruimel – mentioning FLAVS, summus magistratus civitatis Batavorum – does not solve this problem. The presumed sanctuary at Ruimel 'may have belonged to the civitas Tungrorum' (Bogaers 1960/61, 271, n.45). The inclusion of the Oss region in the Batavian civitas is of importance here. From Tacitus (*Germania* 29, *Annales* IV, 12) we know that, at least until the revolt, the Batavians were exempt from taxation. This datum will certainly play a part in the interpretation of the meaning of the various structures (horrea, large stables).
- 18 Slofstra's account focusses mainly on the Gaulish civitas Tungrorum with its centre Atuatuca Tungrorum. But with the Batavians, at least until 69/70, things were different. At an early date they were already organized as a civitas, at the head of which was the summus magistratus with probably little or no coercive power (Bogaers 1960/61, 270-271, n. 36-37; Tacitus *Germania* 11). In compensation for their exemption from taxation they had to levy a large number of auxiliaries; these auxiliaries were officered by the Batavian *nobiles*. This exceptional position meant that interactions between Batavians and the occupier were more intense than e.g. those between the Tungri and the Romans.
- 19 A similar large sepulchral monument was also discovered in the cemetery at Hatert. This monument had an internal palisade and produced, among other things, a ribbed bowl dating the grave to an early phase of the 1st century (J.K. Haalebos, oral information).
- 20 Theoretically there may have been a stone construction in the eastern part of this settlement, where relatively large areas have

not been excavated or were destroyed during subrecent sand-winning activities.

21 Here I would like to thank all those who are or have been involved in the Ussen project. In the first place I must thank Professor Dr. G.J. Verwers, the initiator of the excavation, who entrusted the project to the author. I would also like to thank the various departments that helped to finance the project: the State University of Leiden, the Province of North Brabant and the Municipality of Oss. Messrs L. Weinberg, Y.P.W. van der Werff and H.J. van Xanten deserve special mention. The co-operation of the Board of Works and Public Buildings of the municipality of Oss, who obliged the excavators in many ways was also indispensable. A special word of thanks is due to A.R.H. Didde, E.D. Ipenburg, K. Ulijn, J.W.J.P. Verhoeven and M.A. Vos. It is unfeasible to mention all the persons who helped in the field. Dozens of students received their field training in Oss; they simply had no choice. The NJBG and the AWN, who organized one, respectively two work-camps, rendered voluntary assistance. The members of the archaeological unit of the Society of Regional History of the Maasland, who co-operated in the project for all those years deserve a special mention. During the last year they were assisted by local volunteers: Gerard van Alphen, Henk den Brok, Gerrit van Duuren, Piet Haane, Piet van Lijssell, Will Megens, Ans Otten, Piet de Poot and Gerrit Smits. With their assistance they saved the field directors, J.J. Assendorp, R.R. Datema, A.B. Döbken and G.R. Tak, many sleepless nights. The co-operation of the contractors A.C. van Beuningen and G. Louwers B.V. was also of great importance. Of the latter B.J. van Erp and M.(Rini) van Ballegooij deserve special mention. Finally the people who helped in the processing of the data. My greatest sympathy goes to the draughtsman, Jan P. Boogerd. While drawing the plans (1:100), which eventually covered more than 180 m², he often poised on the verge of madness. Fortunately he managed to retain his sanity. Many colleagues helped to identify special categories of finds. Some of them will publish their results themselves in the final Ussen publication. A few (first) results of their work have been included in the above article. I would therefore like to thank: C.C. Bakels and W. Kuijper (seeds and pollen), R. van de Berg and L. Kooistra (identification of wood samples), G.M.E.C. van Boekel (pipe-clay objects), J.E. Bogaers (epigraphics), P.W. van den Broeke (native pottery) M. Brouwer (Roman pottery from Westerveld settlement), C. van Driel-Murray (leather), A.-B. Döbken (cemetery Roman period), J.K. Haalebos (terra sigillata and fibulae), C. Isings (Roman glass), R.C.G.M. Lauwerier (animal bones from graves), C.J. Overweel (stone objects), W.J.H. Verwers (Roman pottery Zomerhof and Vijver settlements) and J.P. van der Vin (Roman coins).

To conclude, I would like to thank those who helped in the preparation of this article. The illustrations were made by Henk den Brok (fig. 8), Henk A. de Lorm (figs. 1,2,3,4a,6,9, 14), J. Paupit (figs. 5,10,12b), I. Stoepker (figs. 7,11,12a) and by an unknown assistant (figs. 4b,13). The text was typed by M. Wanders-Van der Sanden and translated by S.J. Mellor.

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